Prepared for

Georgia Power Company
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2020 ANNUAL GROUNDWATER MONITORING & CORRECTIVE ACTION REPORT

GEORGIA POWER COMPANY
PLANT HAMMOND ASH POND 1 (AP-1)

Prepared by

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CERTIFICATION STATEMENT

This *2020 Annual Groundwater Monitoring & Corrective Action Report, Georgia Power Company - Plant Hammond – Ash Pond 1 (AP-1)* has been prepared in compliance with the United States Environmental Protection Agency coal combustion residual rule [40 Code of Federal Regulations (CFR) 257 Subpart D] , specifically 40 CFR § 257.90(e), and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist or engineer with Geosyntec Consultants.

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January 29, 2021
Date

EXECUTIVE SUMMARY

This summary of the 2020 Annual Groundwater Monitoring and Corrective Action Report provides the status of groundwater monitoring and corrective action program through December 2020 at Georgia Power Company's (Georgia Power's) Plant Hammond Ash Pond 1 (AP-1) (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 6[1] of the U.S. Environmental Protection Agency (USEPA) coal combustion residual (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. Plant Hammond is a four-unit, coal-fired electric generating facility. All four units at Plant Hammond were decommissioned in July 2019 and no longer produce electricity. CCR material resulting from power generation were historically transferred and stored at the site until 1969. After 1969, AP-1 was utilized as a co-treatment pond to handle return water flows from the other ponds and for recycling of process water for plant operations. The Site is located on the southeastern portion of the Plant Hammond property shown on Figure 1. The Georgia Environmental Protection Division (GA EPD) approved Closure permit No. 057-023D(CCR) for AP-1 on June 22, 2020.

Figure 1. Plant Hammond and the Site

Groundwater at the Site is monitored using a monitoring system comprised of five upgradient and seven downgradient wells installed between October 2014 and August 2020 that meet federal and state monitoring requirements. Routine sampling and reporting began after the background groundwater conditions were established between May 2016 and May 2017. Based on groundwater conditions at the Site, an assessment monitoring program and assessment of corrective measures were established in January

[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

2018 and January 2019, respectively. During the 2020 annual reporting period, the Site remained in assessment monitoring as corrective measures are being evaluated.

During the 2020 reporting period, Geosyntec conducted three groundwater sampling events, two in March and one in September 2020. Groundwater samples were submitted to Pace Analytical Services, LLC, for analysis. Per the CCR rule, groundwater results for March and September 2020 data were evaluated in accordance with the certified statistical methods. That evaluation showed statistically significant values of Appendix III[2] and Appendix IV[3] parameters in wells provided in the table below.

Based on review of the Appendix III and Appendix IV statistical results completed for the groundwater monitoring and corrective action program from January through December 2020, the Site will continue in assessment monitoring. Georgia Power will continue routine groundwater monitoring and reporting at the Site. Reports will be posted to the website and provided to EPD semiannually.

[2] Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)
[3] Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228

Appendix III Parameter	March 2020	September 2020
Boron	HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, HGWC-13	HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, HGWC-13
Calcium	HGWC-9, HGWC-12, HGWC-13	HGWC-9, HGWC-10, HGWC-12, HGWC-13
Chloride	HGWC-7, HGWC-8, HGWC-9, HGWC-12, HGWC-13	HGWC-7, HGWC-8, HGWC-9, HGWC-12, HGWC-13
Fluoride	HGWC-8, HGWC-13	None
Sulfate	HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13	HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, HGWC-13
Total Dissolved Solids	HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13	HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13
Appendix IV Parameter[4]	**March 2020**	**September 2020**
Arsenic	*Federal and State:* HGWC-13	*Federal and State:* HGWC-13
Fluoride	None	*Federal and State:* MW-30D
Lithium	*Federal and State:* MW-25D, MW-30D *State only:* HGWC-13	*Federal and State:* MW-25D, MW-30D *State only:* HGWC-13
Molybdenum	*Federal and State:* HGWC-8 *State only:* HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, MW-19	*Federal and State:* HGWC-8 *State only:* HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, MW-19, MW-40D

[4] A state statistically significant level (SSL)-related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, or the calculated background interwell prediction limit. A federal SSL-related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, the USEPA RSL, if no MCL is available, or the calculated background interwell prediction limit.

Geosyntec consultants

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ACM	Assessment of Corrective Measures
AP	ash pond
ASD	Alternate Source Demonstration
CCR	coal combustion residuals
CFR	Code of Federal Regulations
DO	dissolved oxygen
ft MSL	feet above mean sea level
ft/day	feet per day
ft/ft	feet per foot
GA EPD	Georgia Environmental Protection Division
GPC	Georgia Power Company
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
K_h	horizontal hydraulic conductivity
MCL	Maximum Contaminant Level
mg/L	milligram per liter
NELAP	National Environmental Laboratory Accreditation Program
NTU	Nephelometric turbidity units
ORP	oxidation-reduction potential
Pace Analytical	Pace Analytical Services, LLC.
PE	professional engineer
PL	prediction limit
QA/QC	Quality Assurance/Quality Control
SSI	statistically significant increase
SSL	statistically significant level
s.u.	standard unit
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D] and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10, Geosyntec Consultants has prepared this *2020 Annual Groundwater Monitoring & Corrective Action Report* to document groundwater monitoring activities conducted at Georgia Power Company (Georgia Power) Plant Hammond (Site) Ash Pond 1 (AP-1). GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) adopt the Federal CCR rule by reference. For ease of reference, the USEPA CCR rules are cited within this report. This report documents groundwater monitoring activities completed for AP-1 during the 2020 calendar year.

Due to statistically significant levels (SSLs) of arsenic and molybdenum identified in the *2018 Annual Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2019a), Georgia Power initiated an assessment of corrective measures (ACM) program for AP-1 in January 2019. Pursuant to § 257.96(b), Georgia Power continues to monitor groundwater associated with AP-1 in accordance with the assessment monitoring program established for the unit in 2018, including annual and semiannual monitoring and reporting pursuant to § 257.90 through § 257.95 of the Federal CCR rule, and GA EPD Rules for Solid Waste Management 391-3-4-.10(6)(a). The current 2020 data indicate that arsenic and molybdenum concentrations are horizontally delineated to below their corresponding Groundwater Protection Standards (GWPS) and contained within the property boundary.

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

AP-1 is a 35-acre surface impoundment located at Plant Hammond that received CCR materials from its commission in 1952 until 1969. After 1969, AP-1 was utilized as a co-treatment pond to handle return water flows from the other ponds and for recycling of

process water for plant operations. Georgia Power will close AP-1 through removal of the CCR material from the CCR unit; closure activities will be conducted in accordance with § 257.102 and corresponding Rule 391-3-4-.10(7)(b). The proposed closure by removal approach provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Details of the closure approach are provided in the Initial Written Closure Plan, published in 2016 to Georgia Power's CCR Rule Compliance website. Closure permit No. 057-023D(CCR) was approved by GA EPD on June 22, 2020.

1.2 Regional Geology & Hydrogeologic Setting

The following section summarizes the geologic and hydrogeologic conditions at AP-1 as described in the *Hydrogeologic Assessment Report Revision 01 – AP-1* (HAR Rev 01) submitted to GA EPD in December 2019 in support of the AP-1 solid waste handling permit (Geosyntec, 2019c)

1.2.1 Regional and Site Geology

The Site is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) in northwest Georgia, which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc. under the direction of Golder (Golder, 2018) indicates that AP-1 is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly shaley limestone. Subsurface investigations at AP-1 describe the bedrock as limestone or shaley limestone. AP-1 is underlain primarily by five lithologic units: (i) fill, (ii) terrace alluvium, (iii) residuum, (iv) highly weathered/fractured shaley limestone bedrock, and (v) competent shaley limestone bedrock.

Based on subsurface investigations the fill material is composed of lean clay or gravelly lean clay with sand from the construction of the pond. The terrace alluvium consists of unconsolidated sediments associated with deposition from the Coosa River and Cabin Creek. Alluvium was variously described as well sorted and poorly sorted sand, clayey sand, sandy gravel, clayey gravel, or gravelly clay. The residuum clay layer or native soils have been derived from the in-place weathering of the shaley limestone bedrock. The residuum is generally described as a lean to fat clay, sometimes silty with some sand, and rarely gravel. The subsurface investigation data suggests the residuum thins out in places and the alluvial deposits is in direct contact with the upper fractured or the

unweathered limestone bedrock. 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 shaley limestone, before grading into unweathered, fresh shaley limestone bedrock. 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 10 feet thick. The limestone is described as medium to dark gray, 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-1 is a regional groundwater aquifer that occurs in the terrace alluvium, residuum, and the weathered and fractured bedrock. The uppermost aquifer is considered to be unconfined; however, localized, semi-confined conditions may be encountered due to the low-permeability clayey nature of the residual soils, or as a result of perched groundwater or poorly interconnected fracture networks in the bedrock. Based on observations of soil types and horizontal conductivity values, the movement of groundwater in the soil, and to some degree the highly weathered bedrock zone, can be characterized as low-to moderate permeability, porous media flow. Groundwater flow in the more competent underlying bedrock is characterized as fracture flow. Groundwater flow in the vicinity of AP-1 is to the east and south.

1.3 Groundwater Monitoring Well Network

In accordance with § 257.91, a groundwater monitoring system was installed at AP-1 that (1) consists of a sufficient number of wells, (2) is installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) represents the groundwater quality both upgradient of the units (i.e., background conditions) and passing the waste boundary of the units. The number, spacing, and depths of the groundwater monitoring wells were selected based on the characterization of site-specific hydrogeologic conditions.

The compliance monitoring well network for AP-1 consists of 12 monitoring wells, two of which were installed in August 2020 (HGWA-43D and HGWA-44D). The original well network of 10 compliance monitoring wells was certified by a professional engineer (PE) on October 17, 2017; the certification is maintained in the AP-1 Operating Record.

As part of the assessment monitoring program, ten additional groundwater monitoring wells (MW-19, MW-20, MW-29, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D,

MW-30D, and MW-40D) have been installed since mid-2018 to characterize groundwater quality and flow conditions downgradient of AP-1. The delineation well network was supplemented in March 2019 by adding piezometers MW-5, MW-6, and MW-7, which were originally installed in 2014 to gauge water levels downgradient of AP-1. These three piezometers were suitably located downgradient of AP-1 and therefore reclassified as horizontal delineation wells. Pursuant to § 257.195(g)(1)(iv), the wells, classified as "delineation wells", will continue to be sampled concurrently with the compliance monitoring well network.

A network of piezometers has been installed at the Site that are used to gauge water levels to define groundwater flow direction and gradients. There are three piezometers (AP1A-1, MW-1, MW-8) used to gauge groundwater levels upgradient and downgradient of AP-1. The piezometers may be sampled as needed to support the ACM program.

The locations of the compliance monitoring wells, delineation wells, and piezometers 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 monitoring-related activities performed during the reporting period and discusses any change in status of the monitoring program. All groundwater sampling was performed in accordance with § 257.93.

2.1 Monitoring Well Installation and Maintenance

Georgia Power installed one groundwater monitoring well (MW-40D) in April 2020 to vertically delineate groundwater conditions adjacent to well HGWC-7, MW-28D, and MW-30D. Two additional compliance monitoring wells (HGWA-43D and HGWA-44D) were installed in August 2020 to provide additional data to characterize background groundwater quality and flow conditions. The locations of the three wells installed during this 2020 reporting period are shown on **Figure 2**; well construction details are also provided in **Table 1**. Well installation reports that include detailed boring and well construction logs for the installation of these wells are provided in **Appendix A.** The installation report for MW-40D was submitted to GA EPD in in July 2020; the installation report for HGWA-43D and HGWA-44D was submitted in November 2020.

The AP-1 well network was re-surveyed by GEL Solutions on May 11-14, 2020. The top of the PVC well casing [top of casing (TOC) elevation] and the survey pin installed at each well pad were surveyed to within 0.5-foot horizontal accuracy and to 0.01-foot vertical accuracy. The horizontal location (i.e., northings and eastings) was recorded in feet relative to the North America Datum of 1983 (NAD) with the vertical elevation recorded in feet relative to the North American Vertical Datum of 1988. The new survey data are incorporated into this report's applicable tables and figures. Additionally, a memorandum was prepared to update and modify well construction details based on the updated survey data and included updated boring and well construction logs for the entire AP-1 well network. The 'September 2020 Well Installation Addendum' was submitted to GA EPD on September 29, 2020, and included the survey data certified by a Georgia-licensed surveyor.

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

sampling event. The well inspection forms for the reporting period are provided in **Appendix B**.

2.2 Assessment Monitoring

Georgia Power initiated an assessment monitoring program for groundwater at AP-1 in January 2018. Statistical analyses of the 2018 assessment monitoring data identified an SSL of arsenic in well HGWC-13 and SSLs of molybdenum in wells HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, and HGWC-13. Pursuant to § 257.96, an ACM was initiated for AP-1 in January 2019. An ACM Report was subsequently prepared for AP-1 (Geosyntec, 2019b) and submitted to GA EPD in June 2019 and posted to the CCR compliance website in July 2019. In accordance with § 257.96(b), groundwater continues to be monitored at AP-1 under the assessment monitoring program while the ACM phase is implemented. Assessment monitoring results from the 2019 monitoring events were summarized in the *2019 Annual Groundwater Monitoring and Corrective Action Report*, submitted in January 2020 (Geosyntec, 2020b).

The initial annual Appendix IV sampling event for this reporting period was conducted in early March 2020 with the semiannual assessment monitoring events occurring in late March and September 2020. The number of groundwater samples collected for analysis and the dates the samples were collected at AP-1 during this reporting period is summarized in **Table 2**. Details of these events and analytical results are discussed in Section 3, while the statistical results are discussed in Section 4.

2.3 Alternate Source Demonstration

Based on review of available AP-1-related groundwater and aquifer solids data, the fluoride and lithium SSLs reported for well MW-30D and molybdenum SSL reported for well MW-40D, all three SSLs being identified for the March 2020 semiannual assessment monitoring data set, are not associated with a release from AP-1 but are instead a result of natural variation in groundwater quality due to the limited (i.e., MW-30D) or no (i.e., MW-40D) connection these wells have to the uppermost aquifer as evidenced by i) slow recharge encountered within the deeper delineation wells installed in less fractured bedrock zones, ii) starkly different groundwater elevations in these wells compared to other site wells, and (iii) very different geochemical conditions. An alternate source demonstration (ASD) was prepared pursuant to regulations in § 257.95(g)(3)(ii). The ASD was submitted to GA EPD on January 29, 2021; a copy is also provided in **Appendix C** of this report for reference.

2.4 Additional Groundwater Sampling

Supplemental groundwater sampling events were conducted during the reporting period to collect additional data in support of the continued evaluation of corrective measures as presented in the ACM Report. The supplementary data were collected (i) to evaluate attenuation mechanisms and rates and aquifer capacity for attenuation; (ii) to conduct geochemical fingerprinting of the groundwater relative to source water; and (iii) to establish a set of groundwater quality data for newly installed delineation wells. The scope of these additional efforts and associated results are presented in the *Semiannual Remedy Selection and Design Progress Report* provided in **Appendix D**.

During this reporting period, additional background samples were collected at HGWA-43D and HGWA-44D as shown on **Table 2**. For each event, the samples were analyzed for the complete list of Appendix III and Appendix IV constituents. The laboratory reports associated with the September and November 2020 groundwater sampling events are provided in **Appendix E**. The December 2020 groundwater sampling event results will be included in the August 2021 semiannual report.

3.0 SAMPLING METHODOLOGY & ANALYSES

The following section presents a summary of the field sampling procedures that were implemented and the groundwater sampling results that were obtained in connection with the assessment monitoring program conducted at AP-1 during the reporting period.

3.1 Groundwater Level Measurement

Prior to each sampling event, a synoptic round of depth to groundwater level measurements were recorded from the AP-1 wells and piezometers and used to calculate the corresponding groundwater elevations. The calculated groundwater elevations for the two March 2020 events and the September 2020 event are presented in **Table 3**. The May 2020 survey data was used to calculate the groundwater elevations for all the events. The groundwater elevations reported using the new survey data are generally representative of the groundwater elevations reported for prior monitoring events.

The groundwater elevation data were used to prepare potentiometric surface maps for the two March and September 2020 events, which are presented on **Figures 3**, **4**, and **5**, respectively. Based on the potentiometric surface maps, groundwater flow in the AP-1 area mimics the site topography and flows from slightly higher elevations on the north side of the Site in a generally easterly and southerly direction.

3.2 Groundwater Gradient and Flow Velocity

The groundwater hydraulic gradients within the uppermost aquifer beneath AP-1 were calculated using the groundwater elevation data from the March 2, March 23, and September 14, 2020 events. Hydraulic gradients were calculated along the flow path south of AP-1 between wells HGWC-13 and MW-7 and between wells HGWC-8 and MW-20 along the flow path east of AP-1. The supporting calculations are presented in **Table 4.** The table also presents the average hydraulic gradients calculated from the three measurement events. The general trajectory of the flow paths used in the calculations and associated potentiometric contour lines are shown on **Figures 3**, **4**, and **5**.

The average hydraulic gradients along the southerly and easterly groundwater flow path lines associated with AP-1 are 0.024 feet per foot (ft/ft) and 0.025 ft/ft, respectively.

The approximate horizontal flow velocities associated with AP-1 were calculated using the following derivative of Darcy's Law. The calculations are presented on **Table 4**.

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

where:

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

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

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

n_e = Effective porosity

The average horizontal hydraulic conductivity (K_h) for AP-1 of 11.82 feet per day (ft/day) was computed from slug test data derived from ten locations across the AP-1 area and presented in the HAR Rev 01. An estimated effective porosity of 0.15 is used to represent average conditions at AP-1, derived based on review of literature, observed site lithology, and professional judgement. With these variables determined, and accounting for the averaged hydraulic gradient discussed above for the three 2020 events, the average groundwater flow velocity in the vicinity of AP-1 was calculated to be 1.9 ft/day (i.e., average of the southerly and easterly flow velocities). The flow velocity calculations are provided in **Table 4**.

3.3 Groundwater Sampling Procedures

Groundwater samples were collected from the compliance monitoring well, delineation monitoring well, and piezometer MW-1 (in June 2020) using low-flow sampling procedures in accordance with § 257.93(a). Nineteen of the 25 wells were purged and sampled using the installed bladder pump with tubing. Wells HGWA-43D, HGWA-44D, HGWC-10, HGWC-11, and MW-27D, and piezometer MW-1 were sampled using a peristaltic pump equipped with new disposable polyethylene tubing. Well MW-40D was sampled using a bailer. All non-disposable equipment was decontaminated before use and between well locations.

A SmarTROLL or Aqua TROLL (In-Situ field instrument) was used to monitor and record field water quality parameters [i.e., pH, conductivity, oxidation-reduction potential (ORP), temperature, and dissolved oxygen (DO)] during well purging to verify stabilization prior to sampling. Turbidity was measured using a LaMotte 2020we portable turbidimeter. Groundwater samples were collected when the following stabilization criteria were met:

- pH ± 0.1 Standard Units (s.u.).
- Conductivity ± 5%.
- ±0.2 mg/L or ±10%, whichever is greater for DO > 0.5 mg/L. No criterion applies if DO < 0.5 mg/L, record only.
- Turbidity measured less than 10 nephelometric turbidity units (NTU).

Once stabilization was achieved, samples were collected into appropriately preserved laboratory-supplied sample containers. Sample bottles were placed in ice-packed coolers and submitted to Pace Analytical Services, LLC. (Pace Analytical) in Norcross, Georgia following chain-of-custody protocol. The field sampling and equipment calibration forms generated during the monitoring events conducted during March through November 2020 are provided in **Appendix E**.

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 parameters analyzed for this project. Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in **Appendix E**.

The groundwater analytical results from the 2020 monitoring events are summarized in **Table 5**. The Pace Analytical laboratory reports associated with the results presented in **Table 5** are provided in **Appendix E**.

3.5 Quality Assurance & Quality Control Summary

Quality assurance/quality control (QA/QC) samples were collected during the groundwater monitoring events in accordance with the site's *Groundwater Monitoring Plan* (Geosyntec, 2020a), and included the following: field duplicates, equipment blanks, and field blank samples. QA/QC samples were collected in laboratory-provided bottles and submitted under the same chain of custody as the primary samples for analysis of the same parameters by Pace Analytical.

In addition to collecting QA/QC samples, the data were validated based on the pertinent methods referenced in the laboratory reports, professional and technical judgment, and

applicable federal guidance documents (USEPA, 2011; USEPA, 2017). Where necessary, the data were qualified with supporting documentation and justifications. The data are considered usable for meeting project objectives and the results are considered valid. The associated data validation report is provided in **Appendix E** 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 March and September 2020 assessment monitoring events. The report generated from the analyses is provided in **Appendix F**. The March and September 2020 data were analyzed by Groundwater Stats Consulting (GSC).

4.1 Statistical Methods

Analytical data from the March and September 2020 assessment monitoring events were statistically analyzed in accordance with the 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 evaluate if Appendix III constituents have returned to background levels. Appendix IV constituents were evaluated to determine if concentrations statistically exceeded the established state and federal GWPS. Detailed statistical methods used for Appendix III and Appendix IV constituents are discussed in statistical analysis package provided in **Appendix F** and summarized in Sections 4.1.1 and 4.1.2. The GWPS were finalized pursuant to § 257.95(h) and presented in **Table 6**.

4.1.1 Appendix III Statistical Methods

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 parameters. Interwell PLs pool upgradient well data to establish a background limit for an individual constituent, and the most recent sample from each downgradient well is compared to the same limit for each parameter. 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

compliance 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 compliance and delineation monitoring well. Delineation wells were statistically analyzed when a minimum of 4 samples were available. 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. Due to non-routine (or ACM investigation) sampling, some Appendix IV constituents at a well location have differing number of data.

The confidence intervals are compared to both the state and federal GWPS. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its GWPS. If 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:

(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 0.10 mg/L.

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

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

(1) The federally established MCL.

(2) Where an MCL has not been established, the background concentration.

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

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

4.2 Statistical Analyses Results

Based on review of the Appendix III statistical analysis, groundwater conditions have not returned to background and assessment monitoring should continue. Based on the statistical analysis of Appendix IV constituents, the following constituents exceeded the state or federal GWPS during the 2020 assessment monitoring events:

AP-1 (Federal CCR Rule):

- Arsenic: HGWC-13
- Fluoride: MW-30D
- Lithium: MW-25D, MW-30D
- Molybdenum: HGWC-8

AP-1 (GA EPD CCR Rule):

- Arsenic: HGWC-13
- Fluoride: MW-30D
- Lithium: HGWC-13, MW-25D, MW-30D
- Molybdenum: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, MW-19, MW-40D

The March and September 2020 statistical evaluation results for compliance wells are consistent with the 2019 reporting year statistical results, except for the lithium SSLs. Inclusion of delineation wells in statistical analyses started in 2020 due to sample size requirements. A groundwater exceedance notification acknowledging the March 2020 SSLs of arsenic, lithium, and molybdenum was placed in the Operating Record on August 31, 2020, pursuant to § 257.95(g). A similar notification was placed in the Operating Record on January 29, 2021, acknowledging the September 2020 SSLs of arsenic, fluoride, lithium, and molybdenum.

4.3 Delineation Data

Based on statistical analysis of the 2020 Appendix IV groundwater data for the network of delineation wells, the arsenic, fluoride, lithium, and molybdenum SSLs identified in the compliance wells are horizontally delineated to below state and federal GWPS within the property boundary by delineation wells MW-5, MW-6, MW-7, MW-20, and MW-29. The arsenic, lithium, and molybdenum concentrations reported in well HGWC-13 are vertically delineated to below the applicable state and federal GWPS by well MW-24D. Similarly, wells MW-25D, MW-26D, MW-27D, and MW-28D vertically delineate molybdenum SSLs in wells HGWC-11, HGWC-12, HGWC-9, HGWC-8, and HGWC-7, respectively (the location of MW-25D delineates both HGWC-11 and HGWC-12).

As discussed in Section 2.3, an ASD was prepared that presented multiple lines of evidence that the SSLs of fluoride and lithium identified in MW-30D and the SSL of molybdenum in MW-40D are not associated with a release from AP-1 but are instead a result of natural variation in groundwater quality due to the limited (i.e., MW-30D) or no (i.e., MW-40D) connection these wells have to the uppermost aquifer as evidenced by i) slow recharge encountered within the deeper delineation wells installed in less fractured bedrock zones, ii) starkly different groundwater elevations in these wells compared to other site wells, and (iii) very different geochemical conditions. The ASD is presented in **Appendix C**.

The molybdenum and lithium SSLs identified in MW-19 and MW-25D, respectively, are horizontally delineated to below the state and federal GWPS by MW-7. Vertical delineation of these constituents may require the installation of additional wells adjacent to MW-19 and MW-25D. However, based on findings presented in the ASD, it is recommended to collect additional data and continue to evaluate these findings prior to installing additional deeper wells. A preliminary evaluation of the geochemical conditions in well MW-25D suggests that this well is not affected by liquids from AP-1

and appears to show geochemical conditions similar to other deeper wells with low recharge, which is discussed in more detail in the ASD provided as **Appendix C**. Additional details of the preliminary evaluation and a trilinear (i.e., Piper) diagram are presented in the *Semiannual Remedy Selection and Design Progress Report* provided in **Appendix D**.

5.0 MONITORING PROGRAM STATUS

5.1 Assessment Monitoring Status

Pursuant to § 257.96(b), Georgia Power will continue to monitor the groundwater at AP-1 in accordance with the assessment monitoring program regulations of § 257.95 while ACM efforts are implemented to address SSL concentrations of arsenic, lithium, and molybdenum in select AP-1 wells. Pursuant to § 257.195(g)(1)(iv), the additional delineation wells will continue to be sampled as part of the ongoing semiannual assessment groundwater monitoring program.

5.2 Assessment of Corrective Measures

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

(i) the current conceptual site model applicable to evaluating groundwater corrective measures proposed in the ACM Report (Geosyntec, 2019b);

(ii) the analytical data obtained during supplemental ACM-specific field investigations;

(iii) the status of evaluating applicable corrective measures; and

(iv) the planned activities and anticipated schedule for the following semiannual reporting period.

Georgia Power will include future semiannual progress report with each groundwater monitoring and corrective action report.

6.0 CONCLUSIONS & FUTURE ACTIONS

This *2020 Annual Groundwater Monitoring & Corrective Action Report* for Plant Hammond AP-1 was prepared to fulfill the requirements of USEPA's CCR Rule and GA EPD Rules for Solid Waste Management 391-3-4-.10. Statistical evaluations of the groundwater monitoring data for the AP-1 compliance well network confirmed the continued presence of SSLs of arsenic in well HGWC-13 and molybdenum in well HGWC-8 above the state and federal GWPS. The analyses also identified SSLs of lithium in well HGWC-13 and molybdenum in wells HGWC-7, HGWC-9, HGWC-11, HGWC-12, and HGWC-13 above the state GWPS, but not the federal GWPS. Based on the most current data from this reporting period, as described in Section 4.3, the SSLs are vertically and horizontally delineated to below the state and federal GWPS within the property boundary.

Statistical analyses of the 2020 groundwater data for the delineation wells also identified SSLs of fluoride in MW-30D and lithium in MW-25 and MW-30D in excess of the state and federal GWPS. SSLs of molybdenum were identified in MW-19 and MW-40D in excess of the state GWPS, but not federal GWPS. An ASD was prepared that presented multiple lines of evidence that the SSLs of fluoride and lithium identified in MW-30D and molybdenum in MW-40D are not associated with a release from AP-1 but are instead a result of natural variation in groundwater quality due to the limited (i.e., MW-30D) or no (i.e., MW-40D) connection these wells have to the uppermost aquifer.

Regarding the SSLs in MW-19 and MW-25D, vertical delineation of these constituents may require the installation of additional wells adjacent to their locations. However, based on findings presented in the ASD (**Appendix C**), it is recommended to collect additional data and continue to evaluate these findings prior to installing additional deeper wells. A preliminary evaluation of the geochemical conditions in well MW-25D suggests that this well is not affected by liquids from AP-1 and appears to show geochemical conditions similar to other deeper wells with low recharge, which is discussed in more detail in the ASD. During the completion of this evaluation for MW-25D, Georgia Power will continue routine monitoring of MW-19 and MW-25D and will implement the necessary measures to further vertically delineate Appendix IV constituents in the vicinity of these wells if/as conditions change.

Georgia Power will continue to monitor AP-1 groundwater under the assessment monitoring program and proceed with the evaluation of remedies presented in the ACM Report (Geosyntec, 2019b). The initial annual Appendix IV sampling event is scheduled

to occur in February 2021, with the first semiannual assessment monitoring event tentatively planned for March 2021.

7.0 REFERENCES

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TABLES

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

Well ID	Hydraulic Location	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation (ft)	Top of Casing Elevation [2] (ft)	Top of Screen Elevation [2] (ft)	Bottom of Screen Elevation [2] (ft)	Well Depth (ft BTOC) [3]	Screen Interval Length (ft)
Compliance Monitoring Well										
HGWA-1	Upgradient	12/3/2014	1550423.32	1940770.00	592.32	595.21	573.12	563.12	32.49	10
HGWA-2	Upgradient	12/2/2015	1549796.87	1939845.15	585.29	587.92	570.29	560.29	27.95	10
HGWA-3	Upgradient	12/2/2015	1549794.41	1939833.39	585.23	587.74	553.23	543.23	44.51	10
HGWA-43D	Upgradient	8/26/2020	1550422.85	1940753.81	592.08	595.08	544.08	534.08	61.25	10
HGWA-44D	Upgradient	8/25/2020	1550409.13	1940756.19	592.01	594.79	491.76	481.76	113.50	10
HGWC-7	Downgradient	12/3/2015	1549520.67	1942319.75	576.55	579.18	561.55	551.55	27.96	10
HGWC-8	Downgradient	12/8/2015	1549114.61	1942392.56	577.14	579.82	564.64	554.64	25.51	10
HGWC-9	Downgradient	12/9/2015	1548693.30	1942215.03	577.72	580.36	543.72	533.72	46.97	10
HGWC-10	Downgradient	12/8/2015	1548469.25	1941644.43	576.76	579.37	566.76	556.76	22.94	10
HGWC-11	Downgradient	12/15/2015	1548477.91	1941146.79	578.12	580.67	565.19	555.19	25.78	10
HGWC-12	Downgradient	12/9/2015	1548476.53	1941152.34	578.14	580.73	555.64	545.64	35.42	10
HGWC-13	Downgradient	12/10/2015	1548628.03	1940900.60	592.94	595.76	560.94	550.94	45.15	10
Delineation Monitoring Well										
MW-5	Downgradient	11/4/2014	1548436.02	1942448.85	578.00	581.14	560.70	550.70	30.84	10
MW-6	Downgradient	11/4/2014	1548383.12	1941689.01	579.18	581.84	559.28	549.28	32.96	10
MW-7	Downgradient	10/30/2014	1548230.47	1941087.44	574.94	577.73	561.24	551.24	26.89	10
MW-19	Downgradient	9/26/2018	1548422.94	1940943.01	577.46	580.65	561.45	551.45	29.53	10
MW-20	Downgradient	9/27/2018	1549029.68	1942736.85	575.96	579.00	554.96	544.96	34.37	10
MW-24D	Downgradient	11/7/2018	1548638.80	1940900.37	592.91	570.96	532.91	522.91	48.38	10
MW-25D	Downgradient	11/6/2018	1548473.00	1941162.20	577.71	580.59	527.71	517.71	63.21	10
MW-26D	Downgradient	11/14/2018	1548699.91	1942222.36	577.63	580.41	512.63	502.63	78.11	10
MW-27D	Downgradient	11/8/2018	1549103.57	1942390.80	576.84	579.70	526.84	516.84	63.19	10
MW-28D	Downgradient	11/13/2018	1549510.90	1942321.14	576.20	579.08	531.20	521.20	58.21	10
MW-29	Downgradient	11/13/2018	1549437.67	1942633.60	572.14	575.06	557.14	547.14	28.25	10
MW-30D	Downgradient	6/19/2019	1549530.00	1942318.45	576.20	578.59	481.20	471.20	107.72	10
MW-40D	Downgradient	4/29/2020	1549542.29	1942316.55	576.41	578.92	450.41	440.41	138.84	10
Piezometer										
AP1A-1	Upgradient	12/15/2015	1550080.01	1941614.12	584.78	587.44	575.84	565.84	21.93	10
MW-1	Upgradient	12/2/2014	1549938.24	1941589.06	585.63	588.66	567.93	557.93	31.06	10
MW-8	Downgradient	10/29/2014	1548171.86	1940016.70	584.25	586.93	565.05	555.05	32.28	10

Notes:
ft = feet
ft BTOC = feet below top of casing
(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey completed by GEL Solutions dated May 19, 2020 and September 10, 2020 (for wells HGWA-43D and HGWA-44D).
(2) Elevations referenced to the North Amervican Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions dated May 19, 2020 and September 10, 2020 (for wells HGWA-43D and HGWA-44D).
(3) Total well depth accounts for sump if data provided on well construction logs.

Table 2
Groundwater Sampling Event Summary
Plant Hammond AP-1, Floyd County, Georgia

Well ID	Hydraulic Location	Mar 2-4, 2020	Mar 23-Apr 2, 2020	Apr 9, 2020	May 11, 2020	May 19, 2020	Jun 16-Jun 19, 2020	Sep 15-28, 2020	Nov 10, 2020	Dec 15, 2020	Status of Monitoring Well
Purpose of Sampling Event:		**App. IV Annual**	**Assessment**	**Supplemental**	**Supplemental**	**Supplemental**	**Supplemental**	**Assessment**	**Background Sampling**	**Background Sampling**	
Compliance Monitoring Well											
HGWA-1	Upgradient	X	X	--	--	--	X	X	--	--	Assessment
HGWA-2	Upgradient	X	X	--	--	--	--	X	--	--	Assessment
HGWA-3	Upgradient	X	X	--	--	--	X	X	--	--	Assessment
HGWA-43D	Upgradient	--	--	--	--	--	--	X	X	X	Background
HGWA-44D	Upgradient	--	--	--	--	--	--	X	X	X	Background
HGWC-7	Downgradient	X	X	--	--	--	X	X	--	--	Assessment
HGWC-8	Downgradient	X	X	--	--	--	X	X	--	--	Assessment
HGWC-9	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
HGWC-10	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
HGWC-11	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
HGWC-12	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
HGWC-13	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
Delineation Monitoring Well											
MW-5	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-6	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-7	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-19	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-20	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-24D	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-25D	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-26D	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-27D	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-28D	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-29	Downgradient	X	X	--	--	--	--	X	--	--	Assessment
MW-30D	Downgradient	X	X	X	--	--	X	X	--	--	Assessment
MW-40D	Downgradient	--	--	--	X	X	X	X	--	--	Assessment
Piezometer											
MW-1	Upgradient	--	--	--	--	--	X	--	--	--	(1)

Note:
(1) Well MW-1 sampled in support of current ACM efforts but has not be reclassified part of the compliance or delineation well networks.

Table 3
Summary of Groundwater and Surface Water Elevations
Plant Hammond AP-1, Floyd County, Georgia

Well ID	Top of Casing Elevation [1,2] (ft)	March 2, 2020		March 23, 2020		September 14, 2020	
		Depth to Water (ft BTOC)	Groundwater Elevation [1] (ft)	Depth to Water (ft BTOC)	Groundwater Elevation [1] (ft)	Depth to Water (ft BTOC)	Groundwater Elevation [1] (ft)
Compliance Monitoring Well Network							
HGWA-1	595.21	7.40	587.81	7.37	587.84	20.97	574.24
HGWA-2	587.92	4.91	583.01	5.15	582.77	11.14	576.78
HGWA-3	587.74	4.47	583.27	4.69	583.05	10.96	576.78
HGWA-43D	595.08	--	--	--	--	20.75	574.33
HGWA44D	594.79	--	--	--	--	19.59	575.20
HGWC-7	579.18	3.58	575.60	3.29	575.89	5.55	573.63
HGWC-8	579.82	2.15	577.67	2.35	577.47	5.40	574.42
HGWC-9	580.36	8.89	571.47	11.35	569.01	14.21	566.14
HGWC-10	579.37	10.71	568.66	9.80	569.57	14.08	565.29
HGWC-11	580.67	9.56	571.11	13.00	567.67	15.36	565.31
HGWC-12	580.73	10.09	570.64	13.37	567.36	15.48	565.25
HGWC-13	595.76	17.61	578.15	17.76	578.00	21.05	574.71
Piezometer							
AP1A-1	587.44	5.84	581.60	5.25	582.19	11.19	576.25
MW-1	588.66	7.15	581.51	6.51	582.15	12.02	576.64
MW-8	586.93	16.00	570.93	17.41	569.52	20.05	566.88
Delineation Monitoring Well							
MW-5	581.14	11.42	569.72	14.32	566.82	17.34	563.80
MW-6	581.84	10.96	570.88	14.25	567.59	17.30	564.54
MW-7	577.73	8.50	569.23	12.00	565.73	13.90	563.83
MW-19	580.65	7.54	573.11	9.35	571.30	12.23	568.42
MW-20	579.00	8.63	570.37	10.70	568.30	14.87	564.13
MW-24D	595.68	22.28	573.40	22.85	572.83	26.91	568.77
MW-25D	580.59	10.03	570.56	13.20	567.39	15.39	565.20
MW-26D	580.41	8.94	571.47	11.44	568.97	14.35	566.06
MW-27D	579.70	2.15	577.55	2.62	577.08	5.32	574.38
MW-28D	579.08	3.56	575.52	3.23	575.85	5.58	573.50
MW-29	575.06	3.61	571.45	3.26	571.80	7.98	567.08
MW-30D	578.59	1.80	576.79	3.69	574.90	3.27	575.32
MW-40D	578.92	--	--	--	--	135.40	443.52
Surface Water Gauge (ft MSL)							
AP-1	--	--	584.80	--	584.90[3]	--	581.50
Coosa River	--	--	568.50	--	565.50	--	563.50

Notes:
-- = not applicable
ft BTOC = feet below top of casing
(1) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88).
(2) Survey data recorded on May 11-14, 2020 and September 10, 2020 (for wells HGWA-43D and HGWA-44D).
(3) AP-1 staff gauge recorded March 24, 2020.

Table 4
Groundwater Gradient and Flow Velocity Calculations
Plant Hammond AP-1, Floyd County, Georgia

	Mar 2, 2020				Mar 23, 2020				Sep 14, 2020				
Flow Path Direction [(1)]	**h_1 (ft)**	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**h_1 (ft)**	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**h_1 (ft)**	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**Average Δh/Δl (ft/ft)**
Southerly Flow Path (HGWC-13 to MW-7)	578.15	569.23	450	0.020	578.00	565.73	450	0.027	574.71	563.83	450	0.024	0.024
Easterly Flow Path (HGWC-8 to MW-20)	577.67	570.37	350	0.021	577.47	568.30	350	0.026	574.42	564.13	350	0.029	0.025

			Average		
Flow Path Direction [(1)]	**K_h (ft/d)**	**n**	**Δh/Δl (ft/ft)**	**V (ft/d)[(2)]**	**V (ft/d)[(3)]**
Southerly Flow Path (HGWC-13 to MW-7)	11.82	0.15	0.024	1.9	1.9
Easterly Flow Path (HGWC-8 to MW-20)	11.82	0.15	0.025	2.0	

Notes:
ft = feet
ft/d = feet per day
ft/ft = feet per foot
ft/yr = feet per year
h_1, h_2 = point of interpreted groundwater elevation
Δh/Δl = hydraulic gradient
K_h = horizontal hydraulic conductivity
Δl = distance between location 1 and 2
n = effective porosity
V = groundwater flow velocity
(1) Flow path direction relative to the orientation of AP-1 and illustrated on Figures 3, 4, and 5 of associated report.
(2) Groundwater flow velocity equation: $V = [K_h * (\Delta h/\Delta l)] / n$
(3) Average groundwater flow velocity for unit.

Table 5
Summary of Groundwater Analytical Data
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWA-1	HGWA-1	HGWA-1	HGWA-1	HGWA-2	HGWA-2	HGWA-2	HGWA-3	HGWA-3	HGWA-3	HGWA-3	HGWA-43D[4]	HGWA-43D[4]	HGWA-44D[4]	HGWA-44D[4]	HGWC-7	HGWC-7	HGWC-7	HGWC-7
	Sample Date:	3/2/2020	3/25/2020	6/16/2020	9/15/2020	3/2/2020	3/25/2020	9/15/2020	3/2/2020	3/25/2020	6/16/2020	9/15/2020	9/16/2020	11/10/2020	9/16/2020	11/10/2020	3/4/2020	3/27/2020	6/17/2020	9/16/2020
	Parameter (1,2,3)																			
APPENDIX III	Boron	--	0.025 J	0.021 J	0.017 J	--	0.039 J	0.044 J	--	0.0096 J	0.010 J	0.0071 J	0.061 J	0.057 J	0.23	0.29	--	1.2	1.0	1.1
	Calcium	--	127	130	103	--	23.0	21.1	--	89.8	85.1	73.1	56.0	63.3	30.0	33.6	--	119	112	98
	Chloride	--	20.4	41.1	13.4	--	5.2	5.0	--	6.1	5.8	6.0	4.1	4.4	7.2	7.8	--	48.3	45.2	46.4
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.19	0.52	0.59	0.077 J	0.059 J	0.077 J	0.081 J
	pH	7.10	6.95	6.97	7.15	5.43	5.36	5.22	7.12	7.40	7.31	7.29	7.52	7.27	7.83	7.84	7.17	7.05	7.20	7.30
	Sulfate	--	85.9	88.2	47.3	--	46.3	51.5	--	50.5	49.5	44.7	43.0	39.0	6.9	6.3	--	109	102	109
	TDS	--	496	632	265	--	138	124	--	284	448	258	272	307	270	287	--	413	423	392
APPENDIX IV	Antimony	<0.00027	<0.00027	--	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	--	<0.00028	0.00051 J	0.00043 J	0.00049 J	<0.00028	<0.00027	<0.00027	--	0.00034 J
	Arsenic	<0.00035	<0.00035	--	<0.00078	0.00043 J	<0.00035	<0.00078	0.00040 J	<0.00035	--	<0.00078	<0.00078	0.0021 J	<0.00078	<0.00078	<0.00035	<0.00035	--	<0.00078
	Barium	0.034	0.043	--	0.035	0.11	0.12	0.12	0.14	0.13	--	0.12	0.26	0.25	0.24	0.38	0.068	0.059	--	0.068
	Beryllium	<0.000074	<0.000074	--	<0.000046	0.00014 J	0.00016 J	0.00013 J	<0.000074	<0.000074	--	<0.000046	<0.000046	<0.000046	<0.000046	<0.000046	0.000077 J	<0.000074	--	<0.000046
	Cadmium	<0.00011	<0.00011	--	<0.00012	<0.00011	0.00014 J	0.00012 J	<0.00011	<0.00011	--	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00011	<0.00011	--	<0.00012
	Chromium	<0.00039	0.00072 J	--	<0.00055	0.00041 J	<0.00039	<0.00055	<0.00039	<0.00039	--	<0.00055	<0.00055	<0.00055	0.0012 J	0.00089 J	0.0016 J	0.00040 J	--	0.00074 J
	Cobalt	<0.00030	<0.00030	--	<0.00038	0.019	0.020	0.021	<0.00030	<0.00030	--	<0.00038	<0.00038	<0.00038	<0.00038	<0.00038	0.0011 J	0.00074 J	--	0.00065 J
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.19	0.52	0.59	0.077 J	0.059 J	0.077 J	0.081 J
	Lead	0.000048 J	<0.000046	--	<0.000036	0.000095 J	0.00011 J	0.000080 J	<0.000046	<0.000046	--	0.000042 J	0.000050 J	0.000069 J	0.00021 J	0.0002 J	0.00051 J	0.000054 J	--	0.00020 J
	Lithium	0.0012 J	0.00083 J	--	0.00087 J	0.0017 J	0.0017 J	0.0015 J	0.0037 J	0.0035 J	--	0.0026 J	0.0018 J	0.0013 J	0.014 J	0.025 J	0.0034 J	0.0020 J	--	0.0026 J
	Mercury	<0.00014	--	--	--	<0.00014	--	--	<0.00014	--	--	--	<0.000078	<0.000078	<0.000078	<0.000078	<0.00014	--	--	--
	Molybdenum	<0.00095	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00095	<0.00069	0.0044 J	0.0072 J	0.0019 J	0.0018 J	0.045	0.044	0.048	0.046
	Comb. Radium 226/228	0.610 U	4.36	--	0.748 U	1.58	0.621 U	0.124 U	0.249 U	0.833 U	--	0.161 U	0.531 U	0.788 U	0.422 U	0.293 U	0.624 U	0.485 U	--	0.135 U
	Selenium	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	--	<0.0016	<0.0016	<0.0016	<0.0016	<0.0016	<0.0013	<0.0013	--	<0.0016
	Thallium	<0.000052	<0.000052	--	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	--	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.000052	<0.000052	--	<0.00014

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
U = Indicates the parameter was not detected above the analytical minimum detectable concentration (MDC) (Specific to combined radium)
(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).
(2) Metals were analyzed by EPA Method 6020B, mercury was analyzed by EPA Method 7470A, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C-2011, alkalinity was analyzed by Standard Method 2320B-2011, sulfide was analyzed by Standard Method 4500-S2D-2011, and combined radium by EPA Methods 9315/9320.
(3) The pH value presented was recorded at the time of sample collection in the field.
(4) Monitoring wells HGWA-43D and HGWA-44D were analyzed for the complete list of Appendix III and Appendix IV constituents to establish background groundwater quality conditions.

Table 5
Summary of Groundwater Analytical Data
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWC-8	HGWC-8	HGWC-8	HGWC-8	HGWC-9	HGWC-9	HGWC-9	HGWC-10	HGWC-10	HGWC-10	HGWC-11	HGWC-11	HGWC-11	HGWC-12	HGWC-12	HGWC-12
	Sample Date:	3/3/2020	3/27/2020	6/16/2020	9/16/2020	3/4/2020	3/31/2020	9/17/2020	3/3/2020	4/1/2020	9/16/2020	3/3/2020	3/31/2020	9/18/2020	3/3/2020	3/26/2020	9/18/2020
	Parameter (1,2,3)																
APPENDIX III	Boron	--	2.4	2.2	1.9	--	2.2	2.0	--	0.23	1.1	--	0.17	0.91	--	1.6	1.6
	Calcium	--	133	120	119	--	182	164	--	96.2	139	--	124	122	--	145	163
	Chloride	--	79.8	67.9	74.6	--	105	105	--	5.4	39.7	--	3.2	34.9	--	48.0	74.6
	Fluoride	0.45	0.46	0.45	0.53	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15
	pH	7.06	6.95	6.97	6.92	6.97	7.07	6.99	6.67	6.84	6.66	5.95	5.7	6.42	6.95	6.99	7.15
	Sulfate	--	173	157	194	--	185	209	--	59.0	169	--	283	272	--	182	266
	TDS	--	541	573	552	--	1010	680	--	290	490	--	565	626	--	533	704
APPENDIX IV	Antimony	<0.00027	<0.00027	--	<0.00028	0.00032 J	0.00042 J	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.00038 J	<0.00027	<0.00027	<0.00028
	Arsenic	<0.00035	<0.00035	--	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0022 J	0.0022 J	0.00081 J	0.0023 J	0.0028 J	0.0031 J
	Barium	0.052	0.059	--	0.060	0.11	0.11	0.11	0.048	0.058	0.068	0.022	0.026	0.043	0.092	0.089	0.086
	Beryllium	<0.000074	<0.000074	--	0.00010 J	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00012 J	0.00015 J	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	0.00017 J	0.00014 J	--	0.00023 J	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	0.00015 J	<0.00011	<0.00012
	Chromium	0.00070 J	<0.00039	--	0.0015 J	<0.00039	0.00052 J	<0.00055	<0.00039	<0.00039	<0.00055	0.00061 J	<0.00039	<0.00055	<0.00039	<0.00039	0.00091 J
	Cobalt	0.0020 J	0.0018 J	--	0.0019 J	0.00053 J	0.00051 J	0.00070 J	<0.00030	<0.00030	<0.00038	0.00087 J	0.0014 J	<0.00038	0.0013 J	0.0012 J	0.0014 J
	Fluoride	0.45	0.46	0.45	0.53	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15
	Lead	0.00013 J	<0.000046	--	0.00020 J	0.000084 J	0.00014 J	0.00022 J	<0.000046	0.000050 J	<0.000036	0.00021 J	0.00030 J	0.000060 J	0.000056 J	0.00043 J	0.000096 J
	Lithium	0.0028 J	0.0026 J	--	0.0033 J	0.0040 J	0.0043 J	0.0040 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	0.0063 J	0.0063 J	0.010 J
	Mercury	<0.00014	--	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.44	0.42	0.45	0.43	0.031	0.031	0.030	<0.00095	<0.00095	0.0014 J	0.011	0.0074 J	0.032	0.045	0.045	0.046
	Comb. Radium 226/228	0.835 U	1.04 U	--	0.526 U	1.03	1.20 U	1.38 U	0.667 U	0.235 U	0.000 U	0.716 U	1.30 U	1.24 U	0.971 U	0.209 U	0.916 U
	Selenium	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	0.0020 J	<0.0016	0.016	0.019	0.0042 J	<0.0013	<0.0013	<0.0016
	Thallium	0.000061 J	0.000077 J	--	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000066 J	0.000080 J	<0.00014

Table 5
Summary of Groundwater Analytical Data
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWC-13	HGWC-13	HGWC-13	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7	MW-19	MW-19	MW-19
	Sample Date:	3/4/2020	3/30/2020	9/21/2020	3/2/2020	3/26/2020	9/17/2020	3/3/2020	3/27/2020	9/21/2020	3/3/2020	3/30/2020	9/21/2020	3/4/2020	3/26/2020	9/21/2020
	Parameter (1,2,3)															
APPENDIX III	Boron	--	1.8	1.6	--	0.041 J	0.067 J	--	0.77	0.82	--	0.051 J	0.20	--	1.0	0.89
	Calcium	--	234	173	--	89.6	103	--	186	173	--	31.1	75.3	--	171	135
	Chloride	--	75.1	41.2	--	0.73 J	28.7	--	48.6	58.1	--	1.5	11.1	--	64.0	35.0
	Fluoride	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050	0.096 J	0.12 J	0.17
	pH	7.16	6.91	7.34	6.12	6.14	6.48	6.78	6.82	6.88	6.10	6.06	6.50	6.29	6.28	6.41
	Sulfate	--	393	359	--	176	153	--	204	221	--	46.2	114	--	310	305
	TDS	--	895	732	--	385	486	--	676	656	--	142	326	--	626	608
APPENDIX IV	Antimony	0.00061 J	0.00036 J	0.00029 J	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.0014 J	0.0013 J	<0.00027	0.00051 J	<0.00027	<0.00027	<0.00028
	Arsenic	0.52	0.47	0.39	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.00045 J	<0.00035	<0.00078
	Barium	0.10	0.080	0.052	0.049	0.046	0.043	0.090	0.086	0.083	0.043	0.050	0.065	0.069	0.067	0.056
	Beryllium	0.000093 J	0.000099 J	0.00011 J	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	0.00026 J	0.00019 J	0.00018 J
	Chromium	<0.00039	0.00059 J	0.00056 J	0.0042 J	0.0044 J	0.0021 J	0.00044 J	0.00059 J	<0.00055	0.0015 J	0.0021 J	0.0017 J	0.00066 J	0.00047 J	0.0014 J
	Cobalt	0.0066	0.0053	0.0032 J	<0.00030	<0.00030	<0.00038	0.00094 J	0.00059 J	0.00041 J	<0.00030	<0.00030	<0.00038	0.048	0.045	0.032
	Fluoride	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050	0.096 J	0.12 J	0.17
	Lead	0.00014 J	0.00010 J	0.00015 J	0.000047 J	<0.000046	<0.000036	0.00013 J	<0.000046	0.00026 J	0.000062 J	<0.000046	<0.000036	0.00011 J	<0.000046	0.000085 J
	Lithium	0.041	0.038	0.028 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	0.010 J	0.013 J	0.013 J
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.030	0.029	0.032	<0.00095	<0.00095	<0.00069	0.0022 J	0.0026 J	0.0025 J	<0.00095	<0.00095	0.0015 J	0.032	0.033	0.064
	Comb. Radium 226/228	0.708 U	0.602 U	1.53	0.964 U	1.10	0.618 U	0.757 U	0.758 U	0.796 U	1.15	0.830 U	1.55 U	1.04	1.10 U	1.36 U
	Selenium	<0.0013	<0.0013	0.0016 J	0.0041 J	0.0039 J	0.0028 J	<0.0013	<0.0013	<0.0016	<0.0013	0.0014 J	0.0026 J	0.0044 J	0.0053 J	0.0033 J
	Thallium	0.00056 J	0.00048 J	0.00036 J	<0.000052	<0.000052	<0.00014	0.000082 J	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.00026 J	0.00026 J	0.00030 J

Table 5
Summary of Groundwater Analytical Data
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-20	MW-20	MW-20	MW-24D	MW-24D	MW-24D	MW-25D	MW-25D	MW-25D	MW-26D	MW-26D	MW-26D	MW-27D	MW-27D	MW-27D	MW-28D	MW-28D	MW-28D
	Sample Date:	3/2/2020	3/27/2020	9/17/2020	3/4/2020	3/30/2020	9/21/2020	3/3/2020	3/26/2020	9/18/2020	3/4/2020	3/31/2020	9/17/2020	3/4/2020	4/2/2020	9/18/2020	3/4/2020	3/27/2020	9/21/2020
	Parameter (1,2,3)																		
APPENDIX III	Boron	--	0.12	0.11	--	0.51	0.45	--	0.44	0.36	--	1.8	2.0	--	0.13	0.12	--	0.14	0.45
	Calcium	--	126	110	--	84.4	87.6	--	27.0	25.1	--	155	150	--	28.4	24.8	--	53.0	76.8
	Chloride	--	28.8	29.7	--	37.4	45.2	--	34.6	33.4	--	98.0	103	--	27.9	30.4	--	33.0	42.9
	Fluoride	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10
	pH	6.98	6.75	6.78	7.47	7.49	7.65	7.59	7.57	7.64	7.14	7.20	7.08	8.33	8.11	7.51	7.55	7.42	7.46
	Sulfate	--	114	110	--	84.9	114	--	32.3	27.4	--	129	174	--	13.3	7.5	--	36.0	84.2
	TDS	--	429	460	--	280	391	--	385	382	--	623	732	--	224	211	--	287	393
APPENDIX IV	Antimony	<0.00027	<0.00027	<0.00028	0.0017 J	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028	0.0020 J	0.0013 J	<0.00028	0.00037 J	0.0003 J	0.00031 J	<0.00027	<0.00027	<0.00028
	Arsenic	0.00038 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0010 J	0.00075 J	<0.00078	0.00060 J	<0.00035	<0.00078	0.00069 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078
	Barium	0.099	0.093	0.096	0.081	0.056	0.053	0.42	0.45	0.44	0.17	0.11	0.099	0.95	1.0	1.0	0.77	0.64	0.18
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00014 J	<0.000074	<0.000046
	Cadmium	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012
	Chromium	0.00071 J	0.00051 J	<0.00055	<0.00039	<0.00039	<0.00055	<0.00039	0.00061 J	<0.00055	0.0028 J	0.0010 J	<0.00055	<0.00039	<0.00039	0.00070 J	0.0027 J	<0.00039	0.00085 J
	Cobalt	<0.00030	<0.00030	<0.00038	0.00056 J	<0.00030	<0.00038	<0.00030	<0.00030	<0.00038	<0.00030	0.00030 J	<0.00038	0.00045 J	<0.00030	<0.00038	0.00093 J	<0.00030	<0.00038
	Fluoride	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10
	Lead	0.00017 J	0.00013 J	<0.000036	0.00019 J	0.000064 J	0.000042 J	<0.000046	<0.000046	<0.000036	<0.000046	0.00010 J	<0.000036	<0.000046	0.00013 J	<0.000036	0.0010 J	0.000062 J	0.00018 J
	Lithium	0.00082 J	0.0012 J	<0.00081	0.0026 J	0.0027 J	0.0024 J	0.050	0.054	0.046	0.030 J	0.0036 J	0.0032 J	0.0047 J	0.0068 J	0.0084 J	0.015 J	0.014 J	0.0053 J
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	0.00099 J	<0.00095	<0.00095	0.00094 J	0.0074 J	0.0093 J	0.014	0.0058 J	0.0030 J	0.0018 J	0.0090 J	0.0068 J	0.018
	Comb. Radium 226/228	0.653 U	0.100 U	0.469 U	0.333 U	0.107 U	1.23 U	1.36	0.793 U	1.17 U	1.27 U	1.65	0.420 U	1.12	2.48	1.13 U	1.31	1.59	1.39 U
	Selenium	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016
	Thallium	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000092 J	<0.000052	<0.00014

Table 5
Summary of Groundwater Analytical Data
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-29	MW-29	MW-29	MW-30D	MW-30D	MW-30D	MW-30D	MW-30D	MW-40D	MW-40D	MW-40D	MW-40D	MW-1
	Sample Date:	3/2/2020	3/30/2020	9/16/2020	3/4/2020	3/31/2020	4/9/2020	6/17/2020	9/24/2020	5/11/2020	5/19/2020	6/19/2020	9/28/2020	6/16/2020
	Parameter (1,2,3)													
APPENDIX III	Boron	--	1.3	1.7	--	0.90	--	0.77	0.62	0.093 J	0.13	0.19	0.57	0.19
	Calcium	--	148	126	--	7.1	13.4	8.3	6.3	62.6	65.9	109	289	157
	Chloride	--	71.2	75.3	--	111	96.0	92.5	45.4	51.2	47.3	145	542	29.6
	Fluoride	<0.050	<0.050	<0.050	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.20
	pH	7.13	7.07	6.88	8.12	7.95	8.27	8.33	8.72	7.77	--	7.40	7.69	6.86
	Sulfate	--	130	143	--	139	399	104	205	58.9	54.0	435	3480	114
	TDS	--	552	547	--	1130	--	1040	790	350	621	1420	6470	653
APPENDIX IV	Antimony	<0.00027	<0.00027	<0.00028	<0.00027	0.00032 J	--	--	<0.00028	--	--	--	0.0015 J	--
	Arsenic	<0.00035	0.00037 J	<0.00078	0.0021 J	<0.00035	--	--	0.0017 J	--	--	--	0.0063 J	--
	Barium	0.088	0.080	0.076	0.065	0.29	--	--	0.11	--	--	--	0.35	--
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	--	--	<0.000046	--	--	--	0.00049 J	--
	Cadmium	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	--	--	<0.00012	--	--	--	<0.00059	--
	Chromium	<0.00039	0.0010 J	<0.00055	0.0013 J	0.00070 J	--	--	0.00065 J	--	--	--	0.0080 J	--
	Cobalt	0.00067 J	0.00063 J	0.0013 J	<0.00030	<0.00030	--	--	<0.00038	--	--	--	0.0037 J	--
	Fluoride	<0.050	<0.050	<0.050	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.20
	Lead	0.000090 J	0.00011 J	<0.000036	0.00041 J	0.000067 J	--	--	0.000068 J	--	--	--	0.0075 J	--
	Lithium	0.0025 J	0.0023 J	0.0021 J	0.18	0.25	--	--	0.13	--	--	--	0.095 J	--
	Mercury	<0.00014	--	--	<0.00014	--	--	--	--	--	--	--	--	--
	Molybdenum	0.0025 J	0.0029 J	0.0021 J	0.021	0.015	--	0.0062 J	0.011	0.014	0.014	0.015	0.016 J	<0.00095
	Comb. Radium 226/228	0.413 U	0.885 U	0.193 U	0.592 U	1.27 U	--	--	0.809 U	--	--	--	2.45	--
	Selenium	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	--	--	<0.0016	--	--	--	<0.0078	--
	Thallium	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	--	--	<0.00014	--	--	--	<0.00072	--

Table 6

Summary of Background Concentrations and Groundwater Protection Standards
Plant Hammond AP-1, Floyd County, Georgia

Analyte	Units	Background[1]	Federal GWPS[2]	State GWPS[3]
Antimony	mg/L	0.003	0.006	0.006
Arsenic	mg/L	0.005	0.01	0.01
Barium	mg/L	0.14; 0.38	2	2
Beryllium	mg/L	0.003	0.004	0.004
Cadmium	mg/L	0.0025	0.005	0.005
Chromium	mg/L	0.01	0.1	0.1
Cobalt	mg/L	0.038	0.038	0.038
Fluoride	mg/L	0.36; 0.59	4	4
Lead	mg/L	0.005	0.015	0.005
Lithium	mg/L	0.03	0.04	0.03
Mercury	mg/L	0.0005	0.002	0.002
Molybdenum	mg/L	0.01	0.1	0.01
Selenium	mg/L	0.01	0.05	0.05
Thallium	mg/L	0.001	0.002	0.002
Combined Radium-226/228	pCi/L	4.36	5	5

Notes:

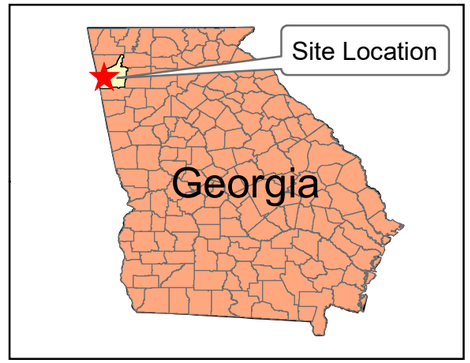
"mg/L" = milligrams per liter

"pCi/L" = picocuries per liter

1. Statistical analyses were performed on semiannual monitoring events for data through May 2020 and data through November 2020.
2. The background limits were used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)(a). Where two numbers are present, they denote the different background concentrations for each of the two semiannual monitoring events in the order that they were determined.
3. Under 40 CFR §257.95(h)(1-3) the GWPS is: (i) the maximum contaminant level (MCL) established under 141.62 and 141.66 of this title; (ii) where an MCL has not been established a rule-specific GWPS is used; or (iii) background concentrations for constituents were the background level is higher than the MCL or rule-specified GWPS.
4. Under the existing Georgia EPD rules, the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background concentrations for constituents were the background level is higher than the MCL.

FIGURES

N



Notes:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 400 800 1,600

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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FIGURE 1

\\aro-01\prj1$\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Figure 1 Site Location Map.mxd 1/4/2021 3:22:41 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer

Note:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 150 300 600

SCALE IN FEET

MONITORING WELL NETWORK MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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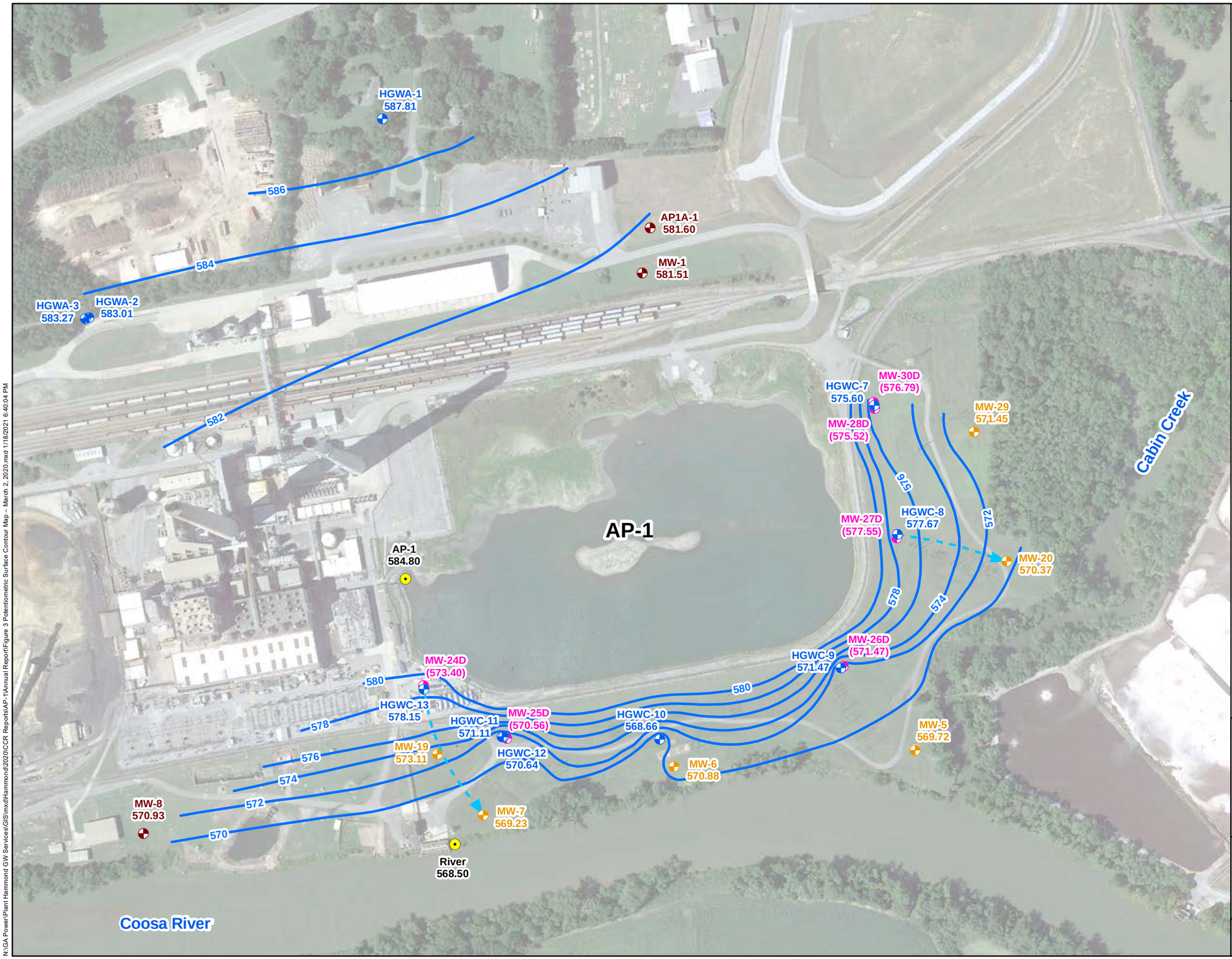
FIGURE 2

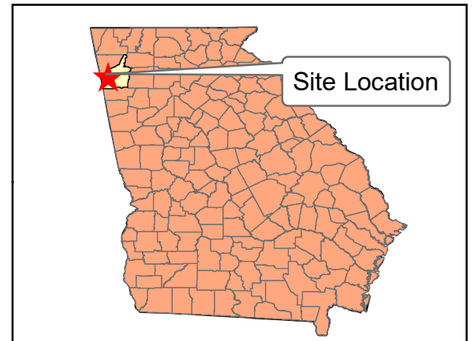
N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Annual Report\Figure 2 Monitoring Well Network Map.mxd 1/25/2021 1:56:16 PM



N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Staff Gauge
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction



Notes:

1. Water level elevation recorded on March 2, 2020. Elevation provided in feet referenced to the North American Vertical Datum (NAVD) 88.
2. Water elevation in parentheses were not used in development of groundwater contours due to wells being screened at a different elevation in the formation/aquifer.
3. The AP-1 surface water staff gauge measurement was not used in development of groundwater contours.
4. The map shows only the wells/piezometers currently installed at the time of the gauging event.
5. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - MARCH 2, 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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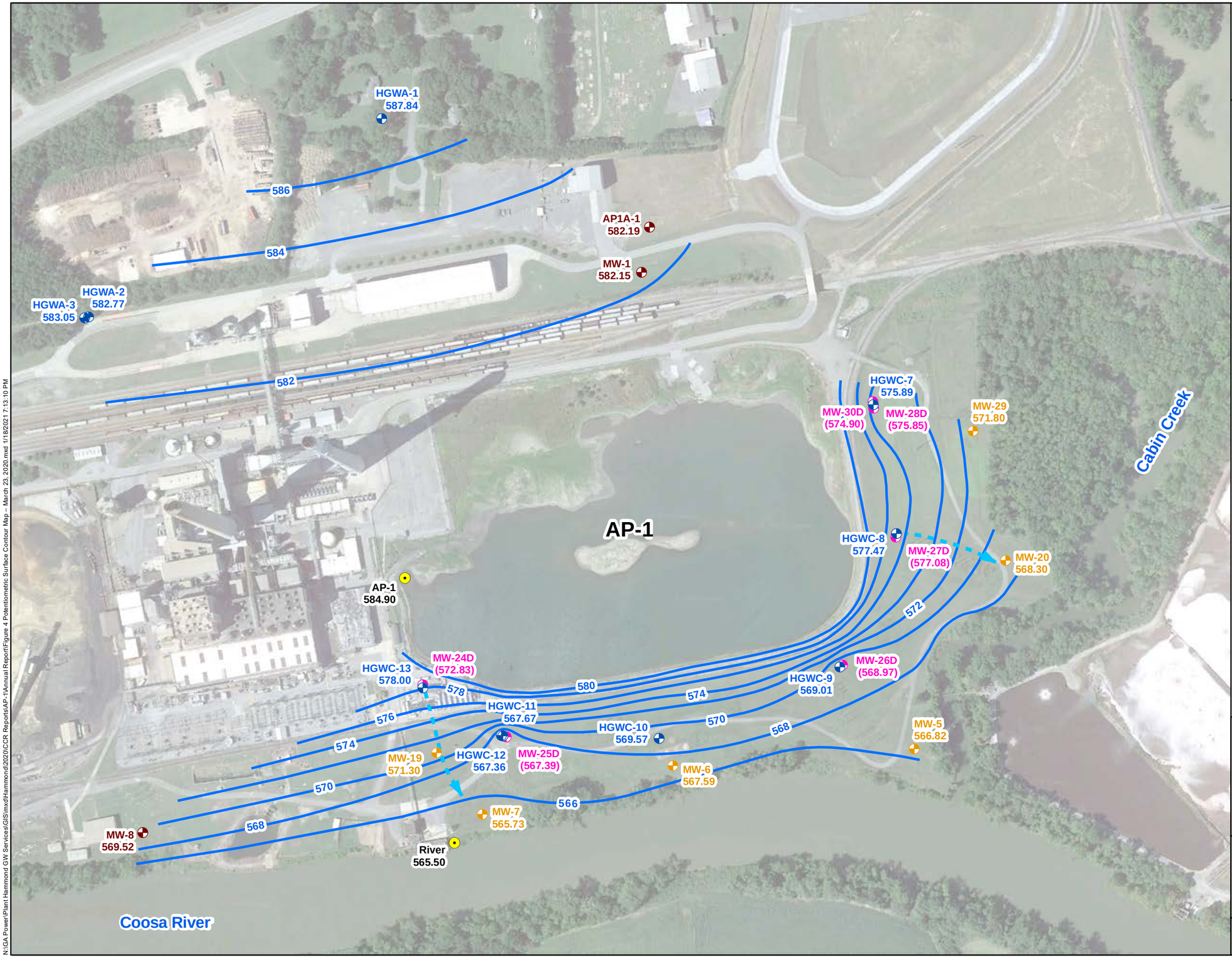
FIGURE 3

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Annual Report\Figure 3 Potentiometric Surface Contour Map - March 2, 2020.mxd 1/18/2021 6:40:04 PM

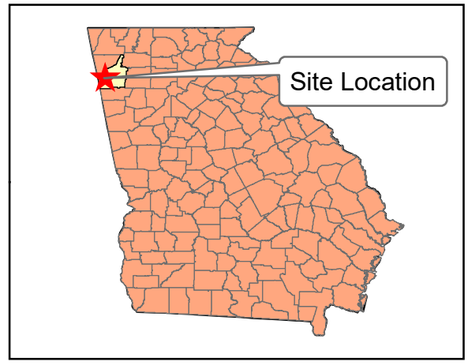


N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Annual Report\Figure 4 Potentiometric Surface Contour Map - March 23, 2020.mxd 1/18/2021 7:13:10 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Staff Gauge
- Groundwater Elevation Contour
- Approximate Groundwater Flow Direction



Notes:

1. Water level elevation recorded on March 23, 2020. Elevation provided in feet referenced to the North American Vertical Datum (NAVD) 88.
2. Water elevation in parentheses were not used in development of groundwater contours due to wells being screened at a different elevation in the formation/aquifer.
3. The AP-1 surface water staff gauge measurement was recorded on March 24, 2020; it was not used to develop the groundwater contours.
4. The map shows only the wells/piezometers currently installed at the time of the gauging event.
5. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - MARCH 23, 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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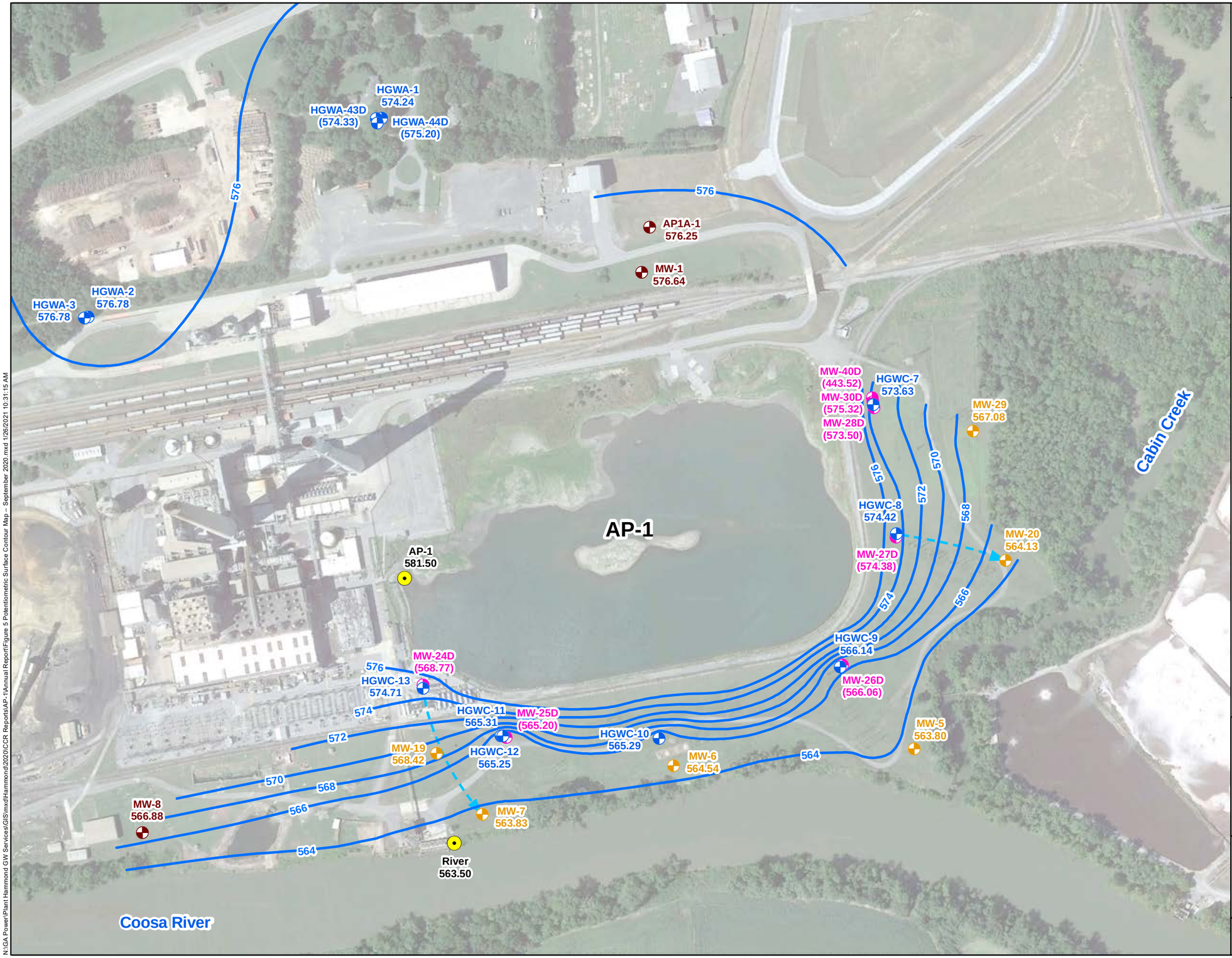
FIGURE 4



N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Staff Gauge
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction

Notes:
1. Water level elevation recorded on September 14, 2020. Elevation provided in feet referenced to the North American Vertical Datum (NAVD) 88.
2. Water elevation in parentheses were not used in development of groundwater contours due to wells being screened at a different elevation in the formation/aquifer.
3. The AP-1 surface water staff gauge measurement was recorded on September 14, 2020; it was not used to develop the groundwater contours.
4. The map shows only the wells/piezometers currently installed at the time of the gauging event.
5. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - SEPTEMBER 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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FIGURE 5

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Annual Report\Figure 5 Potentiometric Surface Contour Map - September 2020.mxd 1/28/2021 10:31:15 AM

APPENDIX A

Well Design, Installation, and Development Report – Addendums No 3 and 4, Plant Hammond Ash Pond 1 (AP-1)

Prepared for

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

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

PLANT HAMMOND ASH POND 1 (AP-1)

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

July 2020

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

Plant Hammond
Ash Pond 1
July 17, 2020

Whitney Law, P.E.
Project Manager
Geosyntec Consultants

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LIST OF ACRONYMS

AP	Ash Pond
ASTM	American Society for Testing and Materials
CCR	coal combustion residual
CFR	Code of Federal Regulations
CFS	Civil Field Services
DO	dissolved oxygen
GA EPD	Georgia Environmental Protection Division
GPC	Georgia Power Company
NAD	North America Datum
NAVD	North American Vertical Datum
NSF	National Sanitation Foundation
ORP	oxygen reduction potential
PVC	polyvinyl chloride
SCS	Southern Company Services
TOC	top of casing
US EPA	United States Environmental Protection Agency

1. INTRODUCTION

This report provides details regarding the design, installation, and development of one groundwater monitoring well to supplement the current groundwater monitoring system at Georgia Power Company (GPC) Plant Hammond (Site) Ash Pond 1 (AP-1). The report was prepared as an addendum to previously submitted well design, installation, development and decommissioning reports issued for the Site (ERM, 2017; Geosyntec 2019b; Geosyntec, 2020), and meets the requirements promulgated in the United States Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D], specifically 40 CFR §257.91(e)(1) and Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10.

Plant Hammond is located in Floyd County, approximately 10 miles west of Rome, Georgia. The current groundwater monitoring system at AP-1 includes 10 wells associated with the CCR compliance monitoring well network and a network of secondary groundwater monitoring wells and piezometers. The locations of these wells and piezometers are shown on **Figure 1**.

2. DRILLING AND WELL INSTALLATION

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

This report presents the details for the installation and development of AP-1 area well MW-40D. The location of this well is shown on **Figure 1**. Well construction details are provided in **Table 1**; the boring and well construction log is included in **Appendix B**.

2.1 Drilling Method

The borehole was advanced using rotosonic drilling techniques with continuous core collection. Terra Sonic full size track mounted rig with a 6-inch sonic drill rod was used to install MW-40D. Care was taken so that the drilling methods did not introduce contamination of the groundwater from surface activities. Drilling equipment was cleaned prior to mobilizing to the site.

2.2 Screened Interval

Details regarding the well screen interval are provided in **Table 1**. The well is screened in the uppermost water bearing unit of the Site. AP-1 well MW-40D is screened from approximately 447 to 437 feet (ft) (referenced to the North American Vertical Datum of 1988). The well was constructed with 10 feet of well screen.

2.3 Well Casings and Screens

The well was constructed of 2-inch inner diameter Schedule 40 polyvinyl chloride (PVC) casing with flush-threaded fittings and was installed with a 10-foot nominal length pre-packed dual-wall well screen with 0.010-inch slots. The casing and pre-packed screen arrived pre-cleaned and packaged by the manufacturer. The pre-packed well screen was

constructed onsite by packing sand between slotted PVC and the well screen. Well construction materials are sufficiently durable to resist chemical and physical degradation and not interfere with the quality of groundwater samples. Casing and screen are flush-threaded. Solvent or glue was not used to construct the well. A threaded bottom cap was attached to the bottom of the screen. The PVC products used were American Society for Testing and Materials (ASTM) and National Sanitation Foundation (NSF) rated. Well screen interval details are provided in **Table 1**.

2.4 Well Intake Design

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

2.5 Filter Pack

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

Filter pack material was placed within the pre-packed dual-wall well screen and in the annular space between the outside of the pre-pack screen and borehole wall to ensure an adequate thickness of filter pack material between the well and the formation. Filter pack material placed in the annular space outside of the well screen extended approximately 2 feet above the top of screen. No bridging occurred during filter pack placement.

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

2.6 Annular Seal

A minimum of two feet of bentonite chips (PelPlug time-release -coated 3/8-inch bentonite pellets) was placed immediately above the filter pack by gravity-pouring into

the annular space and hydrated per manufacture's specifications. A tremie pipe was used to probe the annular space to ensure that no bridging occurred. Since the new well was constructed within 15 feet of an existing well, the bentonite seal was also brought above the elevation corresponding to the screen top of the nearby well. This was done to prevent grout from entering the water-bearing or screen zone. The bentonite was hydrated with potable water for a duration meeting the manufacture's specifications prior to grouting the remaining annulus.

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

2.7 Cap and Protective Casing

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

A weep hole was drilled in the outer protective casing near the bottom above the concrete pad. Pea gravel was placed inside the protective casing between the riser pipe and the outer casing. The well was clearly marked with the proper well identification number on the stand-up casing. Construction details are documented on the well construction log provided in **Appendix B**.

3. WELL DEVELOPMENT

The well was developed using a combination of surging and pumping, and bailingto (1) restore the natural hydraulic conductivity of the formation, and (2) to remove fine-grained sediment to ensure low-turbidity groundwater samples. The well was initially surged and purged until dry. During an additional attempt of well development the well was flushed with approximately 100 gallons of water (approximately 5 well volumes) to remove residual well construction materials, such as drilling mud in the form of a mud cake and/or formation soils had not washed out of the borehole. The well was then vacated using a bailer. The development form is included in **Appendix C**.

All equipment and tubing placed in the well was decontaminated and cleaned prior to use and tubing was disposed of upon completion.

4. SURVEY

Upon completion of the well installation, the horizontal locations and vertical elevations were surveyed by a Georgia-licensed surveyor. The top of the PVC well casing [top of casing (TOC) elevation] and the survey pin installed at the well pad was surveyed to within 0.5-foot horizontal accuracy and to 0.01-foot vertical accuracy. The horizontal location (i.e., northings and eastings) was recorded in feet relative to the North America Datum of 1983 (NAD) with the vertical elevation recorded in feet relative to the North American Vertical Datum of 1988. Certified survey data are provided in the well construction table (**Table 1**). A copy of the certified well survey data for the AP-1 well network is provided in **Appendix D**.

5. REFERENCES

Environmental Resources Management (ERM), 2017. *Well Design, Installation, Development, and Decommissioning Report – Plant Hammond Ash Ponds 1 and 2*. October 2017.

Georgia Environmental Protection Division (GA EPD), Georgia Department of Natural Resources, 1991. *Manual for Groundwater Monitoring*. September 1991.

Geosyntec Consultants, 2019b. Well Design, Installation and Development Report – Addendum, Plant Hammond Ash Ponds 1 and 2 (AP-1 and AP-2). June 2019.

Geosyntec Consultants, 2020. Well Design, Installation and Development Report – Addendum, Plant Hammond Ash Ponds 1 (AP-1). January 2020.

United States Environmental Protection Agency. 2015a. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA-HQ-RCRA–2009–0640; FRL–9919–44–OSWER]. RIN–2050–AE81, April 2015

TABLE

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

Well ID	Purpose	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation [2] (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Top of Screen Elevation (ft NAVD88)	Bottom of Screen Elevation (ft NAVD88)	Well Depth (ft bgs) [3]
MW-40D	Delineation	4/29/2020	1549542.29	1942316.55	576.41	578.92	446.74	436.74	140.00

Notes:
ft bgs = feet below ground surface.
(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey completed by GEL Solutions in May 19, 2020.
(2) Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Ground surface elevation defined at the survey nail installed within the well pad.
(3) Total well depth accounts for 4-inch sump.

FIGURE

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\Well Installation Reports\2020.06_AP1AP2AP3\Figure 1_GW Monitoring Network_AP1.mxd 7/16/2020 4:52:08 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Piezometer
- Vertical Delineation Monitoring Well

Notes:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

GROUNDWATER MONITORING NETWORK MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JULY 2020

FIGURE 1

APPENDIX A

Well Driller Performance Bonds

CONTINUATION CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. 800033976

Issued on 9/27/2017
Expires on 6/30/2019
Renewed on 3/4/2019
Expires on 6/30/2021

dated effective 09/27/2017
(MONTH-DAY-YEAR)

on behalf of Ricky Davis / Cascade Drilling, L.P.
(PRINCIPAL)

and in favor of Department of Natural Resources, State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on 06/30/2019
(MONTH-DAY-YEAR)

and ending on 06/30/2021
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and 00/100 Dollars ($30,000.00)

Description of bond Performance Bond for Water Well Contractors

Premium: $1200.00

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

Signed and dated on March 4th, 2019
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By _____
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

425-709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

APPENDIX B

Boring and Well Construction Log

Geosyntec consultants
engineers | scientists | innovators
Geosyntec Consultants
1255 Roberts Boulevard
Kennesaw, GA 30144

MW-40D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 4/28/20 **COMPLETED** 4/29/20
NORTHING 1549542.29 ft **EASTING** 1942316.55 ft
DRILLER Cascade Drilling
GROUND ELEVATION 576.41 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 578.92 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terra Sonic Full Size Track Mounted Rig
LOGGED BY C. Hug **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0				Hydro Excavation (0 ft to 10 ft) NO SAMPLE	
	570				
10				566.4 CLAY, Brownish yellow (10YR 6/8) and light gray (10YR 7/1) mottled, high plasticity, some fine sand, trace silt, moist. 10.5 ft: Trace of fine, rounded quartz gravel.	Schedule 40 PVC 2"
				562.4 GRAVELLY CLAY, Dark gray (2.5Y 4/1) and pale brown (2.5Y 7/4) mottled, low to medium plasticity, sand is fine to medium grained, trace of fine, angular limestone gravel, moist to wet, increased gravel sized limestone fragments with depth.	Aquaguard Sodium Bentonite Grout
	560				
				557.4 PARTIALLY WEATHERED ROCK, Gray (2.5Y 6/1) and white (2.5Y 8/1), highly weathered, recovered as clayey and silty gravel and cobbles of limestone with fine to coarse sand, dry.	
20					
	550	No cavities or voids reported.			
30				546.4 LIMESTONE, Very dark gray (GLEY 1 3/) and gray (GLEY 1 6/), massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet.	
	540	Steady drilling, hard drilling in places. No voids reported.		36 ft: Recovered as gravel sized fragments and pieces of core up to 5 inch long. Potential fines washed away.	
40					
	530				

SCS MONITORING WELLS PLANT HAMMOND MW34D TO MW41_MAY 2020.GPJ ACP GINT LIBRARY CH.GLB 7/14/20

(Continued Next Page)

Geosyntec consultants
engineers | scientists | innovators
Geosyntec Consultants
1255 Roberts Boulevard
Kennesaw, GA 30144

CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
50				LIMESTONE, Very dark gray (GLEY 1 3/) and gray (GLEY 1 6/), massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet. *(continued)*	
	520				
60					
	510			From 66 ft: Zones of more competent rock fragments, less gravel sized fragments.	
70					Aquaguard Sodium Bentonite Grout
	500				
80					
	490				
90				From 91 ft: More competent, less fractured, recovered as intact pieces of core up to 6 inch length, with white mineralization along fracture planes.	
	480				
100					Bentonite coated 3/8" pellets
	470			From 106 ft: Very broken core, recovered as angular, gravel sized fragments	

(Continued Next Page)

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1255 Roberts Boulevard
Kennesaw, GA 30144

CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
110	460			of core, slightly silty. LIMESTONE, Very dark gray (GLEY 1 3/) and gray (GLEY 1 6/), massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet. *(continued)*	Bentonite coated 3/8" pellets
120					
130	450				20/40 Silica Sand
140	440				0.010 slot size 2" Pre Pack, U-Pack Screen
					436.4

Bottom of borehole at 140.0 feet.

APPENDIX C

Well Development Form

Geosyntec consultants

WELL DEVELOPMENT LOG SHEET

Client: SCS
Site: Hammond
Well ID: MW-40D
Total Depth (ft) (after purge): 140
Depth to Water (ft): 14.92
Well Diameter (in): 2
Well Volume (gal) = $0.041d_2h$: 20.51
Well Volume (L) = gal * 3.785: 77.64

d = well diameter (inches); h = length of water column (feet)

Well Type: Flush / Stick Up (circled: Stick Up)
Well Lock: Yes / No
Well Cap Condition: Good / Replace
Well Tag Present: Yes / No (circled: Yes)

Project No.: GW6581
Location: AP-1
Pump Type/Model: bladder
Tubing Material: poly
Pump Intake Depth (ft): 140
Start Stop Purge Time: 1510/1630
Purge Rate (mL/min): 350
Total Purge Volume (L): 10

Development Date: 5/5/2020
Field Personnel Name: Chad Russo

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1615	8.04	208.2	466.4	10.5	11.05	23.4	79.04	350	5	
1630	8.08	213.6	285.1	10.96	10.96	43.1	87.35	350	10	pump stopped pulling water left for day
Stabilizing Criteria	+/- 0.1 SU	+/- 5%		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		< 5 NTUs				

5/5/2020

Geosyntec consultants

WELL DEVELOPMENT LOG SHEET

Client: SCS
Site: Hammond
Well ID: MW-400
Total Depth (ft) (after purge): 190
Depth to Water (ft): 91.52
Well Diameter (in): 2
Well Volume (gal) = 0.041d²h: 7.95
Well Volume (L) = gal * 3.785: 30.09

Project No.: GW6591
Location: AP-1
Pump Type/Model: Bailer
Tubing Material: N/A
Pump Intake Depth (ft): N/A
Start Stop Purge Time: 1120/1315
Purge Rate (mL/min): N/A
Total Purge Volume (L):

Development Date: 5/4/2026
Field Personnel Name: Chad Russo

d = well diameter (inches); h = length of water column (feet)

Well Type: Flush / Stick Up
Well Lock: Yes / No
Well Cap Condition: Good / Replace
Well Tag Present: Yes / No

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1120						BR	112.41			
1150						OR	120.81			
1215						OR	129.35			
1270						OR	131.56			
1310						OR	136.43			
1315						OR	137.11			
							OR			
							5/6/2026			
Stabilizing Criteria	+/- 0.1 SU	+/- 5%		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		< 5 NTUs				

APPENDIX D

Certified Well Survey Data

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail on Pad Northing	Nail on Pad Easting	Nail on Pad Elevation
AP1A-1	1550080.0050	1941614.1240	587.44	1550080.5990	1941613.9040	584.78
HGWA-1	1550423.3150	1940770.0000	595.21	1550424.4790	1940770.0550	592.32
HGWA-2	1549796.8670	1939845.1520	587.92	1549796.5130	1939845.2880	585.29
HGWA-3	1549794.4080	1939833.3900	587.74	1549794.0880	1939833.5600	585.23
HGWC-7	1549520.6650	1942319.7510	579.18	1549520.5890	1942320.0850	576.55
HGWC-8	1549114.6050	1942392.5560	579.82	1549114.5020	1942392.8550	577.14
HGWC-9	1548693.3000	1942215.0250	580.36	1548692.9890	1942215.1180	577.72
HGWC-10	1548469.2500	1941644.4320	579.37	1548469.5710	1941644.4340	576.76
HGWC-11	1548477.9080	1941146.7890	580.67	1548477.7080	1941146.7020	578.12
HGWC-12	1548476.5340	1941152.3430	580.73	1548475.9500	1941152.1790	578.14
HGWC-13	1548628.0320	1940900.6010	595.76	1548629.2680	1940900.3490	592.94
MW-1	1549938.2390	1941589.0590	588.66	1549939.5030	1941588.8340	585.63
MW-5	1548436.0170	1942448.8450	581.14	1548436.0640	1942447.5550	578.00
MW-6	1548383.1150	1941689.0050	581.84	1548384.4600	1941688.6600	579.18
MW-7	1548230.4670	1941087.4410	577.73	1548231.8360	1941086.8460	574.94
MW-8	1548171.8630	1940016.6970	586.93	1548173.5170	1940017.0010	584.25
MW-19	1548422.9360	1940943.0110	580.65	1548421.5880	1940943.4040	577.46
MW-20	1549029.6820	1942736.8510	579.00	1549028.9070	1942735.5530	575.96
MW-24D	1548638.7980	1940900.3660	595.68	1548637.3090	1940900.6270	592.91
MW-25D	1548473.0020	1941162.2000	580.59	1548471.7370	1941161.7310	577.71
MW-26D	1548699.9060	1942222.3600	580.41	1548699.0240	1942223.2540	577.63
MW-27D	1549103.5660	1942390.7990	579.70	1549103.6100	1942392.0210	576.84
MW-28D	1549510.9020	1942321.1440	579.08	1549511.1320	1942322.3460	576.20
MW-29	1549437.6710	1942633.5960	575.06	1549437.1050	1942632.4620	572.14
MW-30D	1549530.0040	1942318.4510	578.59	1549530.1910	1942319.7730	576.20
MW-40D	1549542.2900	1942316.5450	578.92	1549542.5160	1942317.8430	576.41

Benchmark	Northing	Easting	Elevation
BM H-3	1548237.4130	1941013.5710	574.63

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 05/11/2020-05/14/2020 FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD'88 EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARK BM H-3 SET BY GEL SOLUTIONS USING A TRIMBLE DINI LEVEL

5/19/2020

Prepared for

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

WELL DESIGN, INSTALLATION, AND DEVELOPMENT REPORT - ADDENDUM No. 4

PLANT HAMMOND ASH POND 1 (AP-1)

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

November 2020

WELL DESIGN, INSTALLATION, AND DEVELOPMENT REPORT – ADDENDUM No. 4

Plant Hammond
Ash Pond 1
November 5, 2020

Whitney Law, P.E.
Project Manager
Geosyntec Consultants

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LIST OF ACRONYMS

AP	Ash Pond
ASTM	American Society for Testing and Materials
CCR	coal combustion residual
CFR	Code of Federal Regulations
CFS	Civil Field Services
DO	dissolved oxygen
GA EPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
NAD	North America Datum
NAVD	North American Vertical Datum
NSF	National Sanitation Foundation
ORP	oxygen reduction potential
PVC	polyvinyl chloride
SCS	Southern Company Services
TOC	top of casing
US EPA	United States Environmental Protection Agency

1. INTRODUCTION

This report provides details regarding the design, installation, and development of two groundwater monitoring wells to supplement the current groundwater monitoring system at Georgia Power Company (GPC) Plant Hammond (Site) Ash Pond 1 (AP-1). The report was prepared as an addendum to previously submitted well design, installation, development and decommissioning reports issued for the Site (ERM, 2017; Geosyntec 2019b; Geosyntec, 2020 (January), Geosyntec, 2020 (July)), and meets the requirements promulgated in the United States Environmental Protection Agency (US EPA) coal combustion residual (CCR) rule [40 Code of Federal Regulations (CFR) Part 257, Subpart D], specifically 40 CFR § 257.91(e)(1) and Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10.

Plant Hammond is located in Floyd County, approximately 10 miles west of Rome, Georgia. The current groundwater monitoring system at AP-1 includes 12 wells associated with the CCR compliance monitoring well network and a network of secondary groundwater monitoring wells and piezometers. The locations of these wells and piezometers are shown on **Figure 1**.

2. DRILLING AND WELL INSTALLATION

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

This report presents the details for the installation and development of AP-1 area wells HGWA-43D and HGWA-44D. The locations of these wells are shown on **Figure 1**. Well construction details are provided in **Table 1**; the boring and well construction logs are included in **Appendix B**.

2.1 Drilling Method

The borehole was advanced using rotosonic drilling techniques with continuous core collection. Terra Sonic full size track mounted rig with a 6-inch sonic drill rod was used to install the wells. Care was taken so that the drilling methods did not introduce contamination of the groundwater from surface activities. Drilling equipment was cleaned prior to mobilizing to the site.

2.2 Screened Interval

Details regarding the well screen interval are provided in **Table 1**. The wells are screened in the uppermost water bearing unit of the Site. HGWA-43D is screened from approximately 543 to 533 feet (ft) (referenced to the North American Vertical Datum of 1988 [NAVD88]). HGWA-44D is screened from approximately 492 to 482 ft NAVD88. The wells were constructed with 10 feet of well screen.

2.3 Well Casings and Screens

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

2.4 Well Intake Design

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

2.5 Filter Pack

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

Filter pack material was placed within the pre-packed dual-wall well screen and in the annular space between the outside of the pre-pack screen and borehole wall to ensure an adequate thickness of filter pack material between the well and the formation. Filter pack material placed in the annular space outside of the well screen extended approximately 2 feet above the top of screen. No bridging occurred during filter pack placement.

Upon placement of the filter pack, the well was pumped with a submersible pump to assure settlement of the filter pack. The top of filter pack depth was measured following pumping to ensure appropriate extension of filter sand above the screen. The depth of

top of filter pack was measured and recorded on the well construction logs provided in **Appendix B**.

2.6 Annular Seal

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

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

2.7 Cap and Protective Casing

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

A weep hole was drilled in the outer protective casing near the bottom above the concrete pad. Pea gravel was placed inside the protective casing between the riser pipe and the outer casing. The wells were clearly marked with the proper well identification number on the stand-up casing. Construction details are documented on the well construction log provided in **Appendix B**.

3. WELL DEVELOPMENT

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

All equipment and tubing placed in the well was decontaminated and cleaned prior to use and tubing was disposed of upon completion.

4. SURVEY

Upon completion of the well installation, the horizontal locations and vertical elevations were surveyed by a Georgia-licensed surveyor. The top of the PVC well casing [top of casing (TOC) elevation] and the survey pin installed at the well pad were surveyed to within 0.5-foot horizontal accuracy and to 0.01-foot vertical accuracy. The horizontal location (i.e., northings and eastings) was recorded in feet relative to the North America Datum of 1983 (NAD) with the vertical elevation recorded in feet relative to the North American Vertical Datum of 1988. Certified survey data are provided in the well construction table (**Table 1**). A copy of the certified well survey data for the new AP-1 wells is provided in **Appendix D**.

5. REFERENCES

Environmental Resources Management (ERM), 2017. *Well Design, Installation, Development, and Decommissioning Report – Plant Hammond Ash Ponds 1 and 2*. October 2017.

Georgia Environmental Protection Division (GA EPD), Georgia Department of Natural Resources, 1991. *Manual for Groundwater Monitoring.* September 1991.

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TABLE

Table 1

Summary of Well Construction Details

Plant Hammond AP-1, Floyd County, Georgia

Well ID	Purpose	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation [2] (ft NAVD88)	Top of Casing Elevation (ft NAVD88)	Top of Screen Elevation (ft NAVD88)	Bottom of Screen Elevation (ft NAVD88)	Well Depth (ft bgs) [3]
HGWA-43D	Background	8/26/2020	1550422.85	1940753.80	592.08	595.08	544.08	534.08	58.25
HGWA-44D	Background	8/25/2020	1550409.13	1940756.18	592.01	594.79	491.76	481.76	110.50

Notes:

ft bgs = feet below ground surface.

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey was completed by GEL Solutions and certified September 10, 2020.

(2) Vertical elevations are referenced to the North American Vertical Datum (NAVD) of 1988. Ground surface elevation defined at the survey nail installed within the well pad. Survey was completed by GEL Solutions and certified September 10, 2020.

(3) Total well depth accounts for 3-inch sump.

FIGURE

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer

Notes:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 310 620

SCALE IN FEET

GROUNDWATER MONITORING NETWORK MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | NOVEMBER 2020

FIGURE 1

\\aro-01\prj1$\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\Well Installation Reports\2020.06_AP1AP2AP3\Figure 1_GW Monitoring Network_AP1.mxd 9/22/2020 11:40:10 PM

APPENDIX A

Well Driller Performance Bonds

CONTINUATION CERTIFICATE

Atlantic Specialty Insurance Company , Surety upon

a certain Bond No. 800033976

Issued on 9/27/2017
Expires on 6/30/2019
Renewed on 3/4/2019
Expires on 6/30/2021

dated effective 09/27/2017
(MONTH-DAY-YEAR)

on behalf of Ricky Davis / Cascade Drilling, L.P.
(PRINCIPAL)

and in favor of Department of Natural Resources, State of Georgia
(OBLIGEE)

does hereby continue said bond in force for the further period

beginning on 06/30/2019
(MONTH-DAY-YEAR)

and ending on 06/30/2021
(MONTH-DAY-YEAR)

Amount of bond Thirty Thousand and 00/100 Dollars ($30,000.00)

Description of bond Performance Bond for Water Well Contractors

Premium: $1200.00

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

Signed and dated on March 4th, 2019
(MONTH-DAY-YEAR)

Atlantic Specialty Insurance Company

By _____
Attorney-in-Fact Andrew P. Larsen

Parker, Smith & Feek, Inc.
Agent

2233 112th Ave NE Bellevue, WA 98004
Address of Agent

425-709-3600
Telephone Number of Agent

S-0157/GE 8/08

XDP

APPENDIX B

Boring and Well Construction Logs

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Kennesaw, GA 30144

HGWA-43D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 8/26/20 **COMPLETED** 8/26/20
NORTHING 1550422.85 ft **EASTING** 1940753.80 ft
DRILLER Cascade Drilling
GROUND ELEVATION 592.08 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 595.08 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181
LOGGED BY A. Ramsey **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0	590			Hydro Excavation (0 ft to 10 ft) NO SAMPLE	Schedule 40 PVC 2"
5	585				
10	580			582.1 CLAY, Yellowish red and light gray mottling, medium plasticity, trace coarse sand, hard, moist.	Aquaguard Sodium Bentonite Grout
15	575			576.6 CLAY, Reddish yellow with light gray mottling, laminated brown, with organic material, trace limestone gravel, hard, moist. 17 ft: Trace of limestone gravel.	
20	570			573.1 HIGHLY WEATHERED ROCK, Light brown, recovered as angular gravelly clay with trace limestone cobbles, non plastic to low plasticity, soft, wet.	Bentonite coated 3/8" pellets
25	565			569.1 LIMESTONE, Grayish blue to white, some white calcite healed fractures, 1 in clay filled fractures, mostly pulverized by drilling, powder reacts with HCl, hard, dry. 27 ft: Wet.	
				562.1	

(Continued Next Page)

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HGWA-43D

CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
30	560	30 ft to 50 ft: No voids reported.		30 ft to 34.5 ft: No recovery.	
				557.6	
35	555			LIMESTONE, Grayish blue to white, hard, dry, some white calcite healed fractures, 1 in clay filled fractures, 38 ft to 39 ft pulverized by drilling, powder reacts with HCl, wet.	
40	550			40 ft: Up to 1 in thick calcite healed fractures.	Bentonite coated 3/8" pellets
				548.1	
45	545			44 ft to 50 ft: No recovery.	
50	540			542.1	20/40 Silica Sand
				LIMESTONE, Grayish blue to white, hard, dry, up to 1 in thick calcite healed fractures, trace 1 in clay filled fractures, mostly pulverized by drilling, powder reacts with HCl.	0.010 slot size 2" Pre Pack, U-Pack Screen
55	535				Bottom of well: 58.25 ft
				533.8	

Bottom of borehole at 58.3 feet.

Easting and Northing in NAD 1983.
Elevation in NAVD 1988.

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

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HGWA-44D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 8/24/20 **COMPLETED** 8/25/20
NORTHING 1550409.13 ft **EASTING** 1940756.18 ft
DRILLER Cascade Drilling
GROUND ELEVATION 592.01 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 594.79 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181
LOGGED BY A. Ramsey **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	590			Hydro Excavation (0 ft to 10 ft) NO SAMPLE
5	585			
10	580			582.0 CLAY, Red with yellowish red and light gray mottling, medium plasticity, trace coarse sand, hard, moist. 12 ft: Yellowish red and light gray mottling.
15	575			577.0 CLAY, Reddish yellow with light gray mottling, some brown organic matter, trace limestone gravel, medium to low plasticity, hard, moist. 576.0 HIGHLY WEATHER ROCK, Light brown, gravelley clay with some angular cobbles, gravel and cobbles are limestone, non to low plasticity, soft, wet.
20	570			573.0 LIMESTONE, Dark bluish gray, reacts with HCl when powdered, partially pulverized by drilling, hard, dry to moist. 20 ft: With abundant white calcite healed fractures.
25	565			
30	560	Driller reports void between 30 ft and 31 ft. No returns. 31 ft to 33 ft no recovery, but returns coming back. Driller reports 'soft' material, potentially washed away.		562.0 30 ft to 31 ft: Void. 31 ft to 33 ft: No recovery. 559.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry.

CONSTRUCTION DIAGRAM

- Schedule 40 PVC 2"
- Aquaguard Sodium Bentonite Grout
- Bentonite coated 3/8" pellets

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

Geosyntec consultants
engineers | scientists | innovators
Geosyntec Consultants
1255 Roberts Boulevard
Kennesaw, GA 30144

CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
35	555	40 ft: Driller reports no returns.		LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry. *(continued)*	
40				552.0 40 ft to 42 ft: No recovery.	
	550			550.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
45	545				
50				542.0 50 ft to 52 ft: No recovery.	
	540			540.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
55	535				◄Bentonite coated 3/8" pellets
60				532.0 60 ft to 61 ft: No recovery.	
	530			531.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
65	525				
70				522.0 70 ft to 71 ft: No recovery.	
	520			521.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures.	

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

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1255 Roberts Boulevard
Kennesaw, GA 30144

HGWA-44D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
75	515			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures. *(continued)*	
				512.0	
80	510			80 ft to 84 ft: No recovery.	
				508.0	
85	505			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	Bentonite coated 3/8" pellets
				502.0	
90	500			90 ft to 94 ft: No recovery.	
				498.0	
95	495			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
				492.0	
100	490			100 ft to 102 ft: No recovery.	20/40 Silica Sand
				490.0	
105	485			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	0.010 slot size 2" Pre Pack, U-Pack Screen
110					Bottom of well: 110.5 ft
				480.0	

Bottom of borehole at 112.0 feet.

Easting and Northing in NAD 1983.
Elevation in NAVD 1988.

APPENDIX C

Well Development Forms

Geosyntec consultants

WELL DEVELOPMENT LOG SHEET

Client: SCS/Georgia Power Company
Project No.: GW6581B
Development Date: 8/30/20

Site: Plant Hammond
Location: 59 ft btoc
Field Personnel Name: A. Ramsey

Well ID: ~~MW-43D~~ HGWA-43D
Pump Type/Model: Mega Monsoon

Total Depth (ft) (after purge): 61.25 ft bTOC
Tubing Material: High Density Polyethylene (HDPE)

Depth to Water (ft): 18.67 ft btoc
Pump Intake Depth (ft): N of AP-1 outside gate

Well Diameter (in): 2 in
Start/Stop Purge Time: 0900/1100, 1555/

Well Volume (gal) = 0.041d$_2$h: 7.02 gal
Purge Rate (mL/min): 400 ml/min

Well Volume (L) = gal * 3.785: 26.57 L
Total Purge Volume (L): 75.5 L

d = well diameter (inches); h = length of water column (feet)

Well Type: Flush / (Stick Up) — circled: Stick Up

Well Lock: (Yes) / No — circled: Yes

Well Cap Condition: (Good) / Replace — circled: Good

Well Tag Present: (Yes) / No — circled: Yes

1* 28 Ltr purged from 9000-9020 @ 1.4 L/min to remove basal accumulations. well nearing purge dry and allowed to recharge

2* resume at 09~~3~~0, recharge water is white

3* 14 L purge until 1030 @ 350 ml/min avg. allowed to recharge. pump 2 ft off bottom.

4* resume @ 1050

5* small pvc shreds clogging pump. clean out and return to 43D at later time. 1100 36 L

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1610	7.09	374.5	67.1	–	19.6	Overrange	28.27	400	(45.5 6) 51.5	
1640	7.04	370.5	56.9	–	19.2	22.4	40.80	400	(12) 63.5	
1655	7.06	378.5	60.2	–	19.9	15.2	48.92	400	(6) 69.5	
~~17~~1810	7.09	384.4	58.6	–	20.5	7.93	52.46	400	(6) 75.5	
Stabilizing Criteria	+/- 0.1 SU	+/- 5%		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		< 5 NTUs				

AR

DO probe failure

Geosyntec consultants

WELL DEVELOPMENT LOG SHEET

Client: SCS/Georgia Power Company
Site: Plant Hammond
Well ID: ~~AR-MW-44D~~ HGWA-44D
Total Depth (ft) (after purge): 113.25 ft btoc
Depth to Water (ft): 18.95 ft btoc
Well Diameter (in): 2
Well Volume (gal) = 0.041d^2h: 15.01 gal
Well Volume (L) = gal * 3.785: 57.11 L
d = well diameter (inches); h = length of water column (feet)

Well Type: Flush / (Stick Up)
Well Lock: (Yes) / No
Well Cap Condition: (Good) / Replace
Well Tag Present: (Yes) / No

Project No.: GW6581B
Location: north of AP-1
Pump Type/Model: Mega Monsoon
Tubing Material: High Density Polyethylene (HDPE)
Pump Intake Depth (ft): 112
Start/Stop Purge Time: 1345 / 1732
Purge Rate (mL/min): ~~300~~ 1000
Total Purge Volume (L): 167

Development Date: 8/28/20
Field Personnel Name: A. Ramsey

* purge stopped at 1525 due to pump failure. 1602 purge resumed.

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L) total	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1404	7.55	230.0	-3.8	0.17	20.1	51.7	81.27	5000	95	
1434	7.71	247.7	-53.5	0.16	21.5	51.9	99.30	1000	(30) 125	
1504	7.48	387.7	-149.5	0.21	22.9	31.6	100.17	300	(9) 134	
1602	7.46	400.5	-133.5	0.21	20.6	50.7	95.16	300	(6) 140	
1632	7.47	415.0	-182.1	0.00	22.4	21.7	99.98	300	(9) 149	
1702	7.52	422.1	-186.4	0.00	23.3	14.4	102.90	300	(9) 158	
1732	7.57	419.7	-196.2	0.00	22.9	8.32	102.92	300	(9) 167	
Stabilizing Criteria	**+/- 0.1 SU**	**+/- 5%**		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		**< 5 NTUs**				

APPENDIX D

Certified Well Survey Data

Well ID	Casing Northing	Casing Easting	Top of Casing Elevation	Nail on Pad Northing	Nail on Pad Easting	Nail on Pad Elevation
HGWA-42D	1549363.7180	1938443.8590	586.17	1549362.3140	1938444.3210	583.39
HGWA-43D	1550422.8480	1940753.8050	595.08	1550422.8120	1940754.9980	592.08
HGWA-44D	1550409.1260	1940756.1850	594.79	1550409.2230	1940757.6150	592.01
HGWA-45D	1551157.6780	1941907.5370	586.95	1551159.2250	1941907.4670	584.08
MW-46D	1551056.4780	1942929.1010	605.72	1551055.9530	1942927.8210	603.17
HGWA-47	1548990.9600	1934171.8440	580.33	1548989.2780	1934171.6440	577.39
HGWA-48D	1548989.3900	1934178.1460	580.26	1548988.1150	1934177.8070	577.29

Benchmark	Northing	Easting	Elevation
BM H-1	1547964.9650	1937219.0690	579.02
BM H-2	1548149.4490	1938960.2220	590.68
BM H-4	1549952.4470	1941611.3640	585.71

SURVEY DATA CERTIFICATION FOR SOUTHERN COMPANY TO DETERMINE NORTHING, EASTING, AND VERTICAL ELEVATION OF THE NAIL IN THE CONCRETE PAD & THE PVC WELL CASING. DATE OF FIELD SURVEY & INSPECTION: 09/01/2020-09/02/2020. FIELD SURVEY POSITIONAL TOLERANCE=0.5 FEET HORIZONTAL-NAD'83, 0.01 VERTICAL-NAVD'88. EQUIPMENT USED FOR HORIZONTAL LOCATION: TRIMBLE R10 RTK GPS & TRIMBLE S5 ROBOTIC TOTAL STATION. THE VERTICAL LOCATION OF EACH SURVEYED POINT WAS ESTABLISHED BASED UPON LEVEL RUNS WITH A DIGITAL LEVEL LOOP FROM VERTICAL CONTROL ESTABLISHED BY ON-SITE BENCHMARKS BM H-1, BM-H2 & BM-H4 SET BY GEL SOLUTIONS DURING PREVIOUS SURVEYS USING A TRIMBLE DINI LEVEL

9/10/2020

APPENDIX B

Well Inspection Forms

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: HGWA-1
Date, field conditions: 3-2-2020 Rain Wet Conditions

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

7 Corrective actions as needed, by date: N/A

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1/2
Permit Number:
Well ID: HGWA-2
Date, field conditions: 3/2/2020; 47°F; raining

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1/2
Permit Number:
Well ID: HGWA-3
Date, field conditions: 3/2/2020; 54°F; raining

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number: —
Well ID: HGVC-4
Date, field conditions: 03.02.2020

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: HGWC-8
Date, field conditions: 05.02.2020 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number: —
Well ID: HGWC-9
Date, field conditions: 03.02.2026 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number: —
Well ID: HGWC-10
Date, field conditions: 03.02.2020 Rainy 15°C

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond, AP-1
Permit Number:
Well ID: HGWC-11
Date, field conditions: 03.02.2020 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: HGWC-12
Date, field conditions: 03.02.2020 Rainy 15°C

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: HGWC-13
Date, field conditions: 03/02/2020 rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: AP1A-1
Date, field conditions: 03/02/2020 rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-1
Date, field conditions: 03/02/2020 rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-5
Date, field conditions: 3-3-2020 Wet

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

7 Corrective actions as needed, by date:
Asphalt Pad.

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-6
Date, field conditions: 3-3-2020 Wet

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

7 Corrective actions as needed, by date:
Ants along Side of Pad.

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond
Permit Number: —
Well ID: MW-7
Date, field conditions: 03/02/2020 rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-8
Date, field conditions: 03/02/2020, rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number: —
Well ID: MW-19
Date, field conditions: 03/02/2020 rainy 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-2A
Date, field conditions: 03.02.2020 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number: —
Well ID: MW-24D
Date, field conditions: 03.12.2025

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-25D
Date, field conditions: 03.02.2020

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-26D
Date, field conditions: 03.02.2026 Rainy 45°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-27D
Date, field conditions: 03.02.2020 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP1
Permit Number:
Well ID: MW-28D
Date, field conditions: 03.02.2020

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: ~~46~~ MW-29
Date, field conditions: 50°F; 3/2/2020 raining

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

7 Corrective actions as needed, by date:

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Signature and Seal of PE/PG responsible for inspection

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Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-30D
Date, field conditions: 03.02.2020 Rainy 15°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: HGWA-1
Date, field conditions: 3-25-2020 Wet Rain last night

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

7 Corrective actions as needed, by date:
Needs Black QED Well cap 2-inch

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP-1/2
Permit Number: —
Well ID: HGWA-2
Date, field conditions: 3/25/2026 65°F; partly cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP-1/2
Permit Number: —
Well ID: HGWA-3
Date, field conditions: 3/25/2026 ~~60~~ 65°F; partly cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond, AP-1
Permit Number:
Well ID: HGWC-7
Date, field conditions: 3/27/2020, clear, 53°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: HGWC-8
Date, field conditions: cloudy 60's 3/27/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: HGWC-9
Date, field conditions: 3 31 20 Cloudy 60's

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP-1
Permit Number: ✓
Well ID: HGWC-10
Date, field conditions: 4-1-2020 Damp

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

7 Corrective actions as needed, by date:
None

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP-1
Permit Number: —
Well ID: HGWC-11
Date, field conditions: 3/31/2020 60°F cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: HGWC-R
Date, field conditions: Cloudy 50-60's 3/26/12

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: HGWC13
Date, field conditions: Cloudy 60's 3/30/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond, AP-1
Permit Number:
Well ID: AP1 A-1
Date, field conditions: 3/23/2020, Rainy, 53° F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-1
Date, field conditions: 3/23/2020, Rainy, 53°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: MW-5
Date, field conditions: sunny 60's 3/26/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: MW-6
Date, field conditions: Sunny 70's 3/27/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-7
Date, field conditions: 3/27/20 sunny 70's

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP-2
Permit Number: —
Well ID: MW-8
Date, field conditions: 3-23-2020 Rain / Wet

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

7 Corrective actions as needed, by date:
None as of now.

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-19
Date, field conditions: Sunny- 60's 3/28/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-20
Date, field conditions: Clear 60's 3/27/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-24D
Date, field conditions: Cloudy 60° • 3/30/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: MW-25D
Date, field conditions: Sunny 60's 3/28/18

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: MW-26D
Date, field conditions: 3/31/30, cloudy, Rain

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond, AP-1
Permit Number:
Well ID: MW-27D
Date, field conditions: Sunny, 45°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: MW-28D
Date, field conditions: 3/27/2020, Clear, 55°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number: —
Well ID: MW-29
Date, field conditions: Cloudy 60's 3/30/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond, AP-1
Permit Number: —
Well ID: MW-305
Date, field conditions: 3/31, 2020 / Rainy, 50°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: HAMMOND AP 11/2/13
Permit Number:
Well ID: HGWA-1
Date, field conditions: 09-15-2020, 85°F OVERCAST

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

7 Corrective actions as needed, by date:
CHANGE COVER OF PROTECTIVE CASING (LESS TIGHT)

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name HAMMOND AP 1/2/13
Permit Number
Well ID HGWA-2
Date, field conditions 09-15-20, 80°F OVERCAST

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1/2/3
Permit Number:
Well ID: HGWA-3
Date, field conditions: 9/15/2020 cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1/2/3
Permit Number:
Well ID: ~~MW-43D~~ HGWA-43D
Date, field conditions: 1/16/2020 overcast

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1/2/3
Permit Number:
Well ID: ~~MW-44D~~ HGWA-4413
Date, field conditions: 9/16/2020 raining

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: RAMBLING API
Permit Number:
Well ID: MGWC-7
Date, field conditions: 70°F, OVERCAST

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Unnamed API
Permit Number:
Well ID: HCWC-8
Date, field conditions: ~~9/15/20~~ 9/16/20 68°F overcast

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

7 Corrective actions as needed, by date: N/A

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: HGWC-9
Date, field conditions: 09/17/20, Cloudy/rainy/overcast, 78°

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

7 Corrective actions as needed, by date: n/a

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP1
Permit Number:
Well ID: HGWC-10
Date, field conditions: 9/16/20 Rainy, 68°

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

7 Corrective actions as needed, by date: n/a

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: HAMMOND API
Permit Number:
Well ID: HGWC-1
Date, field conditions: 81°F, SUNNY

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: HAMMOND API
Permit Number:
Well ID: HGWC-12
Date, field conditions: 81°F, SUNNY

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hilcorp API
Permit Number:
Well ID: HGWC-13
Date, field conditions: 9-21-20, 75F SUNNY

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-1
Date, field conditions: 9/14/2020 partly cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-5
Date, field conditions: 09/17/20, Sunny, 83°

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

7 Corrective actions as needed, by date:

Ants around well

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AO-1
Permit Number:
Well ID: MW-6
Date, field conditions: 9/12/2016 sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-7
Date, field conditions: 4/21/2026 sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-2 AP-1 / AP2
Permit Number:
Well ID: MW-2
Date, field conditions: 9/14/2020 80°F SUNNY

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: API
Permit Number:
Well ID: MW-19
Date, field conditions: 9/21, sunny

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

7 Corrective actions as needed, by date: N/A

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-20
Date, field conditions: 09/17/20, Sunny, 84°

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

7 Corrective actions as needed, by date: N/A

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: HAMMOND API
Permit Number:
Well ID: MW-24D
Date, field conditions: 9-21-20, 80°F SUNNY

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-25D
Date, field conditions: 9/18/2020 sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond API
Permit Number:
Well ID: MW26D
Date, field conditions: 9/17 sunny

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

7 Corrective actions as needed, by date: n/a

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Mammoth AP-1
Permit Number:
Well ID: MW-27D
Date, field conditions: 9/18/2020 cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: AP 1
Permit Number:
Well ID: MW 28D
Date, field conditions: 4/21 sunny

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

7 Corrective actions as needed, by date: n/a

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AFB
Permit Number:
Well ID: MW 29
Date, field conditions: 9/16/20, Rainy, 70°

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

7 Corrective actions as needed, by date: N/A

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: HAMMOND API
Permit Number:
Well ID: MW-20D
Date, field conditions: 60°F, RAINY

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

NOT VISIBLE FROM AFAR

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: MW-40D
Date, field conditions:

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

7 Corrective actions as needed, by date:

possible redevelopment?

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hammond AP-1
Permit Number:
Well ID: AP1A-1
Date, field conditions: 9/14/2020 partly cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP 1, 2, 3
Permit Number:
Well ID: HGWA 43D
Date, field conditions: 11/10, cloudy 70°

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond
Permit Number:
Well ID: HGWA-44D
Date, field conditions: 11/12/2020, Cloudy

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP 1/2/3
Permit Number:
Well ID: #-43P
Date, field conditions: 12/15, Sunny, cold

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond AP 1/2/3
Permit Number:
Well ID: HGWA-44P
Date, field conditions: 12/15/2020. Sunny, cold

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

APPENDIX C

Alternate Source Demonstration – Fluoride, Lithium, Molybdenum

Prepared for

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

ALTERNATE SOURCE DEMONSTRATION – FLUORIDE, LITHIUM, MOLYBDENUM

GEORGIA POWER COMPANY
PLANT HAMMOND ASH POND 1

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

January 2021

Georgia Power

ALTERNATE SOURCE DEMONSTRATION – FLUORIDE, LITHIUM, AND MOLYBDENUM

Plant Hammond
Ash Pond 1 (AP-1)

January 29, 2021

Herwig Goldemund, Ph.D.
Senior Scientist

Whitney Law, P.E.
Project Manager

Certification Statement

Alternate Source Demonstration – Fluoride, Lithium, and Molybdenum
Plant Hammond
Ash Pond 1
January 29, 2021

I hereby certify that the facts used to prepare this Alternate Source Demonstration for Georgia Power Company – Plant Hammond Ash Pond 1 are accurate pursuant to the requirements stipulated in 40 CFR 257.95(g)(3)(ii) and Georgia regulations stipulated in Rule 391-3-4-.10(6) of the Georgia Administrative Code, which incorporates 40 CFR 257.95(g)(3)(ii) by reference.

Seal and Signature	January 29, 2021 Date

Geosyntec
consultants

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ACM	assessment of corrective measures
AP	ash pond
As	arsenic
ASD	Alternate Source Demonstration
B	boron
Ca	calcium
CaF_2	fluorite
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Cl	chloride
F	fluoride
GA EPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
GWPS	groundwater protection standard
HCO_3	bicarbonate alkalinity
K	potassium
Li	lithium
Mg	magnesium
mg/kg	milligram per kilogram
mg/L	milligram per liter
Mo	molybdenum
Na	sodium
SI	saturation index
SSL	statistically significant level
SO_4	sulfate
TDS	total dissolved solids

1. INTRODUCTION

1.1 Purpose

This document presents an alternate source demonstration (ASD) for the statistically significant levels (SSLs) of fluoride (F) and lithium (Li) detected in vertical delineation well MW-30D and molybdenum (Mo) detected in vertical delineation well MW-40D above the site-specific groundwater protection standards (GWPS). Wells MW-30D and MW-40D are associated with the CCR unit Ash Pond 1 (AP-1) located at Georgia Power Company (Georgia Power) Plant Hammond (Site). The SSLs were identified based on statistical evaluations of the groundwater quality data for samples obtained during assessment monitoring activities conducted during 2020. This ASD has been prepared pursuant to regulations in Title 40 Code of Federal Regulations (CFR) Part 257 Subpart D [the Federal Coal Combustion Residuals (CCR) Rule], specifically 40 CFR 257.95(g)(3)(ii), which allows the owner or operator to "demonstrate that a source other than the CCR unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." Moreover, this ASD also serves as an ASD under the Georgia regulations per Rule 391-3-4-.10(6) of the Georgia Administrative Code, which incorporates 40 CFR 257.95(g)(3)(ii) by reference.

1.2 Summary of ASD

Based on review of available AP-1 data, the F and Li SSLs reported for well MW-30D and the Mo SSL reported for well MW-40D are not associated with a release from AP-1 but are caused by a source other than the unit. This natural variation is due to the fact that these deeper wells have either a limited connection (MW-30D) or no connection (MW-40D) to the uppermost aquifer as evidenced by i) slow recharge encountered within the deeper delineation wells installed in less fractured bedrock zones, ii) starkly different groundwater elevations in these wells compared to other site wells, and (iii) very different geochemical conditions. As a result, we recommend removing these wells from the groundwater monitoring network. This ASD provides the following lines of evidence in support of this conclusion.

- Geochemical evaluations using Piper and Stiff diagrams indicate that the chemical compositions of groundwater sampled from wells MW-30D and MW-40D are dissimilar from other wells at the Site and show no evidence of a CCR impact;

- The water elevations in MW-30D and MW-40D indicate that (i) well MW-40D is not connected to the uppermost aquifer, and (ii) water level fluctuations of up to 70 feet in well MW-30D suggest very slow recharge that appears to cause geochemical changes through extended interactions with the bedrock that renders this well unreliable for water quality monitoring purposes;

- The detections of high F, and to a lesser extent, high Li, in well MW-30D are unique to this well. A lack of statistical relationships between the CCR indicator parameter boron (B) with Li and F, as well as strong statistical relationships between the salinity indicator parameter sodium (Na) with Li and F suggest that Li and F are derived from long groundwater residence times and increased weathering/dissolution of the natural formation; and

- Regional F concentration data reported in the literature (Cook, 1978),supported by site-specific geochemical modeling, indicate that the elevated F concentrations in MW-30D are very likely derived from a localized source of the mineral fluorite; Li is also likely derived from mineral/rock weathering in the deeper flow zone and localized variations in Li content of the formation.

Wells MW-30D and MW-40D are screened in deeper groundwater zones that either have limited connection with (i.e., MW-30D) or are disconnected with (i.e., MW-40D) the uppermost aquifer. Therefore, groundwater SSLs noted in these wells reflect a deeper source, which likely reflects water-rock interactions in the deeper groundwater zones resulting in naturally enriched Li and F concentrations in deeper groundwater.

1.3 Site Description

1.3.1 Operations

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

AP-1 is a 35-acre surface impoundment located at Plant Hammond that received CCR materials from its commission in 1952 until 1969. After 1969, AP-1 was utilized as a co-

treatment pond to handle return water flows from the other ponds and for recycling of process water for plant operations. Georgia Power will close AP-1 through removal of the CCR material from the CCR unit; closure activities will be conducted in accordance with 40 CFR 257.102 and corresponding Rule 391-3-4-.10(7)(b). Closure permit No. 057-023D(CCR) was approved by the Georgia Environmental Protection Division (GA EPD) on June 22, 2020.

1.3.2 Geology and Hydrogeology

1.3.2.1 Geology

The Site is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) in northwest Georgia, which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc. under the direction of Golder (Golder, 2018) indicates that AP-1 is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly shaley limestone. AP-1 is underlain primarily by five lithologic units: (i) fill, (ii) terrace alluvium, (iii) residuum, (iv) highly weathered/fractured shaley limestone bedrock, and (v) competent shaley limestone bedrock. The limestone is described as medium to dark gray, very finely laminated with lighter and darker gray layers, and contains interbeds of calcareous shale. Wells MW-30D and MW-40D are both completely screened within the competent shaley limestone bedrock.

1.3.2.2 Hydrogeology

The uppermost aquifer at AP-1 is a regional groundwater aquifer that occurs in the terrace alluvium, residuum, and the weathered and fractured bedrock. The uppermost aquifer is considered to be unconfined; however, localized, semi-confined conditions may be encountered due to the low-permeability clayey nature of the residual soils, or as a result of perched groundwater or poorly interconnected fracture networks in the bedrock. Based on observations of soil types and horizontal conductivity values, the movement of groundwater in the soil, and to some degree the highly weathered bedrock zone, can be characterized as low-to moderate permeability, porous media flow. Groundwater flow in the more competent underlying bedrock is characterized as fracture flow. Groundwater flow in the vicinity of AP-1 is to the east and south (Geosyntec, 2020a).

1.4 Groundwater Monitoring and Basis of Statistically Significant Levels

AP-1 initiated assessment monitoring in January 2018 and is currently in progress. Statistical analyses of the 2018 assessment monitoring groundwater data identified SSLs of Mo and arsenic (As) at concentrations exceeding the state or federal GWPS in the following compliance monitoring wells: Mo (HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, and HGWC-13); and As (HGWC-13). Pursuant to § 257.96, Georgia Power initiated an assessment of corrective measures (ACM) program for AP-1 in January 2019.

From January 2019 through August 2020, twelve additional groundwater monitoring wells were installed to provide data to characterize upgradient and downgradient groundwater conditions of AP-1, and to horizontally and vertically delineate As and Mo SSLs for the compliance monitoring wells. The well network is shown on **Figure 2**; **Table 1** provides well construction details.

Wells MW-28D, MW-30D, and MW-40D were installed to vertically delineate Mo in compliance well HGWC-7. As shown in **Table 1** and the boring logs presented in **Appendix A**, wells MW-28D, MW-30D, and MW-40D were installed sequentially and at deeper lithological zones after Mo concentrations were reported above the state GWPS in HGWC-7, MW-28D and MW-30D. Background well HGWA-44D and vertical delineation wells MW-30D and MW-40D have the deepest well screen intervals at AP-1 (**Table 1**).

Based on statistical analysis of groundwater data through November 2020, the following updated statistical results have been reported (Geosyntec, 2021):

- No Mo SSLs were identified in vertical delineation wells MW-28D or MW-30D.
- SSLs of F and Li were identified above the state and federal GWPS in well MW-30D.
- A Mo SSL was identified above the state GWPS in well MW-40D.

The Mo SSL identified in compliance well HGWC-7 is vertically delineated to below the state and federal GWPS by MW-28D.

Pursuant to § 257.96, groundwater in the vicinity of AP-1 continues to be monitored during the ACM phase in accordance with the established assessment monitoring program.

2. ALTERNATE SOURCE DEMONSTRATION

The following subsections provide lines of evidence that the SSLs of F and Li in groundwater monitoring well MW-30D and Mo in groundwater monitoring well MW-40D are associated with natural variation in groundwater quality and are not due to a release from AP-1.

2.1 Geochemical Composition of Various Liquid Samples

The chemical characteristics of background and downgradient monitoring wells for samples collected during 2020 are summarized in **Table 2**, which also contains data from pore water piezometers PMW-01 and PMW-02 installed within CCR materials in AP-1. In addition to routine Appendix III and Appendix IV constituents, the table also includes concentrations of major cations (calcium [Ca], magnesium [Mg], potassium [K], and Na) and major anions (chloride [Cl], sulfate [SO_4], and bicarbonate alkalinity [HCO_3]) as well as iron, manganese, sulfide and field parameters measured during sample collection. Sampling locations are depicted on **Figure 2**. The data were used to evaluate the geochemical composition of the various samples collected from select monitoring locations using common graphical tools such as Piper and Stiff diagrams.

Piper diagrams are trilinear diagrams that plot the relative contributions of major ions to the overall geochemical makeup of a liquid sample. The diagram has three components. The large diamond-shaped component displays the combined cation and anion composition of major solutes. The two smaller triangular components display the cation components and the anion components, separately and in greater detail. The sample data are plotted as a percentage of the total milliequivalents on the diagram with each component reaching 100 percent at its respective corner of the diagram. If the results from discrete samples plot relatively close to each other, their respective chemical compositions are similar, and they might have a similar (or the same) source of solutes. One can also see mixing of different waters if the samples fall along straight lines between various water types (e.g., mixing of Ca-HCO_3 water, such as derived from carbonate rocks with Ca-SO_4 water, such as derived from gypsum).

Stiff diagrams plot the chemical compositions of each sample as polygons. Similar-shaped polygons for different samples indicate similar geochemical compositions, and they might have a similar (or the same) source of solutes. The relative size of each polygon is an indication of the ionic strength (or "concentration") of the respective sample.

The resulting Piper diagram is presented as **Figure 3** and the Stiff diagrams are presented as **Figures 4A** through **4C**.

As can be seen on **Figure 3**, groundwater samples from piezometer MW-1 and background monitoring wells HGWA-1, HGWA-3, and HGWA-43D plot close to each other and represent a chemical composition dominated by Ca-HCO_3 and groundwater unimpacted by the CCR unit. Deep background well HGWA-44D represents a mixed Na-(Ca-Mg)-HCO_3 groundwater. In contrast, wells MW-30D and MW-40D represent groundwater chemical compositions consisting of Na-HCO_3 groundwater and Na-(Cl-SO_4), respectively.

CCR pore water samples from piezometers PMW-01 and PMW-02 are distinctly different from the background, compliance, and deeper delineation wells noted above. Piezometers screened in the CCR unit reflect a pore water chemical composition consisting of Ca-SO_4. Well HGWC-7 plots along the mixing line between background wells and pore water samples (**Figure 3)**.

The groundwater chemical compositions reflect distinct chemical signatures compared to the pore water chemical composition. Furthermore, the deeper wells showing SSLs for F, Li, and Mo, i.e., MW-30D and MW-40D, show a different chemical signature compared to compliance and background wells screened in the uppermost aquifer. Vertical delineation wells MW-30D and MW-40D, which are screened at similar to slightly deeper intervals than background well HGWA-44D, plot on the opposite side of the diamond showing no geochemical similarities with either shallow background wells or CCR pore water. Wells MW-30D and MW-40D yield water from different groundwater zones and are distinctly different in chemical composition from groundwater in the uppermost aquifer at the Site. Groundwater in well MW-40D is elevated in Na, Cl, and SO_4 as well as total dissolved solids (TDS) (6,470 milligrams per liter (mg/L)) compared to shallower wells at the Site, which reflects high-salinity groundwater with long residence time and limited mixing with meteoric water in recent years. Thus, there is limited recharge of shallow groundwater to the deeper groundwater zone yielding to well MW-40D. It is likely that well MW-30D, which is screened deeper than the compliance well HGWC-7 and delineation well MW-28D, but shallower than MW-40D, may be partially connected to the shallow groundwater zone; however, long-term water level monitoring will help provide data of groundwater flow conditions at this location.

Figures 4A though **4C** depict the Stiff diagrams, organized by ionic strength as noted by the scale of each figure. Shallow and deep background wells and piezometers (i.e., HGWA-1, HGWA-3, HGWA-43D, HGWA-44D, and MW-1) as well as downgradient wells HGWC-7 and HGWC-8 have an ionic strength about four times smaller compared

to pore water piezometers. Vertical delineation well MW-30D has a slightly lower ionic strength compared to CCR pore water but has a very different geochemical signature. Vertical delineation well MW-40D, the deepest well screened at AP-1, has a much higher ionic strength than any other well (including CCR pore water piezometers), and its geochemical signature is also very unique and inconsistent with other wells and/or CCR pore water piezometers.

The difference in the geochemical composition of vertical delineation wells, MW-30D and MW-40D, is likely due to slow recharge as a result of fewer and smaller water-bearing fractures deep within the bedrock. Water collected from low-producing wells has had a long time to interact with the rock matrix, leading to increased weathering and dissolution of solutes into the water, increasing salinity and TDS concentrations in groundwater (e.g., USGS, 2020). The geochemical compositions of samples collected from vertical delineation wells MW-30D and MW-40D are likely the result of these weathering processes and long groundwater residence times.

2.2 Water Elevations in Monitoring Wells MW-30D and MW-40D

A potentiometric surface map illustrating the September 2020 groundwater elevations is provided on **Figure 5**. Note that water elevations in MW-40D are approximately 132 feet below MW-30D, indicating that this is not water from an aquifer connected to the uppermost aquifer.

Table 3 summarizes the water elevations in monitoring wells HGWC-7, MW-28D, MW-30D, and MW-40D between March 2019 and September 2020. In addition, **Figures 6A** and **6B** depict water elevations in these wells, with **Figure 6A** showing the water levels for wells HGWC-7 and MW-28D separately to show water fluctuations at a different scale, and **Figure 6B** depicting all four wells on the same figure to show the differences between the shallower and the deeper wells. As can be seen on these figures, compliance monitoring well HGWC-7 and delineation well MW-28D follow the same seasonal pattern of higher water elevations in the spring and lower elevations in the fall, as would be expected for a water table aquifer that is connected between HGWC-7 and MW-28D; seasonal fluctuations are on the order of 3 feet to 3.5 feet.

On the other hand, delineation well MW-30D shows a pattern unrelated to seasonality and water level fluctuations of up to 70 feet. This suggests a different flow zone than the uppermost aquifer and is indicative of a slow-recharge, low-yield well screened within a zone of few and small fractures. This is consistent with the conceptual site model (CSM) that indicates variable flow conditions and fewer fractures with depth that may or may not be connected to the uppermost aquifer. Furthermore, water elevations in MW-40D

are approximately 130 feet below the shallower wells, indicating that this is a totally separate flow zone unconnected to the uppermost aquifer. In addition, the water levels in this well are either at the very bottom of the well or contain a water column of no more than 3 feet as compared to MW-28D that has a water column of at least 50 feet within the well casing. After purging, well MW-40D did not produce enough water for sampling during the September 2020 sampling event and was left to recover overnight before being sampled the next day using a bailer in accordance with the Groundwater Monitoring Plan (Geosyntec, 2020b), developed in accordance with USEPA guidance. Similar sampling conditions have been reported during the May and June 2020 sampling events. Well MW-40D is clearly unusable to monitor water quality in the uppermost aquifer, and well MW-30D also appears to be unsuitable for water quality monitoring based on these large water level fluctuations.

2.3 Lack of Fluoride (and Lithium) Detections in Other Wells

As can be seen in **Table 2**, the elevated detections of F in monitoring well MW-30D (i.e., between approximately 8 mg/L and 11 mg/L during 2020) are unique to this well. Fluoride concentrations in well MW-30D are at least one order of magnitude higher compared to other AP-1 wells, including samples collected from CCR pore water piezometers PMW-01 (0.31 mg/L) and PMW-02 (0.82 mg/L). Therefore, CCR pore water is unlikely to be the source of elevated F concentrations in MW-30D, as CCR pore water would be expected to have higher concentrations of F if it were the source of F in MW-30D.

Similarly, Li concentrations in MW-30D (between 0.13 mg/L and 0.25 mg/L during 2020) are also an order of magnitude higher than Li concentrations measured in CCR pore water (0.043 mg/L in PMW-01 and 0.018 mg/L in PMW-02), indicating the CCR pore water is unlikely to be the source for these elevated Li concentrations. Lithium concentrations in this well are also higher than in the other monitoring wells at AP-1.

Since B is frequently used as a tracer for potential CCR impacts in groundwater, the relationships between F and B, and Li and B were evaluated for groundwater data collected from wells around AP-1 in September 2020 and plotted as **Figure 7A.** As can be seen on this figure, there is no statistical relationship between F and B, and Li and B, which further supports that neither F nor Li originate from AP-1. On the other hand, there are strong statistical relationships between Na and F, and Na and Li, as depicted on **Figure 7B**, which is consistent with the salinity discussion in Section 2.1 above suggesting that both F and Li originate from increased weathering of the natural formation in deeper (and slower recharging) groundwater zones.

The most likely source of elevated F in monitoring well MW-30D is a naturally occurring vein of the mineral fluorite in the formation around this well. Further lines of evidence supporting the natural source of F are provided in Section 2.4 below. Detections of Li in groundwater are also likely of natural origin as carbonates contain on average approximately 5 milligrams per kilogram (mg/kg) and shales contain on average approximately 66 mg/kg of Li (AGI, 2016). The shaly limestone encountered at AP-1 is likely to contain concentrations of Li comparable to a shale, which could provide a natural source of Li to the deep bedrock at MW-30D.

2.4 Fluorite Within the Natural Formation

The mineral fluorite (CaF_2) is found in Paleozoic carbonate rocks and has been identified in Floyd County (Cook, 1978) where Plant Hammond is located. In order to further evaluate whether fluorite is likely present in the vicinity of well MW-30D, the geochemical software program *Geochemist's Work Bench* (Aqueous Solutions LLC, 2018) was used to calculate saturation indices of fluorite using the groundwater sampling results from September 2020. A saturation index (SI) of "0" indicates that the groundwater is in equilibrium with CaF_2, a negative SI indicates that groundwater is undersaturated with respect to CaF_2 (i.e., fluorite is not present), and a positive SI would indicate supersaturated conditions, leading to the precipitation of CaF_2.

The calculated SI values are summarized in **Table 2** together with the other groundwater characterization data. As can be seen in this table, with the exception of well MW-30D, all groundwater monitoring wells have negative SI values, indicating that conditions are undersaturated with respect to CaF_2. The SI for MW-30D is -0.03, which indicates a near-equilibrium with CaF_2. Therefore, the geochemical evidence supports the presence of this mineral in the vicinity of MW-30D, consistent with regional literature citing the occurrence of CaF_2 with calcite in cavities of limestone in Floyd County.

The occurrence of low concentrations of Li in groundwater reflect a natural source and mineral equilibrium in the aquifer, most likely linked to the occurrence of the mineral lithiophorite, which has been documented in the Carterville Mining District (Pierce, 1944; Cook, 1978).

3. CONCLUSIONS

The following lines of evidence support the conclusion that the F and Li SSLs reported for monitoring well MW-30D and the Mo SSL reported for monitoring well MW-40D are attributed to natural variation in the groundwater quality and are not due to a release from AP-1.

- Geochemical Composition of Various Liquid Samples
    - Geochemical evaluations using Piper and Stiff diagrams indicate that the chemical compositions of groundwater sampled from wells MW-30D and MW-40D are dissimilar from other wells at AP-1and show no evidence of a CCR impact.
- Water Elevations in Wells MW-30D and MW-40D
    - The water elevations in MW-30D and MW-40D indicate that these wells are not appropriate vertical delineation wells for potential groundwater impacts observed at wells HGWC-7 and MW-28D. MW-40D does not appear to be hydraulically connected to the uppermost aquifer (i.e. the water elevation in MW-40D is approximately 130 feet below the water elevation in HGWC-7). MW-30, while apparently connected to the uppermost aquifer, exhibits water level fluctuations of up to 70 feet, which suggests very slow recharge that appears to cause geochemical changes through extended interactions (residence time) with the bedrock. In both cases, conditions specific to these wells render them unreliable for providing samples that are representative of upper aquifer conditions.
- Lack of F (and Li) Detections in Other Wells
    - The detections of high F (and to a lesser extent, Li) in well MW-30D are unique to this well; statistical relationships (or lack thereof) between the CCR indicator parameter B with Li and F, as well as the salinity indicator parameter Na with Li and F suggest that Li and F are derived from long groundwater residence times and increased weathering/ dissolution of the natural formation.
- Fluorite Within the Natural Formation

- Literature, as well as geochemical modeling, indicate that the elevated F concentrations in MW-30D are likely derived from a localized source of the mineral fluorite; Li is also likely derived from mineral/rock weathering in the deeper flow zone and localized variations in Li content of the formation.

Based on these findings and the fact that the shallower delineation well MW-28D has now delineated the Mo SSLs reported in compliance well HGWC-7, it is recommended to reclassify MW-30D and MW-40D as a 'piezometer' to be gauged for water level monitoring only. The water level in well MW-40D is repeatedly observed to be less than the height of the well screen (i.e., well screen is not fully saturated), making it unusable for sampling purposes, and well MW-30D exhibits very low recharge, high water level fluctuations, and a unique geochemistry that renders this well unreliable for water quality monitoring and delineation purposes.

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TABLES

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

Well ID	Hydraulic Location	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation [2] (ft)	Top of Casing Elevation [2] (ft)	Top of Screen Elevation [2] (ft)	Bottom of Screen Elevation [2] (ft)	Well Depth (ft BTOC) [3]	Screen Interval Length (ft)
Compliance Monitoring Well										
HGWA-1	Upgradient	12/3/2014	1550423.32	1940770.00	592.32	595.21	573.12	563.12	32.49	10
HGWA-2	Upgradient	12/2/2015	1549796.87	1939845.15	585.29	587.92	570.29	560.29	27.95	10
HGWA-3	Upgradient	12/2/2015	1549794.41	1939833.39	585.23	587.74	553.23	543.23	44.51	10
HGWA-43D	Upgradient	8/26/2020	1550422.85	1940753.80	592.08	595.08	544.08	534.08	61.25	10
HGWA-44D	Upgradient	8/25/2020	1550409.13	1940756.18	592.01	594.79	491.76	481.76	113.28	10
HGWC-7	Downgradient	12/3/2015	1549520.67	1942319.75	576.55	579.18	561.55	551.55	27.96	10
HGWC-8	Downgradient	12/8/2015	1549114.61	1942392.56	577.14	579.82	564.64	554.64	25.51	10
HGWC-9	Downgradient	12/9/2015	1548693.30	1942215.03	577.72	580.36	543.72	533.72	46.97	10
HGWC-10	Downgradient	12/8/2015	1548469.25	1941644.43	576.76	579.37	566.76	556.76	22.94	10
HGWC-11	Downgradient	12/15/2015	1548477.91	1941146.79	578.12	580.67	565.19	555.19	25.78	10
HGWC-12	Downgradient	12/9/2015	1548476.53	1941152.34	578.14	580.73	555.64	545.64	35.42	10
HGWC-13	Downgradient	12/10/2015	1548628.03	1940900.60	592.94	595.76	560.94	550.94	45.15	10
Piezometer										
AP1A-1	Upgradient	12/15/2015	1550080.01	1941614.12	584.78	587.44	575.84	565.84	21.93	10
MW-1	Upgradient	12/2/2014	1549938.24	1941589.06	585.63	588.66	567.93	557.93	31.06	10
MW-8	Downgradient	10/29/2014	1548171.86	1940016.70	584.25	586.93	565.05	555.05	32.28	10
Delineation Monitoring Well										
MW-5	Downgradient	11/4/2014	1548436.02	1942448.85	578.00	581.14	560.70	550.70	30.84	10
MW-6	Downgradient	11/4/2014	1548383.12	1941689.01	579.18	581.84	559.28	549.28	32.96	10
MW-7	Downgradient	10/30/2014	1548230.47	1941087.44	574.94	577.73	561.24	551.24	26.89	10
MW-19	Downgradient	9/26/2018	1548422.94	1940943.01	577.46	580.65	561.45	551.45	29.53	10
MW-20	Downgradient	9/27/2018	1549029.68	1942736.85	575.96	579.00	554.96	544.96	34.37	10
MW-24D	Downgradient	11/7/2018	1548638.80	1940900.37	592.91	570.96	532.91	522.91	48.38	10
MW-25D	Downgradient	11/6/2018	1548473.00	1941162.20	577.71	580.59	527.71	517.71	63.21	10
MW-26D	Downgradient	11/14/2018	1548699.91	1942222.36	577.63	580.41	512.63	502.63	78.11	10
MW-27D	Downgradient	11/8/2018	1549103.57	1942390.80	576.84	579.70	526.84	516.84	63.19	10
MW-28D	Downgradient	11/13/2018	1549510.90	1942321.14	576.20	579.08	531.20	521.20	58.21	10
MW-29	Downgradient	11/13/2018	1549437.67	1942633.60	572.14	575.06	557.14	547.14	28.25	10
MW-30D	Downgradient	6/19/2019	1549530.00	1942318.45	576.20	578.59	481.20	471.20	107.72	10
MW-40D	Downgradient	4/29/2020	1549542.29	1942316.55	576.41	578.92	450.41	440.41	138.84	10

Notes:
ft = feet.
ft BTOC = feet below top of casing.
(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey completed by GEL Solutions certified May 19, 2020. HGWA-43D and HGWA-44D survey data certified September 10, 2020.
(2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions certified May 19, 2020. HGWA-43D and HGWA-44D survey data certified September 10, 2020.
(3) Total well depth accounts for sump if data provided on well construction logs.

Table 2
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWA-1	HGWA-1	HGWA-1	HGWA-1	HGWA-2	HGWA-2	HGWA-2	HGWA-3	HGWA-3	HGWA-3	HGWA-3	HGWA-43D[4]	HGWA-44D[4]	MW-1	HGWC-7	HGWC-7	HGWC-7	HGWC-7	HGWC-8	HGWC-8	HGWC-8	HGWC-8
	Sample Date:	3/2/2020	3/25/2020	6/16/2020	9/15/2020	3/2/2020	3/25/2020	9/15/2020	3/2/2020	3/25/2020	6/16/2020	9/15/2020	9/16/2020	9/16/2020	6/16/2020	3/4/2020	3/27/2020	6/17/2020	9/16/2020	3/3/2020	3/27/2020	6/16/2020	9/16/2020
	Parameter (1,2,3)																						
APPENDIX III	Boron	--	0.025 J	0.021 J	0.017 J	--	0.039 J	0.044 J	--	0.0096 J	0.010 J	0.0071 J	0.061 J	0.23	0.19	--	1.2	1.0	1.1	--	2.4	2.2	1.9
	Calcium	--	127	130	103	--	23.0	21.1	--	89.8	85.1	73.1	56.0	30.0	157	--	119	112	98.0	--	133	120	119
	Chloride	--	20.4	41.1	13.4	--	5.2	5.0	--	6.1	5.8	6.0	4.1	7.2	29.6	--	48.3	45.2	46.4	--	79.8	67.9	74.6
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.52	0.20	0.077 J	0.059 J	0.077 J	0.081 J	0.45	0.46	0.45	0.53
	pH	7.10	6.95	6.97	7.15	5.43	5.36	5.22	7.12	7.40	7.31	7.29	7.5	7.83	6.86	7.17	7.05	7.20	7.30	7.06	6.95	6.97	6.92
	Sulfate	--	85.9	88.2	47.3	--	46.3	51.5	--	50.5	49.5	44.7	43.0	6.9	114	--	109	102	109	--	173	157	194
	TDS	--	496	632	265	--	138	124	--	284	448	258	272	270	653	--	413	423	392	--	541	573	552
APPENDIX IV	Antimony	<0.00027	<0.00027	--	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	--	<0.00028	0.00051 J	0.00049 J	--	<0.00027	<0.00027	--	0.00034 J	<0.00027	<0.00027	--	<0.00028
	Arsenic	<0.00035	<0.00035	--	<0.00078	0.00043 J	<0.00035	<0.00078	0.00040 J	<0.00035	--	<0.00078	<0.00078	<0.00078	--	<0.00035	<0.00035	--	<0.00078	<0.00035	<0.00035	--	<0.00078
	Barium	0.034	0.043	--	0.035	0.11	0.12	0.12	0.14	0.13	--	0.12	0.26	0.24	--	0.068	0.059	--	0.068	0.052	0.059	--	0.060
	Beryllium	<0.000074	<0.000074	--	<0.000046	0.00014 J	0.00016 J	0.00013 J	<0.000074	<0.000074	--	<0.000046	<0.000046	<0.000046	--	0.000077 J	<0.000074	--	<0.000046	<0.000074	<0.000074	--	0.00010 J
	Cadmium	<0.00011	<0.00011	--	<0.00012	<0.00011	0.00014 J	0.00012 J	<0.00011	<0.00011	--	<0.00012	<0.00012	<0.00012	--	<0.00011	<0.00011	--	<0.00012	0.00017 J	0.00014 J	--	0.00023 J
	Chromium	<0.00039	0.00072 J	--	<0.00055	0.00041 J	<0.00039	<0.00055	<0.00039	<0.00039	--	<0.00055	<0.00055	0.0012 J	--	0.0016 J	0.00040 J	--	0.00074 J	0.00070 J	<0.00039	--	0.0015 J
	Cobalt	<0.00030	<0.00030	--	<0.00038	0.019	0.020	0.021	<0.00030	<0.00030	--	<0.00038	<0.00038	<0.00038	--	0.0011 J	0.00074 J	--	0.00065 J	0.0020 J	0.0018 J	--	0.0019 J
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.52	0.20	0.077 J	0.059 J	0.077 J	0.081 J	0.45	0.46	0.45	0.53
	Lead	0.000048 J	<0.000046	--	<0.000036	0.000095 J	0.00011 J	0.000080 J	<0.000046	<0.000046	--	0.000042 J	0.000050 J	0.00021 J	--	0.00051 J	0.000054 J	--	0.00020 J	0.00013 J	<0.000046	--	0.00020 J
	Lithium	0.0012 J	0.00083 J	--	0.00087 J	0.0017 J	0.0017 J	0.0015 J	0.0037 J	0.0035 J	--	0.0026 J	0.0018 J	0.014 J	--	0.0034 J	0.0020 J	--	0.0026 J	0.0028 J	0.0026 J	--	0.0033 J
	Mercury	<0.00014	--	--	--	<0.00014	--	--	<0.00014	--	--	--	<0.000078	<0.000078	--	<0.00014	--	--	--	<0.00014	--	--	--
	Molybdenum	<0.00095	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00095	<0.00069	0.0044 J	0.0019 J	<0.00095	0.045	0.044	0.048	0.046	0.44	0.42	0.45	0.43
	Comb. Radium 226/228	0.610 U	4.36	--	0.748 U	1.58	0.621 U	0.124 U	0.249 U	0.833 U	--	0.161 U	0.531 U	0.422 U	--	0.624 U	0.485 U	--	0.135 U	0.835 U	1.04 U	--	0.526 U
	Selenium	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	--	<0.0016	<0.0016	<0.0016	--	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	--	<0.0016
	Thallium	<0.000052	<0.000052	--	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	--	<0.00014	<0.00014	<0.00014	--	<0.000052	<0.000052	--	<0.00014	0.000061 J	0.000077 J	--	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	345	307	--	--	26.1	--	--	195	187	251	294	376	--	--	171	177	--	--	126	133
	Iron	--	--	<0.015	0.087	--	--	0.78	--	--	1.3	0.26	0.020 J	0.42	0.78	--	--	0.56	0.30	--	--	0.057	0.30
	Magnesium	--	--	4.7	4.3	--	--	2.5	--	--	5.2	4.6	18.3	15.1	23.7	--	--	10.3	8.9	--	--	16.4	16.4
	Manganese	--	--	0.034 J	0.18	--	--	0.61	--	--	0.24	0.22	0.010 J	0.020 J	0.36	--	--	0.22	0.15	--	--	0.23	0.22
	Potassium	--	--	0.32	0.34	--	--	0.89	--	--	0.44	0.46	0.97	3.2	0.39	--	--	2.7	2.3	--	--	7.2	7.1
	Sodium	--	--	58.5	21.1	--	--	7.4	--	--	5.9	4.9	14.0	50.3	12.5	--	--	10.3	8.7	--	--	9.2	8.5
	Sulfide	--	--	<0.050	<0.050	--	--	<0.050	--	--	<0.050	<0.050	<0.050	0.11	<0.050	--	--	<0.050	<0.050	--	--	<0.050	<0.050
FIELD PARAMETERS	Temperature	15.95	17.28	17.01	18.57	15.54	16.87	20.26	16.21	17.11	17.93	19.73	19.59	19.1	20.47	18.25	18.21	20.08	21.1	18.51	13.48	20.71	21.25
	pH	7.1	6.95	6.97	7.15	5.43	5.36	5.22	7.12	7.4	7.31	7.29	7.52	7.83	6.86	7.17	7.05	7.20	7.3	7.06	6.95	6.97	6.92
	Specific Conductivity	653.55	890.79	862.15	637.79	172.56	207.69	193.35	402.38	508.34	449.79	433.82	490.47	484.7	908.89	672.74	712.97	652.71	678.45	753.68	870.58	813.90	860.92
	Turbidity	1 . 1 1	0.87	0	2.15	4.96	4.45	3.45	0.62	1.39	3.43	1.39	2	4.93	2.91	4.84	1.31	7.39	21	4.99	1	1.37	4.73
	Dissolved Oxygen	0.41	0.18	0.73	0.74	0.33	0.12	0.3	0.3	0.18	0.2	0.19	3.55	0.31	0.09	0.41	0.11	0.12	8	0.11	0.21	0.11	0.4
	ORP	45.43	18.21	58.88	42.92	181.74	64.9	177.98	-86.31	-64.5	12.49	117.44	126.16	77.43	88.95	-33.71	53.15	12.45	100.49	273.14	52.26	139.72	68.01
SATURATION INDICES	Fluorite SI	--	--	--	-2.664	--	--	-3.659	--	--	--	-3.199	-2.063	-1.563	--	--	--	--	-2.718	--	--	--	-1.057

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
U = Indicates the parameter was not detected above the analytical minimum detectable concentration (MDC) (Specific to combined radium)
(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).
(2) Field parameters are reported with the following units: temperature, degrees Celsius (°C); specific conductivity microsiemens per centimeter (µS/cm); turbidity, nephelometric turbidity units (NTU); dissolved oxygen (mg/L); and oxidation-reduction potential (ORP), millivolts (mV).
(3) Metals were analyzed by EPA Method 6010D/6020B, Mercury was analyzed by EPA Method 7470A, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320. The pH value presented was recorded at the time of sample collection in the field.
(4) Monitoring wells HGWA-43D and HGWA-44D were analyzed for the complete list of Appendix III and Appendix IV constituents to establish background groundwater quality conditions.

Table 2
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWC-9	HGWC-9	HGWC-9	HGWC-10	HGWC-10	HGWC-10	HGWC-11	HGWC-11	HGWC-11	HGWC-12	HGWC-12	HGWC-12	HGWC-13	HGWC-13	HGWC-13	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7
	Sample Date:	3/4/2020	3/31/2020	9/17/2020	3/3/2020	4/1/2020	9/16/2020	3/3/2020	3/31/2020	9/18/2020	3/3/2020	3/26/2020	9/18/2020	3/4/2020	3/30/2020	9/21/2020	3/2/2020	3/26/2020	9/17/2020	3/3/2020	3/27/2020	9/21/2020	3/3/2020	3/30/2020	9/21/2020
	Parameter (1,2,3)																								
APPENDIX III	Boron	--	2.2	2.0	--	0.23	1.1	--	0.17	0.91	--	1.6	1.6	--	1.8	1.6	--	0.041 J	0.067 J	--	0.77	0.82	--	0.051 J	0.20
	Calcium	--	182	164	--	96.2	139	--	124	122	--	145	163	--	234	173	--	89.6	103	--	186	173	--	31.1	75.3
	Chloride	--	105	105	--	5.4	39.7	--	3.2	34.9	--	48.0	74.6	--	75.1	41.2	--	0.73 J	28.7	--	48.6	58.1	--	1.5	11.1
	Fluoride	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050
	pH	6.97	7.07	6.99	6.67	6.84	6.66	5.95	5.7	6.42	6.95	6.99	7.15	7.16	6.91	7.34	6.12	6.14	6.48	6.78	6.82	6.88	6.10	6.06	6.50
	Sulfate	--	185	209	--	59.0	169	--	283	272	--	182	266	--	393	359	--	176	153	--	204	221	--	46.2	114
	TDS	--	1010	680	--	290	490	--	565	626	--	533	704	--	895	732	--	385	486	--	676	656	--	142	326
APPENDIX IV	Antimony	0.00032 J	0.00042 J	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.00038 J	<0.00027	<0.00027	<0.00028	0.00061 J	0.00036 J	0.00029 J	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.0014 J	0.0013 J	<0.00027	0.00051 J
	Arsenic	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0022 J	0.0022 J	0.00081 J	0.0023 J	0.0028 J	0.0031 J	0.52	0.47	0.39	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078
	Barium	0.11	0.11	0.11	0.048	0.058	0.068	0.022	0.026	0.043	0.092	0.089	0.086	0.10	0.080	0.052	0.049	0.046	0.043	0.090	0.086	0.083	0.043	0.050	0.065
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00012 J	0.00015 J	<0.000046	<0.000074	<0.000074	<0.000046	0.000093 J	0.000099 J	0.00011 J	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	0.00015 J	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012
	Chromium	<0.00039	0.00052 J	<0.00055	<0.00039	<0.00039	<0.00055	0.00061 J	<0.00039	<0.00055	<0.00039	<0.00039	0.00091 J	<0.00039	0.00059 J	0.00056 J	0.0042 J	0.0044 J	0.0021 J	0.00044 J	0.00059 J	<0.00055	0.0015 J	0.0021 J	0.0017 J
	Cobalt	0.00053 J	0.00051 J	0.00070 J	<0.00030	<0.00030	<0.00038	0.00087 J	0.0014 J	<0.00038	0.0013 J	0.0012 J	0.0014 J	0.0066	0.0053	0.0032 J	<0.00030	<0.00030	<0.00038	0.00094 J	0.00059 J	0.00041 J	<0.00030	<0.00030	<0.00038
	Fluoride	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050
	Lead	0.000084 J	0.00014 J	0.00022 J	<0.000046	0.000050 J	<0.000036	0.00021 J	0.00030 J	0.000060 J	0.000056 J	0.00043 J	0.000096 J	0.00014 J	0.00010 J	0.00015 J	0.000047 J	<0.000046	<0.000036	0.00013 J	<0.000046	0.00026 J	0.000062 J	<0.000046	<0.000036
	Lithium	0.0040 J	0.0043 J	0.0040 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	0.0063 J	0.0063 J	0.010 J	0.041	0.038	0.028 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.031	0.031	0.030	<0.00095	<0.00095	0.0014 J	0.011	0.0074 J	0.032	0.045	0.045	0.046	0.030	0.029	0.032	<0.00095	<0.00095	<0.00069	0.0022 J	0.0026 J	0.0025 J	<0.00095	<0.00095	0.0015 J
	Comb. Radium 226/228	1.03	1.20 U	1.38 U	0.667 U	0.235 U	0.000 U	0.716 U	1.30 U	1.24 U	0.971 U	0.209 U	0.916 U	0.708 U	0.602 U	1.53	0.964 U	1.10	0.618 U	0.757 U	0.758 U	0.796 U	1.15	0.830 U	1.55 U
	Selenium	<0.0013	<0.0013	<0.0016	<0.0013	0.0020 J	<0.0016	0.016	0.019	0.0042 J	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	0.0016 J	0.0041 J	0.0039 J	0.0028 J	<0.0013	<0.0013	<0.0016	<0.0013	0.0014 J	0.0026 J
	Thallium	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000066 J	0.000080 J	<0.00014	0.00056 J	0.00048 J	0.00036 J	<0.000052	<0.000052	<0.00014	0.000082 J	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	194	--	--	247	--	--	91.6	--	--	172	--	--	114	--	--	179	--	--	273	--	--	128
	Iron	--	--	0.19	--	--	<0.016	--	--	<0.016	--	--	0.083	--	--	0.87	--	--	<0.016	--	--	0.49	--	--	<0.016
	Magnesium	--	--	16.6	--	--	10.8	--	--	16.2	--	--	17.3	--	--	15.6	--	--	11.6	--	--	13.5	--	--	8.6
	Manganese	--	--	0.42	--	--	1.3	--	--	0.017 J	--	--	2.0	--	--	2.1	--	--	0.0019 J	--	--	0.50	--	--	0.0077 J
	Potassium	--	--	3.0	--	--	1.3	--	--	3.7	--	--	7.2	--	--	4.6	--	--	0.85	--	--	1.4	--	--	0.91
	Sodium	--	--	11.3	--	--	8.9	--	--	5.5	--	--	9.4	--	--	6.4	--	--	18.1	--	--	12.6	--	--	8.4
	Sulfide	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050
FIELD PARAMETERS	Temperature	16.76	11.71	20.16	17.49	15.98	20.12	17.76	16.29	23.86	18.96	11.63	20.78	18.86	15.12	20.04	16.5	13.76	21.78	19.6	15.16	20.75	17.34	11.11	20.75
	pH	6.97	7.07	7	6.76	6.84	6.66	5.95	5.7	6.41	6.95	6.99	7.16	7.16	6.91	7.34	6.12	6.14	6.48	6.78	6.82	6.88	6.1	6.06	6.5
	Specific Conductivity	1093.06	1075.31	1100.72	603.43	416.84	873.05	630.64	737.68	839.22	841.5	847.33	1043.36	1349.81	1244.17	1020.68	528.02	572.48	742.11	981.49	991.56	1015.54	209.3	196.14	463.97
	Turbidity	1.77	4.92	4.9	0.97	2.48	0.42	2.3	2.86	0.42	1.08	0.6	4.8	4.71	4.06	4.6	2.17	0.36	0.57	4.32	2.55	1.79	1.65	0.91	0.48
	Dissolved Oxygen	0.31	0.17	0.12	2.85	2.93	0.42	3.39	4.68	0.58	0.14	0.25	0.17	0.15	0.21	0.13	3.51	2.84	0.87	0.17	0.28	0.22	4.14	5.13	1.18
	ORP	29.63	30.58	54.28	24.19	35.2	58.16	75.1	103.9	143.44	11.72	36.3	113.77	-50.86	-46.07	-7.47	81.66	74.43	64.57	2.11	77.97	68.92	75.75	92.5	483.98
SATURATION INDICES	Fluorite SI	--	--	-2.4	--	--	-3.032	--	--	-2.158	--	--	-2.064	--	--	-1.122	--	--	-2.584	--	--	-2.981	--	--	-3.22

Table 2
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-19	MW-19	MW-19	MW-20	MW-20	MW-20	MW-24D	MW-24D	MW-24D	MW-25D	MW-25D	MW-25D	MW-26D	MW-26D	MW-26D	MW-27D	MW-27D	MW-27D	MW-28D	MW-28D	MW-28D	MW-29	MW-29	MW-29
	Sample Date:	3/4/2020	3/26/2020	9/21/2020	3/2/2020	3/27/2020	9/17/2020	3/4/2020	3/30/2020	9/21/2020	3/3/2020	3/26/2020	9/18/2020	3/4/2020	3/31/2020	9/17/2020	3/4/2020	4/2/2020	9/18/2020	3/4/2020	3/27/2020	9/21/2020	3/2/2020	3/30/2020	9/16/2020
	Parameter (1,2,3)																								
APPENDIX III	Boron	--	1.0	0.89	--	0.12	0.11	--	0.51	0.45	--	0.44	0.36	--	1.8	2.0	--	0.13	0.12	--	0.14	0.45	--	1.3	1.7
	Calcium	--	171	135	--	126	110	--	84.4	87.6	--	27.0	25.1	--	155	150	--	28.4	24.8	--	53.0	76.8	--	148	126
	Chloride	--	64.0	35.0	--	28.8	29.7	--	37.4	45.2	--	34.6	33.4	--	98.0	103	--	27.9	30.4	--	33.0	42.9	--	71.2	75.3
	Fluoride	0.096 J	0.12 J	0.17	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10	<0.050	<0.050	<0.050
	pH	6.29	6.28	6.41	6.98	6.75	6.78	7.47	7.49	7.65	7.59	7.57	7.64	7.14	7.20	7.08	8.33	8.11	7.51	7.55	7.42	7.46	7.13	7.07	6.88
	Sulfate	--	310	305	--	114	110	--	84.9	114	--	32.3	27.4	--	129	174	--	13.3	7.5	--	36.0	84.2	--	130	143
	TDS	--	626	608	--	429	460	--	280	391	--	385	382	--	623	732	--	224	211	--	287	393	--	552	547
APPENDIX IV	Antimony	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028	0.0017 J	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028	0.0020 J	0.0013 J	<0.00028	0.00037 J	0.00030 J	0.00031 J	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028
	Arsenic	0.00045 J	<0.00035	<0.00078	0.00038 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0010 J	0.00075 J	<0.00078	0.00060 J	<0.00035	<0.00078	0.00069 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	0.00037 J	<0.00078
	Barium	0.069	0.067	0.056	0.099	0.093	0.096	0.081	0.056	0.053	0.42	0.45	0.44	0.17	0.11	0.099	0.95	1.0	1.0	0.77	0.64	0.18	0.088	0.080	0.076
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00014 J	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	0.00026 J	0.00019 J	0.00018 J	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012
	Chromium	0.00066 J	0.00047 J	0.0014 J	0.00071 J	0.00051 J	<0.00055	<0.00039	<0.00039	<0.00055	<0.00039	0.00061 J	<0.00055	0.0028 J	0.0010 J	<0.00055	<0.00039	<0.00039	0.00070 J	0.0027 J	<0.00039	0.00085 J	<0.00039	0.0010 J	<0.00055
	Cobalt	0.048	0.045	0.032	<0.00030	<0.00030	<0.00038	0.00056 J	<0.00030	<0.00038	<0.00030	<0.00030	<0.00038	<0.00030	0.00030 J	<0.00038	0.00045 J	<0.00030	<0.00038	0.00093 J	<0.00030	<0.00038	0.00067 J	0.00063 J	0.0013 J
	Fluoride	0.096 J	0.12 J	0.17	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10	<0.050	<0.050	<0.050
	Lead	0.00011 J	<0.000046	0.000085 J	0.00017 J	0.00013 J	<0.000036	0.00019 J	0.000064 J	0.000042 J	<0.000046	<0.000046	<0.000036	<0.000046	0.00010 J	<0.000036	<0.000046	0.00013 J	<0.000036	0.0010 J	0.000062 J	0.00018 J	0.000090 J	0.00011 J	<0.000036
	Lithium	0.010 J	0.013 J	0.013 J	0.00082 J	0.0012 J	<0.00081	0.0026 J	0.0027 J	0.0024 J	0.050	0.054	0.046	0.030 J	0.0036 J	0.0032 J	0.0047 J	0.0068 J	0.0084 J	0.015 J	0.014 J	0.0053 J	0.0025 J	0.0023 J	0.0021 J
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.032	0.033	0.064	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	0.00099 J	<0.00095	<0.00095	0.00094 J	0.0074 J	0.0093 J	0.014	0.0058 J	0.0030 J	0.0018 J	0.0090 J	0.0068 J	0.018	0.0025 J	0.0029 J	0.0021 J
	Comb. Radium 226/228	1.04	1.10 U	1.36 U	0.653 U	0.100 U	0.469 U	0.333 U	0.107 U	1.23 U	1.36	0.793 U	1.17 U	1.27 U	1.65	0.420 U	1.12	2.48	1.13 U	1.31	1.59	1.39 U	0.413 U	0.885 U	0.193 U
	Selenium	0.0044 J	0.0053 J	0.0033 J	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016
	Thallium	0.00026 J	0.00026 J	0.00030 J	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000092 J	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	89.9	--	--	231	--	--	105	--	--	288	--	--	187	--	--	169	--	--	184	--	--	194
	Iron	--	--	0.16	--	--	2.8	--	--	0.076	--	--	0.088	--	--	0.29	--	--	0.15	--	--	0.30	--	--	0.035 J
	Magnesium	--	--	15.5	--	--	8.5	--	--	4.9	--	--	8.3	--	--	16.9	--	--	17.0	--	--	22.9	--	--	11.4
	Manganese	--	--	3.3	--	--	0.24	--	--	0.13	--	--	0.040 J	--	--	0.16	--	--	0.13	--	--	0.034 J	--	--	1.2
	Potassium	--	--	4.2	--	--	0.22	--	--	0.50	--	--	0.42	--	--	1.8	--	--	0.95	--	--	1.0	--	--	0.94
	Sodium	--	--	6.7	--	--	10.3	--	--	12.0	--	--	103	--	--	11.9	--	--	27.3	--	--	9.8	--	--	10.9
	Sulfide	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	2.9	--	--	<0.050	--	--	<0.050	--	--	0.30	--	--	<0.050
FIELD PARAMETERS	Temperature	17.66	14.22	21.92	17.58	12.25	21.37	18.68	13.76	20.39	19	13.3	23.21	16.65	10.91	21.74	16.25	18.03	20.04	16.24	18.53	20.97	16.76	13.25	20.33
	pH	6.24	6.28	6.41	6.48	6.75	6.78	7.47	7.49	7.65	7.56	7.57	7.64	11.12	7.2	7.08	8.33	8.11	7.51	7.55	7.42	7.46	7.13	7.07	6.88
	Specific Conductivity	860.66	966.52	895.78	664.1	716.91	702.43	504.19	523.39	578.23	705.24	645.17	628.59	678.51	888.54	1004.72	463.87	420.78	403.21	546.61	572.28	624.12	778.79	863.09	873.67
	Turbidity	4.8	1.01	4.95	4.95	3.65	1.68	4.73	2.44	1.67	1.56	0.9	0.56	0.77	4.89	1.64	3.09	3.5	2.72	3.8	1.43	9.48	2.78	2	0
	Dissolved Oxygen	0.17	0.24	0.14	0.17	0.27	0.43	0.27	0.29	0.17	0.57	0.24	0.13	3.9	0.38	0.28	0.2	4.41	1.25	0.8	0.11	0.26	0.18	0.23	0.23
	ORP	164.22	36.83	48.52	-57.9	-56.05	-8.06	108.96	1.99	132.47	-230.56	-184.01	19.18	-15.89	-53.83	-14.62	-79.69	27.3	179.28	-218.59	-164.29	-59.84	113.79	44.91	41.57
SATURATION INDICES	Fluorite SI	--	--	-2.021	--	--	-3.093	--	--	-3.165	--	--	-0.6721	--	--	-2.745	--	--	-2.363	--	--	-2.649	--	--	-3.064

Table 2
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-30D	MW-30D	MW-30D	MW-30D	MW-30D	MW-40D	MW-40D	MW-40D	MW-40D	PMW-01	PMW-02
	Sample Date:	3/4/2020	3/31/2020	4/9/2020	6/17/2020	9/24/2020	5/11/2020	5/19/2020	6/19/2020	9/28/2020	4/9/2020	4/9/2020
	Parameter (1,2,3)											
APPENDIX III	Boron	--	0.90	--	0.77	0.62	0.093 J	0.13	0.19	0.57	1.7	3.2
	Calcium	--	7.1	13.4	8.3	6.3	62.6	65.9	109	289	577	258
	Chloride	--	111	96.0	92.5	45.4	51.2	47.3	145	542	69.5	72.7
	Fluoride	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.31	0.82
	pH	8.12	7.95	8.27	8.33	8.72	7.77	--	7.40	7.69	6.58	7.40
	Sulfate	--	139	399	104	205	58.9	54.0	435	3480	1160	454
	TDS	--	1130	--	1040	790	350	621	1420	6470	2170	1090
APPENDIX IV	Antimony	<0.00027	0.00032 J	--	--	<0.00028	--	--	--	0.0015 J	<0.00027	0.00054 J
	Arsenic	0.0021 J	<0.00035	--	--	0.0017 J	--	--	--	0.0063 J	0.16	0.72
	Barium	0.065	0.29	--	--	0.11	--	--	--	0.35	0.056	0.16
	Beryllium	<0.000074	<0.000074	--	--	<0.000046	--	--	--	0.00049 J	<0.000074	<0.000074
	Cadmium	<0.00011	<0.00011	--	--	<0.00012	--	--	--	<0.00059	<0.00011	<0.00011
	Chromium	0.0013 J	0.00070 J	--	--	0.00065 J	--	--	--	0.0080 J	<0.00039	<0.00039
	Cobalt	<0.00030	<0.00030	--	--	<0.00038	--	--	--	0.0037 J	0.00056 J	<0.00030
	Fluoride	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.31	0.82
	Lead	0.00041 J	0.000067 J	--	--	0.000068 J	--	--	--	0.0075 J	<0.000046	0.000053 J
	Lithium	0.18	0.25	--	--	0.13	--	--	--	0.095 J	0.043	0.018 J
	Mercury	<0.00014	--	--	--	--	--	--	--	--	<0.14	<0.14
	Molybdenum	0.021	0.015	--	0.0062 J	0.011	0.014	0.014	0.015	0.016 J	0.0057 J	0.050
	Comb. Radium 226/228	0.592 U	1.27 U	--	--	0.809 U	--	--	--	2.45	1.03 U	0.352 U
	Selenium	<0.0013	<0.0013	--	--	<0.0016	--	--	--	<0.0078	<0.0063	<0.0063
	Thallium	<0.000052	<0.000052	--	--	<0.00014	--	--	--	<0.00072	<0.000052	0.00059 J
GEOCHEM	Bicarb. Alkalinity	--	--	--	654.0	437	--	--	955	1010	185	236
	Iron	--	--	--	<0.015	0.092	--	--	8.8	9.6	15.5	0.95
	Magnesium	--	--	--	2.3	1.5	--	--	14.7	58.2	57.4	25.6
	Manganese	--	--	--	0.013 J	0.0040 J	--	--	0.31	0.36	9.80	1.1
	Potassium	--	--	--	1.4	1.5	--	--	9.3	19.6	8.7	8.1
	Sodium	--	--	--	376	296	--	--	464	1960	17.1	43.7
	Sulfide	--	--	--	0.051 J	0.58	--	--	<0.050	0.20	<0.050	<0.050
FIELD PARAMETERS	Temperature	16.74	16.87	21.03	20.92	19.16	19.14	--	28.27	27.16	18.55	18.43
	pH	8.12	8.27	8.27	8.33	8.73	7.72	--	7.4	7.64	6.58	7.4
	Specific Conductivity	2384.33	2038.4	2149.4	1479.02	1406.34	578.9	--	2117.7	7970	2419.98	1471.92
	Turbidity	4.4	4.41	4.35	19.1	4.22	97.1	--	22.3	781	3.92	0.45
	Dissolved Oxygen	0.52	0.81	1.3	0.23	0.22	3.05	--	3.1	2.69	0.12	0.17
	ORP	-237.66	-8.43	3.31	16.84	112.57	413.1	--	98.4	1556	-38.12	39.78
SATURATION INDICES	Fluorite SI	--	--	--	--	-0.02928	--	--	--	-1.5	--	--

Table 3
Summary of Groundwater Elevations
Plant Hammond AP-1, Floyd County, Georgia

Well ID	Top of Casing Elevation [(1)] (ft)	March 11, 2019		April 1, 2019		July 8, 2019		September 23, 2019		November 26, 2019	
		Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)
HGWC-7	579.18	3.53	575.65	4.05	575.13	--	--	6.81	572.37	--	--
MW-28D	579.08	3.41	575.67	4.00	575.08	--	--	6.74	572.34	--	--
MW-30D	578.59	--	--	--	--	79.85	498.74	6.69	571.90	60.30	518.29
MW-40D	578.92	--	--	--	--	--	--	--	--	--	--

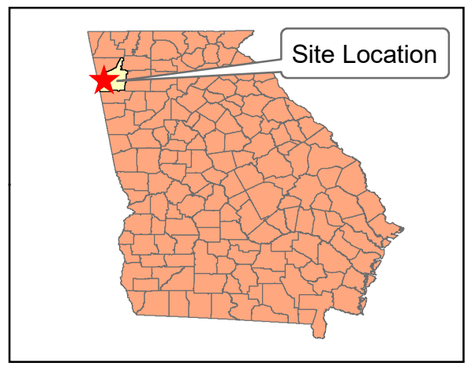
Notes:
-- = not applicable
ft BTOC = feet below top of casing
(1) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey data recorded on May 11-14, 2020.

Table 3
Summary of Groundwater Elevations
Plant Hammond AP-1, Floyd County, Georgia

Well ID	March 2, 2020		March 23, 2020		April 9, 2020		May 11, 2020		June 16, 2020		September 14, 2020	
	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)	Depth to Water (ft BTOC)	Groundwater Elevation (ft)
HGWC-7	3.58	575.60	3.29	575.89	--	--	--	--	4.86	574.32	5.55	573.63
MW-28D	3.56	575.52	3.23	575.85	--	--	--	--	--	--	5.58	573.50
MW-30D	1.80	576.79	3.69	574.90	45.42	533.17	--	--	2.89	575.70	3.27	575.32
MW-40D	--	--	--	--	--	--	135.85	443.07	136.85	442.07	135.40	443.52

FIGURES

N



Notes:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 400 800 1,600

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | AUGUST 2020

FIGURE 1

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Figure 1 Site Location Map.mxd 8/13/2020 12:36:24 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Pore Water Piezometer

Note:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 150 300 600

SCALE IN FEET

MONITORING WELL NETWORK AND SAMPLING LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

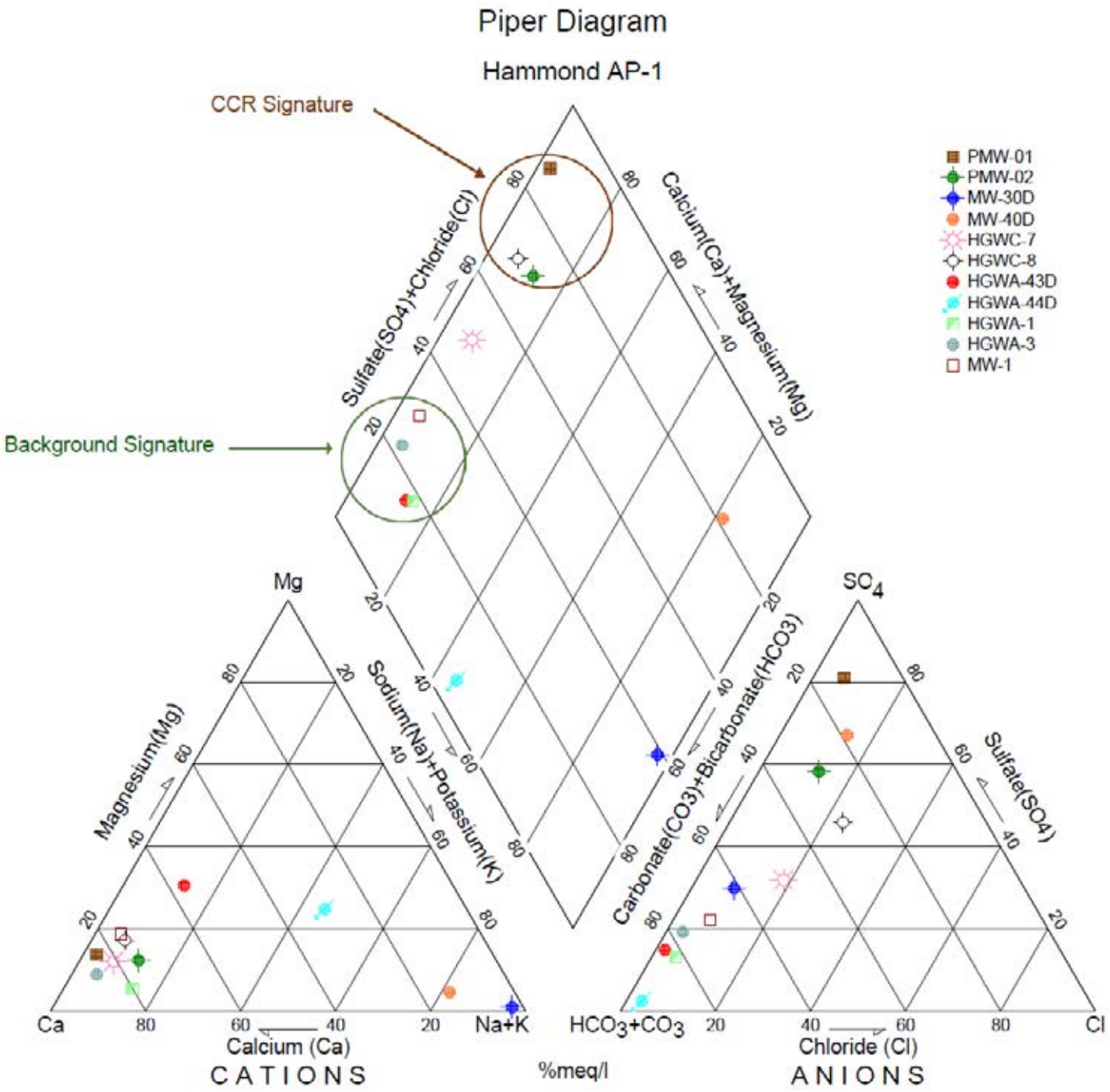
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | DECEMBER 2020

FIGURE 2

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\ASD\MW30DIFigure 2 Monitoring Well Network Map.mxd 12/14/2020 8:46:21 AM



Sample Date					
HGWA-1	**HGWA-3**	**HGWA-43D**	**HGWA-44D**	**MW-1**	**HGWC-7**
9/15/2020	9/15/2020	9/16/2020	9/16/2020	6/16/2020	9/16/2020
HGWC-8	**MW-30D**	**MW-40D**	**PMW-01**	**PMW-02**	**--**
9/16/2020	9/24/2020	9/28/2020	4/9/2020	4/9/2020	--

Piper Trilinear Plot

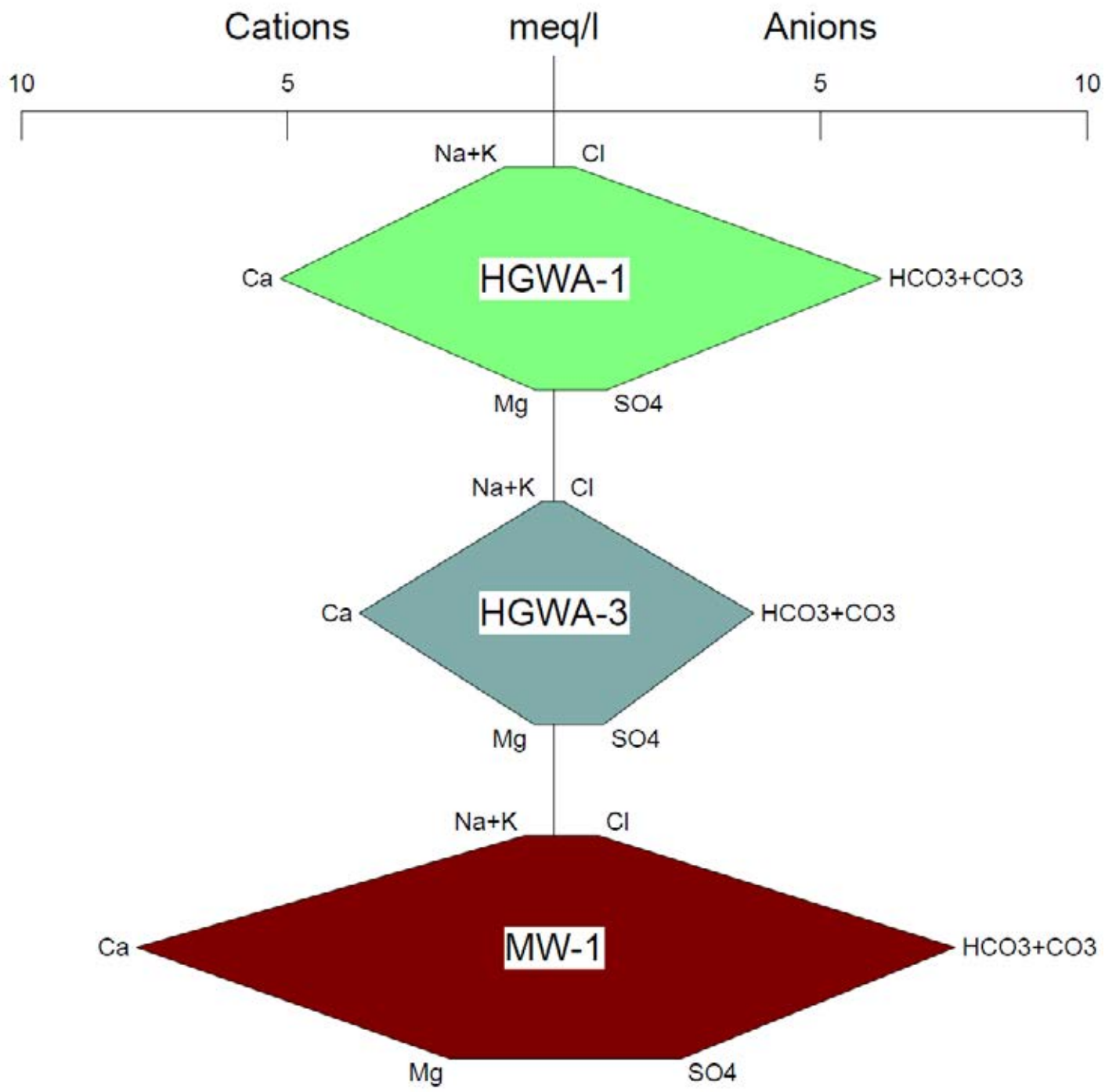
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power
Prepared By: Geosyntec consultants

Kennesaw, GA | December 2020

Figure 3

Stiff Diagram
Hammond AP-1



Sample Date		
HGWA-1	HGWA-3	MW-1
9/15/2020	9/15/2020	6/16/2020

Stiff Diagram – Background Wells

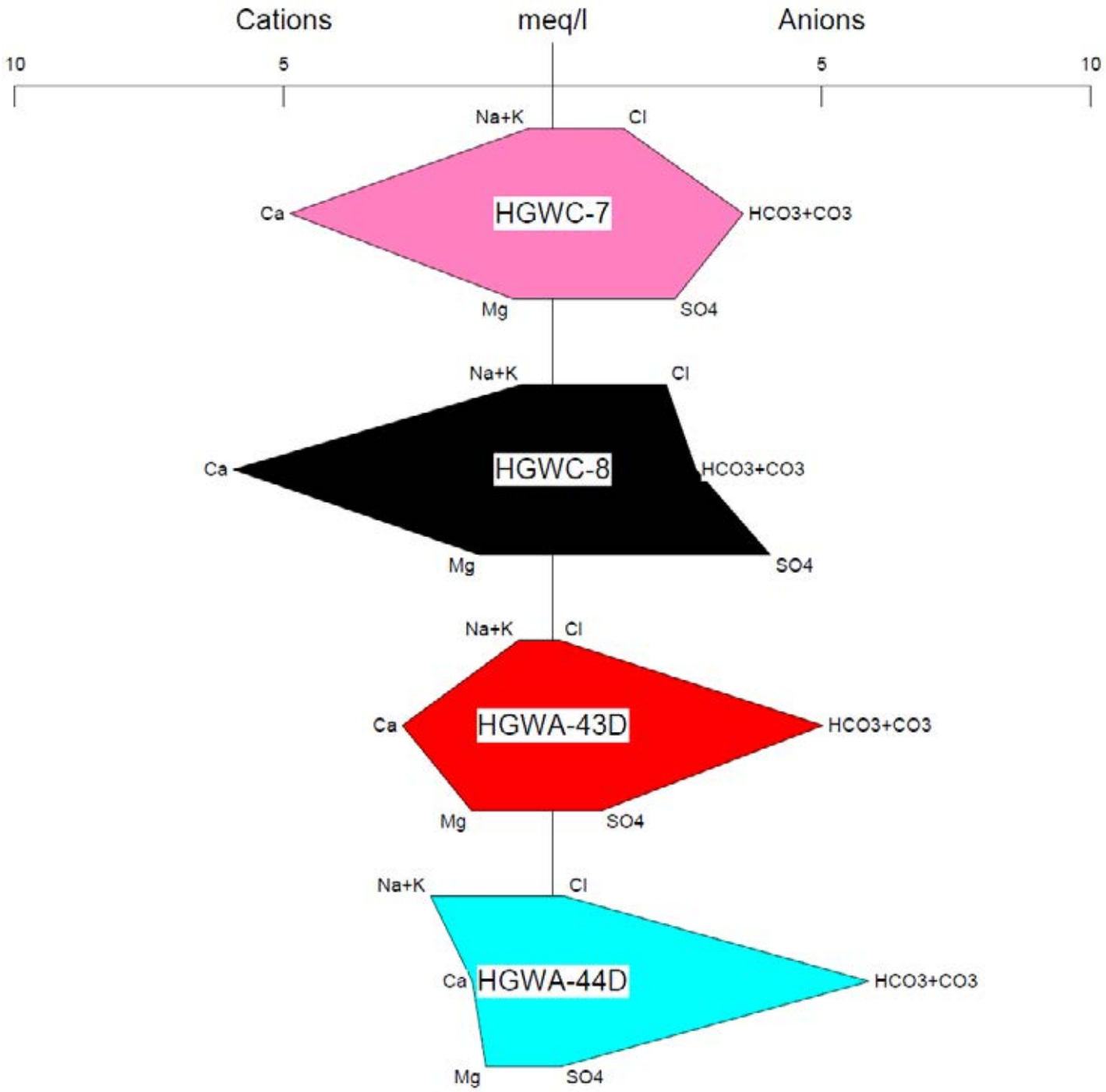
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power
Prepared By: Geosyntec consultants

Kennesaw, GA | January 2021

Figure 4A

Stiff Diagram
Hammond AP-1



Sample Date			
HGWC-7	**HGWC-8**	**HGWA-43D**	**HGWA-44D**
9/16/2020	9/16/2020	9/16/2020	9/16/2020

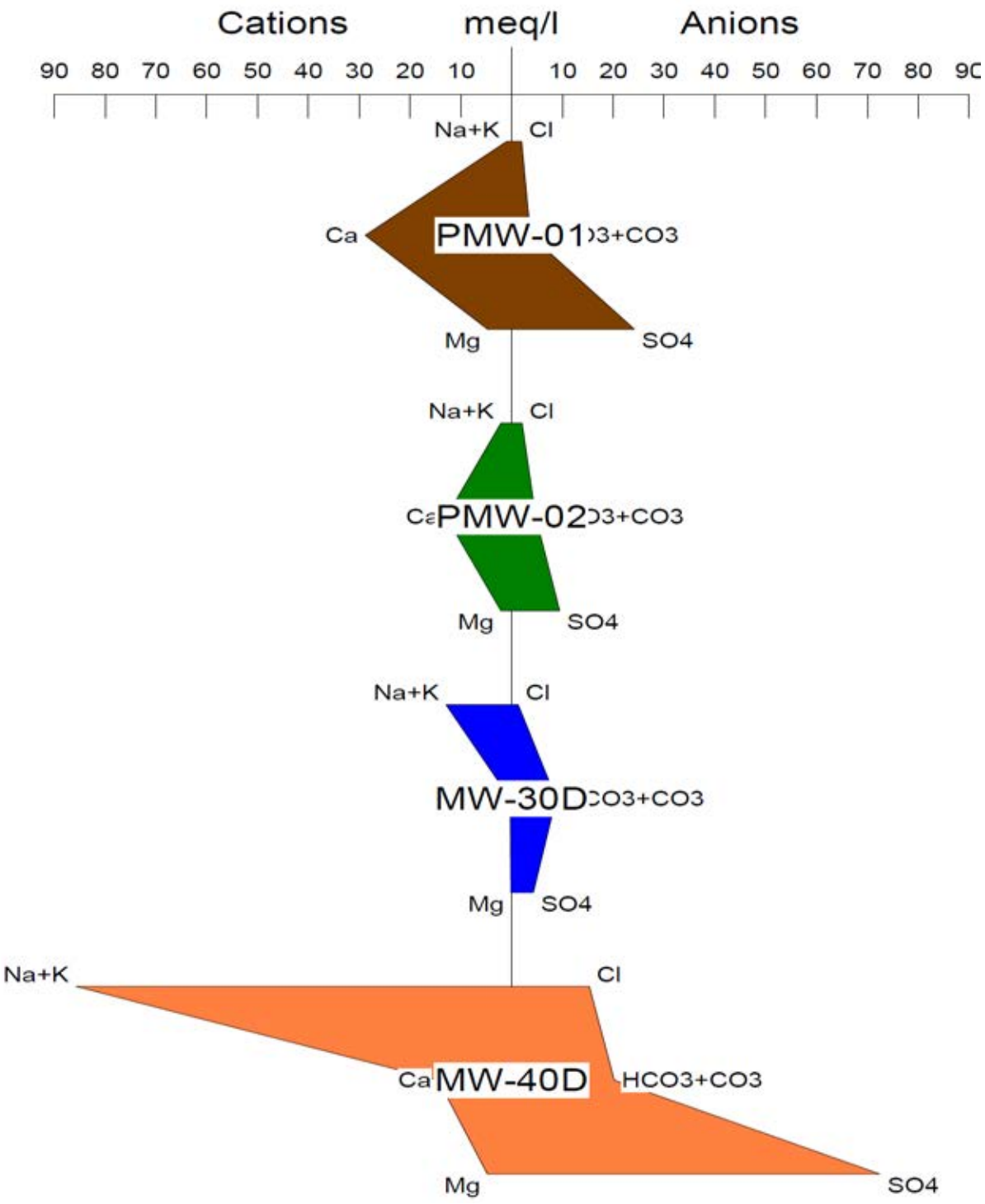
Stiff Diagram – Compliance Wells & Deeper Background Compliance Wells
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power
Prepared By: Geosyntec consultants

Kennesaw, GA | January 2021

Figure 4B

Stiff Diagram
Hammond AP-1



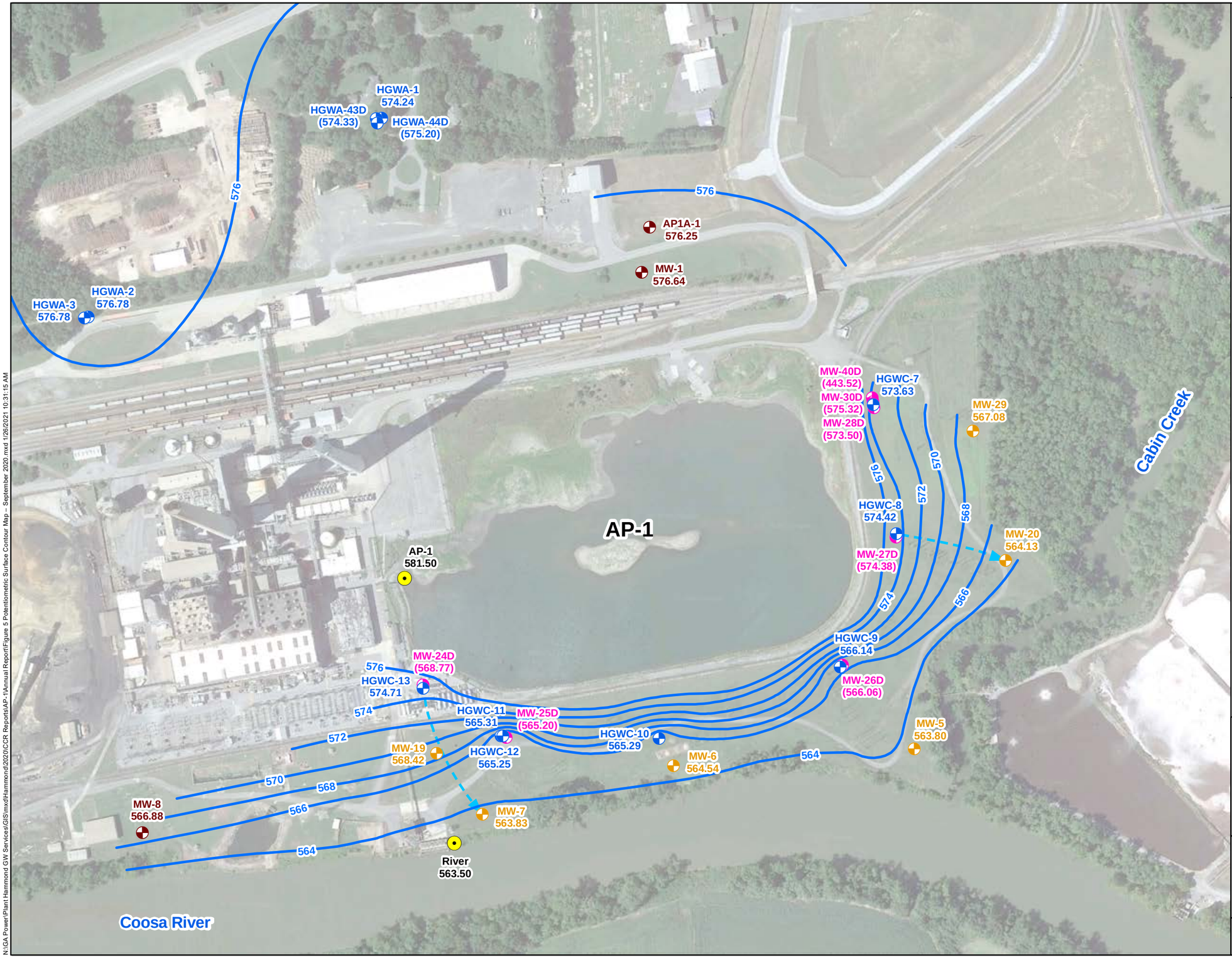
Sample Date			
PMW-01	**PMW-02**	**MW-30D**	**MW-40D**
4/9/2020	4/9/2020	9/24/2020	9/28/2020

Stiff Diagram – Deep Delineation Wells & AP-1 Pore Water Piezometers
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power
Prepared By: Geosyntec consultants

Kennesaw, GA | January 2021

Figure 4C



N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Staff Gauge
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction

Notes:
1. Water level elevation recorded on September 14, 2020. Elevation provided in feet referenced to the North American Vertical Datum (NAVD) 88.
2. Water elevation in parentheses were not used in development of groundwater contours due to wells being screened at a different elevation in the formation/aquifer.
3. The AP-1 surface water staff gauge measurement was recorded on September 14, 2020; it was not used to develop the groundwater contours.
4. The map shows only the wells/piezometers currently installed at the time of the gauging event.
5. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - SEPTEMBER 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

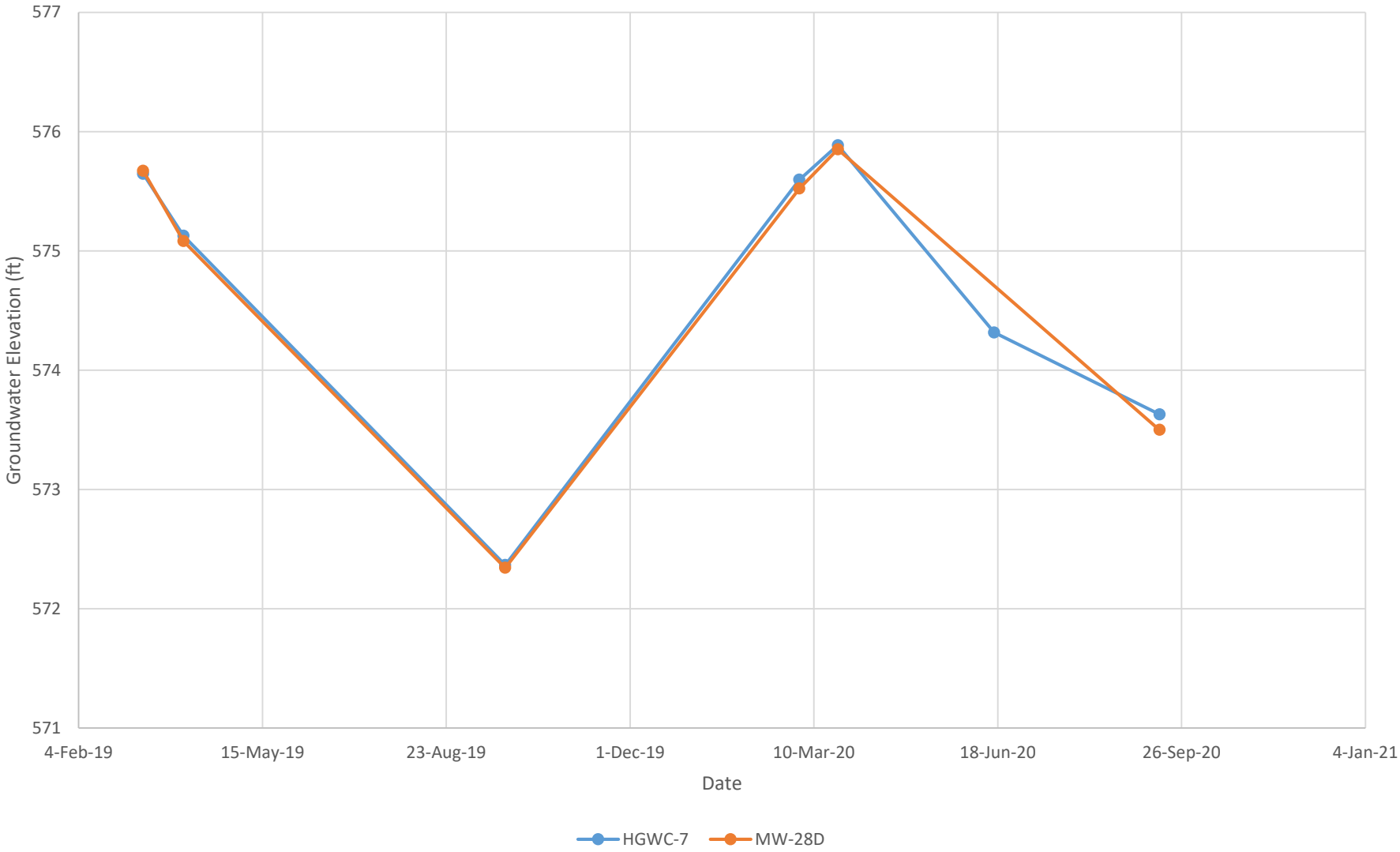
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 5

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Annual Report\Figure 5 Potentiometric Surface Contour Map - September 2020.mxd 1/28/2021 10:31:15 AM



Groundwater Elevations in Wells HGWC-7 and MW-28D

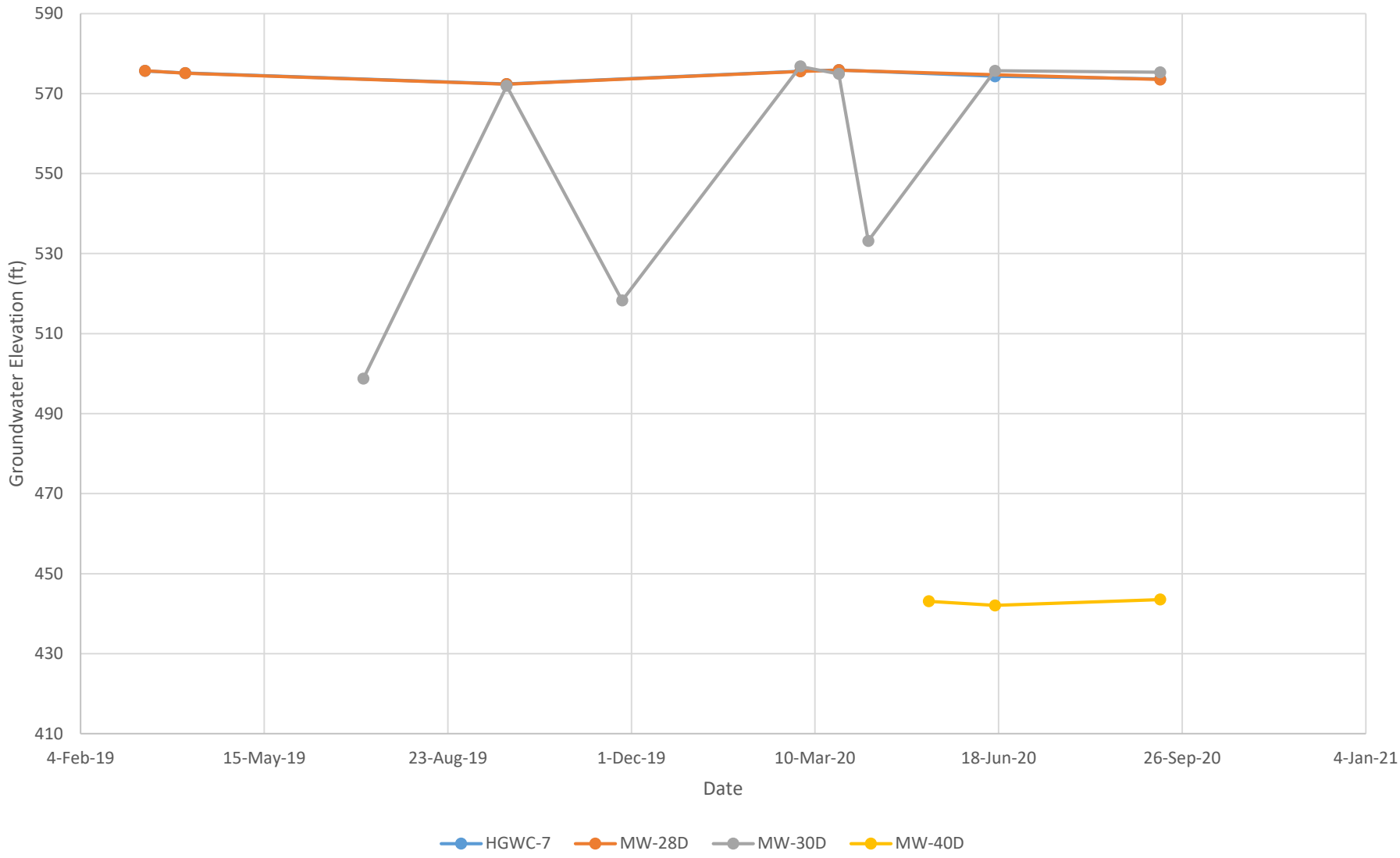
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

Kennesaw, GA | December 2020

Figure 6A



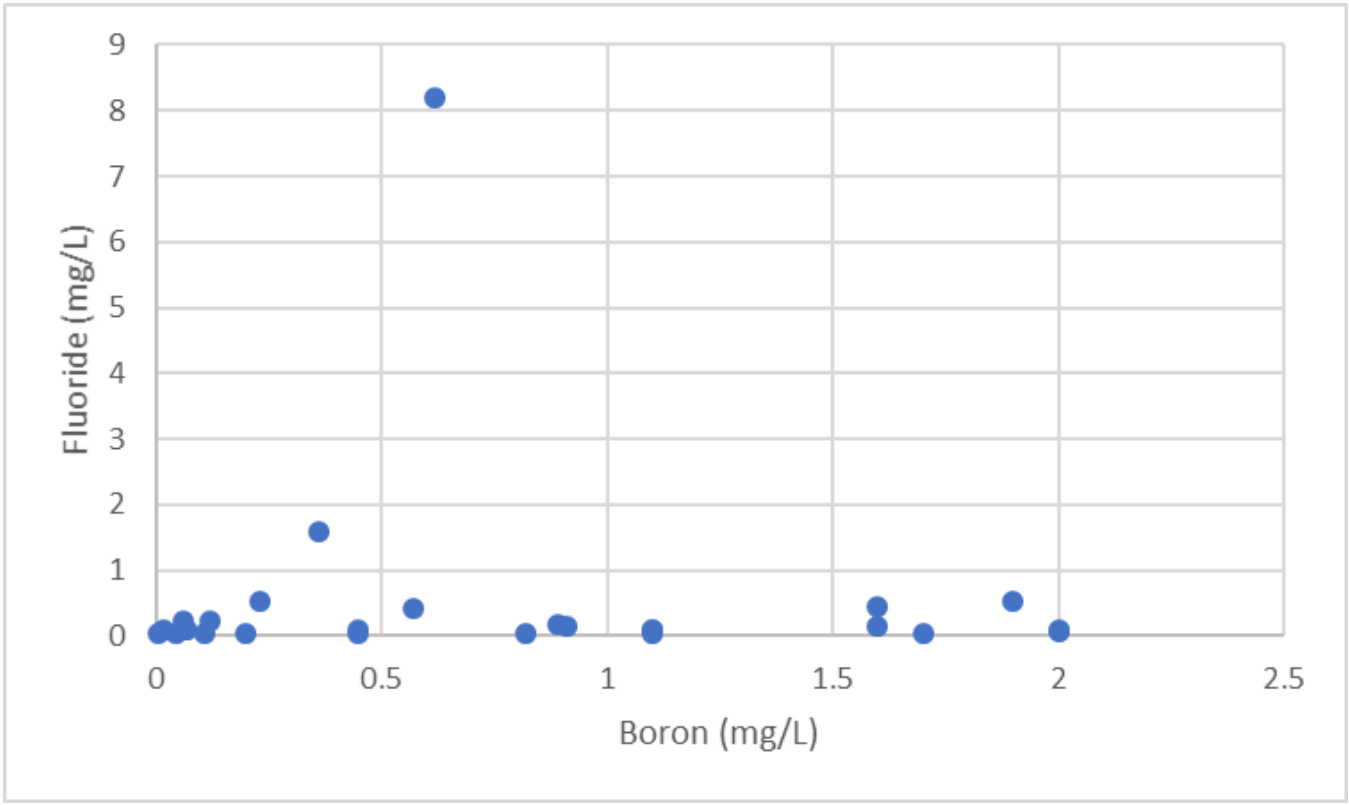
Groundwater Elevations in Wells
HGWC-7, MW-28D, MW-30D, and MW-40D
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

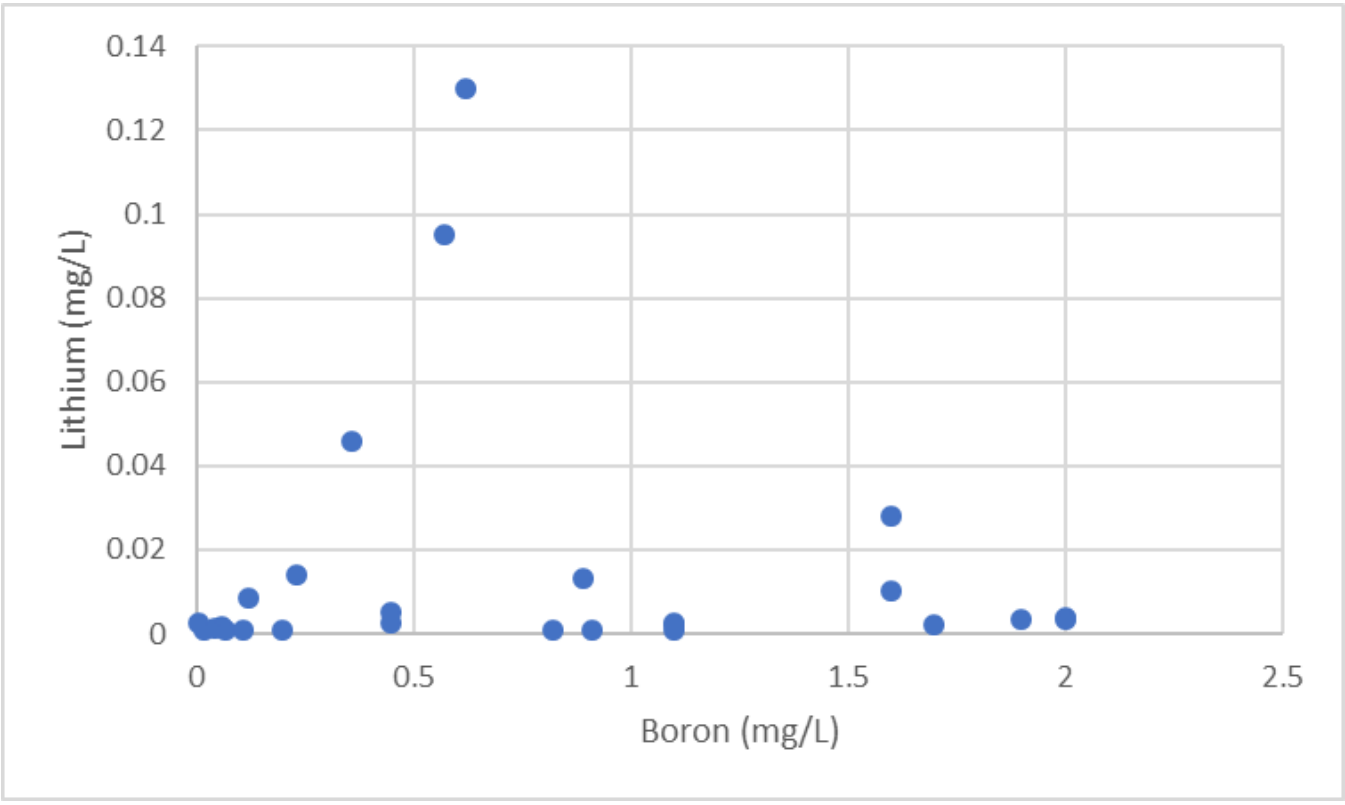
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

Kennesaw, GA | December 2020

Figure 6B





Fluoride, Lithium, Boron Groundwater Concentration Plots

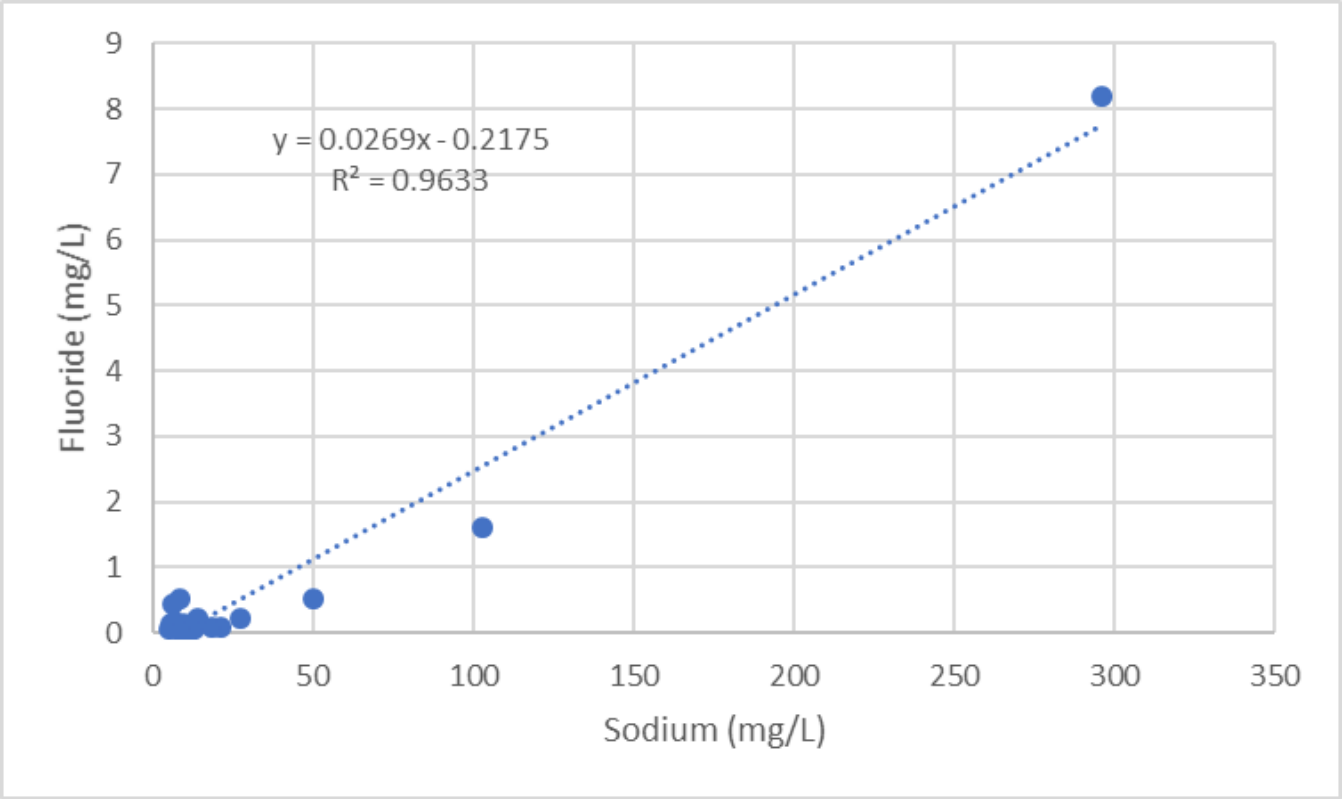
Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

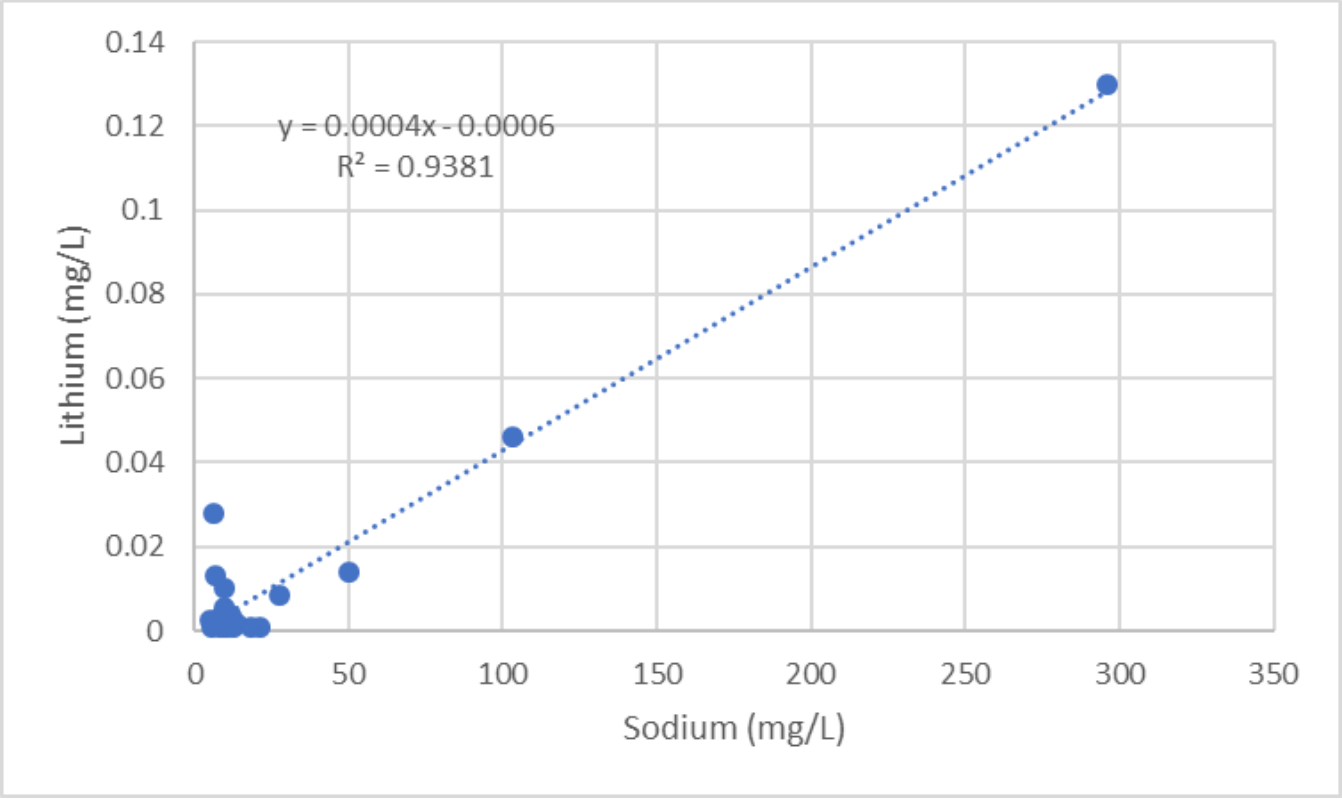
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

Kennesaw, GA | December 2020

Figure 7A





Fluoride, Lithium, Sodium Groundwater Concentration Plots

Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

Kennesaw, GA | December 2020

Figure 7B

APPENDIX A
Boring and Well Construction Logs for HGWC-7, MW-28D, MW-30D, MW-40D, and HGWA-44D

Log updated with revised survey certified 5/19/2020.

RECORD OF BOREHOLE HGWC-7

SHEET 1 of 1

PROJECT: SCS Hammond
PROJECT NUMBER: 1545812
DRILLED DEPTH: 27.20 ft
LOCATION: Rome, GA

DRILL RIG: Pro Sonic 150
DATE STARTED: 12/3/15
DATE COMPLETED: 12/3/15

NORTHING: 1,549,520.67
EASTING: 1,942,319.75
GS ELEVATION: 576.55
TOC ELEVATION: 579.18 ft

DEPTH W.L.: N/A (bgs)
ELEVATION W.L.:
(amsl) DATE W.L.: N/A
TIME W.L.: N/A

DEPTH (ft)	ELEVATION (ft)	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV. / DEPTH (ft)	SAMPLES: SAMPLE NO.	TYPE	REC	MONITORING WELL/ PIEZOMETER DIAGRAM and NOTES	WELL CONSTRUCTION DETAILS
0	575	0.00 - 2.50 SILTY SAND; dark grey silty sand, fine to coarse with trace rounded gravel, non-plastic, loose, dry to wet, W<PL	SM		574.05					
		2.50 - 8.00 CLAY/RESIDUUM; yellow/brown clay, moderate to high plasticity, becomes mottled in the last 1 foot, firm to stiff, moist, W~PL	CH		2.50 568.55				Portland Type I/ Type II/ Gel mix	
5	570									
		8.00 - 17.00 CLAY/ALLUVIUM; yellowish brown clay, low to moderate plasticity, mottled, stiff, contains 5-15% sub-rounded to sub-angular gravel, moist, W<PL; wet, grayish brown sandy gravel at 8 feet	CL		8.00 559.55				3/8" Bentonite Pellets	
10	565									
15	560									
		17.00 - 27.20 TRANSITIONALLY WEATHERED ROCK and CLAY; light brown/tan clay, some rock, very soft, moist to wet, W>PL; rock is medium grey limestone, fine grained, wet	TWR		17.00 549.35				#1 sand 0.010" slot screen	
20	555									
25	550								3/8" Bentonite chips	
		Boring completed at 27.20 ft								
30	545									
35	540									
40	535									
45										

WELL CASING
Interval: -3'-15'
Material: Schedule 40 PVC
Diameter: 6"
Joint Type: Screw/Flush

WELL SCREEN
Interval: 15'-25'
Material: Schedule 40 PVC
Diameter: 2'
Slot Size: 0.010"
End Cap: Schedule 40 PVC

FILTER PACK
Interval: 13'-25'
Type: #1 sand/ Prepack Filter

FILTER PACK SEAL
Interval: 11'-13'
Type: 3/8" Bentonite Pellets

ANNULUS SEAL
Interval: 0'-11'
Type: Portland Type I/Type II/Gel Mix

WELL COMPLETION
Pad: 4'x4'x4"
Protective Casing: Anodized Aluminum

DRILLING METHODS
Soil Drill: 6-inch diameter Sonic
Rock Drill: 6-inch diameter Sonic

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

Easting and Northing in NAD 1983.
Elevations in NAVD 1988.

GA INSPECTOR: Michael Boatman
CHECKED BY: Rachel P. Kirkman, P.G.
DATE: 9/29/17

Golder Associates

BOREHOLE RECORD HAMMOND BORING LOGS.GPJ PIEDMONT.GDT 9/29/17

Log updated with revised survey certified 5/19/2020.

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1255 Roberts Boulevard
Kennesaw, GA 30144

MW-28D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 11/13/18 **COMPLETED** 11/13/18
NORTHING 1549510.90 **EASTING** 1942321.14
DRILLER Cascade Drilling
GROUND ELEVATION 576.20 **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 579.08
SAMPLING METHOD 4" core 6" overide
GEOPHYSICAL CONTRACTOR Geosyntec
RIG TYPE Geoprobe 8140LC
LOGGED BY Consultants N.Tilahun **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft msl)	REMARKS	GRAPHIC LOG	GAMMA (cps) 0 100	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0	575				Hydro excavation (0-10') - No sample	
5	570					Bentonite grout
10	565				GRAVELLY CLAY, Yellowish brown to dark brown, trace silt and sand, angular to subrounded gravel, hard, non plastic to low plasticity, wet.	
15	560					Schedule 40 PVC 2"
20	555	Void between 23 and 24'. Some drilling water came out of HGWC-7 well (PVC) casing. Stopped using water.			CLAY, Pale to dark brown, with parially weathered rock, low to medium plasticity, with rock fragments of limestone, wet, soft.	Bentonite uncoated 3/8" chips
25	550	Competent rock from approx. 30'. Water added by			CLAY, Pale to dark brown, with parially weathered rock, low to medium plasticity, with rock fragments of limestone, wet, soft.	
					PARTIALLY WEATHERED ROCK (PWR), Pale grey to white limestone with white layers of calcite, dry to moist, weathered and fractured, fine grained.	

SCS PLANT HAMMOND PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ ACP GINT LIBRARY.GLB 3/18/19

(Continued Next Page)

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CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond

DEPTH (ft)	ELEVATION (ft msl)	REMARKS	GRAPHIC LOG	GAMMA (cps)	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
				0 100		
	545	driller. No more water coming through HGWC-7 casing.			LIMESTONE, Pale to dark grey, white veins of calcite, broken pieces due to drilling, slightly weathered.	
35	540					
40	535				LIMESTONE, Pale to dark grey, white veins of calcite, broken pieces due to drilling, slightly weathered.	- Bentonite 3/8" chips
45	530					- 20/40 Silica Sand
50	525				LIMESTONE, Pale to dark grey, white veins of calcite, broken pieces due to drilling, slightly weathered.	- 0.010 slot size 2" Pre Pack, U-Pack Screen
55	520				Bottom of borehole at 55.0 feet.	
60	515					

Eastingand Northing in NAD 1983.
Elevationsin NAVD 1988.

SCS PLANT HAMMOND PLANT HAMMOND NOVEMBER 2018 WELL INSTALL.GPJ ACP GINT LIBRARY.GLB 3/18/19

Log updated with revised survey certified 5/19/2020.

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MW30D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 6/19/19 **COMPLETED** 6/20/19
NORTHING 1549530.00 **EASTING** 1942318.45
GROUND ELEVATION 576.20
BORING DIAMETER 6 in
DRILLER Cascade Drilling
TOP OF CASING ELEVATION 578.59
DRILLING METHOD Sonic
GEOPHYSICAL CONTRACTOR ---
SAMPLING METHOD Core barrel (4")
RIG TYPE Geoprobe 8140LC
LOGGED BY N.Tilahun **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft msl)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	575			Hydro excavation (0-10') - No sample
10	565			GRAVELLY CLAY, Yellowish brown to dark brown, trace silt and fine sand, angular to subrounded gravel, medium dense, wet, low to medium plasticity.
15	560			CLAY, Pale to dark brown, with partially weathered rock, low to medium plasticity, moist, firm to stiff, trace rock fragments.
25	550			PARTIALLY WEATHERED ROCK (PWR), Pale gray to white limestone, trace white calcite, dry to moist, angular rock fragments, weathered and fractured.
30	545			LIMESTONE, Broken pieces due to sonic drilling, calcite veins, pale to white and dark gray, slightly weathered.
35	540			

CONSTRUCTION DIAGRAM
- Bentonite grout
- Schedule 40 PVC 2"
- Bentonite 3/8" chips

SCS GEORGIA PLANT HAMMOND MW21D TO MW30D.GPJ ACP GINT LIBRARY_FROM ASHWIN.GLB 7/1/19

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft msl)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
40	535			LIMESTONE, Broken pieces due to sonic drilling, calcite veins, pale to white and dark gray, slightly weathered. *(continued)*	
45	530				
50	525				Bentonite 3/8" chips
55	520				
60	515				
65	510				
70	505				
75	500				
80	495				
85					

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft msl)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
90	490			LIMESTONE, Broken pieces due to sonic drilling, calcite veins, pale to white and dark gray, slightly weathered. *(continued)*	20/40 Silica Sand
95	485				
100	480				0.010 slot size, Schedule 40 PVC 2" screen
105	475			Bottom of borehole at 105.0 feet.	
110	470				
115	465				
120	460				
125	455				
130	450				

Easting and Northing in NAD 1983. Elevations in NAVD 1988.

SCS GEORGIA PLANT HAMMOND MW21D TO MW30D.GPJ ACP GINT LIBRARY_FROM ASHWIN.GLB 7/1/19

Log updated with revised survey certified 5/19/2020.

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Kennesaw, GA 30144

MW-40D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 4/28/20 **COMPLETED** 4/29/20
NORTHING 1549542.29 **EASTING** 1942316.55
DRILLER Cascade Drilling
GROUND ELEVATION 576.41 **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 578.92
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terra Sonic Full Size Track Mounted Rig
LOGGED BY C. Hug **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
0				Hydro Excavation (0 ft to 10 ft) NO SAMPLE	
	570				
10				566.4 CLAY, Brownish yellow (10YR 6/8) and light gray (10YR 7/1) mottled, high plasticity, some fine sand, trace silt, moist. 10.5 ft: Trace of fine, rounded quartz gravel.	Schedule 40 PVC 2"
				562.4 GRAVELLY CLAY, Dark gray (2.5Y 4/1) and pale brown (2.5Y 7/4) mottled, low to medium plasticity, sand is fine to medium grained, trace of fine, angular limestone gravel, moist to wet, increased gravel sized limestone fragments with depth.	Aquaguard Sodium Bentonite Grout
	560				
				557.4 PARTIALLY WEATHERED ROCK, Gray (2.5Y 6/1) and white (2.5Y 8/1), highly weathered, recovered as clayey and silty gravel and cobbles of limestone with fine to coarse sand, dry.	
20					
	550	No cavities or voids reported.			
30				546.4 LIMESTONE, Very dark gray and gray, massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet.	
	540	Steady drilling, hard drilling in places. No voids reported.		36 ft: Recovered as gravel sized fragments and pieces of core up to 5 inch long. Potential fines washed away.	
40					
	530				

SCS MONITORING WELLS PLANT HAMMOND MW34D TO MW41_MAY 2020.GPJ ACP GINT LIBRARY CH.GLB 5/27/20

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
50				LIMESTONE, Very dark gray and gray, massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet.*(continued)*	
	520				
60					
	510			From 66 ft: Zones of more competent rock fragments, less gravel sized fragments.	
70					Aquaguard Sodium Bentonite Grout
	500				
80					
	490				
90				From 91 ft: More competent, less fractured, recovered as intact pieces of core up to 6 inch length, with white mineralization along fracture planes.	
	480				
100					Bentonite coated 3/8" pellets
	470			From 106 ft: Very broken core, recovered as angular, gravel sized fragments of core, slightly silty.	

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
110	460			LIMESTONE, Very dark gray and gray, massive, fine grained, with white calcareous veins and mineralization along healed fracture planes, fresh to slightly weathered, hard, wet.*(continued)*	Bentonite coated 3/8" pellets
120	450				20/40 Silica Sand 0.010 slot size 2" Pre Pack, U-Pack Screen
130					440.4

Bottom of borehole at 136.0 feet.

Easting and Northing in NAD 1983.
Elevationsin NAVD 1988.

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1255 Roberts Boulevard
Kennesaw, GA 30144

HGWA-44D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 8/24/20 **COMPLETED** 8/25/20
NORTHING 1550409.13 ft **EASTING** 1940756.18 ft
DRILLER Cascade Drilling
GROUND ELEVATION 592.01 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 594.79 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181
LOGGED BY A. Ramsey **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	590			Hydro Excavation (0 ft to 10 ft) NO SAMPLE
5	585			
10	580			582.0 CLAY, Red with yellowish red and light gray mottling, medium plasticity, trace coarse sand, hard, moist. 12 ft: Yellowish red and light gray mottling.
15	575			577.0 CLAY, Reddish yellow with light gray mottling, some brown organic matter, trace limestone gravel, medium to low plasticity, hard, moist. 576.0 HIGHLY WEATHER ROCK, Light brown, gravelley clay with some angular cobbles, gravel and cobbles are limestone, non to low plasticity, soft, wet.
20	570			573.0 LIMESTONE, Dark bluish gray, reacts with HCl when powdered, partially pulverized by drilling, hard, dry to moist. 20 ft: With abundant white calcite healed fractures.
25	565			
30	560	Driller reports void between 30 ft and 31 ft. No returns. 31 ft to 33 ft no recovery, but returns coming back. Driller reports 'soft' material, potentially washed away.		562.0 30 ft to 31 ft: Void. 31 ft to 33 ft: No recovery. 559.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry.

CONSTRUCTION DIAGRAM

- Schedule 40 PVC 2"
- Aquaguard Sodium Bentonite Grout
- Bentonite coated 3/8" pellets

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
35	555	40 ft: Driller reports no returns.		LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry. *(continued)*	
40				552.0 40 ft to 42 ft: No recovery.	
	550			550.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
45	545				
50				542.0 50 ft to 52 ft: No recovery.	
	540			540.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
55	535				◄Bentonite coated 3/8" pellets
60				532.0 60 ft to 61 ft: No recovery.	
	530			531.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
65	525				
70				522.0 70 ft to 71 ft: No recovery.	
	520			521.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures.	

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

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HGWA-44D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
75	515			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures. *(continued)*	
				512.0	
80	510			80 ft to 84 ft: No recovery.	
				508.0	
85	505			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	Bentonite coated 3/8" pellets
				502.0	
90	500			90 ft to 94 ft: No recovery.	
				498.0	
95	495			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
				492.0	
100	490			100 ft to 102 ft: No recovery.	20/40 Silica Sand
				490.0	
105	485			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	0.010 slot size 2" Pre Pack, U-Pack Screen
110					Bottom of well: 110.5 ft
				480.0	

Bottom of borehole at 112.0 feet.

Easting and Northing in NAD 1983.
Elevation in NAVD 1988.

APPENDIX D

Semiannual Remedy Selection and Design Progress Report

Prepared for

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

SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

PLANT HAMMOND ASH POND 1 (AP-1)

Prepared by

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

January 2021

SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

GEORGIA POWER COMPANY - PLANT HAMMOND

ASH POND 1 (AP-1)

This *Semiannual Remedy Selection and Design Progress Report, Georgia Power Company - Plant Hammond, Ash Pond 1 (AP-1),* has been prepared in accordance with the United States Environmental Protection Agency coal combustion residual rule, specifically 40 Code of Federal (CFR) 257.97(a) and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10(6)(a). This report describes the progress made during the second semiannual period of 2020 in selecting and designing a remedy previously documented in the *Assessment of Corrective Measures Report – Plant Hammond Ash Pond 1 (AP-1)* (Geosyntec, 2019a).

Report Prepared by:

_____ January 29, 2021

Whitney B. Law, P.E. Date

Georgia Professional Engineer No. 036641

Geosyntec consultants

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LIST OF APPENDICES

LIST OF ACRONYMS

ACM	Assessment of Corrective Measures
Al	aluminum
AP	ash pond
As	arsenic
CCR	coal combustion residuals
CFR	Code of Federal Regulations
CSM	conceptual site model
DPT	direct push technology
GA EPD	Georgia Environmental Protection Division
Fe	iron
GWPS	Groundwater Protection Standard
K_h	horizontal hydraulic conductivity
Li	lithium
meq/L	milliequivalents per liter
mg/L	milligrams per liter
MNA	monitored natural attenuation
Mo	molybdenum
PRB	permeable reactive barriers
SEP	sequential extraction procedure
SSI	statistically significant increase
SSL	statistically significant level
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

1.1 Purpose

This *Semiannual Remedy Selection and Design Progress Report* (the semiannual progress report) was prepared for Georgia Power Company (Georgia Power) Plant Hammond Ash Pond 1 (AP-1 or Site) in accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual rule (CCR Rule) (40 Code of Federal Regulations [CFR] 257 Subpart D), specifically 40 CFR 257.97(a), and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10(6)(a). This semiannual progress report describes the progress made since the issuance of the prior semiannual progress report in selecting and designing a remedy previously documented in the *Assessment of Corrective Measures Report – Plant Hammond Ash Pond 1 (AP-1)* (Geosyntec, 2019a) (ACM Report).

The purpose of the ACM Report (and subsequent semiannual progress reports) is to document the process of selecting corrective measure(s) for groundwater. This process is typically iterative and may be composed of multiple steps to analyze the effectiveness of corrective measures to improve groundwater quality. Once potential corrective measures are identified, they are further evaluated using the criteria outlined in § 257.96(c) and Rule 391-3-4-.10(6)(a). Once selected based on these criteria, the corrective measure must meet the additional protection criteria outlined in § 257.97(b) and corresponding Rule 391-3-4-.10(6)(a). Additional details are provided within the ACM Report and the cited federal and state regulations. Pursuant to § 257.97(a) and Rule 391-3-4-.10(6)(a), semiannual progress reports have been regularly submitted to document the efforts of evaluating and progressing towards selecting a groundwater corrective measure (Geosyntec, 2019b, 2020a, 2020b).

As discussed in the ACM Report, the following corrective measures were initially considered to be potentially feasible for use at AP-1. A comparative screening of the corrective measures is provided in **Table 1**.

1. Geochemical Manipulation (In-Situ Injection)
2. Hydraulic Containment (Pump and Treat)
3. Monitored Natural Attenuation (MNA)
4. Permeable Reactive Barrier (PRB)
5. Phytoremediation
6. Subsurface Vertical Barrier Walls

However, the PRB and vertical barrier wall corrective measures have since been removed from consideration based on data evaluations presented in the previous semiannual progress report (Geosyntec, 2020b).

Georgia Power proactively initiated adaptive site management as outlined in the ACM Report (Geosyntec, 2019a) to support the groundwater remedy selection process and address potential changes in site conditions as appropriate during the ash pond closure. The adaptive site management approach will take existing site conditions, including natural attenuation mechanisms into account. Characterization activities to evaluate attenuation mechanisms at the Site include collection of data necessary to progressively evaluate the existing and long-term effectiveness of these processes in the aquifer and reduce uncertainty for decision making at each screening step as listed in the USEPA guidelines for MNA (USEPA, 2015) summarized below.

* Tier I : Constituent concentrations & plume stability

* Tier II: Constituent attenuation mechanisms

* Tier III: Aquifer capacity and stability

* Tier IV: Performance monitoring

In addition to the assessment monitoring program at the Site, Georgia Power conducted a human health and ecological risk evaluation to evaluate constituents that exhibit SSLs in groundwater (i.e., arsenic (As), lithium (Li), and molybdenum (Mo)) at AP-1. The risk evaluation used a conservative, health-protective approach that is consistent with USEPA risk assessment guidance, GA EPD regulations and guidance, and standard practice for risk assessment in the State of Georgia. As part of the risk evaluation, a well survey of potential groundwater wells within a three-mile radius of AP-1 was conducted and consisted of reviewing federal, state, and county records and online sources in addition to conducting a windshield survey of the area. The risk evaluation relied on groundwater data collected by Georgia Power from 2016 through June 2020 in compliance with the federal and state CCR rules. Based upon this risk evaluation, which included multiple conservative assumptions, concentrations of arsenic, lithium, and molybdenum detected in groundwater at AP-1 are not expected to pose a risk to human health or the environment. The *Risk Evaluation Report – Georgia Power Company – Plant Hammond Ash Pond 1* (Geosyntec, 2021a) and associated well survey are provided as **Appendix A**.

1.2 Site Background and Overview of AP-1 Pond Closure

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 four coal-fired electric generating units at Plant Hammond are decommissioned and electricity is no longer produced at the Site.

AP-1 is a 35-acre surface impoundment that received CCR materials from its commission in 1952 until 1969. After 1969, AP-1 was utilized as a co-treatment pond to handle return water flows from the other ponds and for recycling of process water for plant operations. Georgia Power will close AP-1 through removal of the CCR materials from the CCR unit; closure activities will be conducted in accordance with § 257.102 and corresponding Rule 391-3-4-.10(7)(b). The proposed closure by removal approach provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Details of the closure approach are provided in the Initial Written Closure Plan, published in 2016 to Georgia Power's CCR compliance website. Closure permit No. 057-023D(CCR) was approved by GA EPD on June 22, 2020

1.3 Regulatory Program Status and Nature and Extent

CCR compliance groundwater monitoring-related activities have been performed for AP-1 since May 2016 pursuant to the CCR rule. Georgia Power initiated an assessment monitoring program in January 2018 after identifying statistically significant increases (SSIs) of Appendix III parameters in groundwater. Pursuant to § 257.95, samples were collected from the compliance monitoring well network, shown on **Figure 2**, and analyzed for Appendix IV constituents.

Statistical analyses of the 2018 assessment monitoring groundwater data identified statistically significant levels (SSLs) of molybdenum (Mo) and arsenic (As) at concentrations exceeding the state or federal groundwater protection standards (GWPS) in the following compliance monitoring wells: Mo (HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, and HGWC-13); and As (HGWC-13). Details of the analyses and supporting data are presented in the *2018 Annual Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2019c). SSLs of Mo and As have been consistently identified in these wells since the 2018 reporting period. Pursuant to § 257.96, Georgia Power initiated an ACM for AP-1 in January 2019. The ACM Report was subsequently

prepared for AP-1 and submitted to EPD in June 2019 and posted to the CCR compliance website in July 2019.

Since the ACM was initiated, ten additional groundwater monitoring wells have been installed to provide additional data to characterize flow conditions downgradient of AP-1 and to horizontally and vertically delineate As and Mo SSLs for the compliance monitoring wells identified above. The delineation well network was supplemented in March 2019 by incorporating existing downgradient piezometers MW-5, MW-6, and MW-7, which were originally installed in 2014. Additionally, two compliance monitoring wells (HGWA-43D and HGWA-44D) were installed in August 2020 to provide additional data to characterize background groundwater quality and flow conditions in deeper zones of the aquifer. The well network is shown on **Figure 2**; **Table 2** provides well construction details.

Statistical analysis of the current 2020 assessment monitoring groundwater data identified SSLs of the below Appendix IV constituents at concentrations exceeding the noted state or federal GWPS. Details are provided in the *2020 Annual Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2021b).

AP-1 (Federal CCR Rule):

- As: HGWC-13;
- Fluoride (F): MW-30D;
- Lithium (Li): MW-25D, MW-30D;
- Mo: HGWC-8

AP-1 (GA EPD CCR Rule):

- As: HGWC-13;
- F: MW-30D;
- Li: HGWC-13, MW-25D, MW-30D;
- Mo: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, MW-19, and MW-40D.

An alternate source demonstration (ASD) has been developed to address the SSLs wells MW-30D and MW-40D. The ASD presented multiple lines of evidence that elevated levels of Li and F identified in MW-30D and Mo in MW-40D are not associated with a release from AP-1 but are instead a result of natural variation in groundwater quality due to the limited (i.e., MW-30D) or no (i.e., MW-40D) connection these wells have to the uppermost aquifer as evidenced by i) slow recharge encountered within the deeper delineation wells installed in less fractured bedrock zones, ii) starkly different groundwater elevations in these wells compared to other site wells, and (iii) very different geochemical conditions. The ASD was submitted to GA EPD both as an appendix to the *2020 Annual Groundwater Monitoring and Corrective Action Report* for AP-1 and under a separate cover in January 2021.

Based on the groundwater data reported in the *2020 Annual Groundwater Monitoring and Corrective Action Report*, the SSLs identified in the following wells have been horizontally and vertically delineated to below the state and federal GWPS by the listed delineation wells. The groundwater data from the September 2020 semiannual assessment monitoring event were used to generate the As, Li, and Mo iso-concentration maps presented on **Figure 3** through **Figure 5**.

- HGWC-7 – Mo is delineated horizontally by MW-29 and vertically by MW-28D
- HGWC-8 – Mo is delineated horizontally by MW-20 and vertically by MW-27D
- HGWC-9 – Mo is delineated horizontally by MW-5 and vertically by MW-26D
- HGWC-11 – Mo is delineated horizontally by MW-7 and vertically by MW-25D
- HGWC-12 – Mo is delineated horizontally by MW-7 and vertically by MW-25D
- HGWC-13 – Mo is delineated horizontally by MW-7 and vertically by MW-24D; As and Li are delineated horizontally by MW-19 and vertically by MW-24D

The Mo and Li SSLs identified in MW-19 and MW-25D, respectively, are horizontally delineated to below the state GWPS by MW-7. Vertical delineation of these constituents may require the installation of additional wells adjacent to MW-19 and MW-25D. However, based on findings presented in the ASD, it is recommended to collect additional data and continue to evaluate these findings prior to installing additional deeper wells. A preliminary evaluation of the geochemical conditions in well MW-25D suggests that this

well is not affected by liquids from AP-1 and appears to show geochemical conditions similar to other deeper wells with low recharge.

Pursuant to § 257.96, groundwater in the vicinity of AP-1 continues to be monitored during the ACM phase in accordance with the established assessment monitoring program.

2.0 SUMMARY OF WORK COMPLETED

The following summarizes the field investigations and data evaluations completed since the issuance of the prior semiannual progress report in August 2020 (Geosyntec, 2020b) in support of delineating Appendix IV SSLs and evaluation of the corrective measures presented in the ACM Report. The routine assessment monitoring event conducted in September 2020 is discussed in the *2020 Annual Groundwater Monitoring and Corrective Action Report*. The analysis of groundwater and aquifer solids was designed to support a tiered evaluation of MNA and potential supporting remedies in accordance with USEPA guidelines (USEPA, 2015).

2.1 Field Activities

2.1.1 Installation of Deep-Screened Background Compliance Wells

As previously mentioned, Georgia Power installed two additional compliance wells (HGWA-43D and HGWA-44D) in August 2020 to provide additional data to characterize background groundwater quality and flow conditions upgradient of AP-1. Wells HGWA-43D and HGWA-44D are located in close proximity to HGWA-1 (**Figure 2**), but are screened approximately 19 feet and 71 ft, respectively, below the screen bottom of HGWA-1 (**Table 2**). The well screen for HGWA-43D was installed at a depth generally corresponding to the screen elevations of the first tier of vertical delineation wells installed downgradient of AP-1 (i.e., MW-24D through MW-28D). Well HGWA-44D was installed at a depth that generally corresponds with MW-30D and MW-40D. An equipotential potentiometric surface analysis was completed to determine the appropriate screen depths for HGWA-43D and HGWA-44D. Detailed boring and well construction logs for the installation of these wells are provided in **Appendix B**. A well installation report for these two wells was submitted to GA EPD in November 2020 (Geosyntec 2020c) and provided in Appendix A of the *2020 Annual Groundwater Monitoring and Corrective Action Report*.

The data obtained from the new background compliance wells allow for the refinement of the conceptual site model (CSM), supplementing the data obtained from the shallower background compliance wells (HGWA-1, HGWA-2, and HGWA-3).

2.1.2 Supplemental Sampling for Geochemical Evaluation

Supplemental groundwater samples were collected from the entire AP-1 compliance and delineation well networks during the September 2020 monitoring event and submitted under chain-of-custody protocol to Pace Analytical Services, LLC. in Norcross, Georgia.

The additional samples were analyzed for major cations (calcium [Ca], magnesium [Mg], potassium [K], and sodium [Na]) and major anions (chloride [Cl], sulfate [SO_4], and bicarbonate alkalinity [HCO_3]) as well as iron, manganese, and sulfide. The data were collected in support of evaluating the geochemical composition of the groundwater.

2.2 Data Analysis Activities

2.2.1 Refinement of Geochemical Evaluation

The data obtained from the supplemental groundwater samples described in Section 2.1.2 were used to refine the existing geochemical evaluation presented in the previous semiannual progress report (Geosyntec, 2020a). Groundwater data for key background compliance wells (HGWA-43D and HGWA-44D) were not available when the prior semiannual progress report was submitted. Additionally, the groundwater quality data obtained from wells HGWA-43D and HGWA-44D were used to supplement the geochemical evaluation in support of an ASD outlining the evidence that the groundwater samples collected from wells MW-30D and MW-40D are not impacted by liquids originating within AP-1.

2.2.2 Unconsolidated (Soil/Weathered Bedrock) Aquifer Solids

Geosyntec completed an analysis of the aquifer matrix samples collected in August 2020 from the saturated unconsolidated zone at six locations in the vicinity of AP-1. The sample depths were selected based on review of available boring logs from monitoring wells in the vicinity of the DPT boreholes to target the alluvium, residuum and/or highly weathered rock zones. The sample depths generally correspond with the screen interval depths of the compliance monitoring wells reporting impacted groundwater. The approximate locations of the boreholes are illustrated on **Figure 2**. Details of the field efforts to collect the samples were presented in the previous semiannual progress report. Associated field logs recorded during sample collection are provided in **Appendix C**.

The aquifer matrix samples were sent to SiREM analytical laboratory (Guelph, Ontario) to evaluate attenuation mechanisms, rates and capacity, as well as the mineralogical characterization by application of the following analytical/testing methods.

- *Cation and Anion Exchange Capacity*: Separate tests that indicate relative adsorptive capacity for cationic and anionic metals/constituents. Understanding the capacity of solids in the subsurface to retain positively and negatively charged solutes helps in the evaluation of attenuation mechanisms and capacity (USEPA Tiers II and III).

- *Total Sulfur, Sulfide*: Total amount of oxidized and reduced sulfur relevant to metals that are prone to coprecipitate with and/or form sulfide minerals. Understanding the presence and speciation of sulfur compounds allows an estimation of whether certain metals are likely to form sparingly soluble sulfide minerals as a possible attenuation mechanism (USEPA Tiers II and III).

- *Organic Carbon Content*: Presence of substrate for adsorption and energy source for microbially mediated metal(loid)s transformations. Organic carbon in the subsurface can serve to sorb/retain metals, but it can also provide food to microorganisms that use certain metal(loid)s as electron acceptors and therefore change their oxidation-reduction (redox) state, which affects their mobilization/ immobilization (USEPA Tiers II and III).

- *Total Metals Concentration*: Total concentrations of targeted constituents in the solid phase. The samples were analyzed for Mo, Li, Co, As, Fe, Al, and manganese (Mn). This analysis helps to understand the presence of site-specific constituents in aquifer solids as well as the elements Fe, Al, and Mn that form major mineral phases known to sorb/retain many metals (USEPA Tiers II and III).

- *X-Ray Diffraction, Scanning Electron Microscopy (SEM) and Energy Dispersive X-Ray Analysis (EDXA)*: Qualitative and quantitative confirmation of mineral phases present, including Whole Rock Analysis (WRA) for quantitative confirmation of XRD results. Identifying crystalline and non-crystalline mineral phases aids in the evaluation of attenuation mechanisms and capacity (USEPA Tiers II and III).

Data obtained from these analyses are used to evaluate the viability of select corrective measures (i.e., MNA , in-situ redox controls and, to a lesser degree, phytoremediation).

3.0 SUMMARY OF RESULTS

The following presents the results of the work outlined in Section 2.

3.1 Refined Groundwater and Pore Water Analysis

A geochemical evaluation of groundwater and pore water was conducted using the groundwater data collected in September 2020 from select AP-1 compliance and delineation wells (i.e., HGWA-1, HGWA-3, HGWA-43D, HGWA-44D, MW-1, HGWC-7, HGWC-8, MW-30D, and MW-40D) and the pore water data collected in April 2020 from sampling locations within the CCR unit (i.e., PMW-01 and PMW-02). **Figure 2** depicts the locations of the monitoring well network and pore water piezometers. The geochemical groundwater data from the September 2020 semiannual assessment monitoring event are presented in **Table 3**, together with Appendix III and IV data and the field parameters measured during sample collection; the laboratory reports associated with the data are provided in the *2020 Annual Groundwater Monitoring and Corrective Action Report*. **Table 3** also presents similar data for the two routine assessment monitoring events conducted in early March and late March/early April 2020, as well as the April and June 2020 supplementary sampling events.

A geochemical evaluation was conducted as part of an ASD briefly described above to demonstrate that SSLs in wells MW-30D and MW-40D are not due to a release from AP-1. This information is not repeated within this report but can be found in Appendix C of the *2020 Annual Groundwater Monitoring and Corrective Action Report* for AP-1.

3.2 Summary of Unconsolidated Aquifer Solids Analysis

As indicated above, aquifer materials collected from one background location (i.e., DPT-06) and five downgradient locations (i.e., DPT-01 through DPT-05) were shipped to SiREM laboratories for the specialized analyses introduced in Section 2.2.2. A brief summary of the results is provided below, and the complete SiREM report is included in **Appendix D** of this report.

3.2.1 Anion and Cation Exchange Capacity

Ion exchange capacity (both AEC and CEC) of a soil or aquifer is an important variable to understand when evaluating attenuation processes. It is generally defined as the capacity of a soil to retain both positively charged and negatively charged ions, such as many metals, (micro-) nutrients, and anions such as sulfate or chloride. Note that while many metals are present as cations in soils under most environmental conditions (such as

lead [Pb], zinc [Zn], aluminum [Al], cadmium [Cd], iron [Fe], etc.), a number of metals can also occur as oxyanions in nature, such as As, selenium [Se], or Mo. It is therefore important to account for both the CEC as well as the AEC of a soil to evaluate its capacity to retain these ions via sorptive processes.

The CEC of soils is dependent on the amount and type of clay minerals, organic matter, and amorphous minerals, while the sources of AEC in soils include clay minerals (primarily 1:1 clays such as kaolinite), metal oxides, and amorphous materials. In general, the CEC of a soil is higher than the AEC, but highly weathered and acidic soils can have substantial AEC (Sparks, 1995).

The table presented on page 4 of the SiREM report included in **Appendix D** lists the CEC ranging from 5.70 milliequivalents per 100 grams (meq/100 g) in the background boring (DPT-06) to 20.20 meq/100 g in downgradient boring DPT-04. These values are reflective of the clay minerals present. Similarly, the AEC ranges from 4.57 meq/100 g in DPT-06 to 8.48 meq/ 100 g in DPT-01. Given the low to non-detect total organic carbon content of these soils, the ion exchange capacities appear to be mostly dominated by clay minerals and metal oxides (likely both crystalline and amorphous – see discussion further below).

3.2.2 Total Sulfur, Total Sulfide, and Total Organic Carbon

The presence of sulfur, and especially sulfide in the aquifer materials may give an indication whether metals prone to precipitation as sulfides or co-precipitation with sulfidic minerals, such as Fe, As, copper [Cu], Zn, Cd and others might be present in the aquifer matrix. Organic carbon, if present, can contribute to the CEC of a soil and would therefore increase the sorptive capacity of a soil or aquifer matrix.

As can be seen in the table presented on page 4 of the SiREM report included in **Appendix D**, the total sulfur content is low and ranges from non-detect (<0.005%) in DPT-05 and DPT-06 to 0.018% in DPT-01. Total sulfide was non-detect (<0.04%) in all six borings.

The TOC content of these materials is also low, ranging from non-detect (<0.025%) in DPT-05 to 0.16% in DPT-03. These low results are expected given that the samples were collected at depth within the aquifer matrix made up of residuum (i.e., clays) and partially weathered bedrock. Therefore, organic carbon is not expected to play a major role in the attenuation of site-specific constituents.

3.2.3 Total Metals and Whole Rock Analyses

The total metals results are summarized in the table presented on page 5 of the SiREM report included in **Appendix D.** The metals include the site-specific constituents of interest Mo, Li, Co, and As. In addition, Fe, Al, and Mn were also analyzed to give an indication whether oxides/oxyhydroxides of these metals may be present, since these mineral phases can be a significant source of attenuation capacity for metal(loid)s.

As can be seen in this table, the aquifer materials contain appreciable concentrations of site-specific constituents of interest. Molybdenum detections ranged from 0.40 microgram per gram (µg/g), which is equivalent to milligram per kilogram (mg/kg), in background boring DPT-06 to 13 mg/kg in downgradient boring DPT-05. This variation indicates that weathering processes across the Site provide a variable supply of naturally occurring Mo and/or that the aquifer matrix has attenuated these constituents along the groundwater flow-path. On average, carbonates contain only about 0.4 mg/kg of Mo, while shales contain about 2.6 mg/kg (AGI, 2016). The detected Mo concentrations are above these average concentrations at locations DPT-02 (6.2 mg/kg) and DPT-05 (13 mg/kg).

Concentrations of Li are less variable and range from 33 mg/kg in downgradient boring DPT-02 to 59 mg/kg in background boring DPT-06. This clearly indicates a substantial natural source of Li in the aquifer matrix and these results are more consistent with the average Li content of shales (i.e., 66 mg/kg) than of carbonates (i.e., 5 mg/kg; AGI, 2016). This agrees well with the site-specific geology, which has been identified as shaley limestone. Similarly, Co concentrations range from 11 mg/kg in boring DPT-02 to 38 mg/kg in boring DPT-05 and As concentrations range from 3.8 mg/kg in DPT-04 to 12 mg/kg in DPT-03. Again, these concentrations are more consistent with the average Co and As contents of shales (i.e., 19 mg/kg and 13 mg/kg, respectively) than carbonates (i.e., 0.1 mg/kg and 1 mg/kg, respectively; AGI, 2016). Concentrations of As and Co have generally been detected above average concentrations for this geology and indicate some site-specific variation.

As expected for residuum and highly weathered bedrock materials, the Fe and Al contents are substantial, with Fe concentrations ranging from 26,000 mg/kg (2.6%) in borings DPT-01 and DPT-02 to 52,000 mg/kg (5.2%) in DPT-03, and Al concentrations ranging from 33,000 mg/kg (3.3%) in DPT-02 to 75,000 mg/kg (7.5%) in DPT-05. This is indicative of the abundant presence of Fe- and Al-oxides and hydroxides as well as clay minerals, which provide substantial attenuation capacity for site-specific constituents reporting SSLs. Manganese concentrations range from 530 mg/kg in boring DPT-02 to

2,400 mg/kg in boring DPT-04 and are moderately higher than average Mn concentrations for carbonates (i.e., 1,100 mg/kg) and shales (850 mg/kg), respectively (AGI, 2016), indicating that there may be some Mn-oxide mineral coatings present that provide additional sorption sites for certain metals (e.g., Co).

Whole Rock Analysis (WRA) was included as a chemical assay to confirm and reconcile the quantitative mineral analysis obtained through XRD. While the name might imply "rock" samples, the analysis was conducted on the unconsolidated DPT borings and not competent bedrock. The WRA of these aquifer materials summarized in the table presented on page 6 of the SiREM report (**Appendix D**) confirm the presence of major mineral phases. Quartz was the most abundant mineral phase detected in these borings ranging from 52.5% to 84.1%, with Al-oxide and Fe-oxide concentrations coming in as the second most abundant mineral phases ranging from 6.43% to 16.3%, and 3.72% to 7.30%, respectively. Other mineral phases are also present, albeit at lower concentrations.

3.2.4 XRD and SEM/EDXA Analyses

XRD as well as SEM/EDXA analyses were completed to characterize both the crystalline and non-crystalline mineralogy/phases of the unconsolidated aquifer matrix. Overall, the mineralogy of the aquifer matrix reflects the abundance of quartz, muscovite, kaolinite, albite, and microcline, and includes minerals that provide ample surface area and ion exchange capacities to attenuate both cationic as well as anionic constituents.

As expected (and confirmed through WRA), the quantitative XRD analysis (see page 7 in **Appendix D**) indicated that the largest percentage of the aquifer matrix is made up of quartz, ranging from 34.4% (by weight) in background boring DPT-06 to 82.0% (by weight) in boring DPT-02. The second-highest percentage of the mineralogy was characterized as the 2:1 clay mineral muscovite, ranging from 6.96% (by weight) in boring DPT-02 to 26.1% (by weight) in boring DPT-05. Muscovite provides substantial surface area for sorption and its significant presence is likely the main reason that the CEC of these soils is higher than would be expected from just the presence of kaolinite, which was detected between 3.81% in DPT-02 and 7.33% in DPT-04. Interestingly, kaolinite was not detected in boring DPT-05 and background boring DPT-06.

Other important minerals consistently detected at substantial weight percentages include the feldspar minerals albite and microcline, as well as the iron-rich 2:1 clay mineral nontronite, and the titanium oxide (TiO_2) mineral anatase. The minerals calcite ($CaCO_3$)

and goethite (α-FeOOH) were identified in two of the six borings, and the 2:1:1 clay mineral chlorite was identified in three of the six borings.

The SEM/EDXA images and results are included as pages 25 through 81 in the SiREM report (**Appendix D**). SEM/EDXA has the advantage of also identifying amorphous (i.e., non-crystalline) phases that cannot be identified using XRD. It therefore supplements the XRD results.

The identified minerals and amorphous phases were generally consistent across all six borings. The main minerals identified include quartz, various feldspar minerals and silicates (including mica, amphibole, pyroxene, zircon, epidote), titanium-containing minerals such as rutile and ilmenite, and an abundance of non-crystalline Fe- and Mn-oxides that are either present within the soil matrix or as coatings on quartz and feldspar grains. Occasionally, other minerals such as calcite, apatite, titanite, or baryte (barite) were identified in relatively lower amounts and fewer samples. The abundance of Fe- and Mn-oxides suggests that ample attenuation sites are potentially available within the aquifer matrix for site-specific constituents.

4.0 UPDATED CONCEPTUAL SITE MODEL

AP-1 will be closed by removal of CCR materials from the unit, thereby providing a source control measure that reduces potential for migration of CCR-related constituents to groundwater. The conceptual site model (CSM) indicates that, even under current conditions, the groundwater exceedances are horizontally and vertically delineated onsite, and that some of the exceedances are due to (a) source(s) other than AP-1. The additional data collected since the issuance of the previous semiannual progress report in August 2020 (Geosyntec, 2020b) allow the refinement of the CSM. The following bullets summarize the current understanding of the CSM within the context of selecting an appropriate groundwater corrective measure for AP-1.

- Statistical analyses and recent iso-concentration maps indicate that SSLs in the compliance monitoring well network (HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, and HGWC-13) are horizontally and vertically delineated to below the state and federal GWPS.

- Fluoride, Li, and Mo SSLs in deep delineation wells MW-30D and MW-40D, are from an alternate source. The ASD provides additional information documenting the specific groundwater conditions due to the limited (i.e., MW-30D) or no (i.e., MW-40D) connection these wells have to the uppermost aquifer as evidenced by i) slow recharge encountered within the deeper delineation wells installed in less fractured bedrock zones, ii) starkly different (i.e., MW-40D) and/or highly fluctuating (i.e., MW-30D) groundwater elevations in these wells compared to other site wells, and (iii) very different geochemical conditions.

- The Mo and Li SSLs identified in delineation wells MW-19 and MW-25D, respectively, are horizontally delineated to below the state and federal GWPS by MW-7; vertical delineation of these constituents may require the installation of additional wells adjacent to MW-19 and MW-25D. However, given the issues with low recharge in deeper, less fractured zones, and the natural occurrence of many of the constituents of interest, it is currently not recommended to install additional deeper delineation wells, but to continue monitoring groundwater conditions and updating statistical results. For example, while not included as part of the current ASD, a preliminary evaluation of the geochemical conditions in well MW-25D indicates that this well is not affected by liquids from AP-1 and appears to show geochemical conditions similar to other deeper wells with low recharge (MW-30D and MW-40D). A trilinear (i.e., Piper) diagram is depicted on **Figure 6** to illustrate these conditions and supplement the information

provided in the referenced ASD. A separate ASD may be provided for well MW-25D during the upcoming reporting period.

- Elevated As concentrations within compliance well HGWC-13 are limited to the immediate vicinity of this well. The As groundwater concentrations in HGWC-13 are vertically and horizontally delineated to below the federal and state GWPS by MW-24D and MW-19, respectively; As has not been reported above the reporting limit in either delineation well (Geosyntec, 2021). An additional sample from a DPT boring will be collected in the vicinity of HGWC-13 at a depth corresponding with its screen interval during the upcoming reporting period to enhance the understanding of attenuation mechanisms in this area.

- The elevated Mo concentrations above the federal GWPS within well HGWC-8 are currently not well understood since Mo pore water concentrations are substantially lower than groundwater Mo at HGWC-8. However, Mo concentrations in groundwater in this area are vertically and horizontally delineated to below the federal and state GWPS by MW-27D and MW-20, respectively.

- The characterization of unconsolidated aquifer solids summarized in this progress report included determination of the CEC and AEC, evaluation of total sulfur, total sulfide, and TOC concentrations, evaluation of total metals and whole rock analysis, and characterization of the soil/aquifer mineralogy using XRD as well as SEM/EDXA methods. This characterization was completed to evaluate attenuation mechanisms consistent with the tiered approach of USEPA's guidance for the implementation of MNA (i.e., Tiers II and III). Results indicate CEC and AEC levels consistent with the primary and secondary soil minerals present, including the type and abundance of various clay minerals. Furthermore, metals detected within the aquifer matrix may contribute to groundwater conditions observed in various locations across the Site. The abundant presence of identified crystalline and non-crystalline mineral phases, including mineral coatings of Fe- and Mn-oxides, suggest that the aquifer matrix has sorption capacity to attenuate the site-specific constituents of interest.

- Groundwater conditions and/or statistical results continue to change, and seasonal fluctuations as well as low recharge in deeper wells appear to play a role in the changing chemistry of groundwater samples.

5.0 UPDATED EVALUATION OF CORRECTIVE MEASURES

As discussed during the last progress report, the potential corrective measures PRB and a vertical barrier wall were previously eliminated for further evaluation to treat the site-specific constituents in groundwater. The remaining four potential corrective measures were retained for further evaluation. Data collected during the past six months reported in the current progress report have not resulted in the elimination of additional corrective measures. Therefore, the following four potential corrective measures, which have been described in further detail in the previous progress report, will be retained for further evaluation:

- Geochemical Injections:
    - This approach would mainly be evaluated for use within a relatively small area around well HGWC-13. This area is currently inaccessible due to the operation of a temporary water treatment system that will be in use for the duration of pond dewatering during pond closures. Logistical arrangements will be required to implement this corrective measure.
- Hydraulic Containment:
    - While this potential corrective measure is not eliminated from further evaluation, the data collected to date, including slow aquifer recharge in deeper wells, do not suggest that groundwater extraction and above-ground treatment would be a necessary and/or effective corrective measure for AP-1. It may still be a viable option within the shallow aquifer as a contingency measure for the compliance wells screened within this area during pond closure and/or during potential implementation of monitored natural attenuation.
- Monitored Natural Attenuation:
    - The characterization of aquifer solids presented in this current progress report suggests that the aquifer matrix has substantial attenuation capacity for the various constituents of interest at the Site. Therefore, MNA remains a viable corrective measure, especially coupled with closure by removal of AP-1. Moreover, several SSLs appear to be related to natural variation of groundwater conditions, and under these circumstances, MNA could be an effective corrective measure.

- Phytoremediation:
    - The use of an engineered (proprietary) TreeWell® phytoremediation system has been considered, but there currently appears to be no need to implement a more active groundwater corrective measure. Data collected to date have not eliminated the use of this approach, but its implementation appears to be unlikely under current circumstances. Similar to hydraulic containment (i.e., pump & treat) described above, phytoremediation may be a viable supplemental remedy.

Given that groundwater conditions and/or statistical results continue to change and are likely to also be affected by closure and construction activities at AP-1, an adaptive site management approach will be used to address groundwater conditions as a consequence of closure activities. Continued groundwater monitoring and updates to the statistical analyses will further refine the CSM and allow for the continued evaluation of an appropriate groundwater corrective measure at the Site. This may include additional tests using the unconsolidated aquifer materials to further demonstrate the viability of MNA according to USEPA's tiered approach for the use of MNA in groundwater.

6.0 PLANNED ACTIVITIES & ANTICIPATED SCHEDULE

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

Supplementary data collection and evaluation activities proposed to be completed during the next semiannual reporting period are presented in **Table 4**.

- *Conduct a series of specialized analyses (e.g., column studies) on unconsolidated aquifer solids to evaluate the attenuation capacity of constituents of interest and attenuation rates in support of evaluating MNA consistent with USEPA's four-tier approach.*

- *Evaluate potential adaptive triggers that may be incorporated into a long-term adaptive management strategy in response to changing groundwater conditions during and after pond closure.*

- *Collect unconsolidated aquifer materials in the vicinity of well HGWC-13 for specialized analyses to evaluate on-going attenuation processes that could be further enhanced and/or to develop a conceptual geochemical injection plan and layout focused on treating As in the vicinity of HGWC-13; evaluate system design requirements, including possible reagents or air-sparging and relevant concept level capital and operational schedules.*

- *Evaluate conceptual layouts of phytoremediation and hydraulic containment corrective measures to evaluate hydraulic capture zones under anticipated closure conditions.*

- *Evaluate Mo and Li in delineation wells MW-19 and MW-25D, respectively, to determine if additional vertical delineation wells are necessary*.

Georgia Power will continue to prepare semiannual progress reports to document AP-1 groundwater conditions, results associated with additional data collection, and the progress in selecting and designing a groundwater remedy in accordance with § 257.97(a). Georgia Power will include future semiannual progress reports in routine groundwater monitoring and corrective action reports. Record keeping, notifications, and publicly accessible internet site requirements for the semiannual progress reports will be provided in accordance with § 257.105(h)(12), § 257.106(h)(9), and § 257.107(h)(9), respectively.

7.0 REFERENCES

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TABLES

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

Geosyntec consultants

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)	
Corrective Measure	**Description**	**Performance**	**Reliability**
Geochemical Approaches (In-Situ Injection)	Use of an injection well network, or other means of introducing reagents or air into the subsurface, to provide suitable reagents for either anaerobic or aerobic attenuation of arsenic (As) and molybdenum (Mo). Under anaerobic conditions, As would be attenuated within sparingly soluble sulfide minerals; this approach might also increase the attenuation of Mo. Under aerobic conditions, soluble iron or manganese and oxygen (either via air sparging or through a chemical oxidant) would be injected to promote the formation of iron or manganese (oxy-) hydroxides for subsequent sorption of As (and potentially, Mo) onto these mineral phases. If sufficient iron is present in groundwater, the use of air sparging alone may be considered to precipitate iron (oxy-) hydroxides for sorption. In-situ chemical oxidation (ISCO) or in-situ chemical reduction (ISCR) can be used to chemically alter the redox environment in the subsurface to affect the mobility of certain inorganic compounds, including As. This corrective measure is not effective for treating lithium (Li) in groundwater.	The effective immobilization of As has been shown under aerobic and anaerobic conditions; however, the anaerobic approach (involving the injection of an electron donor together with iron or manganese and sulfur) requires careful study and testing. While aerobic approaches are somewhat less complex, additional aquifer characterization is needed to further evaluate these options. It is currently not well understood whether molybdenum can be efficiently attenuated using in-situ redox manipulations due to slow reaction kinetics. Mo attenuation under both aerobic and anaerobic conditions needs to be further evaluated but is expected to occur. Mo is more strongly sorbed to aluminum oxides than other metal oxides, and it is generally less sorptive and more mobile compared to As.	Reliability dependent on permeability of the subsurface and the amount and distribution of secondary iron or manganese (oxy-) hydroxides (for aerobic approach), or electron donors and soluble iron or manganese and sulfur that can be consistently distributed (for anaerobic approach). Reliable technology if injected materials can be distributed throughout the impacted aquifer. Bench- and/or pilot-scale treatability testing programs are needed to understand the biogeochemical processes that would effectively reduce migration of As and Mo in groundwater.
Hydraulic Containment	Hydraulic containment refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or control the migration of impacted groundwater. This approach uses extraction wells or trenches to capture groundwater, which may subsequently require above-ground treatment and permitted discharge to a receiving water feature, reinjection into the groundwater, or reuse (e.g., land application, CCR conditioning, etc.). It is applicable to a variable mix of inorganic constituents, including dissolved As, Li, and Mo.	Hydraulic containment is effective, but it is unclear whether full groundwater remediation can be achieved without further understanding attenuation mechanisms at the Site. At AP-1, implementation of the corrective measure is contingent on completing additional assessment activities (i.e. high-resolution site characterization, additional pump tests, flow modeling, and capture zone analysis). This is needed to refine the constituent distribution in the subsurface to target specific zones for pumping for improved mass recovery efficiency/ effectiveness and to further evaluate the potential remedy performance.	Generally reliable for hydraulic containment, but uncertainty exists whether groundwater remediation goals can be achieved within a reasonable time frame without further understanding attenuation mechanisms.
Monitored Natural Attenuation (MNA)	MNA relies on natural attenuation processes to achieve site-specific remediation objectives within a reasonable time frame relative to more active methods. Under certain conditions (e.g., through sorption, mineral precipitation or oxidation-reduction reactions), MNA effectively reduces the dissolved concentrations of inorganic constituents in groundwater. Attenuation mechanisms for inorganic constituents at CCR sites, including As, Li, and Mo at AP-1, are either physical (e.g. dilution, dispersion, flushing, and related processes) or chemical (sorption or oxidation reduction reactions). Chemical attenuation processes include precipitation, and sorption reactions such as adsorption on the surfaces of soil minerals, absorption into the matrix of soil minerals, or partitioning into organic matter. Further, oxidation-reduction (redox) reactions, via abiotic or biotic processes, can transform the valence states of some inorganic constituents to less soluble and thus less mobile forms. For As and Mo, the main attenuation processes include sorption to iron and manganese oxides (As and Mo), and formation of sparingly soluble sulfide minerals (As). The main attenuation processes for Li is dilution and dispersion.	Physical and chemical MNA mechanisms for arsenic and molybdenum, including dilution, dispersion, sorption, and oxidation reduction reactions can be effective at achieving groundwater protection standards (GWPS) within a reasonable time frame. Attenuation processes for As and Mo are already occurring at the site as evidenced by groundwater data from the delineation wells. Source control will improve the mass balance such that the buffer capacity of the aquifer is unlikely to be exhausted, and the attenuation processes already at work for As, Li, and Mo at AP-1 will further enhance ongoing MNA.	Reliable as long as the aquifer conditions that result in As, Li, and Mo attenuation remain favorable and/or are being enhanced and sufficient attenuation capacity is present. MNA is reliable and can either be used as a stand-alone corrective measure for groundwater impacted by dissolved As and/or Mo, or in combination with a second technology.
Permeable Reactive Barrier	Permeable reactive barrier (PRB) technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through. Either ZVI-Carbon matrix or solid carbon (bio-barrier) are currently proposed for the concurrent removal of As and Mo. The carbon could be composed of peat moss, mulch or another carbon source. Exact placement of the PRB is determined by site-specific characterization. PRB walls are typically keyed into the bedrock. While the shallow groundwater in the residuum and fractured bedrock is connected to the groundwater in more competent bedrock, the higher permeability/conductivity of the PRB is not expected to impede groundwater flow. PRBs can also be constructed as “funnel and gate” systems, where a barrier wall directs groundwater to a smaller “treatment gate” filled with reactive media. PRBs are ineffective at treating Li due to the chemistry and the inability for Li to sorb or precipitate.	PRBs have been shown to effectively address As in groundwater, but additional testing is required for Mo to select the appropriate reactive media. The approach is expected to achieve GWPS for both constituents as impacted groundwater passes through the reactive barrier. Mo redox kinetics may be slow and hence a thicker wall might be needed relative to solely treating for As. Furthermore, additional testing is required to select the appropriate sorptive media mix, especially related to Mo. However, PRB media is ineffective for treating Li.	Reliable groundwater corrective measure technology for select inorganics, but loss of reactivity over time may require re-installation depending on the duration of the remedy. Additional data collection, including conducting a bench and/or pilot study, is needed to better characterize current attenuation mechanisms and/or select the appropriate reactive media mix for a PRB wall.
Phytoremediation / *TreeWells*	Phytoremediation uses trees and other plants to uptake or immobilize constituents or achieve hydraulic control without the need for an above-ground water treatment system and infrastructure. Within the context of AP-1, this corrective measure would likely use an engineered (proprietary) TreeWell® phytoremediation system along the point of compliance or downgradient edge of the impacted groundwater for hydraulic control. The system promotes root development to the targeted groundwater zone (depth), allowing for hydraulic control of impacted groundwater. In addition, immobilization of As, Li, and Mo within the root zone as well as incidental uptake of dissolved As, Li, and Mo with groundwater is expected to occur concurrent with hydraulic control.	Once established (typically at the end of the third growing season), a TreeWell system is effective for providing hydraulic containment of groundwater, and potential reduction of As and Mo concentrations through immobilization and/or uptake and sequestration in the tree biomass; however, the main purpose is to provide hydraulic control. Given the current groundwater flow velocities, the approach is currently not considered viable. However, changing site conditions may make the corrective measure viable for the area downgradient of AP-1. Additional aquifer testing and/or groundwater flow modeling may be needed to confirm the suitability at that time.	Engineered phytoremediation is a proven technology where hydrogeologic factors are taken into account (e.g., hydraulic conductivity, flow velocity, depth to impacted groundwater zone, etc.). This is considered an active remedial approach through the use of trees as the "pumps" driving the system. Careful design will be needed to select the proper species, which will include consideration of groundwater chemistry, plant uptake of constituents, and groundwater flow modeling to evaluate the required number and placement of TreeWell units.
Subsurface Vertical Barrier Walls	This approach involves placing a barrier to groundwater flow in the subsurface, frequently around a source area, to prevent future migration of dissolved constituents in groundwater from beneath the source to downgradient areas. In general, barrier walls are designed to provide containment; localized treatment achieved through the sorption or chemical precipitation reactions from construction of the walls are incidental to the design objective. Barrier walls can also be used in downgradient applications to limit discharge to a surface water feature or to reduce aquifer recharge from an adjacent surface water feature when groundwater extraction wells are placed near one. A variety of barrier materials can be used, including cement and/or bentonite slurries, geomembrane composite materials, or driven materials such as steel or vinyl sheet pile. Groundwater extraction from upgradient of the barrier is required to avoid groundwater mounding behind the barrier.	Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Slurry walls are limited by the depth of installation; sheet piling and trenching are typically limited to depths of approximately 50 feet belowground surface (ft bgs); specialty drilling/installation techniques can achieve depths greater up to approximately 90 ft bgs. However, site-specific geologic and technology-specific considerations may limit this depth to shallower installations. Within the context of AP-1, a barrier wall might be used in conjunction with a “funnel and gate” system for a PRB rather than a stand-alone technology. As such, groundwater with As, Li, and Mo above GWPS could either be directed to “treatment gates” for passive treatment (in a PRB) or migration of impacted groundwater could be minimized via barrier wall installation. Additional subsurface investigations, aquifer testing, and compatibility testing with site-specific groundwater will be needed.	Generally reliable as a barrier to groundwater flow; however, treatment of downgradient groundwater is incidental and not the primary objective.

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

Geosyntec consultants

Corrective Measure	40 CFR 257.96(C)(1) Ease of Implementation	40 CFR 257.96(C)(1) Potential Impacts	40 CFR 257.96(C)(2) Time Requirement to Begin/Complete
Geochemical Approaches (In-Situ Injection)	Moderate. Installation of injection well network or other injection infrastructure would be required. Alternative installation approaches may be considered, such as along the downgradient edge of impacted groundwater, which would function similar to a PRB application. Potential for clogging of aquifer matrix and/or injection well infrastructure. Chemical distribution during injections (i.e., radius of influence) needs to be evaluated.	Minimal impacts are expected if remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Redox-altering processes have the potential to mobilize naturally-occurring constituents as an unintended consequence if not properly studied and implemented.	Installation of the injection network can be accomplished relatively quickly (1 to 2 months). However, a thorough pre-design investigation, geochemical modeling, and/or bench- and/or pilot-testing will be required to obtain design parameters prior to design and construction of the corrective measure, which may take up to 24 months. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation process kinetics of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.
Hydraulic Containment	Moderate. Proven approach, and supplemental installation of extraction wells/trenches is fairly straightforward. The extracted groundwater may potentially require an above-ground treatment system. A variety of sorption and precipitation approaches exist for ex-situ treatment of As and Mo; currently reported Li groundwater concentrations may not warrant treatment to meet ecological standards for discharge. Operation and maintenance (O&M) requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals.	Moderate. The main potential impacts are related to the presence and operation of an on-site above-ground water treatment facility and related infrastructure to convey and treat extracted groundwater. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone.	Installation of extraction wells and/or trenches can be accomplished relatively quickly (1 to 2 months). However, additional aquifer testing, system design and installation, and permit approval may be required, which may take up to 24 months. The initiation of the approach would be contingent on the start-up of the wastewater treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system, but uncertainty exists with respect to the time to achieve GWPS without additional data collection to better understand attenuation mechanisms for As and Mo.
Monitored Natural Attenuation (MNA)	Reasonably implementable with respect to infrastructure, but moderate to complex with respect to documentation. Proven approach, but additional data are needed to show that the existing attenuation capacity is sufficient to meet site objectives within a reasonable timeframe. A monitoring well network already exists to implement future groundwater monitoring efforts.	None. MNA relies on the natural processes active in the aquifer matrix to reduce constituent concentrations without disturbing the surface or the subsurface.	The infrastructure to initiate MNA is already in place. Demonstrating attenuation mechanisms and capacity can be time-consuming and can take up to 24 months. Under current conditions, MNA appears to already be sufficiently operational to attenuate site-specific constituents, and MNA is expected to continue to be successful following pond closure. Engineering measures will be implemented during closure of AP-1 to minimize potential impacts to the subsurface during closure activities and routine groundwater monitoring will be used to verify that groundwater impacts remain stable or decrease over time. A contingency plan will be developed to address potential impacts during and after pond closure should MNA not be successful as a stand-alone corrective measure.
Permeable Reactive Barrier	Moderate to difficult. Trenching would be required to install a mix of reactive materials in the subsurface. Continuous trenching may be the most feasible construction method. Installation methods and materials are readily available. Once installed, treatment will be passive and O&M requirements are minimal if replacement of the PRB is not necessary. Depth to competent bedrock varies on a small-scale (feet to tens of feet) spatially depending on the weathering characteristics of the fractured bedrock, limiting the feasibility of constructing a PRB along the entire length and depth of the affected areas	Minimal impacts are expected following the construction of the remedy. However, ZVI has the potential to create anaerobic conditions downgradient of the PRB wall that may mobilize redox-sensitive naturally-occurring constituents. These conditions need to be carefully monitored. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures.	Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench- and/or pilot-testing would be required to obtain design parameters prior to design and construction of the remedy, which may take up to 24 months. Once installed, the time to achieve GWPS downgradient of the PRB is anticipated to be relatively quick.
Phytoremediation / *TreeWells*	Reasonably implementable to moderate. Engineered approach has been proven effective, and specific depth zones can be targeted. Trees are installed as "tree wells" in a large diameter boring to get the roots deep enough to intercept impacted groundwater flow paths. Area must be clear of above and below-ground structures (i.e., power lines). The system, once established (approximately three growing seasons), is a self-maintaining, sustainable remedial system that has no external energy requirements and little maintenance (i.e., efforts normally associated with landscaping).	Minimal impacts are expected. In fact, there are several positive impacts expected, including enhanced aesthetics, wildlife habitat, and limited energy consumption.	The design phase will require some groundwater modeling for optimal placement of the TreeWell units, which may take up to 6 months. Depending on the number of required units, the installation effort is expected to last several weeks. Hydraulic capture/control is expected approximately three years after planting and system performance is expected to further improve over time.
Subsurface Vertical Barrier Walls	Moderate to difficult. Trenching will be required to fill in the various slurry mixes; alternatively, sheet pile installations can be accomplished without excavation of trenches. The application of barrier walls is limited by the depth of installation, which similar to PRBs, should be keyed into a low permeability layer such as a thick clay layer or bedrock. Installation methods and materials are readily available. Once installed, above-ground infrastructure to pump and treat groundwater will be required. O&M requirements are expected to include upkeep of infrastructure components (pumps, pipes, tanks, instrumentation and controls, above-ground treatment system) and handling of treatment residuals. Depth to competent bedrock varies on a small-scale (feet to tens of feet) spatially depending on the weathering characteristics of the fractured bedrock, limiting the feasibility of constructing a PRB along the entire length and depth of the affected areas	Minimal impacts are expected following the construction of the remedy. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and health and safety measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected, which can affect other aspects of groundwater corrective action. Pumping activity may unintentionally alter the geochemistry within the hydraulic capture zone that may result in the mobilization of other constituents that may require treatment.	Installation of a barrier wall can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, some design phase and additional aquifer and compatibility testing will be required, which may take up to 24 months. Once installed, preventing migration of constituents dissolved in groundwater is anticipated to be relatively quick. Since this approach does not treat the downgradient area of impacted groundwater but prevents migration from a source area, it will likely have to be maintained long-term and coupled with other approaches.

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

Geosyntec consultants

	40 CFR 257.96(C)(3)			
Corrective Measure	**Institutional Requirements**	**Other Env or Public Health Requirements**	**Relative Costs**	**Evaluation of Retainage**
Geochemical Approaches (In-Situ Injection)	Deed restrictions may be necessary until in-situ treatment has achieved GWPS. A new UIC permit (for in-situ injections) would be required to implement this corrective measure. No other institutional requirements are expected at this time.	Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary. Potential for mobilization of redox-sensitive constituents exists during implementation of an anerobic attenuation approach. Following installation, the remedy is passive.	Medium (depending on expanse of injection network required and injectate volume required per derived design parameters)	Retained for further analysis; feasible around well HGWC-13 to attenuate elevated As concentrations in a localized area through the formation of sparingly soluble minerals due to the extent of groundwater detections; a separate corrective measure would likely need to be used to address Li identified in isolated areas and Mo conditions reported in the larger portion of the anticipated treatment area downgradient of AP-1.
Hydraulic Containment	Depending on the effluent management strategy, modifications to the existing NPDES permit may be required, or obtaining a new underground injection control (UIC) permit may be needed if groundwater reinjection is chosen. In addition, deed restrictions may be required as long as groundwater conditions are above regulatory standards for unrestricted use.	Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary. Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on remedy duration, complexity of above-ground treatment system, and volume of water processed)	Retained for further analysis; could be considered an effective measure to maintain hydraulic control upgradient of the Coosa River and Cabin Creek should closure construction activities require an interim groundwater treatment configuration.
Monitored Natural Attenuation (MNA)	MNA may require the implementation of institutional controls, such as deed restrictions, to preclude potential exposure to groundwater within the footprint of impacted groundwater until GWPS are achieved.	Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding community. Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.	Low to medium	Retained for further analysis; may be used as a stand-alone corrective measure or in conjunction with other potential groundwater corrective measures following source control (i.e., excavation of CCR materials).
Permeable Reactive Barrier	Deed restrictions may be necessary for groundwater areas upgradient of the PRB (if not installed along the waste boundary). No other institutional requirements are expected at this time.	Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary. Following installation, the remedy is passive. However, certain treatment media (such as ZVI) have the potential to mobilize naturally-occurring constituents downgradient of the PRB.	Medium to high (for installation) - minimal O&M requirements if replacement is not necessary	Not retained for further analysis; PRB media is ineffective to treat Li; depth to competent bedrock varies on a small-scale (feet to tens of feet) limiting the feasibility of constructing a PRB along the entire length and depth of the affected areas; does not address downgradient groundwater when installed along the compliance boundary; potential for increased maintenance due to potential biofouling and mineral precipitation.
Phytoremediation / *TreeWells*	Deed restrictions may be necessary for groundwater areas upgradient of the TreeWell system. No other institutional requirements are expected at this time.	Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary. Following installation, the remedy is passive and does not require external energy.	Medium (for installation) - minimal O&M requirements	Retained for further analysis; feasible through placement of TreeWell units downgradient of AP-1; likely needs to be used in conjunction with other potential groundwater corrective measures (e.g., geochemical injections) to address As in vicinity of HGWC-13; could be considered an effective measure to maintain hydraulic control upgradient of the Coosa River and Cabin Creek should closure construction activities require an interim groundwater treatment configuration. Besides providing hydraulic control, trees would take up As and Li through groundwater uptake.
Subsurface Vertical Barrier Walls	Deed restrictions may be necessary for groundwater areas downgradient of the barrier wall until remedial goals are met. No other institutional requirements are expected at this time.	Based on the results of the Risk Evaluation Report (Geosyntec, 2021a), SSL-related constituents (As, Li, Mo) evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted based on the current data set. Georgia Power will proactively evaluate the data and update this evaluation, if necessary. Due to the need for groundwater extraction associated with barrier walls, above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	Medium to high (depending on length and depth of wall, remedy duration and complexity of above-ground treatment system)	Not retained for further analysis; depth to competent bedrock varies on a small-scale (feet to tens of feet) limiting the feasibility of constructing a barrier wall along the entire length and depth of the affected areas; does not address downgradient groundwater when installed along the compliance boundary.

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

Well ID	Hydraulic Location	Installation Date	Northing [1]	Easting [1]	Ground Surface Elevation [2] (ft)	Top of Casing Elevation [2] (ft)	Top of Screen Elevation [2] (ft)	Bottom of Screen Elevation [2] (ft)	Well Depth (ft BTOC) [3]	Screen Interval Length (ft)
Compliance Monitoring Well										
HGWA-1	Upgradient	12/3/2014	1550423.32	1940770.00	592.32	595.21	573.12	563.12	32.49	10
HGWA-2	Upgradient	12/2/2015	1549796.87	1939845.15	585.29	587.92	570.29	560.29	27.95	10
HGWA-3	Upgradient	12/2/2015	1549794.41	1939833.39	585.23	587.74	553.23	543.23	44.51	10
HGWA-43D	Upgradient	8/26/2020	1550422.85	1940753.80	592.08	595.08	544.08	534.08	61.25	10
HGWA-44D	Upgradient	8/25/2020	1550409.13	1940756.18	592.01	594.79	491.76	481.76	113.28	10
HGWC-7	Downgradient	12/3/2015	1549520.67	1942319.75	576.55	579.18	561.55	551.55	27.96	10
HGWC-8	Downgradient	12/8/2015	1549114.61	1942392.56	577.14	579.82	564.64	554.64	25.51	10
HGWC-9	Downgradient	12/9/2015	1548693.30	1942215.03	577.72	580.36	543.72	533.72	46.97	10
HGWC-10	Downgradient	12/8/2015	1548469.25	1941644.43	576.76	579.37	566.76	556.76	22.94	10
HGWC-11	Downgradient	12/15/2015	1548477.91	1941146.79	578.12	580.67	565.19	555.19	25.78	10
HGWC-12	Downgradient	12/9/2015	1548476.53	1941152.34	578.14	580.73	555.64	545.64	35.42	10
HGWC-13	Downgradient	12/10/2015	1548628.03	1940900.60	592.94	595.76	560.94	550.94	45.15	10
Piezometer										
AP1A-1	Upgradient	12/15/2015	1550080.01	1941614.12	584.78	587.44	575.84	565.84	21.93	10
MW-1	Upgradient	12/2/2014	1549938.24	1941589.06	585.63	588.66	567.93	557.93	31.06	10
MW-8	Downgradient	10/29/2014	1548171.86	1940016.70	584.25	586.93	565.05	555.05	32.28	10
Delineation Monitoring Well										
MW-5	Downgradient	11/4/2014	1548436.02	1942448.85	578.00	581.14	560.70	550.70	30.84	10
MW-6	Downgradient	11/4/2014	1548383.12	1941689.01	579.18	581.84	559.28	549.28	32.96	10
MW-7	Downgradient	10/30/2014	1548230.47	1941087.44	574.94	577.73	561.24	551.24	26.89	10
MW-19	Downgradient	9/26/2018	1548422.94	1940943.01	577.46	580.65	561.45	551.45	29.53	10
MW-20	Downgradient	9/27/2018	1549029.68	1942736.85	575.96	579.00	554.96	544.96	34.37	10
MW-24D	Downgradient	11/7/2018	1548638.80	1940900.37	592.91	570.96	532.91	522.91	48.38	10
MW-25D	Downgradient	11/6/2018	1548473.00	1941162.20	577.71	580.59	527.71	517.71	63.21	10
MW-26D	Downgradient	11/14/2018	1548699.91	1942222.36	577.63	580.41	512.63	502.63	78.11	10
MW-27D	Downgradient	11/8/2018	1549103.57	1942390.80	576.84	579.70	526.84	516.84	63.19	10
MW-28D	Downgradient	11/13/2018	1549510.90	1942321.14	576.20	579.08	531.20	521.20	58.21	10
MW-29	Downgradient	11/13/2018	1549437.67	1942633.60	572.14	575.06	557.14	547.14	28.25	10
MW-30D	Downgradient	6/19/2019	1549530.00	1942318.45	576.20	578.59	481.20	471.20	107.72	10
MW-40D	Downgradient	4/29/2020	1549542.29	1942316.55	576.41	578.92	450.41	440.41	138.84	10

Notes:
ft = feet.
ft BTOC = feet below top of casing.
(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Survey completed by GEL Solutions certified May 19, 2020. HGWA-43D and HGWA-44D survey data certified September 10, 2020.
(2) Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions certified May 19, 2020. HGWA-43D and HGWA-44D survey data certified September 10, 2020.
(3) Total well depth accounts for sump if data provided on well construction logs.

Table 3
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWA-1	HGWA-1	HGWA-1	HGWA-1	HGWA-2	HGWA-2	HGWA-2	HGWA-3	HGWA-3	HGWA-3	HGWA-3	HGWA-43D[4]	HGWA-44D[4]	MW-1	HGWC-7	HGWC-7	HGWC-7	HGWC-7	HGWC-8	HGWC-8	HGWC-8	HGWC-8
	Sample Date:	3/2/2020	3/25/2020	6/16/2020	9/15/2020	3/2/2020	3/25/2020	9/15/2020	3/2/2020	3/25/2020	6/16/2020	9/15/2020	9/16/2020	9/16/2020	6/16/2020	3/4/2020	3/27/2020	6/17/2020	9/16/2020	3/3/2020	3/27/2020	6/16/2020	9/16/2020
	Parameter (1,2,3)																						
APPENDIX III	Boron	--	0.025 J	0.021 J	0.017 J	--	0.039 J	0.044 J	--	0.0096 J	0.010 J	0.0071 J	0.061 J	0.23	0.19	--	1.2	1.0	1.1	--	2.4	2.2	1.9
	Calcium	--	127	130	103	--	23.0	21.1	--	89.8	85.1	73.1	56.0	30.0	157	--	119	112	98.0	--	133	120	119
	Chloride	--	20.4	41.1	13.4	--	5.2	5.0	--	6.1	5.8	6.0	4.1	7.2	29.6	--	48.3	45.2	46.4	--	79.8	67.9	74.6
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.52	0.20	0.077 J	0.059 J	0.077 J	0.081 J	0.45	0.46	0.45	0.53
	pH	7.10	6.95	6.97	7.15	5.43	5.36	5.22	7.12	7.40	7.31	7.29	7.52	7.83	6.86	7.17	7.05	7.20	7.30	7.06	6.95	6.97	6.92
	Sulfate	--	85.9	88.2	47.3	--	46.3	51.5	--	50.5	49.5	44.7	43.0	6.9	114	--	109	102	109	--	173	157	194
	TDS	--	496	632	265	--	138	124	--	284	448	258	272	270	653	--	413	423	392	--	541	573	552
APPENDIX IV	Antimony	<0.00027	<0.00027	--	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	--	<0.00028	0.00051 J	0.00049 J	--	<0.00027	<0.00027	--	0.00034 J	<0.00027	<0.00027	--	<0.00028
	Arsenic	<0.00035	<0.00035	--	<0.00078	0.00043 J	<0.00035	<0.00078	0.00040 J	<0.00035	--	<0.00078	<0.00078	<0.00078	--	<0.00035	<0.00035	--	<0.00078	<0.00035	<0.00035	--	<0.00078
	Barium	0.034	0.043	--	0.035	0.11	0.12	0.12	0.14	0.13	--	0.12	0.26	0.24	--	0.068	0.059	--	0.068	0.052	0.059	--	0.060
	Beryllium	<0.000074	<0.000074	--	<0.000046	0.00014 J	0.00016 J	0.00013 J	<0.000074	<0.000074	--	<0.000046	<0.000046	<0.000046	--	0.000077 J	<0.000074	--	<0.000046	<0.000074	<0.000074	--	0.00010 J
	Cadmium	<0.00011	<0.00011	--	<0.00012	<0.00011	0.00014 J	0.00012 J	<0.00011	<0.00011	--	<0.00012	<0.00012	<0.00012	--	<0.00011	<0.00011	--	<0.00012	0.00017 J	0.00014 J	--	0.00023 J
	Chromium	<0.00039	0.00072 J	--	<0.00055	0.00041 J	<0.00039	<0.00055	<0.00039	<0.00039	--	<0.00055	<0.00055	0.0012 J	--	0.0016 J	0.00040 J	--	0.00074 J	0.00070 J	<0.00039	--	0.0015 J
	Cobalt	<0.00030	<0.00030	--	<0.00038	0.019	0.020	0.021	<0.00030	<0.00030	--	<0.00038	<0.00038	<0.00038	--	0.0011 J	0.00074 J	--	0.00065 J	0.0020 J	0.0018 J	--	0.0019 J
	Fluoride	0.076 J	0.098 J	0.071 J	0.082 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.22	0.52	0.20	0.077 J	0.059 J	0.077 J	0.081 J	0.45	0.46	0.45	0.53
	Lead	0.000048 J	<0.000046	--	<0.000036	0.000095 J	0.00011 J	0.000080 J	<0.000046	<0.000046	--	0.000042 J	0.000050 J	0.00021 J	--	0.00051 J	0.000054 J	--	0.00020 J	0.00013 J	<0.000046	--	0.00020 J
	Lithium	0.0012 J	0.00083 J	--	0.00087 J	0.0017 J	0.0017 J	0.0015 J	0.0037 J	0.0035 J	--	0.0026 J	0.0018 J	0.014 J	--	0.0034 J	0.0020 J	--	0.0026 J	0.0028 J	0.0026 J	--	0.0033 J
	Mercury	<0.00014	--	--	--	<0.00014	--	--	<0.00014	--	--	--	<0.000078	<0.000078	--	<0.00014	--	--	--	<0.00014	--	--	--
	Molybdenum	<0.00095	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	<0.00095	<0.00069	0.0044 J	0.0019 J	<0.00095	0.045	0.044	0.048	0.046	0.44	0.42	0.45	0.43
	Comb. Radium 226/228	0.610 U	4.36	--	0.748 U	1.58	0.621 U	0.124 U	0.249 U	0.833 U	--	0.161 U	0.531 U	0.422 U	--	0.624 U	0.485 U	--	0.135 U	0.835 U	1.04 U	--	0.526 U
	Selenium	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	--	<0.0016	<0.0016	<0.0016	--	<0.0013	<0.0013	--	<0.0016	<0.0013	<0.0013	--	<0.0016
	Thallium	<0.000052	<0.000052	--	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	--	<0.00014	<0.00014	<0.00014	--	<0.000052	<0.000052	--	<0.00014	0.000061 J	0.000077 J	--	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	345	307	--	--	26.1	--	--	195	187	251	294	376	--	--	171	177	--	--	126	133
	Iron	--	--	<0.015	0.087	--	--	0.78	--	--	1.3	0.26	0.020 J	0.42	0.78	--	--	0.56	0.30	--	--	0.057	0.30
	Magnesium	--	--	4.7	4.3	--	--	2.5	--	--	5.2	4.6	18.3	15.1	23.7	--	--	10.3	8.9	--	--	16.4	16.4
	Manganese	--	--	0.034 J	0.18	--	--	0.61	--	--	0.24	0.22	0.010 J	0.020 J	0.36	--	--	0.22	0.15	--	--	0.23	0.22
	Potassium	--	--	0.32	0.34	--	--	0.89	--	--	0.44	0.46	0.97	3.2	0.39	--	--	2.7	2.3	--	--	7.2	7.1
	Sodium	--	--	58.5	21.1	--	--	7.4	--	--	5.9	4.9	14.0	50.3	12.5	--	--	10.3	8.7	--	--	9.2	8.5
	Sulfide	--	--	<0.050	<0.050	--	--	<0.050	--	--	<0.050	<0.050	<0.050	0.11	<0.050	--	--	<0.050	<0.050	--	--	<0.050	<0.050
FIELD PARAMETERS	Temperature	15.95	17.28	17.01	18.57	15.54	16.87	20.26	16.21	17.11	17.93	19.73	19.59	19.1	20.47	18.25	18.21	20.08	21.1	18.51	13.48	20.71	21.25
	pH	7.1	6.95	6.97	7.15	5.43	5.36	5.22	7.12	7.4	7.31	7.29	7.52	7.83	6.86	7.17	7.05	7.20	7.3	7.06	6.95	6.97	6.92
	Specific Conductivity	653.55	890.79	862.15	637.79	172.56	207.69	193.35	402.38	508.34	449.79	433.82	490.47	484.7	908.89	672.74	712.97	652.71	678.45	753.68	870.58	813.90	860.92
	Turbidity	1 . 1 1	0.87	0	2.15	4.96	4.45	3.45	0.62	1.39	3.43	1.39	2	4.93	2.91	4.84	1.31	7.39	21	4.99	1	1.37	4.73
	Dissolved Oxygen	0.41	0.18	0.73	0.74	0.33	0.12	0.3	0.3	0.18	0.2	0.19	3.55	0.31	0.09	0.41	0.11	0.12	8	0.11	0.21	0.11	0.4
	ORP	45.43	18.21	58.88	42.92	181.74	64.9	177.98	-86.31	-64.5	12.49	117.44	126.16	77.43	88.95	-33.71	53.15	12.45	100.49	273.14	52.26	139.72	68.01

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
U = Indicates the parameter was not detected above the analytical minimum detectable concentration (MDC) (Specific to combined radium)
(1) Appendix III/IV parameter per 40 CFR 257 Subpart D. Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units) and combined radium reported as picocuries per liter (pCi/L).
(2) Field parameters are reported with the following units: temperature, degrees Celsius (°C); specific conductivity microsiemens per centimeter (µS/cm); turbidity, nephelometric turbidity units (NTU); dissolved oxygen (mg/L); and oxidation-reduction potential (ORP), millivolts (mV).
(3) Metals were analyzed by EPA Method 6010D/6020B, Mercury was analyzed by EPA Method 7470A, anions were analyzed by EPA Method 300.0, TDS was analyzed by SM2540C, and combined radium by EPA Methods 9315/9320. The pH value presented was recorded at the time of sample collection in the field.
(4) Monitoring wells HGWA-43D and HGWA-44D were analyzed for the complete list of Appendix III and Appendix IV constituents to establish background groundwater quality conditions.

Table 3
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	HGWC-9	HGWC-9	HGWC-9	HGWC-10	HGWC-10	HGWC-10	HGWC-11	HGWC-11	HGWC-11	HGWC-12	HGWC-12	HGWC-12	HGWC-13	HGWC-13	HGWC-13	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-7	MW-7	MW-7
	Sample Date:	3/4/2020	3/31/2020	9/17/2020	3/3/2020	4/1/2020	9/16/2020	3/3/2020	3/31/2020	9/18/2020	3/3/2020	3/26/2020	9/18/2020	3/4/2020	3/30/2020	9/21/2020	3/2/2020	3/26/2020	9/17/2020	3/3/2020	3/27/2020	9/21/2020	3/3/2020	3/30/2020	9/21/2020
	Parameter (1,2,3)																							
APPENDIX III	Boron	--	2.2	2.0	--	0.23	1.1	--	0.17	0.91	--	1.6	1.6	--	1.8	1.6	--	0.041 J	0.067 J	--	0.77	0.82	--	0.051 J	0.20
	Calcium	--	182	164	--	96.2	139	--	124	122	--	145	163	--	234	173	--	89.6	103	--	186	173	--	31.1	75.3
	Chloride	--	105	105	--	5.4	39.7	--	3.2	34.9	--	48.0	74.6	--	75.1	41.2	--	0.73 J	28.7	--	48.6	58.1	--	1.5	11.1
	Fluoride	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050
	pH	6.97	7.07	6.99	6.67	6.84	6.66	5.95	5.70	6.42	6.95	6.99	7.15	7.16	6.91	7.34	6.12	6.14	6.48	6.78	6.82	6.88	6.10	6.06	6.50
	Sulfate	--	185	209	--	59.0	169	--	283	272	--	182	266	--	393	359	--	176	153	--	204	221	--	46.2	114
	TDS	--	1010	680	--	290	490	--	565	626	--	533	704	--	895	732	--	385	486	--	676	656	--	142	326
APPENDIX IV	Antimony	0.00032 J	0.00042 J	<0.00028	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.00038 J	<0.00027	<0.00027	<0.00028	0.00061 J	0.00036 J	0.00029 J	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	0.0014 J	0.0013 J	<0.00027	0.00051 J
	Arsenic	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0022 J	0.0022 J	0.00081 J	0.0023 J	0.0028 J	0.0031 J	0.52	0.47	0.39	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078
	Barium	0.11	0.11	0.11	0.048	0.058	0.068	0.022	0.026	0.043	0.092	0.089	0.086	0.10	0.080	0.052	0.049	0.046	0.043	0.090	0.086	0.083	0.043	0.050	0.065
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00012 J	0.00015 J	<0.000046	<0.000074	<0.000074	<0.000046	0.000093 J	0.000099 J	0.00011 J	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	0.00015 J	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012
	Chromium	<0.00039	0.00052 J	<0.00055	<0.00039	<0.00039	<0.00055	0.00061 J	<0.00039	<0.00055	<0.00039	<0.00039	0.00091 J	<0.00039	0.00059 J	0.00056 J	0.0042 J	0.0044 J	0.0021 J	0.00044 J	0.00059 J	<0.00055	0.0015 J	0.0021 J	0.0017 J
	Cobalt	0.00053 J	0.00051 J	0.00070 J	<0.00030	<0.00030	<0.00038	0.00087 J	0.0014 J	<0.00038	0.0013 J	0.0012 J	0.0014 J	0.0066	0.0053	0.0032 J	<0.00030	<0.00030	<0.00038	0.00094 J	0.00059 J	0.00041 J	<0.00030	<0.00030	<0.00038
	Fluoride	0.080 J	0.074 J	0.10	0.11 J	0.12 J	<0.050	0.24 J	0.19 J	0.15	0.21 J	0.17 J	0.15	0.37	0.44	0.44	0.065 J	0.082 J	0.094 J	0.062 J	<0.050	<0.050	<0.050	<0.050	<0.050
	Lead	0.000084 J	0.00014 J	0.00022 J	<0.000046	0.000050 J	<0.000036	0.00021 J	0.00030 J	0.000060 J	0.000056 J	0.00043 J	0.000096 J	0.00014 J	0.00010 J	0.00015 J	0.000047 J	<0.000046	<0.000036	0.00013 J	<0.000046	0.00026 J	0.000062 J	<0.000046	<0.000036
	Lithium	0.0040 J	0.0043 J	0.0040 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	0.0063 J	0.0063 J	0.010 J	0.041	0.038	0.028 J	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081	<0.00078	<0.00078	<0.00081
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.031	0.031	0.030	<0.00095	<0.00095	0.0014 J	0.011	0.0074 J	0.032	0.045	0.045	0.046	0.030	0.029	0.032	<0.00095	<0.00095	<0.00069	0.0022 J	0.0026 J	0.0025 J	<0.00095	<0.00095	0.0015 J
	Comb. Radium 226/228	1.03	1.20 U	1.38 U	0.667 U	0.235 U	0.000 U	0.716 U	1.30 U	1.24 U	0.971 U	0.209 U	0.916 U	0.708 U	0.602 U	1.53	0.964 U	1.10	0.618 U	0.757 U	0.758 U	0.796 U	1.15	0.830 U	1.55 U
	Selenium	<0.0013	<0.0013	<0.0016	<0.0013	0.0020 J	<0.0016	0.016	0.019	0.0042 J	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	0.0016 J	0.0041 J	0.0039 J	0.0028 J	<0.0013	<0.0013	<0.0016	<0.0013	0.0014 J	0.0026 J
	Thallium	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000066 J	0.000080 J	<0.00014	0.00056 J	0.00048 J	0.00036 J	<0.000052	<0.000052	<0.00014	0.000082 J	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	194	--	--	247	--	--	91.6	--	--	172	--	--	114	--	--	179	--	--	273	--	--	128
	Iron	--	--	0.19	--	--	<0.016	--	--	<0.016	--	--	0.083	--	--	0.87	--	--	<0.016	--	--	0.49	--	--	<0.016
	Magnesium	--	--	16.6	--	--	10.8	--	--	16.2	--	--	17.3	--	--	15.6	--	--	11.6	--	--	13.5	--	--	8.6
	Manganese	--	--	0.42	--	--	1.3	--	--	0.017 J	--	--	2.0	--	--	2.1	--	--	0.0019 J	--	--	0.50	--	--	0.0077 J
	Potassium	--	--	3.0	--	--	1.3	--	--	3.7	--	--	7.2	--	--	4.6	--	--	0.85	--	--	1.4	--	--	0.91
	Sodium	--	--	11.3	--	--	8.9	--	--	5.5	--	--	9.4	--	--	6.4	--	--	18.1	--	--	12.6	--	--	8.4
	Sulfide	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	<0.050
FIELD PARAMETERS	Temperature	16.76	11.71	20.16	17.49	15.98	20.12	17.76	16.29	23.86	18.96	11.63	20.78	18.86	15.12	20.04	16.5	13.76	21.78	19.6	15.16	20.75	17.34	11.11	20.75
	pH	6.97	7.07	7	6.76	6.84	6.66	5.95	5.7	6.41	6.95	6.99	7.16	7.16	6.91	7.34	6.12	6.14	6.48	6.78	6.82	6.88	6.1	6.06	6.5
	Specific Conductivity	1093.06	1075.31	1100.72	603.43	416.84	873.05	630.64	737.68	839.22	841.5	847.33	1043.36	1349.81	1244.17	1020.68	528.02	572.48	742.11	981.49	991.56	1015.54	209.3	196.14	463.97
	Turbidity	1.77	4.92	4.9	0.97	2.48	0.42	2.3	2.86	0.42	1.08	0.6	4.8	4.71	4.06	4.6	2.17	0.36	0.57	4.32	2.55	1.79	1.65	0.91	0.48
	Dissolved Oxygen	0.31	0.17	0.12	2.85	2.93	0.42	3.39	4.68	0.58	0.14	0.25	0.17	0.15	0.21	0.13	3.51	2.84	0.87	0.17	0.28	0.22	4.14	5.13	1.18
	ORP	29.63	30.58	54.28	24.19	35.2	58.16	75.1	103.9	143.44	11.72	36.3	113.77	-50.86	-46.07	-7.47	81.66	74.43	64.57	2.11	77.97	68.92	75.75	92.5	483.98

Table 3
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-19	MW-19	MW-19	MW-20	MW-20	MW-20	MW-24D	MW-24D	MW-24D	MW-25D	MW-25D	MW-25D	MW-26D	MW-26D	MW-26D	MW-27D	MW-27D	MW-27D	MW-28D	MW-28D	MW-28D	MW-29	MW-29	MW-29
	Sample Date:	3/4/2020	3/26/2020	9/21/2020	3/2/2020	3/27/2020	9/17/2020	3/4/2020	3/30/2020	9/21/2020	3/3/2020	3/26/2020	9/18/2020	3/4/2020	3/31/2020	9/17/2020	3/4/2020	4/2/2020	9/18/2020	3/4/2020	3/27/2020	9/21/2020	3/2/2020	3/30/2020	9/16/2020
	Parameter (1,2,3)																								
APPENDIX III	Boron	--	1.0	0.89	--	0.12	0.11	--	0.51	0.45	--	0.44	0.36	--	1.8	2.0	--	0.13	0.12	--	0.14	0.45	--	1.3	1.7
	Calcium	--	171	135	--	126	110	--	84.4	87.6	--	27.0	25.1	--	155	150	--	28.4	24.8	--	53.0	76.8	--	148	126
	Chloride	--	64.0	35.0	--	28.8	29.7	--	37.4	45.2	--	34.6	33.4	--	98.0	103	--	27.9	30.4	--	33.0	42.9	--	71.2	75.3
	Fluoride	0.096 J	0.12 J	0.17	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10	<0.050	<0.050	<0.050
	pH	6.29	6.28	6.41	6.98	6.75	6.78	7.47	7.49	7.65	7.59	7.57	7.64	7.14	7.20	7.08	8.33	8.11	7.51	7.55	7.42	7.46	7.13	7.07	6.88
	Sulfate	--	310	305	--	114	110	--	84.9	114	--	32.3	27.4	--	129	174	--	13.3	7.5	--	36.0	84.2	--	130	143
	TDS	--	626	608	--	429	460	--	280	391	--	385	382	--	623	732	--	224	211	--	287	393	--	552	547
APPENDIX IV	Antimony	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028	0.0017 J	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028	0.0020 J	0.0013 J	<0.00028	0.00037 J	0.00030 J	0.00031 J	<0.00027	<0.00027	<0.00028	<0.00027	<0.00027	<0.00028
	Arsenic	0.00045 J	<0.00035	<0.00078	0.00038 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	0.0010 J	0.00075 J	<0.00078	0.00060 J	<0.00035	<0.00078	0.00069 J	<0.00035	<0.00078	<0.00035	<0.00035	<0.00078	<0.00035	0.00037 J	<0.00078
	Barium	0.069	0.067	0.056	0.099	0.093	0.096	0.081	0.056	0.053	0.42	0.45	0.44	0.17	0.11	0.099	0.95	1.0	1.0	0.77	0.64	0.18	0.088	0.080	0.076
	Beryllium	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046	0.00014 J	<0.000074	<0.000046	<0.000074	<0.000074	<0.000046
	Cadmium	0.00026 J	0.00019 J	0.00018 J	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012	<0.00011	<0.00011	<0.00012
	Chromium	0.00066 J	0.00047 J	0.0014 J	0.00071 J	0.00051 J	<0.00055	<0.00039	<0.00039	<0.00055	<0.00039	0.00061 J	<0.00055	0.0028 J	0.0010 J	<0.00055	<0.00039	<0.00039	0.00070 J	0.0027 J	<0.00039	0.00085 J	<0.00039	0.0010 J	<0.00055
	Cobalt	0.048	0.045	0.032	<0.00030	<0.00030	<0.00038	0.00056 J	<0.00030	<0.00038	<0.00030	<0.00030	<0.00038	<0.00030	0.00030 J	<0.00038	0.00045 J	<0.00030	<0.00038	0.00093 J	<0.00030	<0.00038	0.00067 J	0.00063 J	0.0013 J
	Fluoride	0.096 J	0.12 J	0.17	<0.050	<0.050	<0.050	0.051 J	0.064 J	<0.050	1.4	1.6	1.6	0.052 J	<0.050	0.069 J	0.25 J	0.24 J	0.22	0.26 J	0.26 J	0.10	<0.050	<0.050	<0.050
	Lead	0.00011 J	<0.000046	0.000085 J	0.00017 J	0.00013 J	<0.000036	0.00019 J	0.000064 J	0.000042 J	<0.000046	<0.000046	<0.000036	<0.000046	0.00010 J	<0.000036	<0.000046	0.00013 J	<0.000036	0.0010 J	0.000062 J	0.00018 J	0.000090 J	0.00011 J	<0.000036
	Lithium	0.010 J	0.013 J	0.013 J	0.00082 J	0.0012 J	<0.00081	0.0026 J	0.0027 J	0.0024 J	0.050	0.054	0.046	0.030 J	0.0036 J	0.0032 J	0.0047 J	0.0068 J	0.0084 J	0.015 J	0.014 J	0.0053 J	0.0025 J	0.0023 J	0.0021 J
	Mercury	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--	<0.00014	--	--
	Molybdenum	0.032	0.033	0.064	<0.00095	<0.00095	<0.00069	<0.00095	<0.00095	0.00099 J	<0.00095	<0.00095	0.00094 J	0.0074 J	0.0093 J	0.014	0.0058 J	0.0030 J	0.0018 J	0.0090 J	0.0068 J	0.018	0.0025 J	0.0029 J	0.0021 J
	Comb. Radium 226/228	1.04	1.10 U	1.36 U	0.653 U	0.100 U	0.469 U	0.333 U	0.107 U	1.23 U	1.36	0.793 U	1.17 U	1.27 U	1.65	0.420 U	1.12	2.48	1.13 U	1.31	1.59	1.39 U	0.413 U	0.885 U	0.193 U
	Selenium	0.0044 J	0.0053 J	0.0033 J	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016	<0.0013	<0.0013	<0.0016
	Thallium	0.00026 J	0.00026 J	0.00030 J	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014	0.000092 J	<0.000052	<0.00014	<0.000052	<0.000052	<0.00014
GEOCHEM	Bicarb. Alkalinity	--	--	89.9	--	--	231	--	--	105	--	--	288	--	--	187	--	--	169	--	--	184	--	--	194
	Iron	--	--	0.16	--	--	2.8	--	--	0.076	--	--	0.088	--	--	0.29	--	--	0.15	--	--	0.30	--	--	0.035 J
	Magnesium	--	--	15.5	--	--	8.5	--	--	4.9	--	--	8.3	--	--	16.9	--	--	17.0	--	--	22.9	--	--	11.4
	Manganese	--	--	3.3	--	--	0.24	--	--	0.13	--	--	0.040 J	--	--	0.16	--	--	0.13	--	--	0.034 J	--	--	1.2
	Potassium	--	--	4.2	--	--	0.22	--	--	0.50	--	--	0.42	--	--	1.8	--	--	0.95	--	--	1.0	--	--	0.94
	Sodium	--	--	6.7	--	--	10.3	--	--	12.0	--	--	103	--	--	11.9	--	--	27.3	--	--	9.8	--	--	10.9
	Sulfide	--	--	<0.050	--	--	<0.050	--	--	<0.050	--	--	2.9	--	--	<0.050	--	--	<0.050	--	--	0.30	--	--	<0.050
FIELD PARAMETERS	Temperature	17.66	14.22	21.92	17.58	12.25	21.37	18.68	13.76	20.39	19	13.3	23.21	16.65	10.91	21.74	16.25	18.03	20.04	16.24	18.53	20.97	16.76	13.25	20.33
	pH	6.24	6.28	6.41	6.48	6.75	6.78	7.47	7.49	7.65	7.56	7.57	7.64	11.12	7.2	7.08	8.33	8.11	7.51	7.55	7.42	7.46	7.13	7.07	6.88
	Specific Conductivity	860.66	966.52	895.78	664.1	716.91	702.43	504.19	523.39	578.23	705.24	645.17	628.59	678.51	888.54	1004.72	463.87	420.78	403.21	546.61	572.28	624.12	778.79	863.09	873.67
	Turbidity	4.8	1.01	4.95	4.95	3.65	1.68	4.73	2.44	1.67	1.56	0.9	0.56	0.77	4.89	1.64	3.09	3.5	2.72	3.8	1.43	9.48	2.78	2	0
	Dissolved Oxygen	0.17	0.24	0.14	0.17	0.27	0.43	0.27	0.29	0.17	0.57	0.24	0.13	3.9	0.38	0.28	0.2	4.41	1.25	0.8	0.11	0.26	0.18	0.23	0.23
	ORP	164.22	36.83	48.52	-57.9	-56.05	-8.06	108.96	1.99	132.47	-230.56	-184.01	19.18	-15.89	-53.83	-14.62	-79.69	27.3	179.28	-218.59	-164.29	-59.84	113.79	44.91	41.57

Table 3
Water Quality Analytical Summary
Plant Hammond AP-1, Floyd County, Georgia

	Well ID:	MW-30D	MW-30D	MW-30D	MW-30D	MW-30D	MW-40D	MW-40D	MW-40D	MW-40D	PMW-01	PMW-02
	Sample Date:	3/4/2020	3/31/2020	4/9/2020	6/17/2020	9/24/2020	5/11/2020	5/19/2020	6/19/2020	9/28/2020	4/9/2020	4/9/2020
	Parameter (1,2,3)											
APPENDIX III	Boron	--	0.90	--	0.77	0.62	0.093 J	0.13	0.19	0.57	1.7	3.2
	Calcium	--	7.1	13.4	8.3	6.3	62.6	65.9	109	289	577	258
	Chloride	--	111	96.0	92.5	45.4	51.2	47.3	145	542	69.5	72.7
	Fluoride	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.31	0.82
	pH	8.12	7.95	8.27	8.33	8.72	7.77	--	7.40	7.69	6.58	7.40
	Sulfate	--	139	399	104	205	58.9	54.0	435	3480	1160	454
	TDS	--	1130	--	1040	790	350	621	1420	6470	2170	1090
APPENDIX IV	Antimony	<0.00027	0.00032 J	--	--	<0.00028	--	--	--	0.0015 J	<0.00027	0.00054 J
	Arsenic	0.0021 J	<0.00035	--	--	0.0017 J	--	--	--	0.0063 J	0.16	0.72
	Barium	0.065	0.29	--	--	0.11	--	--	--	0.35	0.056	0.16
	Beryllium	<0.000074	<0.000074	--	--	<0.000046	--	--	--	0.00049 J	<0.000074	<0.000074
	Cadmium	<0.00011	<0.00011	--	--	<0.00012	--	--	--	<0.00059	<0.00011	<0.00011
	Chromium	0.0013 J	0.00070 J	--	--	0.00065 J	--	--	--	0.0080 J	<0.00039	<0.00039
	Cobalt	<0.00030	<0.00030	--	--	<0.00038	--	--	--	0.0037 J	0.00056 J	<0.00030
	Fluoride	9.4	10.5	--	10.9	8.2	0.88	1.3	<0.050	0.41	0.31	0.82
	Lead	0.00041 J	0.000067 J	--	--	0.000068 J	--	--	--	0.0075 J	<0.000046	0.000053 J
	Lithium	0.18	0.25	--	--	0.13	--	--	--	0.095 J	0.043	0.018 J
	Mercury	<0.00014	--	--	--	--	--	--	--	--	<0.14	<0.14
	Molybdenum	0.021	0.015	--	0.0062 J	0.011	0.014	0.014	0.015	0.016 J	0.0057 J	0.050
	Comb. Radium 226/228	0.592 U	1.27 U	--	--	0.809 U	--	--	--	2.45	1.03 U	0.352 U
	Selenium	<0.0013	<0.0013	--	--	<0.0016	--	--	--	<0.0078	<0.0063	<0.0063
	Thallium	<0.000052	<0.000052	--	--	<0.00014	--	--	--	<0.00072	<0.000052	0.00059 J
GEOCHEM	Bicarb. Alkalinity	--	--	--	654.0	437	--	--	955	1010	185	236
	Iron	--	--	--	<0.015	0.092	--	--	8.8	9.6	15.5	0.95
	Magnesium	--	--	--	2.3	1.5	--	--	14.7	58.2	57.4	25.6
	Manganese	--	--	--	0.013 J	0.0040 J	--	--	0.31	0.36	9.80	1.1
	Potassium	--	--	--	1.4	1.5	--	--	9.3	19.6	8.7	8.1
	Sodium	--	--	--	376	296	--	--	464	1960	17.1	43.7
	Sulfide	--	--	--	0.051 J	0.58	--	--	<0.050	0.20	<0.050	<0.050
FIELD PARAMETERS	Temperature	16.74	16.87	21.03	20.92	19.16	19.14	--	28.27	27.16	18.55	18.43
	pH	8.12	8.27	8.27	8.33	8.73	7.72	--	7.4	7.64	6.58	7.4
	Specific Conductivity	2384.33	2038.4	2149.4	1479.02	1406.34	578.9	--	2117.7	7970	2419.98	1471.92
	Turbidity	4.4	4.41	4.35	19.1	4.22	97.1	--	22.3	781	3.92	0.45
	Dissolved Oxygen	0.52	0.81	1.3	0.23	0.22	3.05	--	3.1	2.69	0.12	0.17
	ORP	-237.66	-8.43	3.31	16.84	112.57	413.1	--	98.4	1556	-38.12	39.78

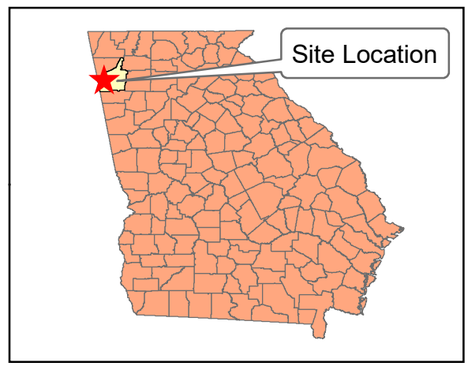
Table 4
Proposed ACM Supplementary Data Analyses and Collection Tasks for First Semiannual Period 2021
Plant Hammond AP-1, Floyd County, Georgia

Data Collection Event	Applicable CMs [(1)]	Applicability/Rationale	Field Component	Parameters of Interest (POI)	Analytical Lab Performing Analysis
Complete an evaluation of the analytical results from specialized analysis of saturated unconsolidated aquifer matrix samples collected in vicinity of HGWC-13	1, 3	Evaluation of aquifer matrix for: (i) attenuation mechanisms and rates, and aquifer capacity for attenuation; and (ii) mineralogical characterization.	Collect unconsolidated aquifer solid material from the residuum and/or highly weathered rock zone adjacent to HGWC-13 using a DPT rig (1 location)	Total sulfur, sulfide; organic carbon content; total concentrations of Mo, Li, F, As, Fe, Al, Mg; X-Ray Diffraction, Scanning Electron Microscopy (SEM) and energy dispersive x-ray analysis (EDXA); cation/anion exchange capacity.	SiREM
Conduct a series of specialized sorption capacity analyses (e.g., column studies) on unconsolidated aquifer matrix samples	1, 3	Evaluation of the sorption capacity of key constituents of interest and results for attenuation mechanism and rates in support of evaluating MNA with respect to USEPA's four-tier approach	Collect an adequate volume (est. 5-gal) of groundwater to conduct the sorption capacity analyses; actual sorption column study conducted within a laboratory setting	Sorption capacity of aquifer material to attenuate total concentrations of, at a minimum, Mo, Li, As; cation/anion exchange capacity.	SiREM
Evaluate potential adaptive triggers for response to protection of human health and the environment under an applied MNA corrective measure	3	Initial evaluation of interim measures to address potentially changing groundwater conditions occurring during and shortly following closure construction activities	Not Applicable (Desktop Study)	Appendix III and IV constituents historically identified as SSIs and SSLs	No lab data required; Geosyntec desktop analyses
Perform a conceptual-level feasibility study of applied corrective measures	1, 2, 4	Evaluate potential hydraulic capture zones using either phytoremediation or mechanical groundwater extraction systems (extraction well gallery); determine conceptual layouts to achieve hydraulic capture in target areas.	Not Applicable (Desktop Study)	Conceptually determine layouts for phytoremediation or extraction well gallery to provide effective hydraulic containment while minimizing additional infrastructure or land requirements.	No lab data required; Geosyntec desktop analyses
Evaluate the potential for a naturally occurring source of Mo and Li in delineation wells MW-19 and MW-25D, respectively	1, 2, 3, 4	Determine if additional vertical delineation wells are necessary or demonstrate that these impacts are from a source other than AP-1	Not Applicable (Desktop Study)	Appendix III and IV constituents, major cations/anions, iron, and manganese	No lab data required; Geosyntec desktop analyses

Note:
(1) Corrective Measure (CM) Codes:
1 - Geochemical Injections
2 - Hydraulic Containment
3 - Monitored Natural Attenuation (MNA)
4 - Phytoremediation (TreeWells®)

FIGURES

N



Notes:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 400 800 1,600

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 1

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\CCR Reports\AP-1\Figure 1 Site Location Map.mxd 8/13/2020 12:36:24 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer
- Pore Water Piezometer
- DPT Borehole (unsurveyed location)

Note:
1. Aerial photograph source: Google Earth Pro, August 2019.

0 150 300 600

SCALE IN FEET

MONITORING WELL NETWORK AND SAMPLING LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

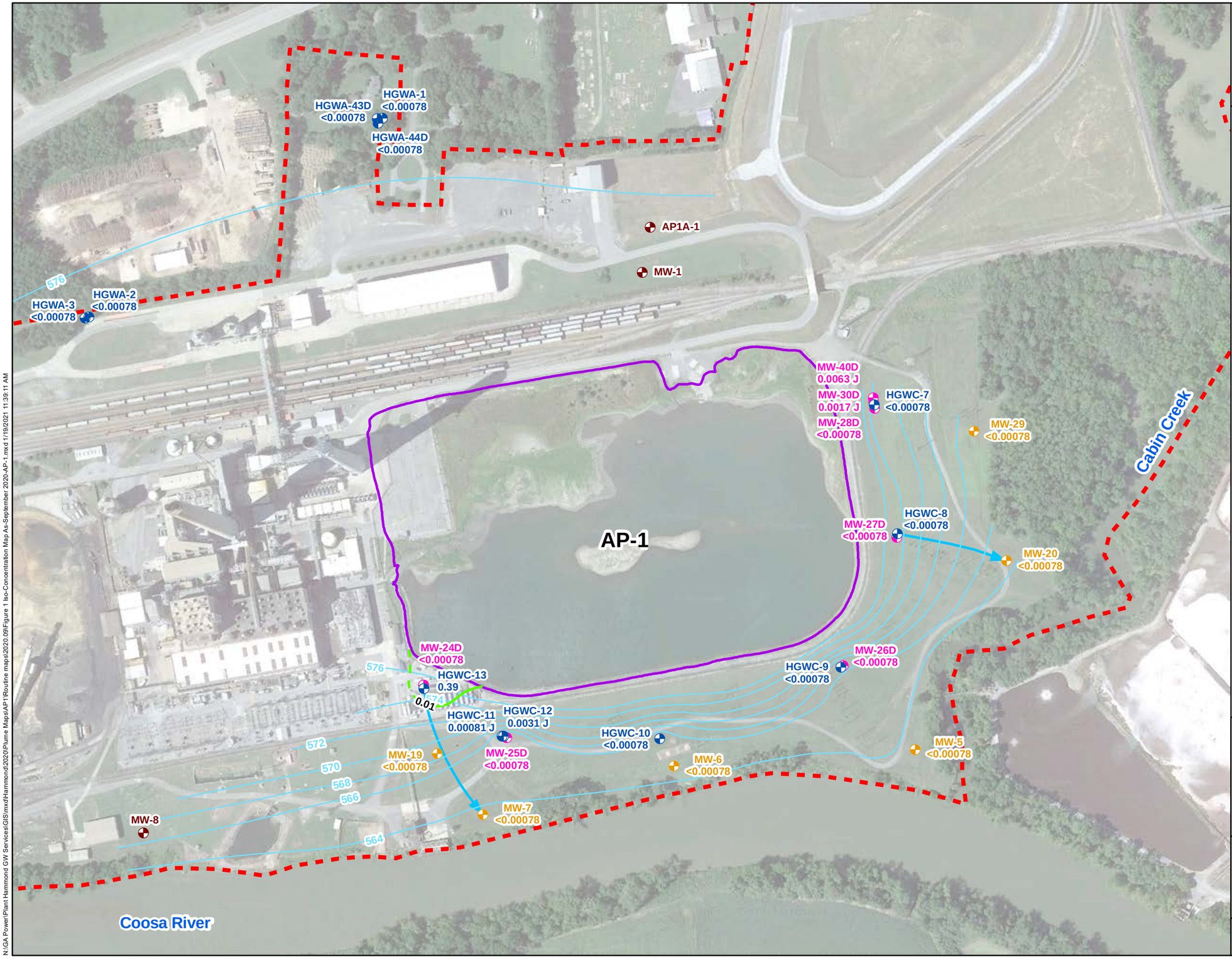
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 2

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\ACM\2021.01_ACMPR\AP1\Figure 2 Monitoring Well Network Map.mxd 1/17/2021 8:10:05 AM



N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\Plume Maps\AP-1\Routine maps\2020.09\Figure 1 Iso-Concentration Map As-September 2020-AP-1.mxd 1/19/2021 11:39:11 AM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well (not used for contouring)
- Piezometer
- State/Federal GWPS Arsenic Iso-Concentration Contour (mg/L) (dashed where inferred)
- September 2020 Groundwater Elevation Iso-Contour (ft)
- Approximate Groundwater Flow Direction
- Approximate AP-1 Boundary
- Approximate Plant Hammond Property Boundary

Notes:
1. Concentration data is from the September 2020 semiannual groundwater monitoring event. Concentrations are reported in mg/L.
2. State and federal Groundwater Protection Standard (GWPS) for arsenic is 0.01 mg/L.
3. Aerial photograph source: Google Earth Pro, August 2019.

0 150 300 600
Feet

SCALE IN FEET

ISO-CONCENTRATION MAP ARSENIC - SEPTEMBER 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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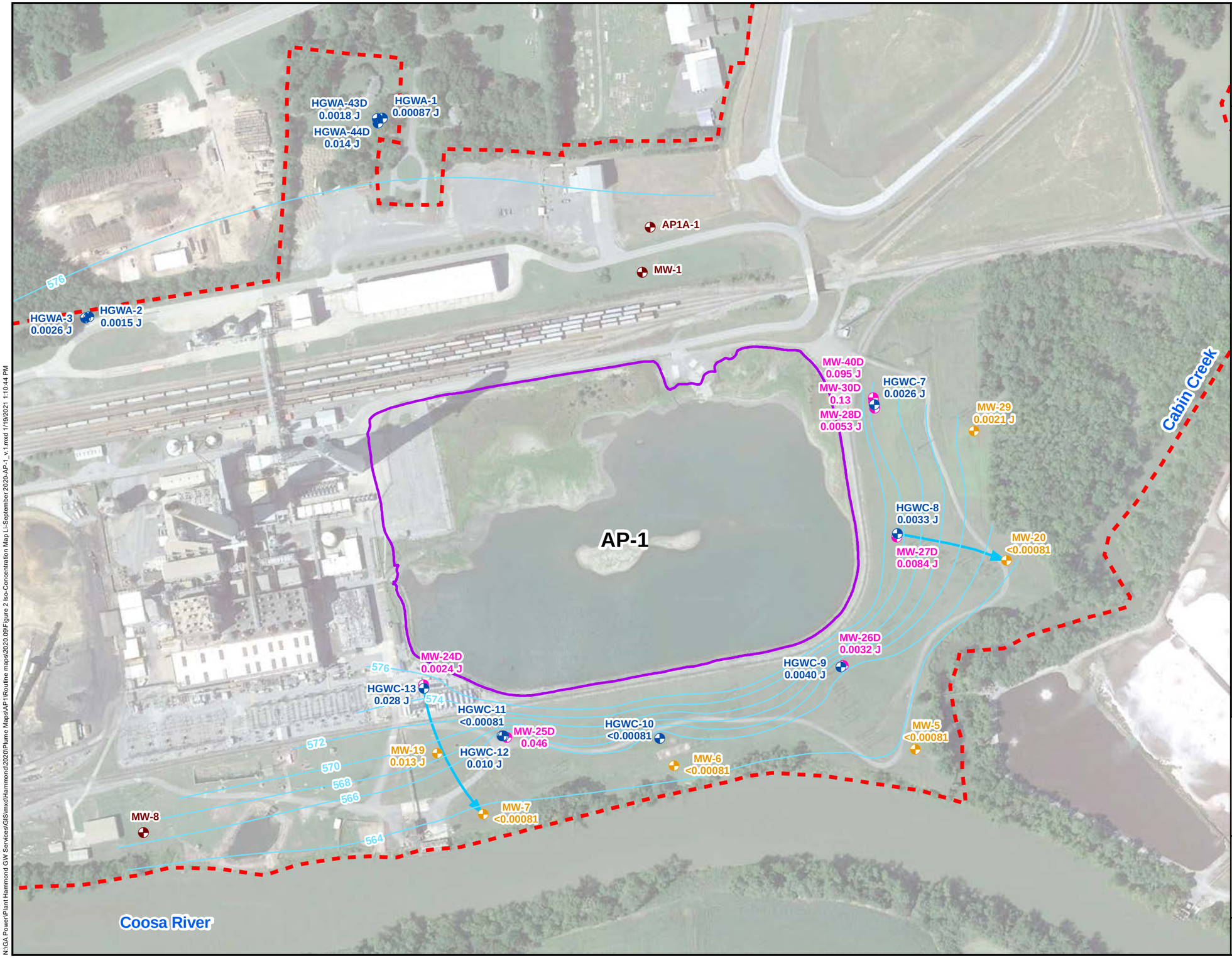
FIGURE 3



N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\Plume Maps\AP1\Routine maps\2020.09\Figure 2 Iso-Concentration Map Li-September 2020-AP-1_v.1.mxd 1/19/2021 1:10:44 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well (not used for contouring)
- Piezometer
- State GWPS Lithium Iso-Concentration Contour (mg/L)
- Federal GWPS Lithium Iso-Concentration Contour (mg/L)
- September 2020 Groundwater Elevation Iso-Contour (ft)
- Approximate Groundwater Flow Direction
- Approximate AP-1 Boundary
- Approximate Plant Hammond Property Boundary

Notes:
1. Concentration data is from the September 2020 semiannual groundwater monitoring event. Concentrations are reported in mg/L.
2. The state Groundwater Protection Standard (GWPS) for lithium is 0.03 mg/L; the federal GWPS is 0.04 mg/L.
3. Detected concentrations do not exceed GWPS levels; therefore, no iso-concentration contours are presented.
4. Aerial photograph source: Google Earth Pro, August 2019.

0 300 600

SCALE IN FEET

ISO-CONCENTRATION MAP LITHIUM - SEPTEMBER 2020

GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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FIGURE 4

N:\GA Power\Plant Hammond GW Services\GIS\mxd\Hammond\2020\Plume Maps\AP1\Routine maps\2020.09\Figure 3 Iso-Concentration Map Mo-September 2020-AP-1.mxd 1/19/2021 1:14:51 PM

N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well (not used for contouring)
- Piezometer
- Federal GWPS Molybdenum Iso-Concentration Contour (mg/L)
- State GWPS Molybdenum Iso-Concentration Contour (mg/L)
- September 2020 Groundwater Elevation Iso-Contour (ft)
- Approximate Groundwater Flow Direction
- Approximate AP-1 Boundary
- Approximate Plant Hammond Property Boundary

Notes:
1. Concentration data is from the September 2020 semiannual groundwater monitoring event. Concentrations are reported in mg/L.
2. The state Groundwater Protection Standard (GWPS) for molybdenum is 0.010 mg/L; the federal GWPS is 0.10 mg/L.
3. "*" - The molybdenum concentration reported in well MW-30D originates from a natural source rather than AP-1 based on available data. An Alternate Source Demonstration was submitted in January 2021 that documents the data.
4. Aerial photograph source: Google Earth Pro, August 2019.

0 150 300 600
Feet

SCALE IN FEET

ISO-CONCENTRATION MAP MOLYBDENUM- SEPTEMBER 2020

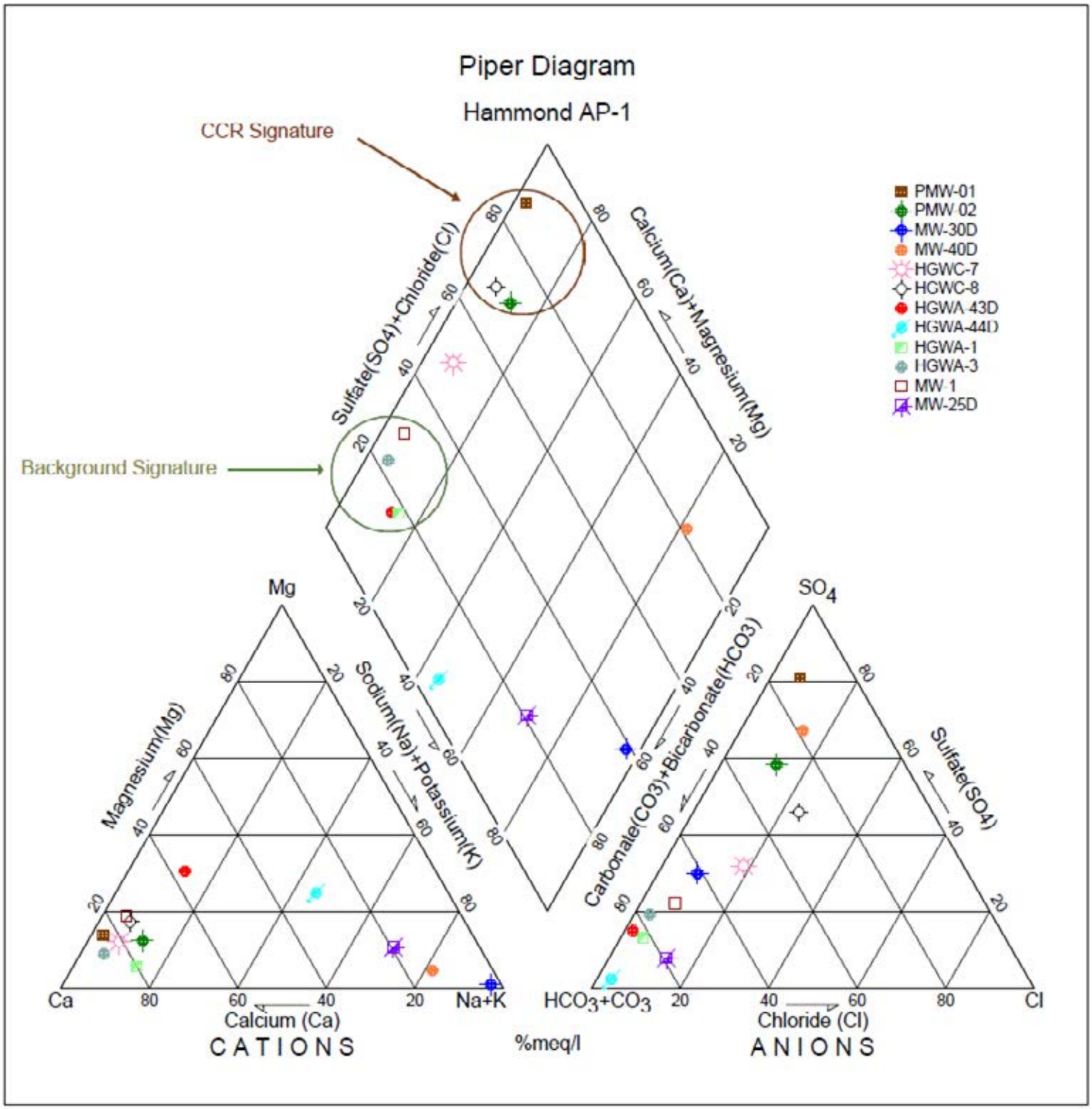
GEORGIA POWER COMPANY
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 5



Sample Date					
HGWA-1	**HGWA-3**	**HGWA-43D**	**HGWA-44D**	**MW-1**	**HGWC-7**
9/15/2020	9/15/2020	9/16/2020	9/16/2020	6/16/2020	9/16/2020
HGWC-8	**MW-25D**	**MW-30D**	**MW-40D**	**PMW-01**	**PMW-02**
9/16/2020	9/18/2020	9/24/2020	9/28/2020	4/9/2020	4/9/2020

Piper Trilinear Plot

Georgia Power Company
Plant Hammond AP-1
Bartow County, Georgia

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

Kennesaw, GA | January 2021

Figure 6

APPENDIX A

Risk Evaluation Report

RISK EVALUATION REPORT
PLANT HAMMOND
ASH POND 1
ROME, FLOYD COUNTY, GEORGIA

Prepared for

Georgia Power
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Atlanta, Georgia 30308

Prepared by

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Project Number GZ7112H

January 2021

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LIST OF ACRONYMS AND ABBREVIATIONS

Amsl	Above Mean Sea Level
AP	Ash Pond
CCR	Coal Combustion Residual
CEM	Conceptual Exposure Model
CFR	Code of Federal Regulations
COI	Constituent of Interest
COPI	Constituent of Potential Interest
EPC	Exposure Point Concentration
EPD	[Georgia] Environmental Protection Division
ft	feet
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
HSRA	Hazardous Site Response Act
IRIS	Integrated Risk Information System
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
ProUCL	ProUCL software version 5.1
RME	Reasonable Maximum Exposure
RRS	Risk Reduction Standards
RSL	Regional Screening Level
SSL	Statistically Significant Level
UCL	95 Percent Upper Confidence Limit of the Arithmetic Mean
USEPA	United States Environmental Protection Agency
VRP	Voluntary Remediation Program

EXECUTIVE SUMMARY

Georgia Power's Plant Hammond (site) is a former four-unit coal-fired, electric generating facility owned and operated by Georgia Power that was retired on July 29, 2019. The site is located along the Coosa River, approximately 10 miles west of Rome, Floyd County, Georgia. Coal combustion residual (CCR) material resulting from such power generation has historically been transferred and stored in four ash ponds (AP) AP-1, AP-2, AP-3, and AP-4 and the Huffaker Road Landfill in compliance with applicable regulations. This report focuses on AP-1.

AP-1 is a 35-acre surface impoundment located at Plant Hammond that received CCR material from its commission in 1952 until 1969. After 1969, AP-1 was utilized as a cotreatment pond to handle return water flows from the other ponds and for recycling of process water for plant operations. Georgia Power will close AP-1 through removal of the CCR material from the unit. The CCR material will be disposed of in a permitted landfill or transported off-site for beneficial use. AP-1 is subject to the Federal CCR Rule, 40 C.F.R. § 257, Subpart D (USEPA, 2020a) and the State CCR Rule, Ga. Comp. R. & Regs. 391-3-4-.10 (EPD, 2018a). Closure permit No. 057-023D (CCR) (Closure Permit) was approved by Georgia Environmental Protection Division (EPD) on June 22, 2020. Semiannual groundwater monitoring and reporting is required for at least 5 years following CCR removal per AP-1's Closure Permit.

This report presents the results of a risk evaluation for CCR constituents[1] exhibiting statistically significant levels (SSLs) in groundwater at AP-1 from samples collected by Georgia Power in compliance with the Federal and State CCR Rules between 2016 and June 2020. A conservative, health-protective approach was used that is consistent with United States Environmental Protection Agency (USEPA) risk assessment guidance, Georgia EPD regulations and guidance, and standard practice for risk assessment in the State of Georgia. Arsenic, lithium, and molybdenum were previously identified as SSL-related constituents using the groundwater protection standards (GWPS) established for AP-1 in accordance with the Federal and State CCR Rules (Geosyntec, 2020a).

[1] The constituents included in the risk evaluation also occur naturally in the site geologic setting.

Consistent with USEPA guidance, this risk evaluation used a tiered approach to evaluate potential risks, which included the following steps:

1. Development of a conceptual exposure model (CEM) for AP-1.
2. Initial groundwater risk screening: Comparison of groundwater concentrations of SSL-related constituents to conservative, health-protective criteria and/or background concentrations to assess whether they pose a risk to human health.
3. Refined groundwater risk evaluation: Perform a more refined analysis of Constituents of Potential Interest (COPIs) that were not screened out in the initial risk screening to assess whether they pose a potential risk to human health.
4. Development of risk conclusions and identification of associated uncertainties.

Using this approach that includes multiple conservative assumptions, SSL-related constituents evaluated from AP-1 are not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater is warranted. Compliance monitoring for AP-1 will continue pursuant to the requirements of the Federal and State CCR Rules. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

1 INTRODUCTION

This report summarizes a risk evaluation of AP-1 at Georgia Power's Plant Hammond (site) located in Rome, Georgia (**Figure 1**). AP-1 is located on the southeast side of the Plant and is bounded to the east by Cabin Creek and to the south by the Coosa River. Georgia Power will close AP-1 through removal of the CCR material from the CCR unit. Closure activities will be conducted in accordance with the Federal and State CCR Rules and as described in the AP-1 Closure Permit which was approved by EPD on June 22, 2020.

This risk evaluation provides additional technical review of the human health and environmental protectiveness associated with the planned closure of AP-1 with respect to constituent concentrations in groundwater identified at SSLs above the GWPS. The evaluation relies on a conservative, health-protective approach that is consistent with the risk approaches outlined in Voluntary Remediation Program (VRP) (Georgia Voluntary Remediation Act, O.C.G.A. § 12-8-100) and USEPA Regional Screening Levels (RSLs) User's Guide (USEPA, 2020b). This evaluation also incorporates principles and assumptions consistent with the Federal and State CCR Rules.

The risk evaluation includes the development of a site-specific CEM and a stepwise risk screening process for identified SSL-related constituents for AP-1. Arsenic, lithium, and molybdenum were identified as SSL-related constituents under the Federal CCR Rule in the following wells:

- Arsenic: HGWC-13;
- Lithium: MW-25D and MW-30D;
- Molybdenum: HGWC-8.

Arsenic, lithium, and molybdenum were identified as SSL-related constituents under the State CCR Rule in the following wells:

- Arsenic: HGWC-13;
- Lithium: HGWC-13, MW-25D, and MW-30D;
- Molybdenum: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, and MW-19.

It is worth noting that there are a larger number of wells in which lithium and molybdenum were identified as SSL-related constituents using the background-based GWPS established for

AP-1 pursuant to the State CCR Rule. Lithium and molybdenum are only identified as SSL-related constituents in a subset of these wells based on the federal health-based GWPS established pursuant to 40 C.F.R. § 257.95(h)(2). USEPA revised the Federal CCR Rule on July 30, 2018, updating the GWPS for cobalt, lead, lithium, and molybdenum values (USEPA, 2018a).

The remainder of the report is organized as follows:

- ***Section 2, Basis and Background for the Development of the Conceptual Exposure Model*** – Presents site-specific information related to the site history, monitoring network, topography and surface hydrology, geology and hydrogeology, potential transport pathways, and receptors that could potentially be exposed to SSL-related constituents.
- ***Section 3, Risk Evaluation Screening*** – Describes the process for the initial risk-based screening of SSL-related constituents to identify COPIs in groundwater.
- ***Section 4, Refined Risk Evaluation*** – Describes the risk screening process for the COPIs identified in groundwater, including calculation of exposure point concentrations (EPCs) and analysis of concentration trends over time.
- ***Section 5, Uncertainty Assessment*** – Describes the uncertainties associated with the risk screening process.
- ***Section 6, Conclusions*** – Presents the conclusions of the risk evaluation.
- ***Section 7, References*** – Provides reference information for the sources cited in this document.

2 BASIS AND BACKGROUND FOR THE DEVELOPMENT OF THE CONCEPTUAL EXPOSURE MODEL

This section provides a brief overview of the site location and operational history, site regulatory status, and geology/hydrogeology. A CEM representing the site-specific processes and conditions that are relevant to the potential migration of groundwater and potential exposure to SSL-related constituents has been developed based on a review and compilation of information previously presented in site documents, including the *Hydrogeologic Assessment Report (HAR) Revision 1 - Ash Pond 1* (Geosyntec, 2019), *2019 Annual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 1 (AP-1)* (Geosyntec, 2020b); *2020 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 1 (AP-1)* (Geosyntec, 2020c). The CEM includes a conservative evaluation of assumed potential transport pathways, exposure pathways and potential human and ecological receptors.

2.1 Site Description

The site is located in Floyd County, Georgia, approximately 10 miles west of the city of Rome. The site occupies approximately 1,100 acres 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. A site location map is included as **Figure 1**.

AP-1 is a 35-acre surface impoundment located at Plant Hammond that received CCR material from its commission in 1952 until 1969. After 1969, AP-1 was utilized as a cotreatment pond to handle return water flows from the other ponds and for recycling of process water for plant operations. Georgia Power will close AP-1 through removal of the CCR material from the CCR unit; closure activities will be conducted in accordance with 40 C.F.R. § 257.102 and corresponding Georgia EPD Rule 391-3-4-.10(7)(b). The CCR material will be disposed of in a permitted landfill or transported off-site for beneficial use. AP-1's Closure Permit was aproved by EPD on June 22, 2020. Details of the closure approach are provided in the Closure Permit. Semiannual groundwater monitoring and reporting is required for at least 5 years following CCR removal per AP-1's Closure Permit.

As detailed in the *2020 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 1* (Geosyntec, 2020c), the groundwater monitoring network at AP-1 consists of 23 monitoring wells for the upgradient and downgradient groundwater monitoring system at the site. Three of these wells (HGWA-1, HGWA-2, and HGWA-3) are designated for monitoring of background conditions upgradient of the the ash ponds, seven compliance monitoring wells (HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, and HGWC-13) and 13 delineation monitoring wells (MW-5, MW-6, MW-7, MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, MW-30D, and MW-40D) are designated for monitoring downgradient of AP-1.

The monitoring well network for AP-1 is shown on **Figure 2**. Based on the conceptual site model and the observed hydrogeologic conditions at the site, downgradient well locations are distributed along the eastern and southern perimeter of the site in the direction of groundwater flow. Both background and downgradient wells are screened in the same water-bearing horizon along the zone of primary groundwater transport within the highly weathered bedrock and upper portion of the competent bedrock.

2.1.1 Topography and Surface Hydrology

AP-1 is located in the eastern portion of the Plant Hammond property. The area surrounding AP-1 slopes gently south towards the Coosa River and southeast towards Cabin Creek. Topographic relief across the site is approximatly 13 feet (ft), with a natural topographic high at an elevation of nearly 592 ft above mean sea level (amsl) occurring at the upgradient well HGWA-1, and with a topographic low at the banks of the Coosa River and Cabin Creek at approximately 575 ft amsl (Geosyntec, 2020c).

2.1.2 Geology and Hydrogeology

The following information is provided in the *2020 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 1* (Geosyntec, 2020c) and presented below:

> *The Site is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) in northwest Georgia, which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc. under the direction of Golder (Golder, 2018) indicates that AP-1 is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly shaley limestone. Subsurface investigations at AP-1 describe the bedrock as limestone or shaley limestone. AP-1 is underlain primarily by five lithologic units: (i) fill, (ii) terrace alluvium, (iii) residuum, (iv) highly weathered/fractured shaley limestone bedrock, and (v) competent shaley limestone bedrock.*
>
> . . . .
>
> *The uppermost aquifer at AP-1 is a regional groundwater aquifer that occurs in the terrace alluvium, residuum, and the weathered and fractured bedrock. The uppermost aquifer is considered to be unconfined; however, localized, semi-confined conditions may be encountered due to the low-permeability clayey nature of the residual soils, or as a result of perched groundwater or poorly interconnected fracture networks in the bedrock. Based on observations of soil types and horizontal conductivity values, the movement of groundwater in the soil, and to some degree the highly weathered*

bedrock zone, can be characterized as low-to moderate permeability, porous media flow. Groundwater flow in the more competent underlying bedrock is characterized as fracture flow. Groundwater flow in the vicinity of AP-1 is to the east and south.

The potentiometric surface contours provided in the *2020 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 1* are provided on **Figure 3.**

2.2 Potential Transport Pathways

A variety of geologic, hydrogeologic, and geochemical mechanisms can occur in the subsurface and serve to attenuate constituent concentrations in groundwater such as soil or rock characteristics, the local geology and hydrogeology, and the distance the groundwater must travel before reaching a potential receptor. A summary of the potential transport pathways is shown on the CEM in **Figure 4**.

Cabin Creek and the Coosa River abut AP-1 to the east and south, respectively. The surface water flow direction for Cabin Creek is south where it enters the Coosa River which flows from east to west. A conservative assumption for this assessment was made that the groundwater from the site flows to either Cabin Creek or the Coosa River. In addition, for the purposes of this evaluation, both Cabin Creek and the Coosa River were assumed to represent a hydraulic discharge boundary for groundwater flow in the upper aquifer from the nearby region.

Concentrations of SSL-related constituents were below the health-protective screening levels in wells on-site and upgradient of surface water bodies, as shown by the findings of the risk evaluation in Section 4.1.4. Therefore, evaluation of surface water was not necessary.

2.3 Potential Exposure Pathways and Receptors

The exposure pathways for groundwater assumed to be complete for purposes of this risk evaluation were used to identify potential receptors and estimate potential risk. The CEM (**Figure 4**) depicts the conservative potential exposure pathways and receptors included in the risk evaluation.

The following potential exposure pathways and receptors were considered:

- On-site industrial worker: The groundwater exposure pathway for the on-site industrial worker was considered incomplete because there are no wells on-site that are classified for use as potable wells.

- On-site construction worker: While there is a potential for limited exposure to groundwater by a future construction worker through dermal contact with on-site shallow groundwater during subsurface activities, future construction workers would be

expected to have little to no direct contact with on-site groundwater due to safety procedures outlined in their site-specific health and safety plans.

- On-site resident: The groundwater exposure pathway for on-site residents was considered incomplete because the site is zoned heavy-industrial and there is no residential use on-site under current site conditions and future residential use of the site is considered unlikely (Floyd County, 2019).

- Off-site industrial/construction worker: The potential for off-site worker exposure through direct contact with groundwater was addressed qualitatively through the evaluation of hypothetical off-site residential receptors. Health-protective screening levels for residential receptors would be more conservative than industrial and construction worker screening levels.

- Off-site resident: The groundwater exposure pathway for hypothetical off-site residential receptors was conservatively assumed to be potentially complete. Nearby zoning is Agricultural Residential with the exception of some Community Commercial zoning across Alabama Highway to the north of the site (Floyd County, 2019). An off-site well survey of potential groundwater wells within a three-mile radius of the site (AP-1, AP-2, AP-3, and AP-4) was conducted and consisted of reviewing federal, state, and county records and online sources, in addition to conducting a windshield survey of the area (Newfields, 2020). The off-site well survey is included as **Appendix A**. Results of the survey are presented on **Figure 5**. Hypothetical off-site residential receptors in the downgradient groundwater flow direction identified in the well survey are located on the opposite side of the Coosa River or Cabin Creek, which for the purpose of this risk evaluation were assumed to represent hydraulic discharge boundaries for groundwater downgradient of AP-1.

  Concentrations of SSL-related constituents in on-site groundwater monitoring wells and piezometers are below health-protective screening levels in wells on-site and upgradient of surface water bodies at AP-1. As a conservative measure, hypothetical off-site residential exposure to the SSL-related constituents was evaluated using data collected from on-site groundwater wells between 2016 and June 2020 downgradient of AP-1. This comparison makes the conservative assumption that on-site groundwater has the potential to migrate to off-site drinking water wells through advective transport in groundwater without any attenuation in the aquifer media through factors such as dilution, dispersion, or adsorption, and disregards the presence of Cabin Creek and the Coosa River which represent assumed hydraulic discharge boundaries for groundwater downgradient of AP-1. Accordingly, the risk evaluation screening assumed the hypotehtical off-site residential receptor could be exposed by ingestion and dermal contact with SSL-related constituents in groundwater through its use as a future potable water source.

- Rrecreational surface water receptors: The surface water exposure pathway for hypothetical recreational receptors was addressed qualitatively through the evaluation of on-site groundwater data. SSL-related constituent concentrations are below the health-protective screening criteria in on-site groundwater. Therefore, evaluation of the surface water pathway was not necessary.

- Ecological surface water receptors: The surface water exposure pathway for off-site ecological receptors was addressed qualitatively through the evaluation of on-site groundwater data. SSL-related constituent concentrations are below health-protective screening criteria in on-site groundwater. Therefore evaluation of the surface water pathway was not necessary.

3 RISK EVALUATION SCREENING

The CEM developed in Section 2 was used to identify the potential exposure pathways to human receptors that should be considered in the risk evaluation. The initial step in the risk evaluation is the comparison of SSL-related constituent concentrations from groundwater samples collected between 2016 and June 2020 to relevant, health-protective levels. The approach used is consistent with the Georgia EPD regulations and guidance, USEPA guidance, and standard practice for risk assessment in the State of Georgia. The Georgia EPD allows for the site-specific evaluation of risk in programs such as the Voluntary Remediation Program (VRP) (EPD, 2009).

The initial risk evaluation screening was performed for the potential groundwater exposure pathway by comparing the concentrations of SSL-related constituents in groundwater samples from wells determined to have SSL-related constituents to appropriate health-protective screening criteria. These criteria included the risk reduction standards (RRS) established under the Hazardous Site Response Act (HSRA) for drinking water and site-specific background for the protection of human health. If the maximum concentration of a SSL-related constituent exceeded the screening criterion, the constituent was identified as a COPI for further evaluation in the refined risk evaluation. The methodology and screening criteria used were identified in accordance with regulatory guidance and standard risk assessments practices using an approach designed to conservatively overestimate possible exposures and risks, providing an additional level of confidence in the conclusions. The methodology is summarized on **Figure 6** and discussed in more detail below.

3.1 Data Used in Risk Evaluation Screening

This section provides information on the groundwater dataset used in the risk evaluation screening.

3.1.1 Groundwater Data

For the initial risk screening evaluation, groundwater data from samples collected between 2016 through June 2020 from the on-site wells that were identified to have SSL-related constituents were used in the risk screening evaluation for hypothetical off-site residential exposure.

The list of wells with SSL-related constituents is as follows:

Federal CCR Rule:

- Arsenic: HGWC-13;
- Lithium: MW-25D, MW-30D;
- Molybdenum: HGWC-8.

State CCR Rule:

- Arsenic: HGWC-13;
- Lithium: HGWC-13, MW-25D, MW-30D;
- Molybdenum: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, and MW-19.

The data for the wells were screened against the relevant health-protective screening criteria. The location of wells with SSL-related constituents included in the risk screen are provided on **Figure 7**.

Groundwater data used in the risk screening level evaluation were collected from the uppermost aquifer and are considered to be representative of groundwater conditions at the site. The groundwater dataset used in the risk evaluation is presented in **Appendix B**. Method detection limits for the groundwater datasets used in the risk evaluation were reviewed and confirmed to be less than the screening levels.

3.1.2 Background Groundwater Quality

Statistical analysis of groundwater monitoring data is performed at the site pursuant to §257.93-95 following the professional engineer (PE) certified Statistical Analysis Method Certification (October, 2017, revised January 2020) (Geosyntec, 2020d) and the Unified Guidance (USEPA, 2009) for AP-1; background values are routinely updated under the program. For the data set presented, three monitoring wells in the certified monitoring well network are designated as upgradient (background) locations for AP-1, HGWA-1, HGWA-2, and HGWA-3. The statistical analyses performed on the groundwater data were described most recently in the *2019 Annual Groundwater Monitoring & Corrective Action Report Plant Hammond Ash Pond 1* (Geosyntec, 2020b); and text from that document is presented below.

> *The Sanitas groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision-support software package, that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the USEPA document Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance (Unified Guidance) (USEPA, 2009). Time series plots generated by Sanitas are used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for Appendix III and Appendix IV parameters are formally tested using Tukey's box plot method and not used to establish statistical limits. Background well data were updated following the Unified Guidance recommendation, evaluating recent background data using Tukey's*

box plot method for outliers and Sen's Slope/Mann-Kendall methods for potential trends.

3.2 Groundwater Screening Evaluation

The process of screening constituents detected in groundwater against human health screening levels for groundwater is discussed below and presented in **Figure 6**. The HSRA RRSs evaluated under the VRP approach presented herein include Type 1 (arsenic) and Type 2 (lithium and molybdenum) RRS for off-site residential receptors. The Hazardous Site Response Act Rule 391-3-19.07(1) notes that "*[a]ll risk reduction standards will, when implemented, provide adequate protection of human health and the environment.*" In addition, Rule 391-3-19-.07(3) notes a corrective action, if needed, may be considered complete when "*a site meets any or a combination of the applicable risk reduction standards described in Rule 391-3-19-.07."*

In accordance with standard methodologies approved by the Georgia EPD, the screening level hierarchy for the SSL-related constituents is as follows:

- The higher of the Type 1 or Type 2 RRS for hypothetical off-site residential exposure, which are considered protective of human health for those constituents regulated under HSRA. The Type 1 RRS was used for arsenic in the evaluation which is the Georgia drinking water criteria presented in Appendix III, Table 1 of the HSRA rule (EPD, 2018b).

- In accordance with standard methodologies approved by the Georgia EPD and because RRS for lithium and molybdenum have not already been established under HSRA, site-specific risk-based screening values were calculated using the default exposure factors for residential receptors and the methodology found in Appendix III of the HSRA rule (EPD, 2018b). Accordingly, the calculated screening values are equivalent to a Type 2 groundwater RRS protective of residential exposures. Toxicity values for lithium and molybdenum used in the calculations were identified in the Integrated Risk Information System (IRIS) (USEPA, 2020c). The risk-based screening values were calculated using USEPA's RSL calculator (USEPA, 2020b) assuming a target hazard quotient of 1, consistent with Georgia EPD guidance applicable in other contexts (EPD, 2018a). The calculations of risk-based screening values for lithium and molybdenum are presented in **Appendix C**. Based on the foregoing, site-specific screening levels were used for lithium and molybdenum.

- If site-specific background concentrations are greater than the criteria described above, then the site-specific background concentration is used as the screening level in accordance with the CCR methodology for development of groundwater protection

standards (USEPA, 2020a). Background was not used as a screening level in this evaluation.

In summation, based on the hierarchy above, groundwater data collected from the wells identified to have SSL-related constituents were compared to residential screening criteria for groundwater.

Table 1 presents the maximum detected concentration of each SSL-related constituent, arsenic 0.52 milligrams per liter (mg/L), lithium (0.25 mg/L), and molybdenum (0.55 mg/L), which was used to represent potential off-site groundwater quality for comparison to the selected screening levels, arsenic (0.01 mg/L), lithium (0.04 mg/L), and molybdenum (0.1 mg/L), for hypothetical off-site residential receptors. As noted in **Table 1**, arsenic, lithium, and molybdenum were detected at concentrations that exceeded their screening levels and were retained as COPIs for further evaluation in a refined risk evaluation.

4 REFINED RISK EVALUATION

A refined risk evaluation was conducted for the groundwater COPIs (arsenic, lithium, and molybdenum) that were detected at concentrations that exceeded the health-protective screening criteria. The refined risk evaluation identified EPCs for arsenic, lithium, and molybdenum for the purposes of characterizing potential risk to human receptors.

4.1 Refined Groundwater Risk Evaluation

Potential risk associated with exposure to arsenic, lithium, and molybdenum by hypothetical off-site residential receptors was refined using the methodology described in theHSRA and VRP guidance (EPD, 2018b; EPD, 2009) and is presented in the following section and on **Figure 8**.

For the refined risk evaluation, groundwater data from samples collected between 2016 and June 2020 from the on-site wells that were identified to have a SSL-related constituent and downgradient monitoring wells/piezometers that represent groundwater flow in the same hydraulically downgradient direction were used to evaluate hypothetical off-site residential exposure.

As noted above, groundwater data used in the risk screening level evaluation were collected from the uppermost aquifer and are considered to be representative of groundwater conditions at the site. The groundwater dataset used in the refined risk evaluation is presented in **Appendix B.**

4.1.1 Groundwater Exposure Point Calculation

The refined risk evaluation for arsenic, lithium, and molybdenum included the development of an EPC for each constituent. The EPC is a conservative estimate of potential exposure that is selected to address uncertainty and variability in the dataset (USEPA, 2002). Consistent with guidance for developing groundwater EPCs (USEPA, 2014), 95 percent upper confidence limits of the arithmetic mean (UCLs) were calculated using USEPA ProUCL 5.1 software (ProUCL) (USEPA, 2016) and ProUCL user's guide (USEPA, 2015). For the refined risk evaluation, the UCLs for the COPIs in groundwater were calculated for datasets with the following characteristics:

- UCLs for the individual well(s) with an SSL-related constituent;
- UCLs based on combined data from the well(s) with an SSL-related constituent and other well(s)/piezometer(s) in the general vicinity to include additional downgradient monitoring well(s)/piezometer(s) that represent groundwater flow in the same hydraulically downgradient direction; and

- UCLs based on the combined data from the farthest downgradient well(s)/piezometer(s) that are hydraulically downgradient of the well(s) with an SSL-related constituent.

Other assumptions made in the calculation of the UCLs include:

- Primary samples (no duplicates) were used to calculate EPCs as duplicate samples were analyzed for quality assurance purposes.

- If the calculated UCL exceeded the maximum detected concentration, then the maximum detected concentration was used as the EPC.

ProUCL software calculates multiple UCLs and provides a recommended UCL which was selected as the EPC. If there were multiple UCLs recommended by ProUCL, the maximum UCL value was selected as a conservative assumption. **Appendix D-1** provides a detailed summary of the UCLs calculated using the methods described above, and **Appendix D-2** presents figures showing the wells used in the calculation of the EPCs for each groundwater COPI. **Appendix D-3** provides the input and output files associated with the ProUCL software.

Table 2 summarizes the groundwater EPCs selected for the COPIs. This table shows the number of samples, the maximum detected concentration, the UCL recommended by ProUCL software, and the selected EPC.

4.1.2 COPI Concentration Trend Analysis

Concentration trends over time were evaluated as one line of evidence in the refined risk evaluation for arsenic, lithium, and molybdenum. The Mann-Kendall trend test with an alpha value equal to 0.05 and the Theil-Sen line test were conducted on the data from HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9, MW-19, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, and MW-30D to evaluate the trends in concentrations over time. The tests were conducted using the USEPA ProUCL 5.1 software (USEPA, 2016).

The Mann-Kendall and Thiel-Sen test results are presented on time series graphs in **Appendix D-4** and indicated:

- There are no statistical trends in lithium concentrations over time in HGWC-7, MW-19, MW-25D, MW-28D, MW-29, or MW-30D;

- There are no statistical trends in molybdenum concentrations over time in HGWC-8, MW-26D, or MW-27D;

- There are statistically significant decreasing trends in lithium concentrations over time in HGWC-12 and HGWC-13;

- There is a statistically significant increasing trend in arsenic concentrations over time in HGWC-13. However as discussed in Section 4.1.3.1, arsenic concentrations in samples collected from MW-7, the farthest hydraulically downgradient well of HGWC-13, were below the reporting limits that were half of the screening level; and

- There is a statistically significant trend in molybdenum concentrations over time in HGWC-9. However, as discussed in Section 4.1.3.3. molybdenum concentrations in samples collected from MW-5, the farthest hydraulically downgradient well of HGWC-9, were below the reporting limits that were ten times below the screening level.

Mann Kendall trend analysis requires four data points with at least three detections. Trends may be evaluated at the farthest downgradient piezometers from the well(s) with SSL-related constituents, if necessary, after additional sampling events are conducted at downgradient locations.

4.1.3 Refined Groundwater Risk Evaluation Results

Arsenic, lithium, and molybednum were identified as groundwater COPIs in the initial risk screening. In the refined risk evaluation, comparison of the calculated EPC to the screening level was used to identify constituents of interest (COIs) that may pose a potential risk to hypothetical off-site residential receptors exposed through the potential use of groundwater as potable water. If the EPC from the farthest downgradient well(s) is greater than the respective screening level, then the constituent is identified as having the potential for risk that warrants additional evaluation (e.g., performing a surface water evaluation).

4.1.3.1 Arsenic

Arsenic concentrations were detected in 16 out of 16 groundwater samples in well HGWC-13 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, the following EPCs were calculated for arsenic using the wells shown in **Appendices D-1** and **D-2**:

- Data from HGWC-13 were used to determine if the UCL is less than the screening level (EPC Step 1 in **Appendix D-1**).

- Data from HGWC-13 and the downgradient wells MW-19 and MW-7 were combined to represent groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).

- Data from MW-7 were used to represent groundwater exposure using the well that is the farthest hydraulically downgradient of well HGWC-13 (EPC Step 3 in **Appendix D-1**).

Although the EPC Step 1 (0.42 mg/L) and the EPC Step 2 (0.31 mg/L) exceeded the applicable screening level, the EPC Step 3 (< 0.005 mg/L), which includes the farthest downgradient well[2], was less than the applicable screening level.

Table 3 presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening criterion. As arsenic was non-detect, with a maximum reporting limit half the screening level, in the farthest hydraulically downgradient well on the site, arsenic was not identified as a constituent of interest (COI) in groundwater for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

4.1.3.2 Lithium

Groundwater flow exposure units were identifed for use in the calculation of lithium EPCs in the refined risk evaluation due to groundwater flow away from AP-1. EPCs were calculated separately for two exposure units: AP-1 East and AP-1 South. For the refined risk evaluation, EPCs were calculated for lithium using the monitoring wells/piezometers shown in **Appendices D-1** and **D-2:**

AP-1 East Exposure Unit

Lithium concentrations in the AP-1 east exposure unit were detected in four out of four groundwater samples in well MW-30D at concentrations that exceeded the off-site groundwater screening level for residential receptors.

- Data from MW-30D were combined to determine if the UCL is lower than the screening level (EPC Step 1 in **Appendix D-1**).

- Data from MW-30D and the adjacent/downgradient wells HGWC-7, MW-28D, and MW-29 were combined to represent potential groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).

- Data from MW-29 were combined to represent potential groundwater exposure using the well that is the farthest hydraulically downgradient of well MW-30D (EPC Step 3 in **Appendix D-1**).

Although both EPC Step 1 (0.25 mg/L) and EPC Step 2 (0.087 mg/L) exceeded the applicable screening level, EPC Step 3 (0.0025 mg/L), which included the farthest downgradient well, was below the applicable screening level.

[2] All of the samples collected from MW-7, the farthest downgradent well, were non-detect for arsenic and the reporting limit was below the screening level.

Table 3 presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening criterion. As lithium was detected at a concentration approximately 20 times less than the screening level in the farthest hydraulically downgradient well in the AP-1 east exposure unit, it was not identified as a groundwater COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

AP-1 South Exposure Unit

Lithium concentrations in the AP-1 south exposure unit were detected in nine out of 20 groundwater samples in wells HGWC-13 and MW-25D at concentrations that exceeded the off-site groundwater screening level for residential receptors.

- Data from HGWC-13 and MW-25D were combined to determine if the UCL is lower than the screening level (EPC Step 1 in **Appendix D-1**).

- Data from HGWC-13 and MW-25D and the adjacent/downgradient wells HGWC-11, HGWC-12, MW-19, and MW-7 were combined to represent potential groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).

- Data from MW-7 were combined to represent potential groundwater exposure using the well that is the farthest hydraulically downgradient of well HGWC-13 and MW-25D (EPC Step 3 in **Appendix D-1**).

Although EPC Step 1 (0.042 mg/L) exceeded the applicable screening level, both EPC Step 2 (0.032 mg/L) and EPC Step 3 (< 0.001 mg/L), which included the farthest downgradient well, were below the applicable screening level.

Table 3 presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening criterion. As lithium was not detected, with a maximum detection limit approximately 40 times less than the screening level in the farthest hydraulically downgradient well in the AP-1 south exposure unit, it was not identified as a groundwater COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

4.1.3.3 Molybdenum

Molybdenum concentrations were detected in 17 out of 34 groundwater samples in wells HGWC-8 and HGWC-9 at concentrations that exceeded the off-site groundwater screening level for residential receptors. For the refined risk evaluation, the following EPCs were calculated for molybdenum using the wells shown in **Appendices D-1** and **D-2**:

- Data from HGWC-8 and HGWC-9 were combined to determine if the UCL is lower than the screening level (EPC Step 1 in **Appendix D-1**).

- Data from HGWC-8 and HGWC-9 and the downgradient wells MW-20, MW-26D, MW-27D, and MW-5 were combined to represent groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).

- Data from MW-20 and MW-5 were combined to represent groundwater exposure using the wells that are the farthest hydraulically downgradient of wells HGWC-8 and HGWC-9 (EPC Step 3 in **Appendix D-1**).

Although the EPC Step 1 (0.45 mg/L) and the EPC Step 2 (0.30 mg/L) exceeded the applicable screening level, the EPC Step 3 (< 0.01 mg/L), which includes the farthest downgradient well, was less than the applicable screening level.

Table 3 presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening criterion. As molybdenum was not detected, with a maximum reporting limit aapproximately ten times less than the screening level in the farthest hydraulically downgradient wells on the site, molybdenum was not identified as a groundwater COI for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

4.1.4 Refined Groundwater Risk Evaluation Summary and Conclusions

Detections of the SSL-related constituents arsenic, lithium, and molybdenum were reported at concentrations above the applicable groundwater screening values. However, the results of the refined groundwater risk evaluation indicate the following:

- Arsenic, lithium, and molybdenum are not expected to pose a risk to hypothetical off-site residential recptors.

- The individual data points used to calculate the arsenic, lithium, and molybdenum EPCs to represent potential groundwater exposure for hypothetical off-site residential receptors based on the farthest hydrologically downgradient monitoring wells were below the health-protective screening level.

Accordingly, based on the multiple lines of evidence and various conservative assumptions, further risk evaluation for groundwater is not warranted. Compliance monitoring under the Federal and State CCR Rules will continue.

5 UNCERTAINTY ASSESSMENT

USEPA guidance stresses the importance of providing an analysis of uncertainties so that risk managers are better informed when evaluating risk assessment conclusions (USEPA, 1989). The uncertainty assessment provides a better understanding of the key uncertainties that are most likely to affect the risk assessment results and conclusions.

The potential uncertainties associated with the risk evaluation are as follows:

Health-Protective Screening Criteria Uncertainties:

- In accordance with standard methodologies approved by the Georgia EPD, the higher of the Type 1 or Type 2 standard was selected for screening criteria. Selection of the screening criteria per industry standards is considered appropriate for risk quantification for Plant Hammond. The Hazardous Site Response Act, Rule 391-3-19.07(1) notes that "*[a]ll risk reduction standards will, when implemented, provide adequate protection of human health and the environment*". Thus, this approach is likely to overestimate hypothetical risks for off-site receptors.

- Screening criteria based on RRSs, including arsenic, lithium, and molybdenum, represent the reasonable maximum exposure (RME), which are the highest exposures that are reasonably expected to occur at a site. The RME is defined as "*the highest exposure that is reasonably expected to occur at a site but that is still within the range of possible exposures*" (USEPA, 1989). USEPA (1989) states that the "*intent of the RME is to estimate a conservative exposure case (i.e., well above the average case) that is still within the range of possible exposures.*" Potential receptors will likely have lower exposures than those presented in this risk evaluation (i.e., a majority of the site concentrations will be less than the UCL), which overestimates potential exposure.

Exposure Uncertainties:

- The maximum detected concentrations of arsenic, lithium, and molybdenum were compared to conservative risk-based screening criteria to identify the COPIs. Use of the maximum detected concentration is consistent with standard practice; however, use of the maximum detected concentration for exposure likely overestimates potential risk.

- The constituents included in the risk evaluation may occur naturally in the site geologic setting. Although background concentrations were evaluated, contributions to exposure and risk were assumed to be entirely CCR-related and natural

background sources were not quantified. Thus, SSL concentration-related exposures were likely overestimated.

- Hypothetical off-site residential exposure was evaluated using on-site groundwater data from wells around the perimeter and downgradient of AP-1. This comparison makes the conservative assumption that on-site groundwater may potentially migrate to off-site drinking water wells through advective transport in groundwater, but without any attenuation within the aquifer media through factors such as dilution, dispersion, or adsorption. This assumption may overestimate potential exposure and risk to hypothetical off-site receptors.

- EPCs for metals in groundwater were assumed to be 100 percent bioavailable by ingestion and dermal contact. This assumption may tend to overestimate risk.

- A off-site well survey of potential groundwater wells within a three-mile radius of Plant Hammond was conducted by NewFields in 2020 and consisted of reviewing publicly available federal, state, and county records as well as a windshield survey of the area (**Appendix A**). Geosyntec relied on the data collected by NewFields.

- The evaluation used on-site groundwater data to represent hypothetical off-site exposure, which is a conservative approach that likely results in overestimation of assumed exposure and assumed potential risk. Although off-site potable wells identified in the well survey were not included in the risk evaluation, the presence of these wells do not appear to impact the conclusions of the risk evaluation because concentrations of COPIs are delineated in on-site groundwater.

Toxicity Uncertainties:

- Toxicity factors used to calculate health-protective criteria are established at conservative levels to account for uncertainties and often result in criteria that are many times lower than the levels observed to cause effects in human or animal studies. Therefore, a screening level exceedance does not necessarily equate to an adverse effect.

6 CONCLUSIONS

This risk evaluation for SSL-related constituents in groundwater at AP-1 was conducted using methods consistent with Georgia EPD and USEPA guidance and included multiple conservative assumptions. Based on this evaluation, constituents evaluated from AP-1 (arsenic, lithium, and molybdenum) are not expected to pose a risk to human health or the environment.

Accordingly, no further risk evaluation of groundwater is warranted. Compliance monitoring for AP-1 under the Federal and State CCR Rules will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary.

7 REFERENCES

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TABLES

Table 1.
SSL-Related Constituent Groundwater Screening
Plant Hammond AP-1 Risk Evaluation Report[1]
Plant Hammond, Rome, GA

CCR Rule Designation	Constituent	CAS No.	Detection Frequency	Exceedance Frequency[2]	Maximum Concentration (mg/L)	Screening Level (mg/L)	Screening Level Source[3]	Site-Specific Background (mg/L)	COPI? (Y/N)	Rationale[4]
Appendix IV	Arsenic	7440-38-2	16 / 16	16 / 16	0.52	0.01	Type 1 RRS	0.005	Y	ASL
	Lithium	7439-93-2	25 / 25	13 / 25	0.25	0.04	Site-Specific	0.03	Y	ASL
	Molybdenum	7439-98-7	103 / 103	18 / 103	0.547	0.1	Site-Specific	0.01	Y	ASL

Notes:

[1] Evaluation includes 2016 to June 2020 groundwater analytical data from wells HGWC-11 (for molybdenum), HGWC-12 (for molybdenum), HGWC-13 (for arsenic, lithium, and molybdenum), HGWC-7 (for molybdenum), HGWC-8 (for molybdenum), HGWC-9 (for molybdenum), MW-19 (for molybdenum), MW-25D (for lithum), and MW-30D (for lithium).

[2] The exceedance frequency is based on the number of samples with detected concentrations that exceed the identified screening level.

[3] The screening levels are the maximum value from the following sources:

- Type 1 RRSs listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).
- Type 2 RRSs calculated using the EPA RSL calculator with default residential exposure factors listed in the RSL Users Guide (HSRA-regulated substances only).
- Site-Specific values calculated using the EPA RSL calculator with default residential exposure factors listed in the RSL Users Guide.
- EPA Maximum Contaminant Levels (MCLs).
- Site-specific background levels were calculated as described in the document "*Statistical Analysis Method Certification, 40 CFR §257.93(f), Plant Hammond- Ash Pond 1 (AP-1)* " (Geosyntec, 2020d).

[4] Rationale for classification of constituent as a COPI or exclusion as a COPI:

- ASL = Above respective screening level
- BSL = Below respective screening level

Definitions:

Grey shading = Constituent concentration(s) exceeded its respective screening level in the dataset.
CAS = Chemical Abstract Service
CCR = Coal Combustion Residuals
COPI = Constituent of Potential Interest
EPA = United States Environmental Protection Agency
GA EPD= Georgia Environmental Protection Division
GWPS = Groundwater Protection Standard
HSRA = [GA EPD] Hazardous Site Response Act
mg/L = milligram(s) per liter
RRS = [GA EPD] Risk Reduction Standard
RSL = [EPA] Regional Screening Level
SAP = Samping and Analysis Plan

Table 2
Groundwater Exposure Point Concentration Summary
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituent	CAS No.	Exposure Unit	Detection Frequency	Maximum Concentration (mg/L)	Wells Included in 95% UCL Calculation	95% UCL[1,2] (mg/L)	Recommended UCL Method	Selected EPC (mg/L)
Appendix IV	Arsenic	7440-38-2	South	0 / 5	<0.005	MW-7	NA	NA	<0.005
	Lithium	7439-93-2	South	0 / 5	<0.001[3]	MW-7	NA	NA	<0.001
			East	5 / 5	0.0025	MW-29	0.00245	95% Student's-t UCL	0.0025
	Molybdenum	7440-48-4	East	0 / 10	<0.01	MW-20 & MW-5	NA	NA	<0.01

Notes:

[1] EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at: https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917. For further detail on the selected EPC, refer to Appendix D-1.

[2] NA = Not available. The 95% upper confidence limit on the mean (UCL) was not calculated because the dataset had fewer than 5 values.

[3] The presented value is the method detection limit (MDL) for the constituent.

Definitions:

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

EPC = Exposure Point Concentration

mg/L = milligrams per liter

"<" = Constituent was not detected at the shown reporting limit

Table 3
Downgradient Groundwater Refined Evaluation
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituent	CAS No.	Exposure Unit	Detection Frequency	Exceedance Frequency[1]	Selected EPC (mg/L)	Screening Level (mg/L)	SL Source[2]	Site-Specific Background (mg/L)	COI? (Y/N)	Rationale[3]
Appendix IV	Arsenic	7440-38-2	South	0 / 5	0 / 5	<0.005	0.01	Type 1 RRS	0.005	N	ND/BSL
	Lithium	7439-93-2	South	0 / 5	0 / 5	<0.001[4]	0.04	Site-Specific	0.030	N	BSL
			East	5 / 5	0 / 5	0.0025				N	ND/BSL
	Molybdenum	7440-48-4	East	0 / 10	0 / 10	<0.01	0.1	Site-Specific	0.01	N	ND/BSL

Notes:

[1] The exceedance frequency is based on the number of samples with detected concentrations that exceed the identified screening level.

[2] The screening values are the maximum value from the following sources:

- Type 1 RRSs listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).
- Type 2 RRSs calculated using the USEPA RSL calculator with default residential exposure factor listed in the RSL Users Guide (HSRA-regulated substances only).
- Site-Specific values calculated using the USEPA RSL calculator with default residential exposure factor listed in the RSL Users Guide.
- Site-specific background levels for each constituent were calculated as described in the document "*Statistical Analysis Method Certification, 40 CFR §257.93(f), Plant Hammond - Ash Pond 1 (AP-1)* " (Geosyntec, 2020d).

[3] Rationale for classification of constituent as a COI:

- ASL = Above respective screening level
- BSL = Below respective screening level
- ND/BSL = Non-detect and below respective screening level

[4] The presented value is the method detection limit (MDL) for the constituent.

Definitions:

CAS = Chemical Abstract Service
CCR = Coal Combustion Residuals
COI = Constituent of Interest
EPA = United States Environmental Protection Agency
GA EPD= Georgia Environmental Protection Division
HSRA = [GA EPD] Hazardous Site Response Act
mg/L = milligram(s) per liter
RRS = [GA EPD] Risk Reduction Standard
RSL = [EPA] Regional Screening Level
"<" = Constituent was not detected at the shown reporting limit

FIGURES

N

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

0 250 500 1,000
Feet

SITE LOCATION

GEORGIA POWER
PLANT HAMMOND AP-1
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 1

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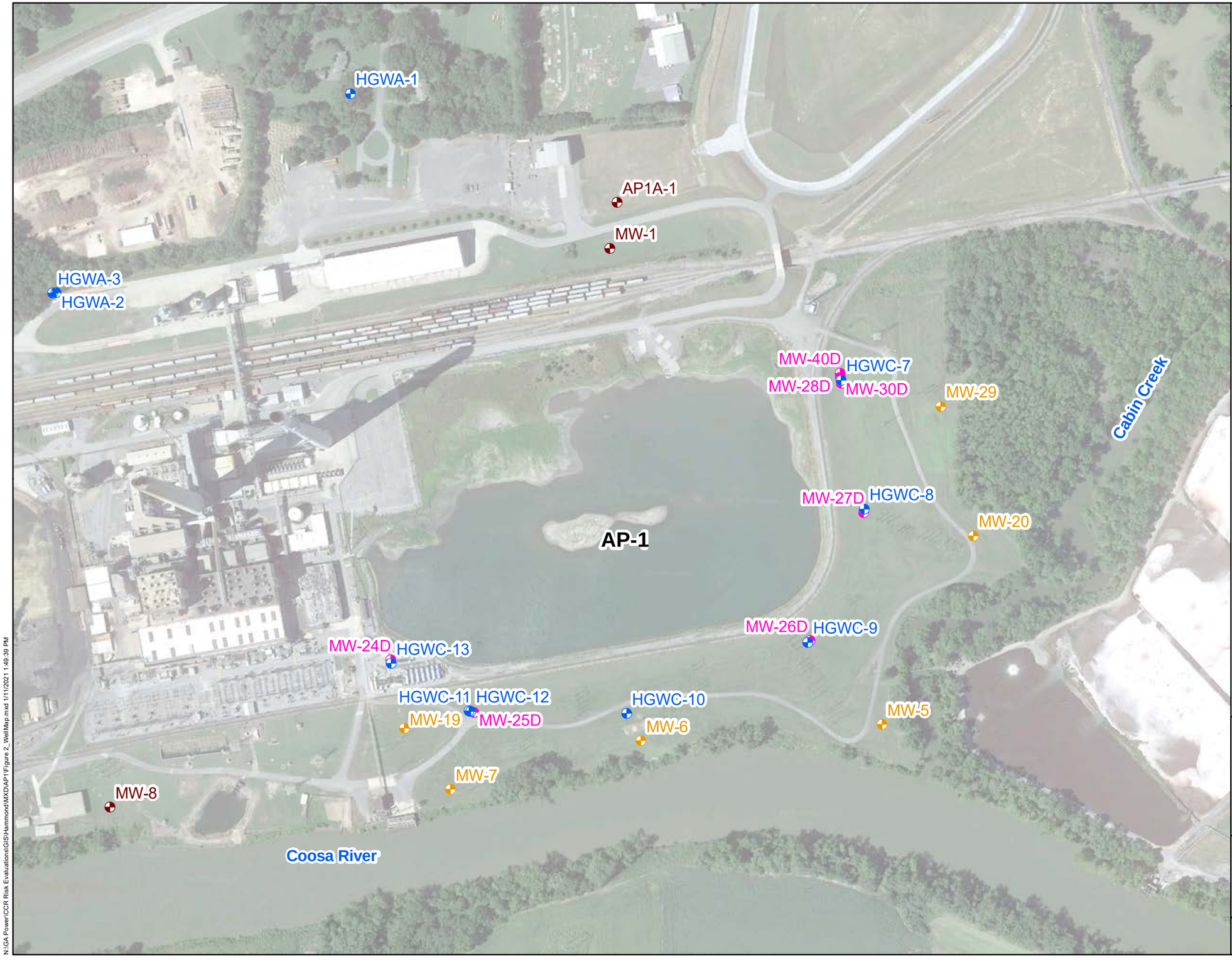
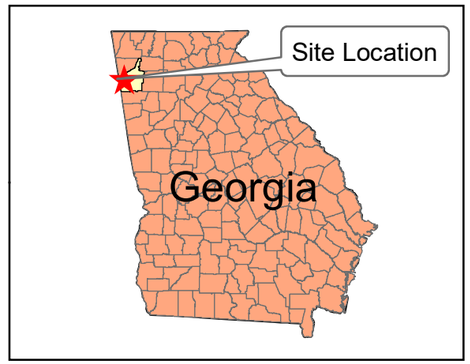


N

LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Monitoring Well
- Vertical Delineation Monitoring Well
- Piezometer



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

0 150 300 600
Feet

SITE LAYOUT AND MONITORING WELL NETWORK MAP

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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FIGURE 2

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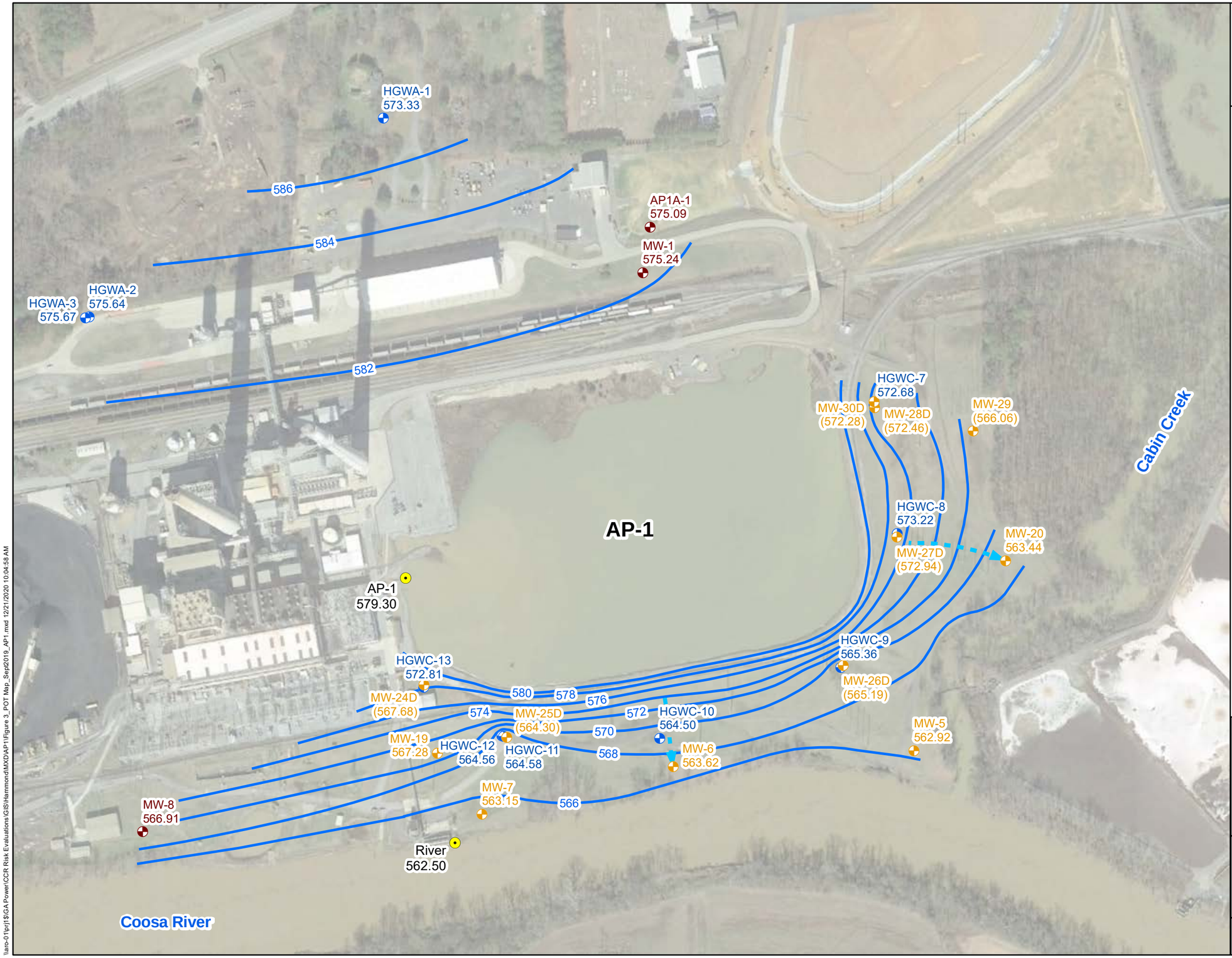

N

LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring
- Surface Water Staff Gauge
- Groundwater Elevation Iso-Contour (inferred where dashed)
- Approximate Groundwater Flow

Notes:
1. Water level elevation recorded on March 23, 2020. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88
2. Water elevation in parentheses were not used in development of groundwater contours due to wells being screened at a different elevation in the formation/aquifer.
3. The AP-1 surface water staff gauge measurement was not used in development of groundwater contours.
4. Aerial photograph source: Google Earth Pro, February 2018.

0 150 300 600
Feet

POTENTIOMETRIC SURFACE ELEVATION CONTOURS - MARCH 2020

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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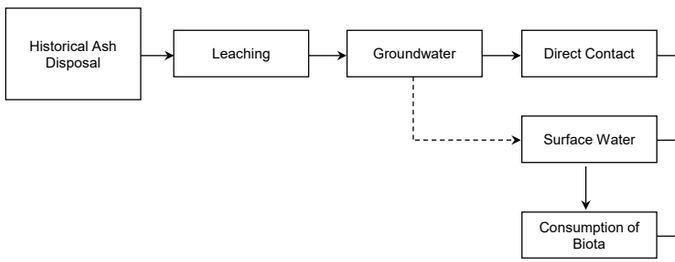
FIGURE 3

\\aro-01\prj1$\GA Power\CCR Risk Evaluations\GIS\HammondMXD\AP1\Figure 3_POT Map_Sept2019_AP1.mxd 12/21/2020 10:04:59 AM



	HUMAN HEALTH AND ECOLOGICAL RISK EVALUATION RECEPTORS									
	HUMAN									ECOLOGICAL
	Current				Future					Current / Future
	On-Site	Off-Site			On-Site		Off-Site			On- / Off-Site
EXPOSURE ROUTE	Worker[1]	Worker[2]	Child and Adult Resident	Child and Adult Recreator	Worker[1]	Child and Adult Resident	Worker[2]	Child and Adult Resident	Child and Adult Recreator	Aquatic Receptors[3]
Ingestion		○	●				○	●		
Dermal Contact		○	●				○	●		
Ingestion				○					○	○
Dermal Contact				○					○	○
Ingestion				○					○	

Legend

A conservative assumption for this assessment was made that groundwater from the site flows to the downgradient surface water.

● Indicates potentially complete pathway to receptors, which are evaluated quantitatively.

○ Indicates potentially complete pathway to receptors, which are evaluated qualitatively.

Footnotes

1. Industrial worker was considered to have no complete pathways because there are no wells on-site that are classified for use as potable wells. On-site construction workers would be expected to have little to no direct contact with on-site groundwater due to safety procedures outlined in their site-specific health and safety plans.

2. Off-site industrial/construction worker addressed through the evaluation of hypothetical off-site residential receptors as health-protective screening levels for residential receptors would be more conservative than industrial and construction worker screening levels.

3. Generalized receptor for ecological health risk evaluation.

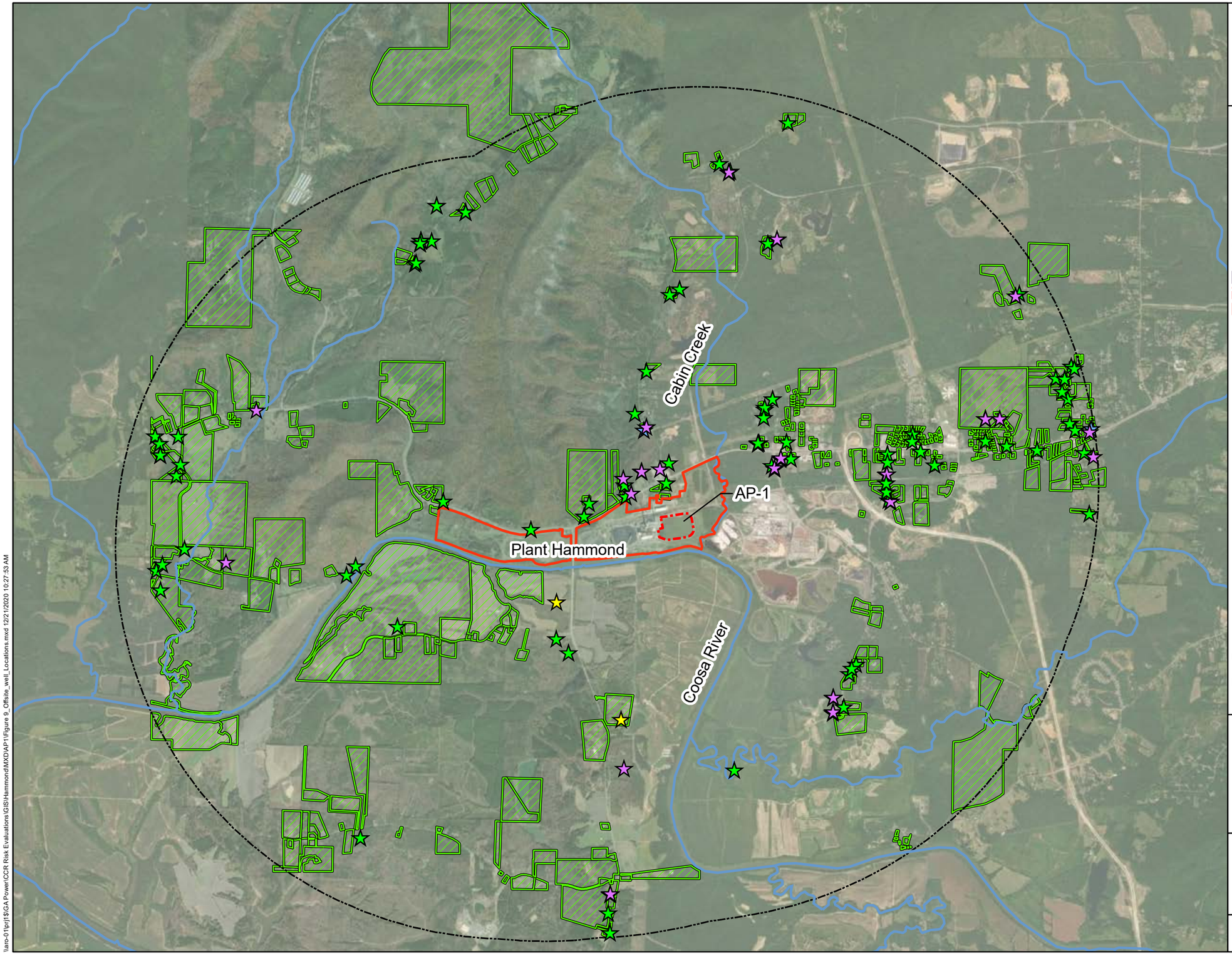
Conceptual Exposure Model

Georgia Power Company
Plant Hammond AP-1

Geosyntec consultants

Kennesaw, GA | January 2021

Figure 4



N

LEGEND

Off Site Wells

- Industrial Well
- Monitoring Well
- Private Drinking Well
- Private Irrigation Well
- River or Stream
- 3-Mile Radius
- Parcel Identified as Likely Having Well
- Approximate AP-1 Boundary
- Approximate Plant Hammond Site Boundary

Notes:
1. Aerial photograph source: ESRI World Imagery - Maxar, October 2017.

0 0.5 1 2 Miles

OFF-SITE WELL SURVEY RESULTS

GEORGIA POWER
PLANT HAMMOND AP-1
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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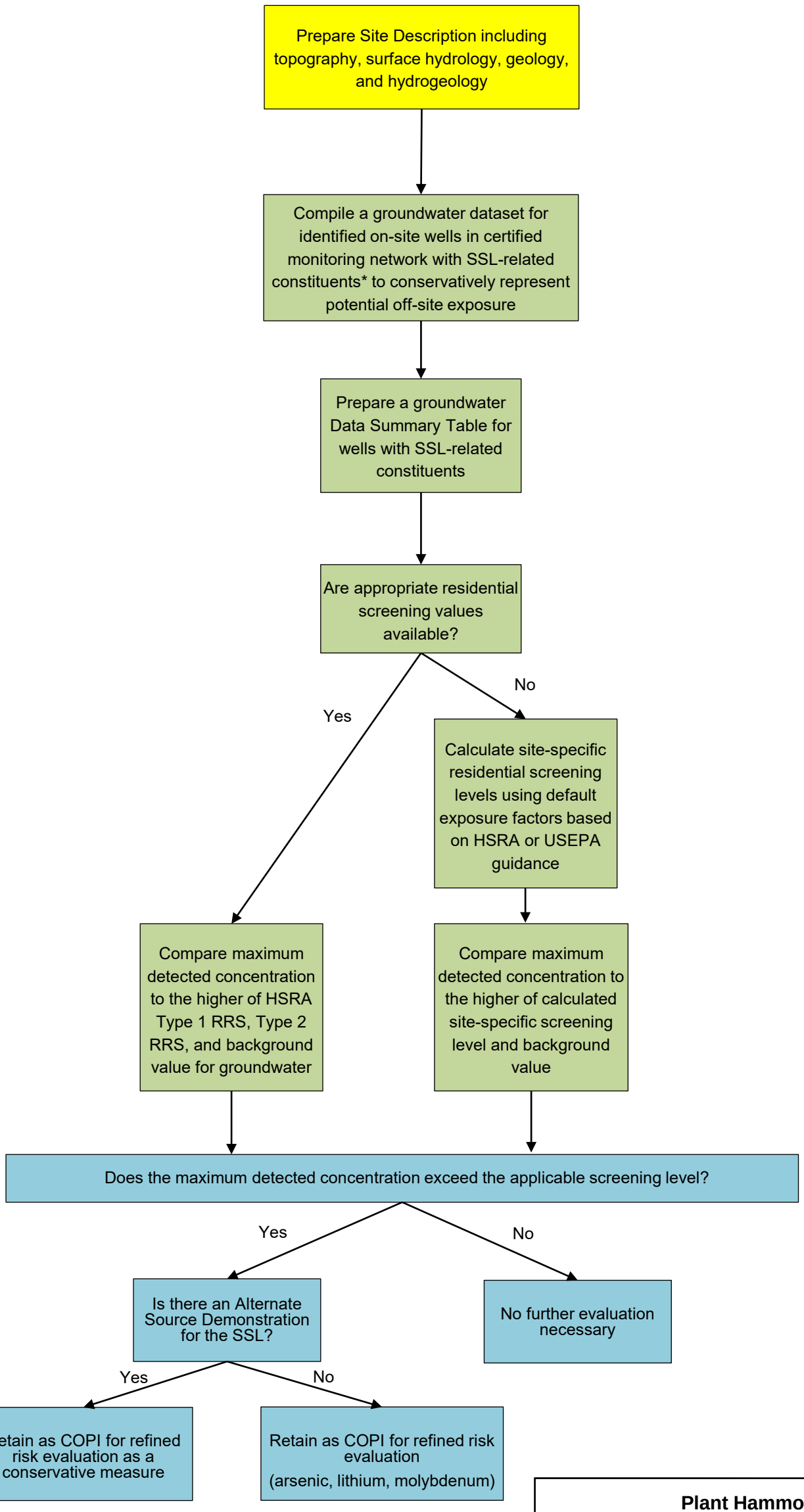
FIGURE 5

Initial Risk Screening Approach (Groundwater) for AP-1



Notes:

- Initial screen evaluates wells at AP-1 with SSL-related constituents arsenic, lithium, and molybdenum

SSL = Statistically Significant Level
COPI = Constituent of Potential Interest
HSRA = Hazardous Site Response Act
RRS = Risk Reduction Standard
USEPA = United States Environmental Protection Agency

Plant Hammond AP-1
Initial Groundwater Risk Screening Approach

Figure 6

Project Number: GZ7112H	January 2021

N

LEGEND

- Federal and State CCR Rule SSL Related Constituents
- State CCR Rule SSL Related Constituents

Note:
1. Arsenic Federal and State CCR Rules SSL-Related Constituent: HGWC-13
2. Lithium Federal and State CCR Rules SSL-Related Constituent: MW-25D and MW-30D
3. Lithium State CCR Rule SSL-Related Constituent: HGWC-13
4. Molybdenum Federal and State CCR Rules SSL-Related Constituent: HGWC-8
5. Molybdenum State CCR Rule SSL-Related Constituent: HGWC-7, HGWC-9, HGWC11, HGWC-12, HGWC-13, and MW-19
6.. Aerial photograph source: GoogIHe Earth Pro, February 2018.

0 150 300 600
Feet

MONITORING WELLS INCLUDED IN RISK SCREEN

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

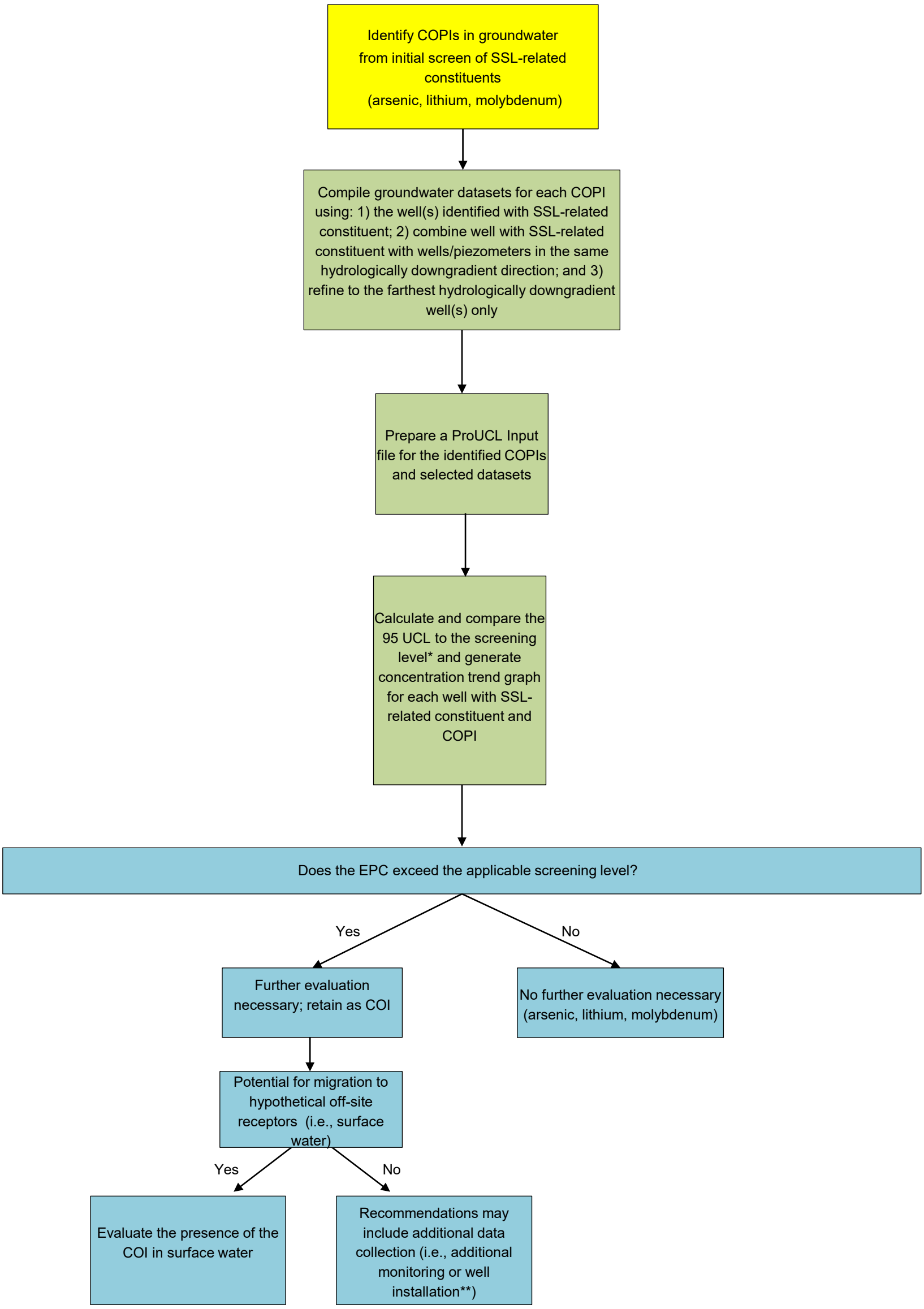
Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

FIGURE 7

\\aro-01\prj1\GA Power\CCR Risk Evaluations\GIS\Hammond\MXD\AP1\Figure 6_MonitoringWell.mxd 12/21/2020 10:38:04 AM

Approach for Refined Risk Evaluation (Groundwater) for AP-1



Notes:
*If the 95 UCL exceeds the maximum concentration, use the maximum as the EPC.
**This step is not necessary for Hammond AP-1.
SSL = Statistically Significant Level
COPI = Constituent of Potential Interest
EPC = Exposure Point Concentration
UCL = Upper Confidence Limit
COI = Constituent of Interest

Plant Hammond AP-1
Refined Groundwater Risk Evaluation Approach

Figure 8

Project Number: GZ7112H	January 2021

APPENDIX A

Plant Hammond Well Survey (Off-Site)

Well Survey

Plant Hammond

Ash Pond 1, Ash Pond 2, Ash Pond 3, Ash Pond 4

Rome, GA

Prepared for

Georgia Power Company

241 Ralph McGill Blvd., Atlanta, GA 30308

Prepared by

NewFields Companies, LLC

1349 W. Peachtree Street, Suite 2000

Atlanta, GA 30309

March 5, 2020

Introduction

Plant Hammond is located at 5963 Alabama Highway SW, Rome, GA 30165 and situated on an approximately 430-acre parcel along the Coosa River.

The Plant has four current and former ash ponds. Newfields conducted a well survey of potential drinking water wells within a three-mile radius of Ash Pond 1 (AP-1), Ash Pond 2 (AP-2), Ash Pond 3 (AP-3), and Ash Pond 4 (AP-4). This area, referred to in this report as the Investigated Area, is shown on Figure 1.

As part of the survey, NewFields reviewed information from a number of Federal, State, and County records and online sources, as well as a windshield survey of the Investigated Area. Information from each identified well was then compiled into a geographic information system (GIS) database.

Information Collection

This section summarizes the sources utilized to identify potential drinking water wells within the Investigated Area.

1. Federal Sources
    a. **United States Geological Survey (USGS)**. The USGS maintains an inventory database of wells sampled by a USGS-affiliated program for ground-water levels or water quality parameters at any time in the past.[1] Well information and coordinates were downloaded for the state of Georgia and compiled into the GIS database. All of the wells in this database in the Investigated Area were identified in the database simply as 'monitoring wells'; however, many of these appear to be co-located with drinking water wells. Some of these USGS monitoring wells may in fact be private drinking water wells utilized for monitoring purposes by USGS.

    b. **Safe Drinking Water Information System (SDWIS).** This EPA database has listings of public water systems but does not have well location information. SDWIS information was used to help identify the suppliers of public water in the vicinity of each facility. The water supplier for the Investigated Area is the Floyd County Water Utility.

2. State Sources

    Georgia Environmental Protection Division (EPD)

    a. **Drinking Water Branch.** EPD Drinking Water Branch maintains records about municipal and industrial wells, whose presence or absence within a radius of a site can be ascertained by contacting the agency. NewFields contacted Vicki Trent of EPD on October 3rd, 2019 requesting information about wells in the Investigated Area. Ms. Trent confirmed that there were no wells in the Investigated Area.

[1] http://waterdata.usgs.gov/ga/nwis/inventory?introduction

b. **EPD Pesticide Sampling Project.** From 2000 to 2004, EPD undertook a project to sample private drinking water wells for pesticides. EPD solicited volunteers state-wide to participate in the well sampling program. The final report includes the list of private water wells sampled, their coordinates, and depths when available.[2] Information about wells within the Investigated Area were compiled into the GIS database.

c. **Hazardous Site Inventory (HSI) Files.** EPD maintains files for Hazardous Site Inventory files for site which are undergoing state-led corrective action. These files usually contain groundwater data and well surveys. The EPD's online, interactive HSI map was reviewed. The only nearby HSI site is the Berryhill Landfill, 1.3 miles to the northwest of the northern impoundment. This site was added to the GIS databases. Reports associated with this site were reviewed, and wells identified in site files were added to the GIS database.

d. **Hazardous Site Response Act (HSRA) Notifications.** EPD maintains non-HSI HSRA notification reports (i.e., notifications submitted after releases of reportable substances). NewFields reviewed reports associated with sites in Floyd County within a 5-mile radius of Plant Hammond were scanned. Wells identified on these surveys were compiled into the GIS database. NewFields omitted the four monitoring wells shown to be located on Plant Hammond's property by past non-HSI well surveys, as we considered it unlikely Georgia Power would be utilizing their monitoring wells for irrigation or drinking purposes.

3. Floyd County Sources
   a. **Health Department Records.** Floyd County Health Department (DOH) maintains records of the permits for "on-site sewage management systems" (septic tanks). These permits indicate whether the permittee has private or public water supply, and often identify the exact location of the well on a map. NewFields communicated with Timothy Hendrix with the Department of Environmental Health, who stated that it was not feasible for the DOH to search the septic records themselves, and they would not allow NewFields direct access to the files. However, Mr. Hendrix said he did not believe there was any public water available to the west of Huffaker Road.

   b. **Floyd County Water Department.** NewFields communicated with Floyd County Utilities Administrator Stephen Hulsey who stated, "[w]e have nothing in the Coosa area west from Hwy 100 South." Hwy 100 South, also known as Foster Mill Road, is the road that runs between AP-2 and AP-4 and is the next major road to the west of Huffaker Rd. Mr. Hulsey stated he was not sure exactly how long the water system has been in place, but that he believed it was operating "since the 1970s."

   c. **Tax Assessor Records.** Floyd County GIS department provided parcel data for the county that was joined with full WINGap data from the tax assessor's office. The tax assessor's data included improvement values for parcels (indicating the presence of a structure) and the

[2] https://epd.georgia.gov/sites/epd.georgia.gov/files/related_files/site_page/PR-55.pdf

year of construction. Parcels with structures built prior to 1970 were identified as potentially containing active or abandoned drinking water wells.

4. Windshield Surveys
    a. A windshield survey of the Investigated Area was conducted on October 9th, 2019. During the survey a number of wells were visually identified, which were subsequently compiled into the GIS database. It is impossible to determine whether the wells seen are irrigation wells, drinking water wells, or are currently active.

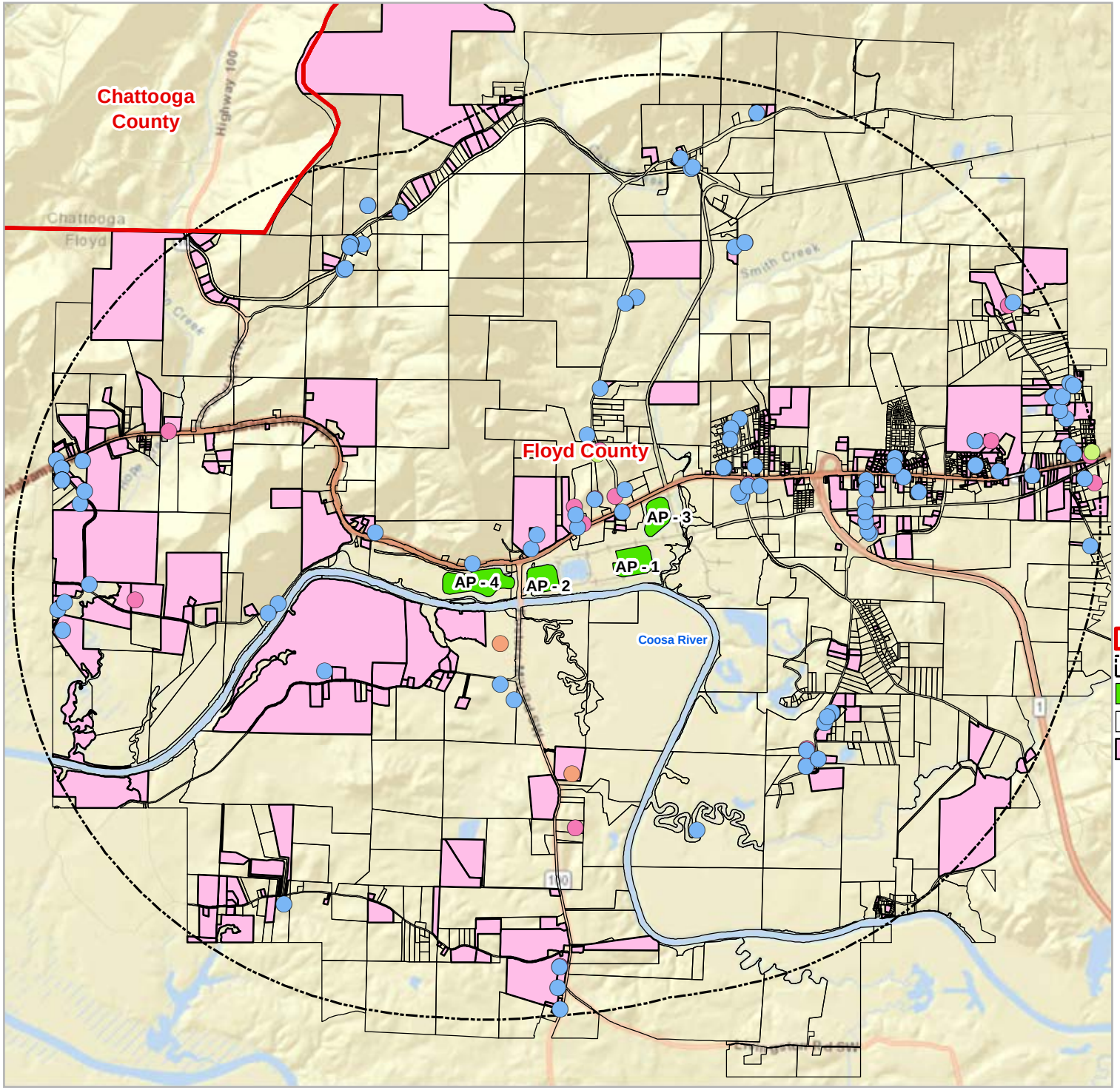
Summary

In addition to identifying specific wells from the above listed sources, NewFields used a combination of parcel data and information about the presence and age of public water infrastructure to identify parcels that most likely are using well water as their drinking water source or had drinking water wells at some time. Parcels may be (or have been) sharing wells, so a well may not exist for each identified parcel. These wells may or may not be active for drinking water and/or irrigation. Many wells were visible in the windshield surveys.

NewFields identified 707 actual and potential wells within the Investigated Area, the majority of which are likely private drinking water wells, but also some monitoring wells and commercial wells.[3] There were no public drinking water wells within the Investigated Area.

Figure 1 shows points for identified wells in the Investigated Area. The shaded parcels are parcels that were identified from parcel data as likely to contain wells. When viewed as a PDF file, the figure is interactive, and wells identified using different sources can be turned on and off.

[3] USGS monitoring wells located on Georgia Power property were considered not to be drinking water wells and omitted from the figures and tables in this report.



N
W E
S

- Commercial Well
- Private Drinking Well
- Irrigation Well
- Monitoring Well
- County Line
- 3-Mile Radius
- Ash Pond
- Parcels
- Parcel identified as likely having a well

0 2,500 5,000 10,000 Feet

Title	Plant Hammond - Ash Ponds 1 - 4
Project	GPC Plants Georgia
NewFields	Two Midtown Plaza 1349 W. Peachtree St, #2000 Atlanta, Georgia 30309 Tel: 404-347-9050
Date	02/13/2020
Rev. No.	2
MXD	gpc_ccr_2019/agis
Figure No.	1

APPENDIX B
Data Used in Risk Evaluation

Appendix B
Groundwater Data
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Arsenic	Lithium	Molybdenum
		Units	mg/L	mg/L	mg/L
		Ash Pond			
HGWC-11	5/23/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0164**
HGWC-11	7/12/2016	Ash Pond 1	**0.0015 J**	<0.05 (ND)	**0.0251**
HGWC-11	9/1/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0259**
HGWC-11	10/24/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0293**
HGWC-11	12/7/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0209**
HGWC-11	1/26/2017	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0277**
HGWC-11	3/22/2017	Ash Pond 1	**0.0053**	<0.05 (ND)	**0.011**
HGWC-11	5/24/2017	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0373**
HGWC-11	4/4/2018	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.013**
HGWC-11	6/5/2018	Ash Pond 1	**0.0012 J**	<0.05 (ND)	**0.029**
HGWC-11	10/3/2018	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.02**
HGWC-11	3/13/2019	Ash Pond 1	**0.0024 J**	<0.05 (ND)	**0.012**
HGWC-11	4/3/2019	Ash Pond 1	**0.00094 J**	<0.05 (ND)	**0.01**
HGWC-11	9/27/2019	Ash Pond 1	**0.0018 J**	<0.01 (ND)	**0.016**
HGWC-11	3/3/2020	Ash Pond 1	**0.0022 J**	<0.03 (ND)	**0.011**
HGWC-11	3/31/2020	Ash Pond 1	**0.0022 J**	<0.03 (ND)	**0.0074 J**
HGWC-12	5/23/2016	Ash Pond 1	**0.0046 J**	**0.0107 J**	**0.0413 J**
HGWC-12	7/12/2016	Ash Pond 1	**0.005**	**0.0113 J**	**0.0484**
HGWC-12	9/1/2016	Ash Pond 1	**0.0043 J**	**0.0118 J**	**0.0474**
HGWC-12	10/24/2016	Ash Pond 1	**0.0049 J**	**0.0114 J**	**0.047**
HGWC-12	12/7/2016	Ash Pond 1	**0.0046 J**	**0.0155 J**	**0.0432**
HGWC-12	1/26/2017	Ash Pond 1	<0.005 (ND)	**0.0099 J**	**0.0484**
HGWC-12	3/22/2017	Ash Pond 1	**0.0019 J**	**0.0098 J**	**0.0494**
HGWC-12	5/24/2017	Ash Pond 1	**0.0022 J**	**0.0105 J**	**0.047**
HGWC-12	4/4/2018	Ash Pond 1	<0.005 (ND)	**0.008 J**	**0.052**
HGWC-12	6/6/2018	Ash Pond 1	**0.0048 J**	**0.0095 J**	**0.054**
HGWC-12	10/3/2018	Ash Pond 1	**0.0037 J**	**0.0083 J**	**0.054**
HGWC-12	3/14/2019	Ash Pond 1	**0.0026 J**	**0.0058 J**	**0.046**
HGWC-12	4/3/2019	Ash Pond 1	**0.0022 J**	**0.0066 J**	**0.049**
HGWC-12	9/27/2019	Ash Pond 1	**0.0061**	**0.011 J**	**0.052**
HGWC-12	3/3/2020	Ash Pond 1	**0.0023 J**	**0.0063 J**	**0.045**
HGWC-12	3/26/2020	Ash Pond 1	**0.0028 J**	**0.0063 J**	**0.045**
HGWC-13	5/23/2016	Ash Pond 1	**0.329**	**0.0422 J**	**0.027**
HGWC-13	7/12/2016	Ash Pond 1	**0.297**	**0.0366 J**	**0.0316**
HGWC-13	9/1/2016	Ash Pond 1	**0.314**	**0.04 J**	**0.0336**
HGWC-13	10/24/2016	Ash Pond 1	**0.334**	**0.0435 J**	**0.0352**
HGWC-13	12/7/2016	Ash Pond 1	**0.35**	**0.0477 J**	**0.0383**
HGWC-13	1/26/2017	Ash Pond 1	**0.424**	**0.0342 J**	**0.041**
HGWC-13	3/22/2017	Ash Pond 1	**0.419**	**0.0353 J**	**0.0426**
HGWC-13	5/24/2017	Ash Pond 1	**0.393**	**0.0317 J**	**0.04**
HGWC-13	4/4/2018	Ash Pond 1	**0.49**	**0.031 J**	**0.027**
HGWC-13	6/5/2018	Ash Pond 1	**0.38**	**0.031 J**	**0.027**
HGWC-13	10/5/2018	Ash Pond 1	**0.34**	**0.027 J**	**0.033**

Appendix B
Groundwater Data
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Arsenic	Lithium	Molybdenum
		Units	mg/L	mg/L	mg/L
		Ash Pond			
HGWC-13	3/13/2019	Ash Pond 1	**0.42**	**0.029 J**	**0.033**
HGWC-13	4/5/2019	Ash Pond 1	**0.36**	**0.023 J**	**0.03**
HGWC-13	9/26/2019	Ash Pond 1	**0.44**	**0.035**	**0.026**
HGWC-13	3/4/2020	Ash Pond 1	**0.52**	**0.041**	**0.03**
HGWC-13	3/30/2020	Ash Pond 1	**0.47**	**0.038**	**0.029**
HGWC-7	5/20/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.028**
HGWC-7	7/12/2016	Ash Pond 1	<0.005 (ND)	**0.0021 J**	**0.0273**
HGWC-7	9/1/2016	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.0274**
HGWC-7	10/20/2016	Ash Pond 1	<0.005 (ND)	**0.0021 J**	**0.036**
HGWC-7	12/6/2016	Ash Pond 1	<0.005 (ND)	**0.0026 J**	**0.0365**
HGWC-7	1/25/2017	Ash Pond 1	<0.005 (ND)	**0.0024 J**	**0.0317**
HGWC-7	3/21/2017	Ash Pond 1	<0.005 (ND)	**0.0026 J**	**0.0346**
HGWC-7	5/23/2017	Ash Pond 1	<0.005 (ND)	**0.0026 J**	**0.0336**
HGWC-7	4/3/2018	Ash Pond 1	<0.005 (ND)	**0.0023 J**	**0.032**
HGWC-7	6/5/2018	Ash Pond 1	<0.005 (ND)	**0.0022 J**	**0.036**
HGWC-7	10/2/2018	Ash Pond 1	**0.0019 J**	**0.003 J**	**0.039**
HGWC-7	3/13/2019	Ash Pond 1	<0.005 (ND)	**0.0024 J**	**0.04**
HGWC-7	4/2/2019	Ash Pond 1	<0.005 (ND)	**0.002 J**	**0.041**
HGWC-7	9/25/2019	Ash Pond 1	<0.005 (ND)	**0.0019 J**	**0.047**
HGWC-7	3/4/2020	Ash Pond 1	<0.005 (ND)	**0.0034 J**	**0.045**
HGWC-7	3/27/2020	Ash Pond 1	<0.005 (ND)	**0.002 J**	**0.044**
HGWC-7	6/17/2020	Ash Pond 1	--	--	**0.048**
HGWC-8	5/20/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.446**
HGWC-8	7/12/2016	Ash Pond 1	<0.005 (ND)	**0.0023 J**	**0.455**
HGWC-8	9/1/2016	Ash Pond 1	<0.005 (ND)	**0.0029 J**	**0.481**
HGWC-8	10/20/2016	Ash Pond 1	<0.005 (ND)	**0.0027 J**	**0.472**
HGWC-8	12/6/2016	Ash Pond 1	<0.005 (ND)	**0.0032 J**	**0.52**
HGWC-8	1/25/2017	Ash Pond 1	<0.005 (ND)	**0.0026 J**	**0.478**
HGWC-8	3/21/2017	Ash Pond 1	<0.005 (ND)	**0.0029 J**	**0.547**
HGWC-8	5/23/2017	Ash Pond 1	<0.005 (ND)	**0.0029 J**	**0.482**
HGWC-8	4/3/2018	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.44**
HGWC-8	6/6/2018	Ash Pond 1	<0.005 (ND)	**0.0023 J**	**0.49**
HGWC-8	10/2/2018	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.47**
HGWC-8	3/12/2019	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.5**
HGWC-8	4/3/2019	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.5**
HGWC-8	9/24/2019	Ash Pond 1	<0.005 (ND)	**0.0024 J**	**0.54**
HGWC-8	3/3/2020	Ash Pond 1	<0.005 (ND)	**0.0028 J**	**0.44**
HGWC-8	3/27/2020	Ash Pond 1	<0.005 (ND)	**0.0026 J**	**0.42**
HGWC-8	6/16/2020	Ash Pond 1	--	--	**0.45**
HGWC-9	5/23/2016	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	**0.0187**
HGWC-9	7/12/2016	Ash Pond 1	<0.005 (ND)	**0.004 J**	**0.0229**
HGWC-9	9/1/2016	Ash Pond 1	<0.005 (ND)	**0.0044 J**	**0.0239**
HGWC-9	10/20/2016	Ash Pond 1	<0.005 (ND)	**0.0027 J**	**0.477**

Appendix B
Groundwater Data
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Arsenic	Lithium	Molybdenum
		Units	mg/L	mg/L	mg/L
		Ash Pond			
HGWC-9	12/6/2016	Ash Pond 1	<0.005 (ND)	**0.005 J**	**0.0236**
HGWC-9	1/26/2017	Ash Pond 1	<0.005 (ND)	**0.0042 J**	**0.0234**
HGWC-9	3/22/2017	Ash Pond 1	**0.0008 J**	**0.0043 J**	**0.0219**
HGWC-9	5/23/2017	Ash Pond 1	<0.005 (ND)	**0.0048 J**	**0.0242**
HGWC-9	4/3/2018	Ash Pond 1	<0.005 (ND)	**0.0043 J**	**0.025**
HGWC-9	6/6/2018	Ash Pond 1	<0.005 (ND)	**0.0043 J**	**0.027**
HGWC-9	10/2/2018	Ash Pond 1	<0.005 (ND)	**0.004 J**	**0.028**
HGWC-9	3/13/2019	Ash Pond 1	**0.00075 J**	**0.004 J**	**0.028**
HGWC-9	4/3/2019	Ash Pond 1	<0.005 (ND)	**0.004 J**	**0.03**
HGWC-9	9/27/2019	Ash Pond 1	**0.00037 J**	**0.0044 J**	**0.033**
HGWC-9	3/4/2020	Ash Pond 1	<0.005 (ND)	**0.004 J**	**0.031**
HGWC-9	3/31/2020	Ash Pond 1	<0.005 (ND)	**0.0043 J**	**0.031**
MW-19	3/14/2019	Ash Pond 1	<0.005 (ND)	**0.0089 J**	**0.057**
MW-19	4/3/2019	Ash Pond 1	<0.005 (ND)	**0.0061 J**	**0.04**
MW-19	9/27/2019	Ash Pond 1	<0.005 (ND)	**0.013 J**	**0.063**
MW-19	3/4/2020	Ash Pond 1	**0.00045 J**	**0.01 J**	**0.032**
MW-19	3/26/2020	Ash Pond 1	<0.005 (ND)	**0.013 J**	**0.033**
MW-20	3/13/2019	Ash Pond 1	**0.0023 J**	**0.0016 J**	<0.01 (ND)
MW-20	4/2/2019	Ash Pond 1	<0.005 (ND)	**0.0015 J**	<0.01 (ND)
MW-20	9/25/2019	Ash Pond 1	<0.005 (ND)	<0.01 (ND)	<0.01 (ND)
MW-20	3/2/2020	Ash Pond 1	**0.00038 J**	**0.00082 J**	<0.01 (ND)
MW-20	3/27/2020	Ash Pond 1	<0.005 (ND)	**0.0012 J**	<0.01 (ND)
MW-25D	3/14/2019	Ash Pond 1	**0.0019 J**	**0.05**	**0.0022 J**
MW-25D	4/3/2019	Ash Pond 1	<0.005 (ND)	**0.047 J**	<0.01 (ND)
MW-25D	9/27/2019	Ash Pond 1	**0.0011 J**	**0.047**	<0.01 (ND)
MW-25D	3/3/2020	Ash Pond 1	**0.001 J**	**0.05**	<0.01 (ND)
MW-25D	3/26/2020	Ash Pond 1	**0.00075 J**	**0.054**	<0.01 (ND)
MW-26D	3/13/2019	Ash Pond 1	<0.005 (ND)	**0.0033 J**	<0.01 (ND)
MW-26D	4/3/2019	Ash Pond 1	<0.005 (ND)	**0.0034 J**	**0.0083 J**
MW-26D	9/26/2019	Ash Pond 1	<0.005 (ND)	**0.0041 J**	**0.017**
MW-26D	11/25/2019	Ash Pond 1	--	--	**0.02**
MW-26D	3/4/2020	Ash Pond 1	**0.0006 J**	**0.03 J**	**0.0074 J**
MW-26D	3/31/2020	Ash Pond 1	<0.005 (ND)	**0.0036 J**	**0.0093 J**
MW-27D	3/13/2019	Ash Pond 1	<0.005 (ND)	**0.0097 J**	<0.01 (ND)
MW-27D	4/4/2019	Ash Pond 1	**0.0002 J**	**0.0069 J**	**0.0018 J**
MW-27D	9/26/2019	Ash Pond 1	<0.005 (ND)	**0.0055 J**	**0.0042 J**
MW-27D	3/4/2020	Ash Pond 1	**0.00069 J**	**0.0047 J**	**0.0058 J**
MW-27D	4/2/2020	Ash Pond 1	<0.005 (ND)	**0.0068 J**	**0.003 J**
MW-28D	3/12/2019	Ash Pond 1	<0.005 (ND)	**0.011 J**	**0.013**
MW-28D	4/2/2019	Ash Pond 1	<0.005 (ND)	**0.0052 J**	**0.028**
MW-28D	9/26/2019	Ash Pond 1	<0.005 (ND)	**0.0055 J**	**0.017**
MW-28D	3/4/2020	Ash Pond 1	<0.005 (ND)	**0.015 J**	**0.009 J**
MW-28D	3/27/2020	Ash Pond 1	<0.005 (ND)	**0.014 J**	**0.0068 J**
MW-29	3/12/2019	Ash Pond 1	<0.005 (ND)	**0.0024 J**	**0.0038 J**
MW-29	4/2/2019	Ash Pond 1	<0.005 (ND)	**0.0021 J**	**0.0028 J**

Appendix B
Groundwater Data
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Arsenic	Lithium	Molybdenum
		Units	mg/L	mg/L	mg/L
		Ash Pond			
MW-29	9/24/2019	Ash Pond 1	<0.005 (ND)	**0.0022 J**	**0.0021 J**
MW-29	3/2/2020	Ash Pond 1	<0.005 (ND)	**0.0025 J**	**0.0025 J**
MW-29	3/30/2020	Ash Pond 1	**0.00037 J**	**0.0023 J**	**0.0029 J**
MW-30D	7/8/2019	Ash Pond 1	--	**--**	**0.022**
MW-30D	9/24/2019	Ash Pond 1	**0.0026 J**	**0.16**	**0.036**
MW-30D	11/26/2019	Ash Pond 1	--	**0.23**	**0.041**
MW-30D	3/4/2020	Ash Pond 1	**0.0021 J**	**0.18**	**0.021**
MW-30D	3/31/2020	Ash Pond 1	<0.005 (ND)	**0.25**	**0.015**
MW-30D	6/17/2020	Ash Pond 1	--	--	**0.0062 J**
MW-5	3/13/2019	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	<0.01 (ND)
MW-5	4/3/2019	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	<0.01 (ND)
MW-5	9/25/2019	Ash Pond 1	<0.005 (ND)	<0.01 (ND)	<0.01 (ND)
MW-5	3/2/2020	Ash Pond 1	<0.005 (ND)	<0.03 (ND)	<0.01 (ND)
MW-5	3/26/2020	Ash Pond 1	<0.005 (ND)	<0.03 (ND)	<0.01 (ND)
MW-7	3/13/2019	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	<0.01 (ND)
MW-7	4/3/2019	Ash Pond 1	<0.005 (ND)	<0.05 (ND)	<0.01 (ND)
MW-7	9/26/2019	Ash Pond 1	<0.005 (ND)	<0.01 (ND)	**0.0033 J**
MW-7	3/3/2020	Ash Pond 1	<0.005 (ND)	<0.03 (ND)	<0.01 (ND)
MW-7	3/30/2020	Ash Pond 1	<0.005 (ND)	<0.03 (ND)	<0.01 (ND)

Notes:
Bold = the constituent was detected in the sample.
"--" = No analysis conducted.
mg/L milligrams(s) per liter
< = Non-detect result; the reporting limit is presented
J = Estimated value; the presented value is below the reporting limit but above the method detection limit.
(ND) = Non-detect result; the reporting limit is presented

APPENDIX C

USEPA RSL Calculator Generated Residential Screening Levels

Appendix C
USEPA RSL Calculator Generated Residential Screening Levels
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Variable	Value
THQ (target hazard quotient) unitless	1
TR (target risk) unitless	0.00001
LT (lifetime) years	70
K (volatilization factor of Andelman) L/m3	0.5
lsc (apparent thickness of stratum corneum) cm	0.001
EDres (exposure duration - resident) years	26
EDres-c (exposure duration - child) years	6
EDres-a (exposure duration - adult) years	20
ED0-2 (mutagenic exposure duration first phase) years	2
ED2-6 (mutagenic exposure duration second phase) years	4
ED6-16 (mutagenic exposure duration third phase) years	10
ED16-26 (mutagenic exposure duration fourth phase) years	10
EFres (exposure frequency) days/year	350
EFres-c (exposure frequency - child) days/year	350
EFres-a (exposure frequency - adult) days/year	350
EF0-2 (mutagenic exposure frequency first phase) days/year	350
EF2-6 (mutagenic exposure frequency second phase) days/year	350
EF6-16 (mutagenic exposure frequency third phase) days/year	350
EF16-26 (mutagenic exposure frequency fourth phase) days/year	350
ETevent-res-adj (age-adjusted exposure time) hours/event	0.67077
ETevent-res-madj (mutagenic age-adjusted exposure time) hours/event	0.67077
ETres (exposure time) hours/day	24
ETres-c (dermal exposure time - child) hours/event	0.54
ETres-a (dermal exposure time - adult) hours/event	0.71
ETres-c (inhalation exposure time - child) hours/day	24
ETres-a (inhalation exposure time - adult) hours/day	24
ET0-2 (mutagenic inhalation exposure time first phase) hours/day	24
ET2-6 (mutagenic inhalation exposure time second phase) hours/day	24
ET6-16 (mutagenic inhalation exposure time third phase) hours/day	24
ET16-26 (mutagenic inhalation exposure time fourth phase) hours/day	24
ET0-2 (mutagenic dermal exposure time first phase) hours/event	0.54
ET2-6 (mutagenic dermal exposure time second phase) hours/event	0.54
ET6-16 (mutagenic dermal exposure time third phase) hours/event	0.71
ET16-26 (mutagenic dermal exposure time fourth phase) hours/event	0.71
BWres-a (body weight - adult) kg	80
BWres-c (body weight - child) kg	15
BW0-2 (mutagenic body weight) kg	15
BW2-6 (mutagenic body weight) kg	15
BW6-16 (mutagenic body weight) kg	80
BW16-26 (mutagenic body weight) kg	80
IFWres-adj (adjusted intake factor) L/kg	327.95
IFWres-adj (adjusted intake factor) L/kg	327.95
IFWMres-adj (mutagenic adjusted intake factor) L/kg	1019.9
IFWMres-adj (mutagenic adjusted intake factor) L/kg	1019.9
IRWres-c (water intake rate - child) L/day	0.78
IRWres-a (water intake rate - adult) L/day	2.5
IRW0-2 (mutagenic water intake rate) L/day	0.78
IRW2-6 (mutagenic water intake rate) L/day	0.78
IRW6-16 (mutagenic water intake rate) L/day	2.5
IRW16-26 (mutagenic water intake rate) L/day	2.5
EVres-a (events - adult) per day	1
EVres-c (events - child) per day	1
EV0-2 (mutagenic events) per day	1
EV2-6 (mutagenic events) per day	1
EV6-16 (mutagenic events) per day	1
EV16-26 (mutagenic events) per day	1
DFWres-adj (age-adjusted dermal factor) cm2-event/kg	2610650
DFWMres-adj (mutagenic age-adjusted dermal factor) cm2-event/kg	8191633
SAres-c (skin surface area - child) cm2	6365
SAres-a (skin surface area - adult) cm2	19652
SA0-2 (mutagenic skin surface area) cm2	6365
SA2-6 (mutagenic skin surface area) cm2	6365
SA6-16 (mutagenic skin surface area) cm2	19652
SA16-26 (mutagenic skin surface area) cm2	19652

Output generated 06NOV2019:16:09:05

Appendix C
USEPA RSL Calculator Generated Residential Screening Levels
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Chemical	Lithium	Molybdenum
CAS Number	7487-94-7	7782-49-2
Mutagen?	No	No
Volatile?	No	No
Chemical Type	Inorganics	Inorganics
Sfo (mg/kg-day)-1	-	-
Sfo Ref		
IUR (ug/m3)-1	-	-
IUR Ref		
RfD (mg/kg-day)	0.0003	0.005
RfD Ref	I	I
RfC (mg/m3)	0.0003	0.02
RfC Ref	S	C
GIABS	0.07	1
Kp (cm/hr)	0.001	0.001
MW	272	79
B (unitless)	0.00634	0.00342
t* (hr)	8.36	0.699
τevent (hr/event)	3.49	0.291
FA (unitless)	1	1
In EPD?	Yes	Yes
DAevent (ca)	-	-
DAevent (nc child)	0.0000516	0.0123
DAevent (nc adult)	0.0000892	0.0212
MCL (ug/L)	2	50
Ingestion SL TR=1E-05 (ug/L)	-	-
Dermal SL TR=1E-05 (ug/L)	-	-
Inhalation SL TR=1E-05 (ug/L)	-	-
Carcinogenic SL TR=1E-05 (ug/L)	-	-
Ingestion SL Child THQ=1 (ug/L)	6.02	100
Dermal SL Child THQ=1 (ug/L)	95.6	22800
Inhalation SL Child THQ=1 (ug/L)	-	-
Noncarcinogenic SL Child THI=1 (ug/L)	5.66	99.8
Ingestion SL Adult THQ=1 (ug/L)	10	167
Dermal SL Adult THQ=1 (ug/L)	126	29900
Inhalation SL Adult THQ=1 (ug/L)	-	-
Noncarcinogenic SL Adult THI=1 (ug/L)	9.27	166
Screening Level (ug/L)	5.66E+00 nc	9.98E+01 nc

Notes

I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

APPENDIX D

Support for Refined Risk Evaluation

Appendix D-1

Exposure Point Concentration Calculation Results

Appendix D.
Appendix D-1
Exposure Point Concentration Calculation Results[1]
Pland Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

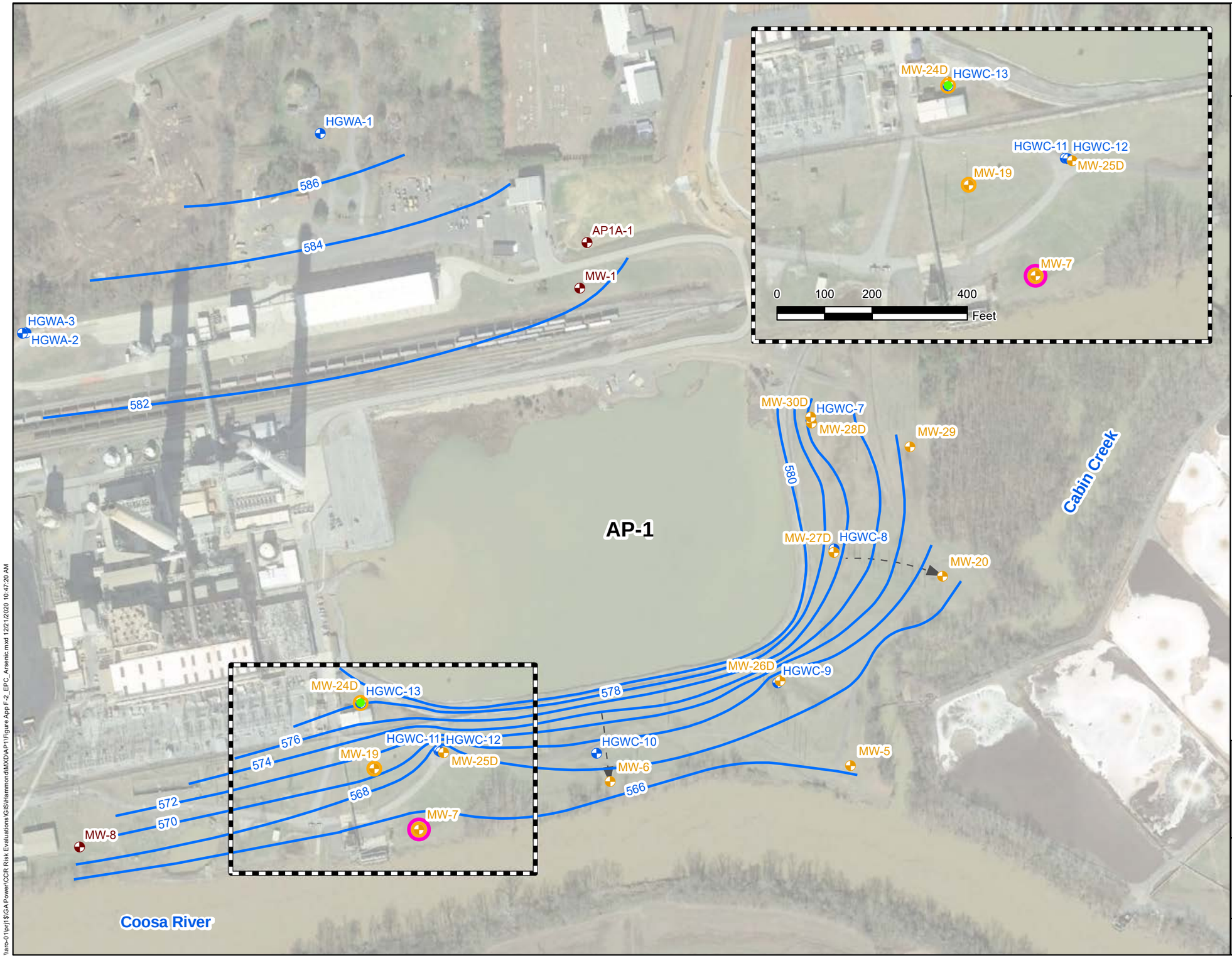
CCR Rule Designation	Constituent	Well IDs Included	Maximum Concentration (mg/L)	Detection Frequency	Exceedance Frequency	EPC Step 1 Target Well(s) 2016-2020 (mg/L)	EPC Step 2 Target Well(s) + Nearby Well(s) + Downgradient Well(s) 2016-2020 (mg/L)	EPC Step 3 Farthest Downgradient Well(s) 2016-2020 (mg/L)
Appendix IV	Arsenic	HGWC-13	0.52	16 / 16	16 / 16	0.42		
		HGWC-13 MW-19 MW-7	0.52	16 / 26	16 / 26		0.31	
		MW-7	<0.005	0 / 5	0 / 5			<0.005
	Lithium	MW-30D	0.25	4 / 4	4 / 4	0.25		
		HGWC-7 MW-28D MW-29 MW-30D	0.25	29 / 30	4 / 30		0.087	
		MW-29	0.0025	5 / 5	0 / 5			0.0025
		HGWC-13 MW-25D	0.054	20 / 20	9 / 20	0.042		
		HGWC-11 HGWC-12 HGWC-13 MW-19 MW-25D MW-7	0.054	41 / 62	9 / 62		0.032	
		MW-7	<0.001[2]	0 / 5	0 / 5			<0.001[2]
	Molybdenum	HGWC-8 HGWC-9	0.55	34 / 34	17 / 34	0.45		
		HGWC-8 HGWC-9 MW-20 MW-26D MW-27D MW-5	0.55	43 / 55	17 / 55		0.30	
		MW-20 MW-5	<0.01	0 / 10	0 / 10			<0.01

Notes:
Highlighted cells indicate the EPCs selected in the refined risk evaluation.
[1] EPCs calculated in accordance with USEPA, 2014. Memorandum for Determining Groundwater Exposure Point Concentrations, Supplemental Guidance. OSWER Directive 9283.1-42, February 2014. Located at https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236917
[2] The presented value is the method detection limit (MDL) for the constituent.

Definitions:
EPC = Exposure Point Concentration
mg/L = milligrams per liter

Appendix D-2

Exposure Point Concentration Figures



N

LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring Piezometer
- Groundwater Elevation Iso-Contour (inferred where dashed)
- Approximate Groundwater Flow Direction

Exposure Point Concentration Wells

- Step 1 Well
- Step 2 Well
- Step 3 Well

Notes:
1. Exposure Point Concentration (EPC).
2. EPC Step 1 - Individual Target Well(s) 2016-2020.
3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2020.
4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2020.
5. Water elevation contours are based on measurements shown on Figure 3. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
6. Aerial photograph source: Google Earth Pro, February 2018.

0 150 300 600 Feet

EXPOSURE POINT CONCENTRATION MAP ARSENIC

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2021

APPENDIX D-2

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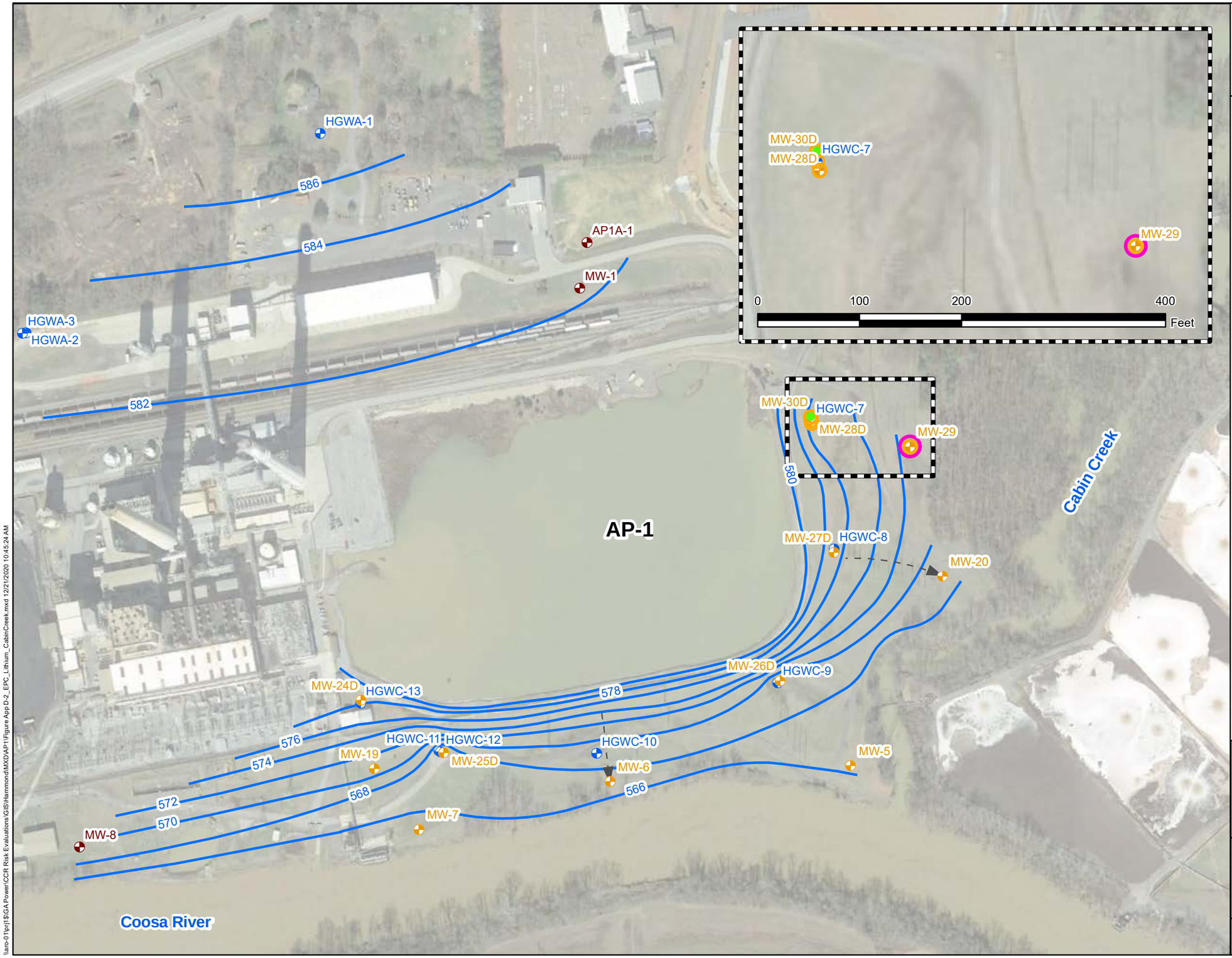

N

LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring Piezometer
- Groundwater Elevation Iso-Contour (inferred where dashed)
- Approximate Groundwater Flow Direction

Exposure Point Concentration Wells

- Step 1 Well
- Step 2 Well
- Step 3 Well

Notes:
1. Exposure Point Concentration (EPC).
2. EPC Step 1 - Individual Target Well(s) 2016-2020.
3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2020.
4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2020.
5. Water elevation contours are based on measurements shown on Figure 3. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
6. Aerial photograph source: Google Earth Pro, February 2018.

0 150 300 600
Feet

EXPOSURE POINT CONCENTRATION MAP LITHIUM - EAST EXPOSURE UNIT

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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APPENDIX D-2

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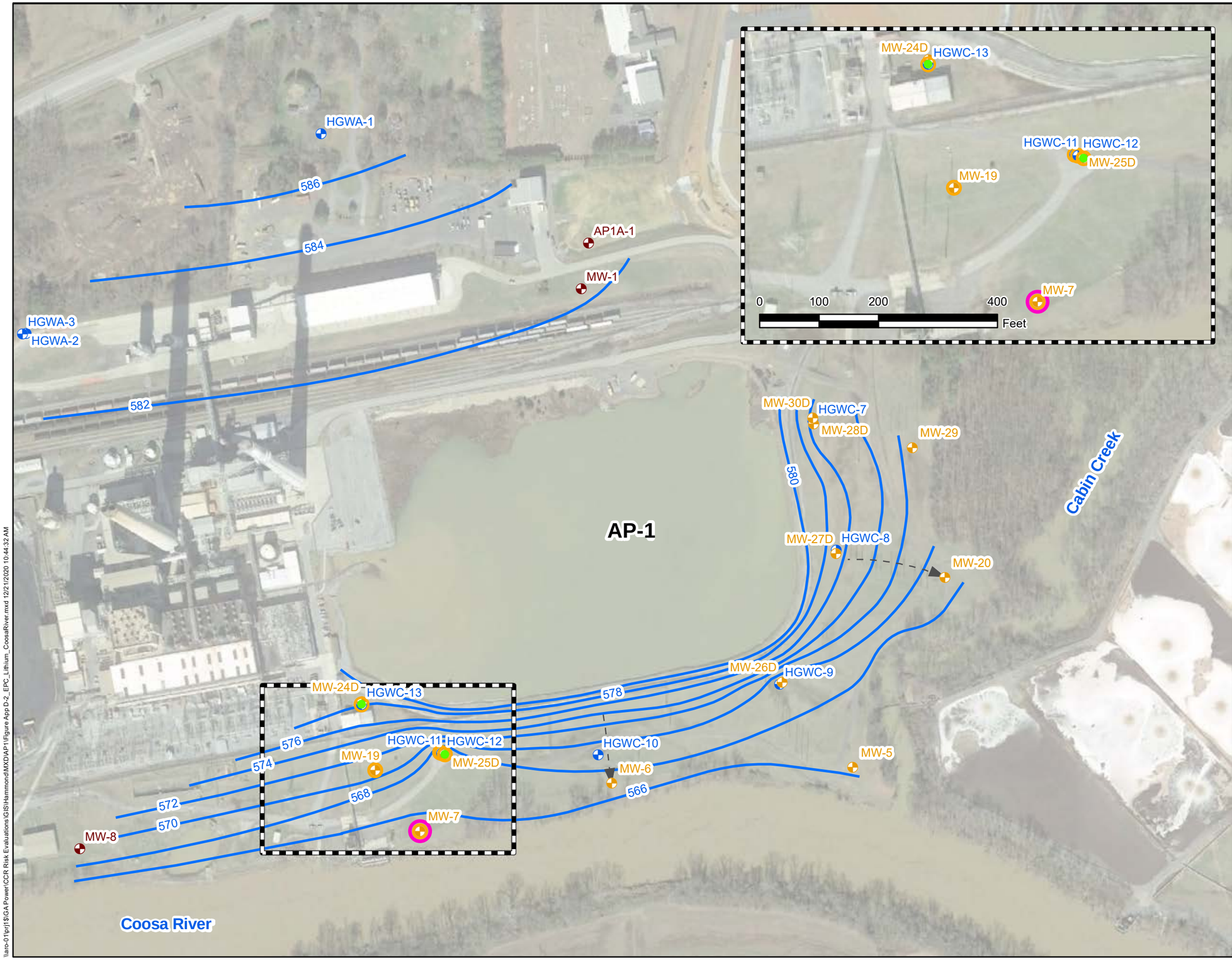

N

LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring Piezometer
- Groundwater Elevation Iso-Contour (inferred where dashed)
- Approximate Groundwater Flow Direction

Exposure Point Concentration Wells

- Step 1 Well
- Step 2 Well
- Step 3 Well

Notes:
1. Exposure Point Concentration (EPC).
2. EPC Step 1 - Individual Target Well(s) 2016-2020.
3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2020.
4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2020.
5. Water elevation contours are based on measurements shown on Figure 3. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
6. Aerial photograph source: Google Earth Pro, February 2018.

0 150 300 600 Feet

EXPOSURE POINT CONCENTRATION MAP
LITHIUM - SOUTH EXPOSURE UNIT

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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APPENDIX
D-2

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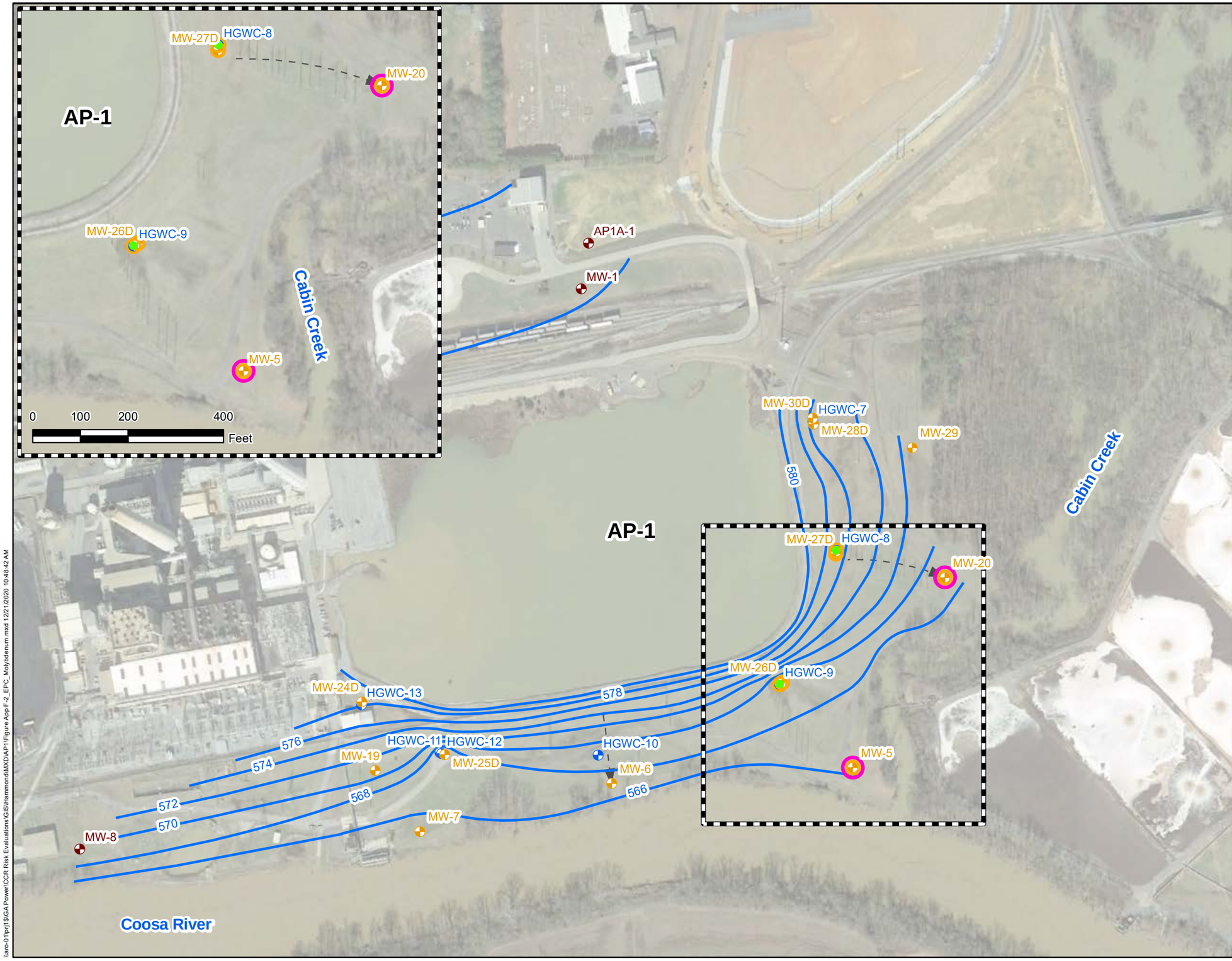

N

LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring Piezometer
- Groundwater Elevation Iso-Contour (inferred where dashed)
- Approximate Groundwater Flow Direction

Exposure Point Concentration Wells

- Step 1 Well
- Step 2 Well
- Step 3 Well

Notes:
1. Exposure Point Concentration (EPC).
2. EPC Step 1 - Individual Target Well(s) 2016-2020.
3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2020.
4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2020.
5. Water elevation contours are based on measurements shown on Figure 3. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
6. Aerial photograph source: Google Earth Pro, February 2018.

0 150 300 600
Feet

EXPOSURE POINT CONCENTRATION MAP MOLYBDENUM

GEORGIA POWER
PLANT HAMMOND AP-1
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

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APPENDIX D-2

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Appendix D-3

ProUCL Input/Output Files

Appendix D
Appendix D-3
ProUCL Input
Plant Hammond AP-1 Risk Evaluation Report
Plant Hammond, Rome, GA

Step 1 EPC Calculation Input								Step 2 EPC Calculation Input								Step 3 EPC Calculation	
Step1_Arsenic_AP1	D_Step1_Arsenic_AP1	Step1_Lithium_East_AP1	D_Step1_Lithium_East_AP1	Step1_Lithium_South_AP1	D_Step1_Lithium_South_AP1	Step1_Molybdenum_AP1	D_Step1_Molybdenum_AP1	Step2_Arsenic_AP1	D_Step2_Arsenic_AP1	Step2_Lithium_East_AP1	D_Step2_Lithium_East_AP1	Step2_Lithium_South_AP1	D_Step2_Lithium_South_AP1	Step2_Molybdenum_AP1	D_Step2_Molybdenum_AP1	Step3_Lithium_East_AP1	D_Step3_Lithium_East_AP1
0.329	1	0.16	1	0.0422	1	0.446	1	0.329	1	0.05	0	0.05	0	0.446	1	0.0024	1
0.297	1	0.23	1	0.0366	1	0.455	1	0.297	1	0.0021	1	0.05	0	0.455	1	0.0021	1
0.314	1	0.18	1	0.04	1	0.481	1	0.314	1	0.0025	1	0.05	0	0.481	1	0.0022	1
0.334	1	0.25	1	0.0435	1	0.472	1	0.334	1	0.0021	1	0.05	0	0.472	1	0.0025	1
0.35	1			0.0477	1	0.52	1	0.35	1	0.0026	1	0.05	0	0.52	1	0.0023	1
0.424	1			0.0342	1	0.478	1	0.424	1	0.0024	1	0.05	0	0.478	1		
0.419	1			0.0353	1	0.547	1	0.419	1	0.0026	1	0.05	0	0.547	1		
0.393	1			0.0317	1	0.482	1	0.393	1	0.0026	1	0.05	0	0.482	1		
0.49	1			0.031	1	0.44	1	0.49	1	0.0023	1	0.05	0	0.44	1		
0.38	1			0.031	1	0.49	1	0.38	1	0.0022	1	0.05	0	0.49	1		
0.34	1			0.027	1	0.47	1	0.34	1	0.003	1	0.05	0	0.47	1		
0.42	1			0.029	1	0.5	1	0.42	1	0.0024	1	0.05	0	0.5	1		
0.36	1			0.023	1	0.5	1	0.36	1	0.002	1	0.05	0	0.5	1		
0.44	1			0.035	1	0.54	1	0.44	1	0.0019	1	0.01	0	0.54	1		
0.52	1			0.041	1	0.44	1	0.52	1	0.0034	1	0.03	0	0.44	1		
0.47	1			0.038	1	0.42	1	0.47	1	0.002	1	0.03	0	0.42	1		
				0.05	1	0.45	1	0.005	0	0.011	1	0.0107	1	0.45	1		
				0.047	1	0.0187	1	0.005	0	0.0052	1	0.0113	1	0.0187	1		
				0.047	1	0.0229	1	0.005	0	0.0055	1	0.0118	1	0.0229	1		
				0.05	1	0.0239	1	0.00045	1	0.015	1	0.0114	1	0.0239	1		
				0.054	1	0.477	1	0.005	0	0.014	1	0.0155	1	0.477	1		
						0.0236	1	0.005	0	0.0024	1	0.0099	1	0.0236	1		
						0.0234	1	0.005	0	0.0021	1	0.0098	1	0.0234	1		
						0.0219	1	0.005	0	0.0022	1	0.0105	1	0.0219	1		
						0.0242	1	0.005	0	0.0025	1	0.008	1	0.0242	1		
						0.025	1	0.005	0	0.0023	1	0.0095	1	0.025	1		
						0.027	1			0.16	1	0.0083	1	0.027	1		
						0.028	1			0.23	1	0.0058	1	0.028	1		
						0.028	1			0.18	1	0.0066	1	0.028	1		
						0.03	1			0.25	1	0.011	1	0.03	1		
						0.033	1					0.0063	1	0.033	1		
						0.031	1					0.0063	1	0.031	1		
						0.031	1					0.0422	1	0.031	1		
												0.0366	1	0.01	0		
												0.04	1	0.01	0		
												0.0435	1	0.01	0		
												0.0477	1	0.01	0		
												0.0342	1	0.01	0		
												0.0353	1	0.01	0		
												0.0317	1	0.0083	1		
												0.031	1	0.017	1		
												0.031	1	0.02	1		
												0.027	1	0.0074	1		
												0.029	1	0.0093	1		
												0.023	1	0.01	0		
												0.035	1	0.0018	1		
												0.041	1	0.0042	1		
												0.038	1	0.0058	1		
												0.0089	1	0.003	1		
												0.0061	1	0.01	0		
												0.013	1	0.01	0		
												0.01	1	0.01	0		
												0.013	1	0.01	0		
												0.05	1	0.01	0		
												0.047	1				
												0.047	1				
												0.05	1				
												0.054	1				
												0.05	0				
												0.05	0				
												0.01	0				
												0.03	0				
												0.03	0				

Notes:
EPC= Exposure point Concentration

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.11/25/2021 11:35:18 AM
From File	ProUCL Input AP1.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Step1_Arsenic_AP1

General Statistics

Total Number of Observations	16	Number of Distinct Observations	16
		Number of Missing Observations	0
Minimum	0.297	Mean	0.393
Maximum	0.52	Median	0.387
SD	0.0658	Std. Error of Mean	0.0165
Coefficient of Variation	0.168	Skewness	0.421

Normal GOF Test

Shapiro Wilk Test Statistic	0.959	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.887	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.127	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.213	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.421	95% Adjusted-CLT UCL (Chen-1995)	0.421
		95% Modified-t UCL (Johnson-1978)	0.422

Gamma GOF Test

A-D Test Statistic	0.243	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.736	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.12	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.215	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	38.68	k star (bias corrected MLE)	31.47
Theta hat (MLE)	0.0101	Theta star (bias corrected MLE)	0.0125
nu hat (MLE)	1238	nu star (bias corrected)	1007
MLE Mean (bias corrected)	0.393	MLE Sd (bias corrected)	0.07
		Approximate Chi Square Value (0.05)	934.4
Adjusted Level of Significance	0.0335	Adjusted Chi Square Value	926.5

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.423	95% Adjusted Gamma UCL (use when n<50)	0.427

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.97	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.887	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.119	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.213	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.214	Mean of logged Data	-0.948
Maximum of Logged Data	-0.654	SD of logged Data	0.166

Assuming Lognormal Distribution

95% H-UCL	0.424	90% Chebyshev (MVUE) UCL	0.441
95% Chebyshev (MVUE) UCL	0.464	97.5% Chebyshev (MVUE) UCL	0.495
99% Chebyshev (MVUE) UCL	0.555		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.42	95% Jackknife UCL	0.421
95% Standard Bootstrap UCL	0.419	95% Bootstrap-t UCL	0.424
95% Hall's Bootstrap UCL	0.423	95% Percentile Bootstrap UCL	0.42
95% BCA Bootstrap UCL	0.423		
90% Chebyshev(Mean, Sd) UCL	0.442	95% Chebyshev(Mean, Sd) UCL	0.464
97.5% Chebyshev(Mean, Sd) UCL	0.495	99% Chebyshev(Mean, Sd) UCL	0.556

Suggested UCL to Use

95% Student's-t UCL	0.421

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step1_Lithium_East_AP1

General Statistics

Total Number of Observations	4	Number of Distinct Observations	4
		Number of Missing Observations	0
Minimum	0.16	Mean	0.205
Maximum	0.25	Median	0.205
SD	0.042	Std. Error of Mean	0.021
Coefficient of Variation	0.205	Skewness	-1.95E-15

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.931	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.748	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.224	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.375	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.254	95% Adjusted-CLT UCL (Chen-1995)	0.24
		95% Modified-t UCL (Johnson-1978)	0.254

Gamma GOF Test

A-D Test Statistic	0.321	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.657	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.263	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.394	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	31.24	k star (bias corrected MLE)	7.976
Theta hat (MLE)	0.00656	Theta star (bias corrected MLE)	0.0257
nu hat (MLE)	249.9	nu star (bias corrected)	63.81
MLE Mean (bias corrected)	0.205	MLE Sd (bias corrected)	0.0726
		Approximate Chi Square Value (0.05)	46.43
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.282	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.931	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.748	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.236	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.375	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.833	Mean of logged Data	-1.601
Maximum of Logged Data	-1.386	SD of logged Data	0.208

Assuming Lognormal Distribution

95% H-UCL	0.278	90% Chebyshev (MVUE) UCL	0.269
95% Chebyshev (MVUE) UCL	0.298	97.5% Chebyshev (MVUE) UCL	0.338
99% Chebyshev (MVUE) UCL	0.417		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.24	95% Jackknife UCL	0.254
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	0.268	95% Chebyshev(Mean, Sd) UCL	0.297
97.5% Chebyshev(Mean, Sd) UCL	0.336	99% Chebyshev(Mean, Sd) UCL	0.414

Suggested UCL to Use

95% Student's-t UCL	0.254

Recommended UCL exceeds the maximum observation

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Step1_Lithium_South_AP1

General Statistics

Total Number of Observations	21	Number of Distinct Observations	18
		Number of Missing Observations	0
Minimum	0.023	Mean	0.0388
Maximum	0.054	Median	0.038
SD	0.0085	Std. Error of Mean	0.00186
Coefficient of Variation	0.219	Skewness	0.033

Normal GOF Test

Shapiro Wilk Test Statistic	0.977	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.119	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.188	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.042	95% Adjusted-CLT UCL (Chen-1995)	0.0418
		95% Modified-t UCL (Johnson-1978)	0.042

Gamma GOF Test

A-D Test Statistic	0.22	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.742	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.123	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.189	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	21.02	k star (bias corrected MLE)	18.05
Theta hat (MLE)	0.00184	Theta star (bias corrected MLE)	0.00215
nu hat (MLE)	882.9	nu star (bias corrected)	758.1
MLE Mean (bias corrected)	0.0388	MLE Sd (bias corrected)	0.00913
		Approximate Chi Square Value (0.05)	695.2
Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	690.6

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.0423	95% Adjusted Gamma UCL (use when n<50)	0.0426

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.972	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.908	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.115	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.188	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-3.772	Mean of logged Data	-3.274
Maximum of Logged Data	-2.919	SD of logged Data	0.228

Assuming Lognormal Distribution

95% H-UCL	0.0425	90% Chebyshev (MVUE) UCL	0.0446

95% Chebyshev (MVUE) UCL	0.0473	97.5% Chebyshev (MVUE) UCL	0.0509
99% Chebyshev (MVUE) UCL	0.0581		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0418	95% Jackknife UCL	0.042
95% Standard Bootstrap UCL	0.0417	95% Bootstrap-t UCL	0.0418
95% Hall's Bootstrap UCL	0.0417	95% Percentile Bootstrap UCL	0.0417
95% BCA Bootstrap UCL	0.0418		
90% Chebyshev(Mean, Sd) UCL	0.0443	95% Chebyshev(Mean, Sd) UCL	0.0469
97.5% Chebyshev(Mean, Sd) UCL	0.0504	99% Chebyshev(Mean, Sd) UCL	0.0572

Suggested UCL to Use

95% Student's-t UCL	0.042

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step1_Molybdenum_AP1

General Statistics

Total Number of Observations	33	Number of Distinct Observations	29
		Number of Missing Observations	0
Minimum	0.0187	Mean	0.273
Maximum	0.547	Median	0.44
SD	0.23	Std. Error of Mean	0.04
Coefficient of Variation	0.843	Skewness	-0.154

Normal GOF Test

Shapiro Wilk Test Statistic	0.707	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.931	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.306	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.152	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	0.341	95% Adjusted-CLT UCL (Chen-1995)	0.337
		95% Modified-t UCL (Johnson-1978)	0.34

Gamma GOF Test

A-D Test Statistic	4.825	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.786	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.328	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.159	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.777	k star (bias corrected MLE)	0.727
Theta hat (MLE)	0.351	Theta star (bias corrected MLE)	0.375
nu hat (MLE)	51.3	nu star (bias corrected)	47.97
MLE Mean (bias corrected)	0.273	MLE Sd (bias corrected)	0.32
		Approximate Chi Square Value (0.05)	33.07

Adjusted Level of Significance	0.0419	Adjusted Chi Square Value	32.43

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.396	95% Adjusted Gamma UCL (use when n<50)	0.403

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.692	**Shapiro Wilk Lognormal GOF Test**	
5% Shapiro Wilk Critical Value	0.931	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.337	**Lilliefors Lognormal GOF Test**	
5% Lilliefors Critical Value	0.152	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-3.979	Mean of logged Data	-2.066
Maximum of Logged Data	-0.603	SD of logged Data	1.479

Assuming Lognormal Distribution

95% H-UCL	0.846	90% Chebyshev (MVUE) UCL	0.704
95% Chebyshev (MVUE) UCL	0.862	97.5% Chebyshev (MVUE) UCL	1.081
99% Chebyshev (MVUE) UCL	1.511		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.339	95% Jackknife UCL	0.341
95% Standard Bootstrap UCL	0.337	95% Bootstrap-t UCL	0.34
95% Hall's Bootstrap UCL	0.338	95% Percentile Bootstrap UCL	0.337
95% BCA Bootstrap UCL	0.338		
90% Chebyshev(Mean, Sd) UCL	0.393	95% Chebyshev(Mean, Sd) UCL	0.447
97.5% Chebyshev(Mean, Sd) UCL	0.523	99% Chebyshev(Mean, Sd) UCL	0.671

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	0.447

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.

Step2_Arsenic_AP1

General Statistics

Total Number of Observations	26	Number of Distinct Observations	18
Number of Detects	17	Number of Non-Detects	9
Number of Distinct Detects	17	Number of Distinct Non-Detects	1
Minimum Detect	4.5000E-4	Minimum Non-Detect	0.005
Maximum Detect	0.52	Maximum Non-Detect	0.005
Variance Detects	0.0131	Percent Non-Detects	34.62%
Mean Detects	0.369	SD Detects	0.114
Median Detects	0.38	CV Detects	0.31
Skewness Detects	-2.077	Kurtosis Detects	6.662
Mean of Logged Detects	-1.346	SD of Logged Detects	1.647

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.809	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.205	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.207	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.242	KM Standard Error of Mean	0.0399
KM SD	0.197	95% KM (BCA) UCL	0.31
95% KM (t) UCL	0.31	95% KM (Percentile Bootstrap) UCL	0.302
95% KM (z) UCL	0.307	95% KM Bootstrap t UCL	0.307
90% KM Chebyshev UCL	0.361	95% KM Chebyshev UCL	0.415
97.5% KM Chebyshev UCL	0.491	99% KM Chebyshev UCL	0.638

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.978	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.755	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.445	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.213	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.575	k star (bias corrected MLE)	1.336
Theta hat (MLE)	0.235	Theta star (bias corrected MLE)	0.277
nu hat (MLE)	53.54	nu star (bias corrected)	45.43
Mean (detects)	0.369		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	4.5000E-4	Mean	0.32
Maximum	0.52	Median	0.332
SD	0.115	CV	0.361
k hat (MLE)	2.107	k star (bias corrected MLE)	1.889
Theta hat (MLE)	0.152	Theta star (bias corrected MLE)	0.169
nu hat (MLE)	109.6	nu star (bias corrected)	98.25
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (98.25, α)	76.38	Adjusted Chi Square Value (98.25, β)	75.11
95% Gamma Approximate UCL (use when n>=50)	0.412	95% Gamma Adjusted UCL (use when n<50)	0.419

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.242	SD (KM)	0.197
Variance (KM)	0.0389	SE of Mean (KM)	0.0399
k hat (KM)	1.503	k star (KM)	1.355
nu hat (KM)	78.14	nu star (KM)	70.46
theta hat (KM)	0.161	theta star (KM)	0.178
80% gamma percentile (KM)	0.378	90% gamma percentile (KM)	0.516
95% gamma percentile (KM)	0.652	99% gamma percentile (KM)	0.959

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (70.46, α)	52.13	Adjusted Chi Square Value (70.46, β)	51.09
95% Gamma Approximate KM-UCL (use when n>=50)	0.327	95% Gamma Adjusted KM-UCL (use when n<50)	0.333

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.351	**Shapiro Wilk GOF Test**	

5% Shapiro Wilk Critical Value	0.892	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.473	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.207	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.254	Mean in Log Scale	-2.104
SD in Original Scale	0.187	SD in Log Scale	1.736
95% t UCL (assumes normality of ROS data)	0.316	95% Percentile Bootstrap UCL	0.314
95% BCA Bootstrap UCL	0.313	95% Bootstrap t UCL	0.315
95% H-UCL (Log ROS)	1.909		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.547	KM Geo Mean	0.0288
KM SD (logged)	3.29	95% Critical H Value (KM-Log)	6.2
KM Standard Error of Mean (logged)	0.665	95% H-UCL (KM -Log)	382
KM SD (logged)	3.29	95% Critical H Value (KM-Log)	6.2
KM Standard Error of Mean (logged)	0.665		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.242	Mean in Log Scale	-2.954
SD in Original Scale	0.2	SD in Log Scale	2.611
95% t UCL (Assumes normality)	0.309	95% H-Stat UCL	21.77

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.31

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step2_Lithium_East_AP1

General Statistics

Total Number of Observations	30	Number of Distinct Observations	20
Number of Detects	29	Number of Non-Detects	1
Number of Distinct Detects	19	Number of Distinct Non-Detects	1
Minimum Detect	0.0019	Minimum Non-Detect	0.05
Maximum Detect	0.25	Maximum Non-Detect	0.05
Variance Detects	0.00518	Percent Non-Detects	3.333%
Mean Detects	0.0317	SD Detects	0.072
Median Detects	0.0025	CV Detects	2.273
Skewness Detects	2.37	Kurtosis Detects	4.223
Mean of Logged Detects	-5.202	SD of Logged Detects	1.571

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.462	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.926	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.454	**Lilliefors GOF Test**	

5% Lilliefors Critical Value	0.161	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.0307	KM Standard Error of Mean	0.013
KM SD	0.0697	95% KM (BCA) UCL	0.0534
95% KM (t) UCL	0.0528	95% KM (Percentile Bootstrap) UCL	0.0526
95% KM (z) UCL	0.052	95% KM Bootstrap t UCL	0.0633
90% KM Chebyshev UCL	0.0696	95% KM Chebyshev UCL	0.0872
97.5% KM Chebyshev UCL	0.112	99% KM Chebyshev UCL	0.16

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	5.926	**Anderson-Darling GOF Test**	
5% A-D Critical Value	0.838	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.365	**Kolmogorov-Smirnov GOF**	
5% K-S Critical Value	0.175	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.379	k star (bias corrected MLE)	0.363
Theta hat (MLE)	0.0835	Theta star (bias corrected MLE)	0.0872
nu hat (MLE)	22	nu star (bias corrected)	21.06
Mean (detects)	0.0317		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0019	Mean	0.0309
Maximum	0.25	Median	0.00255
SD	0.0708	CV	2.289
k hat (MLE)	0.388	k star (bias corrected MLE)	0.371
Theta hat (MLE)	0.0798	Theta star (bias corrected MLE)	0.0834
nu hat (MLE)	23.26	nu star (bias corrected)	22.26
Adjusted Level of Significance (β)	0.041		
Approximate Chi Square Value (22.26, α)	12.54	Adjusted Chi Square Value (22.26, β)	12.11
95% Gamma Approximate UCL (use when n>=50)	0.055	95% Gamma Adjusted UCL (use when n<50)	0.0569

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0307	SD (KM)	0.0697
Variance (KM)	0.00486	SE of Mean (KM)	0.013
k hat (KM)	0.194	k star (KM)	0.197
nu hat (KM)	11.67	nu star (KM)	11.83
theta hat (KM)	0.158	theta star (KM)	0.156
80% gamma percentile (KM)	0.0402	90% gamma percentile (KM)	0.093
95% gamma percentile (KM)	0.159	99% gamma percentile (KM)	0.341

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (11.83, α)	5.118	Adjusted Chi Square Value (11.83, β)	4.864
95% Gamma Approximate KM-UCL (use when n>=50)	0.0711	95% Gamma Adjusted KM-UCL (use when n<50)	0.0748

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.649	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.926	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.31	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.161	Detected Data Not Lognormal at 5% Significance Level	

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0308	Mean in Log Scale	-5.21
SD in Original Scale	0.0709	SD in Log Scale	1.545
95% t UCL (assumes normality of ROS data)	0.0527	95% Percentile Bootstrap UCL	0.0528
95% BCA Bootstrap UCL	0.0577	95% Bootstrap t UCL	0.0748
95% H-UCL (Log ROS)	0.0455		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-5.221	KM Geo Mean	0.0054
KM SD (logged)	1.526	95% Critical H Value (KM-Log)	3.203
KM Standard Error of Mean (logged)	0.284	95% H-UCL (KM -Log)	0.0428
KM SD (logged)	1.526	95% Critical H Value (KM-Log)	3.203
KM Standard Error of Mean (logged)	0.284		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0314	Mean in Log Scale	-5.151
SD in Original Scale	0.0707	SD in Log Scale	1.569
95% t UCL (Assumes normality)	0.0534	95% H-Stat UCL	0.0513

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	0.0872

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step2_Lithium_South_AP1

General Statistics

Total Number of Observations	63	Number of Distinct Observations	38
Number of Detects	42	Number of Non-Detects	21
Number of Distinct Detects	37	Number of Distinct Non-Detects	3
Minimum Detect	0.0058	Minimum Non-Detect	0.01
Maximum Detect	0.054	Maximum Non-Detect	0.05
Variance Detects	2.5500E-4	Percent Non-Detects	33.33%
Mean Detects	0.0242	SD Detects	0.016
Median Detects	0.0193	CV Detects	0.659
Skewness Detects	0.362	Kurtosis Detects	-1.452
Mean of Logged Detects	-3.973	SD of Logged Detects	0.751

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.797	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.942	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.235	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.135	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.022	KM Standard Error of Mean	0.00221
KM SD	0.0153	95% KM (BCA) UCL	0.0256

95% KM (t) UCL	0.0257	95% KM (Percentile Bootstrap) UCL	0.0258
95% KM (z) UCL	0.0257	95% KM Bootstrap t UCL	0.0261
90% KM Chebyshev UCL	0.0287	95% KM Chebyshev UCL	0.0317
97.5% KM Chebyshev UCL	0.0358	99% KM Chebyshev UCL	0.044

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.978	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.759	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.196	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.138	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	2.129	k star (bias corrected MLE)	1.993
Theta hat (MLE)	0.0114	Theta star (bias corrected MLE)	0.0122
nu hat (MLE)	178.9	nu star (bias corrected)	167.4
Mean (detects)	0.0242		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0058	Mean	0.0222
Maximum	0.054	Median	0.0155
SD	0.0143	CV	0.642
k hat (MLE)	2.505	k star (bias corrected MLE)	2.396
Theta hat (MLE)	0.00887	Theta star (bias corrected MLE)	0.00927
nu hat (MLE)	315.6	nu star (bias corrected)	301.9
Adjusted Level of Significance (β)	0.0462		
Approximate Chi Square Value (301.89, α)	262.6	Adjusted Chi Square Value (301.89, β)	261.8
95% Gamma Approximate UCL (use when n>=50)	0.0255	95% Gamma Adjusted UCL (use when n<50)	0.0256

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.022	SD (KM)	0.0153
Variance (KM)	2.3303E-4	SE of Mean (KM)	0.00221
k hat (KM)	2.082	k star (KM)	1.994
nu hat (KM)	262.4	nu star (KM)	251.2
theta hat (KM)	0.0106	theta star (KM)	0.011
80% gamma percentile (KM)	0.033	90% gamma percentile (KM)	0.0429
95% gamma percentile (KM)	0.0523	99% gamma percentile (KM)	0.0732

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (251.21, α)	215.5	Adjusted Chi Square Value (251.21, β)	214.7
95% Gamma Approximate KM-UCL (use when n>=50)	0.0257	95% Gamma Adjusted KM-UCL (use when n<50)	0.0258

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.811	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.942	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.175	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.135	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.0216	Mean in Log Scale	-4.071
SD in Original Scale	0.0146	SD in Log Scale	0.702
95% t UCL (assumes normality of ROS data)	0.0247	95% Percentile Bootstrap UCL	0.0248

95% BCA Bootstrap UCL	0.0247	95% Bootstrap t UCL	0.0248
95% H-UCL (Log ROS)	0.0261		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-4.077	KM Geo Mean	0.017
KM SD (logged)	0.737	95% Critical H Value (KM-Log)	2.038
KM Standard Error of Mean (logged)	0.109	95% H-UCL (KM -Log)	0.0269
KM SD (logged)	0.737	95% Critical H Value (KM-Log)	2.038
KM Standard Error of Mean (logged)	0.109		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.0232	Mean in Log Scale	-3.962
SD in Original Scale	0.0136	SD in Log Scale	0.672
95% t UCL (Assumes normality)	0.0261	95% H-Stat UCL	0.0283

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	0.0317

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step2_Molybdenum_AP1

General Statistics

Total Number of Observations	54	Number of Distinct Observations	39
Number of Detects	42	Number of Non-Detects	12
Number of Distinct Detects	38	Number of Distinct Non-Detects	1
Minimum Detect	0.0018	Minimum Non-Detect	0.01
Maximum Detect	0.547	Maximum Non-Detect	0.01
Variance Detects	0.0533	Percent Non-Detects	22.22%
Mean Detects	0.216	SD Detects	0.231
Median Detects	0.0305	CV Detects	1.069
Skewness Detects	0.326	Kurtosis Detects	-1.942
Mean of Logged Detects	-2.697	SD of Logged Detects	1.823

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.636	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.942	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.357	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.135	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.169	KM Standard Error of Mean	0.0302
KM SD	0.219	95% KM (BCA) UCL	0.216
95% KM (t) UCL	0.22	95% KM (Percentile Bootstrap) UCL	0.219
95% KM (z) UCL	0.219	95% KM Bootstrap t UCL	0.223
90% KM Chebyshev UCL	0.26	95% KM Chebyshev UCL	0.301
97.5% KM Chebyshev UCL	0.358	99% KM Chebyshev UCL	0.47

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	4.177	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.81	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.287	**Kolmogorov-Smirnov GOF**
5% K-S Critical Value	0.144	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.539	k star (bias corrected MLE)	0.516
Theta hat (MLE)	0.401	Theta star (bias corrected MLE)	0.419
nu hat (MLE)	45.26	nu star (bias corrected)	43.36
Mean (detects)	0.216		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0018	Mean	0.178
Maximum	0.547	Median	0.0363
SD	0.215	CV	1.21
k hat (MLE)	0.582	k star (bias corrected MLE)	0.562
Theta hat (MLE)	0.306	Theta star (bias corrected MLE)	0.317
nu hat (MLE)	62.86	nu star (bias corrected)	60.7
Adjusted Level of Significance (β)	0.0456		
Approximate Chi Square Value (60.70, α)	43.78	Adjusted Chi Square Value (60.70, β)	43.39
95% Gamma Approximate UCL (use when n>=50)	0.247	95% Gamma Adjusted UCL (use when n<50)	0.249

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.169	SD (KM)	0.219
Variance (KM)	0.0481	SE of Mean (KM)	0.0302
k hat (KM)	0.596	k star (KM)	0.575
nu hat (KM)	64.33	nu star (KM)	62.09
theta hat (KM)	0.284	theta star (KM)	0.295
80% gamma percentile (KM)	0.279	90% gamma percentile (KM)	0.445
95% gamma percentile (KM)	0.619	99% gamma percentile (KM)	1.042

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (62.09, α)	44.96	Adjusted Chi Square Value (62.09, β)	44.56
95% Gamma Approximate KM-UCL (use when n>=50)	0.234	95% Gamma Adjusted KM-UCL (use when n<50)	0.236

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.768	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.942	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.271	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.135	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.17	Mean in Log Scale	-3.279
SD in Original Scale	0.221	SD in Log Scale	1.987
95% t UCL (assumes normality of ROS data)	0.22	95% Percentile Bootstrap UCL	0.219
95% BCA Bootstrap UCL	0.221	95% Bootstrap t UCL	0.221
95% H-UCL (Log ROS)	0.731		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.277	KM Geo Mean	0.0378
KM SD (logged)	1.941	95% Critical H Value (KM-Log)	3.57
KM Standard Error of Mean (logged)	0.274	95% H-UCL (KM -Log)	0.643
KM SD (logged)	1.941	95% Critical H Value (KM-Log)	3.57
KM Standard Error of Mean (logged)	0.274		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.169	Mean in Log Scale	-3.275
SD in Original Scale	0.222	SD in Log Scale	1.94
95% t UCL (Assumes normality)	0.22	95% H-Stat UCL	0.642

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL 0.301

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Step3_Lithium_East_AP1

General Statistics

Total Number of Observations	5	Number of Distinct Observations	5
		Number of Missing Observations	0
Minimum	0.0021	Mean	0.0023
Maximum	0.0025	Median	0.0023
SD	1.5811E-4	Std. Error of Mean	7.0711E-5
Coefficient of Variation	0.0687	Skewness	0

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest.
For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012).
Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.987	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.762	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.136	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.343	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	0.00245	95% Adjusted-CLT UCL (Chen-1995)	0.00242
		95% Modified-t UCL (Johnson-1978)	0.00245

Gamma GOF Test

A-D Test Statistic	0.18	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.678	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.163	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.357	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	263.8	k star (bias corrected MLE)	105.7
Theta hat (MLE)	8.7182E-6	Theta star (bias corrected MLE)	2.1768E-5
nu hat (MLE)	2638	nu star (bias corrected)	1057
MLE Mean (bias corrected)	0.0023	MLE Sd (bias corrected)	2.2376E-4
		Approximate Chi Square Value (0.05)	982.1
Adjusted Level of Significance	0.0086	Adjusted Chi Square Value	950.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.00247	95% Adjusted Gamma UCL (use when n<50)	0.00256

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.986	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.762	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.141	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.343	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-6.166	Mean of logged Data	-6.077
Maximum of Logged Data	-5.991	SD of logged Data	0.0689

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.00251
95% Chebyshev (MVUE) UCL	0.00261	97.5% Chebyshev (MVUE) UCL	0.00274
99% Chebyshev (MVUE) UCL	0.00301		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.00242	95% Jackknife UCL	0.00245
95% Standard Bootstrap UCL	0.0024	95% Bootstrap-t UCL	0.00247
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	0.0024
95% BCA Bootstrap UCL	0.0024		
90% Chebyshev(Mean, Sd) UCL	0.00251	95% Chebyshev(Mean, Sd) UCL	0.00261
97.5% Chebyshev(Mean, Sd) UCL	0.00274	99% Chebyshev(Mean, Sd) UCL	0.003

Suggested UCL to Use

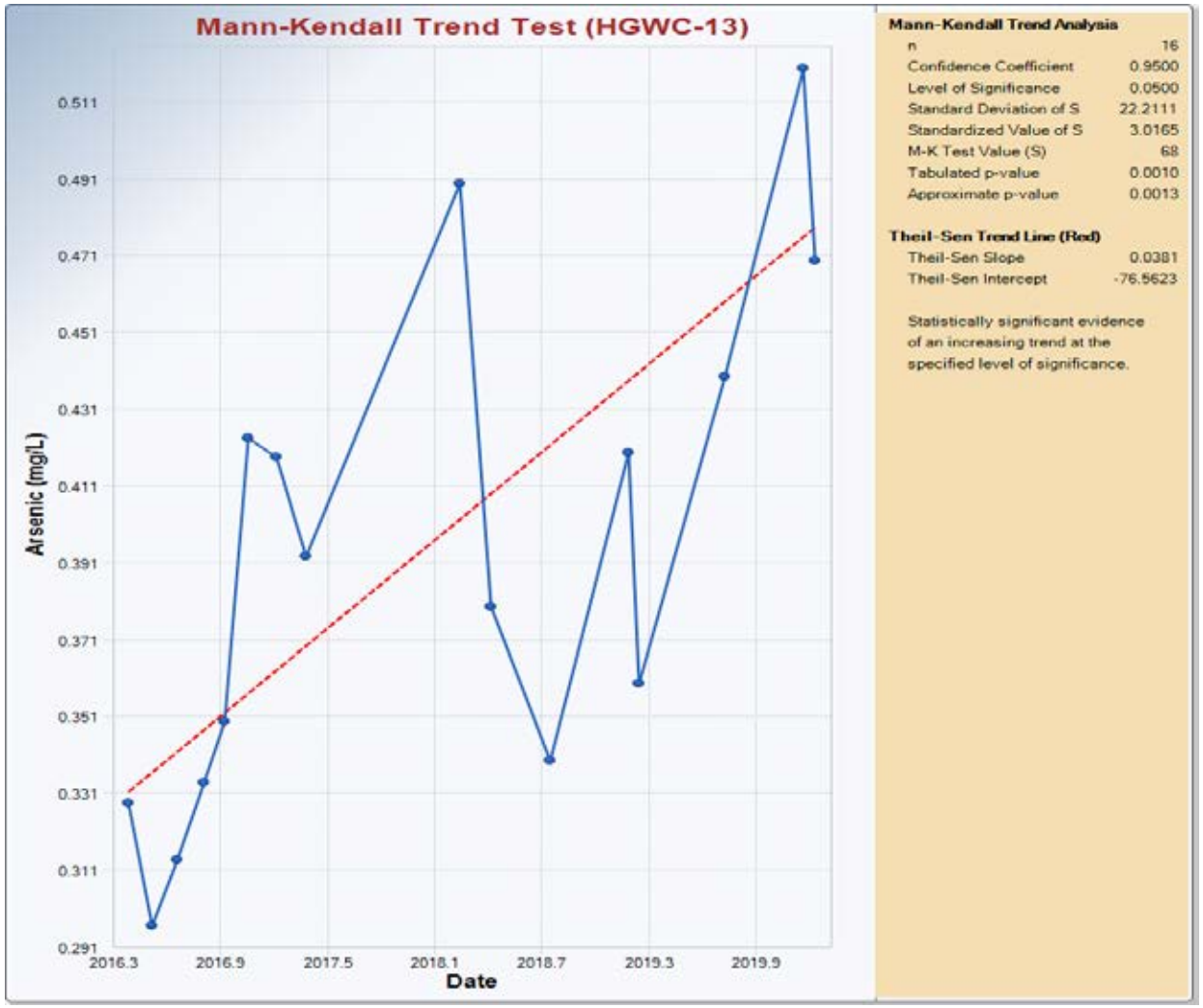
95% Student's-t UCL	0.00245

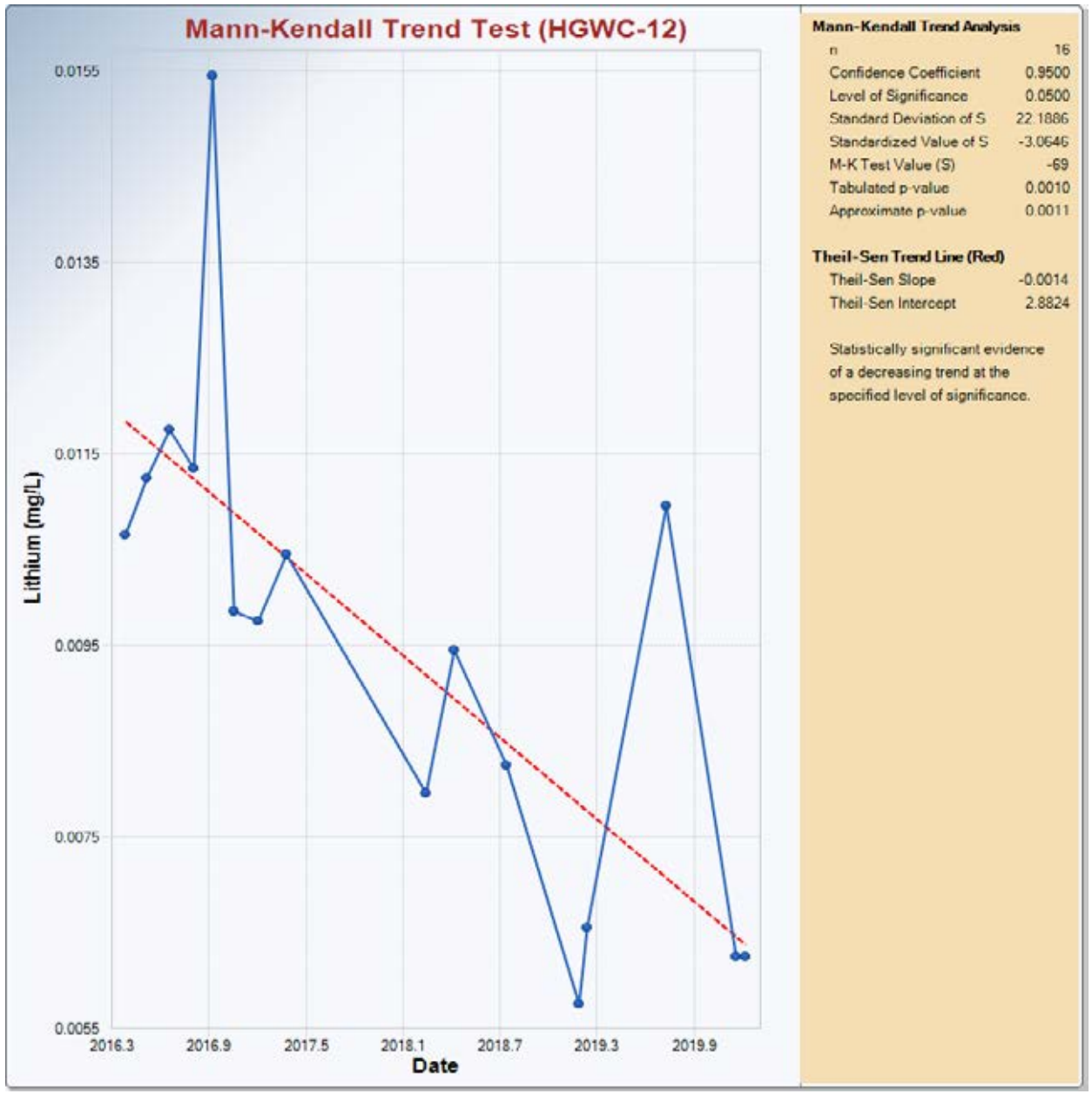
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Appendix D-4

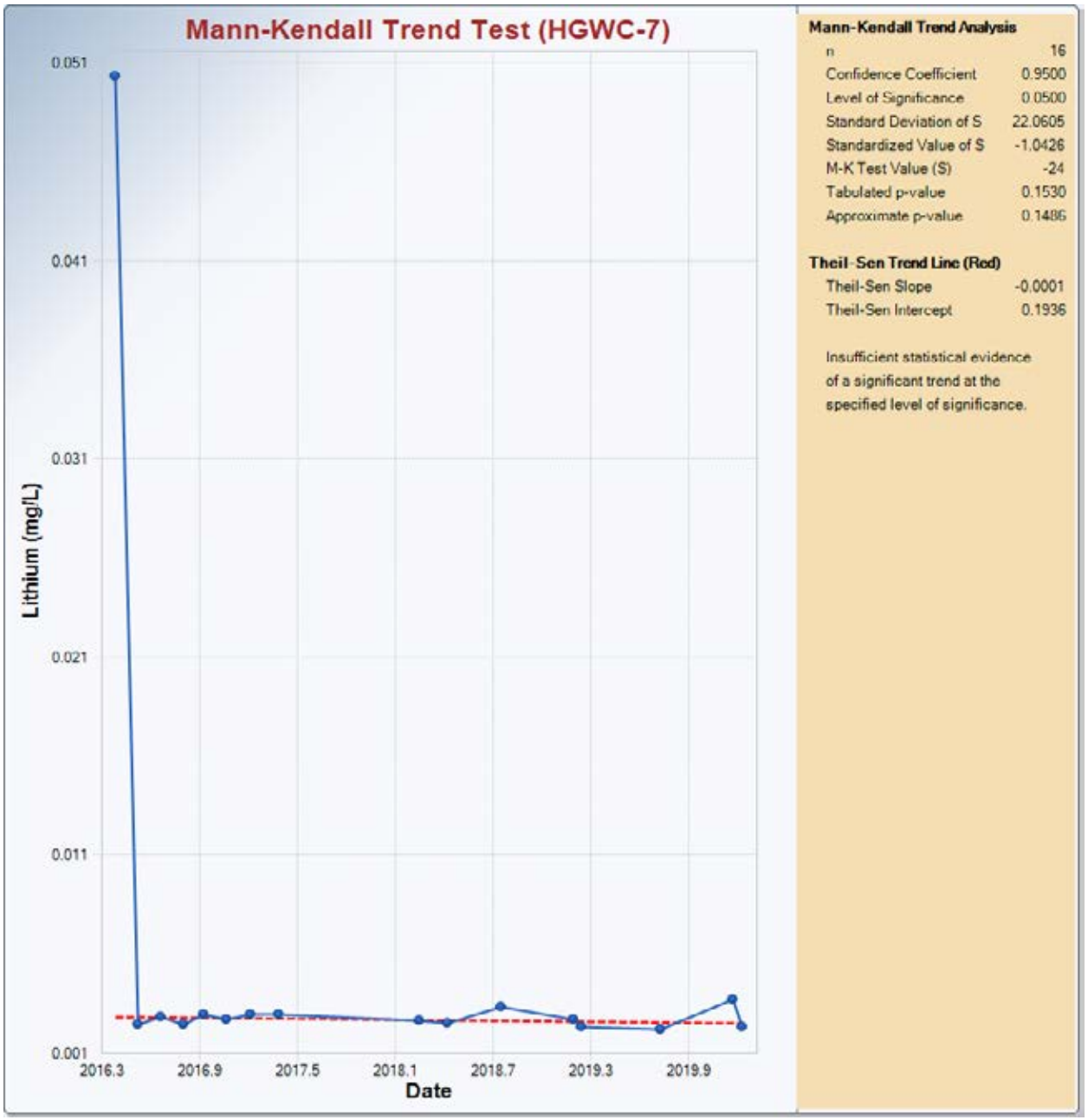
Groundwater Trend Graphs

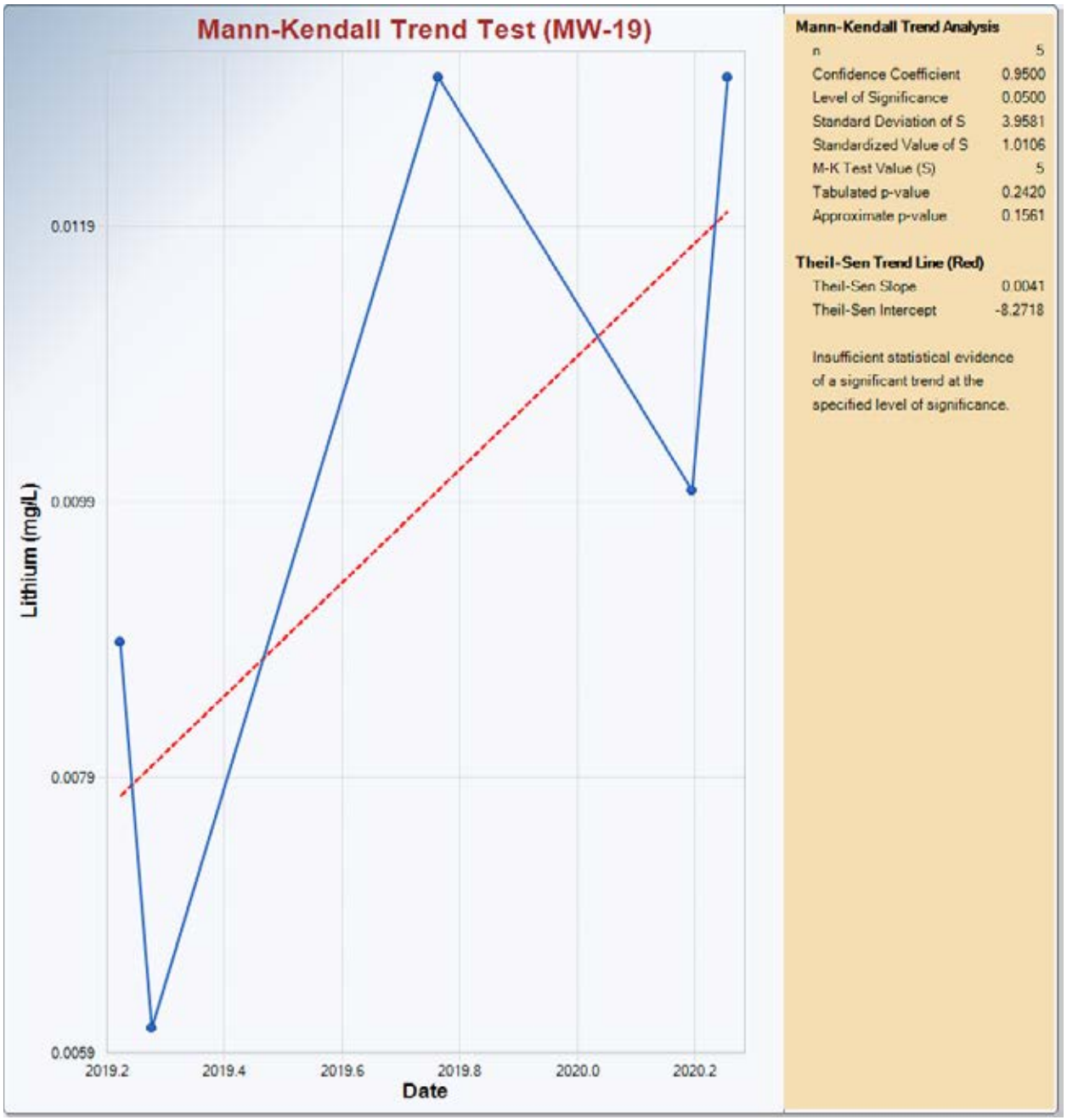
Appendix D
Appendix D-4
Groundwater Trend Graphs
Hammond AP-1

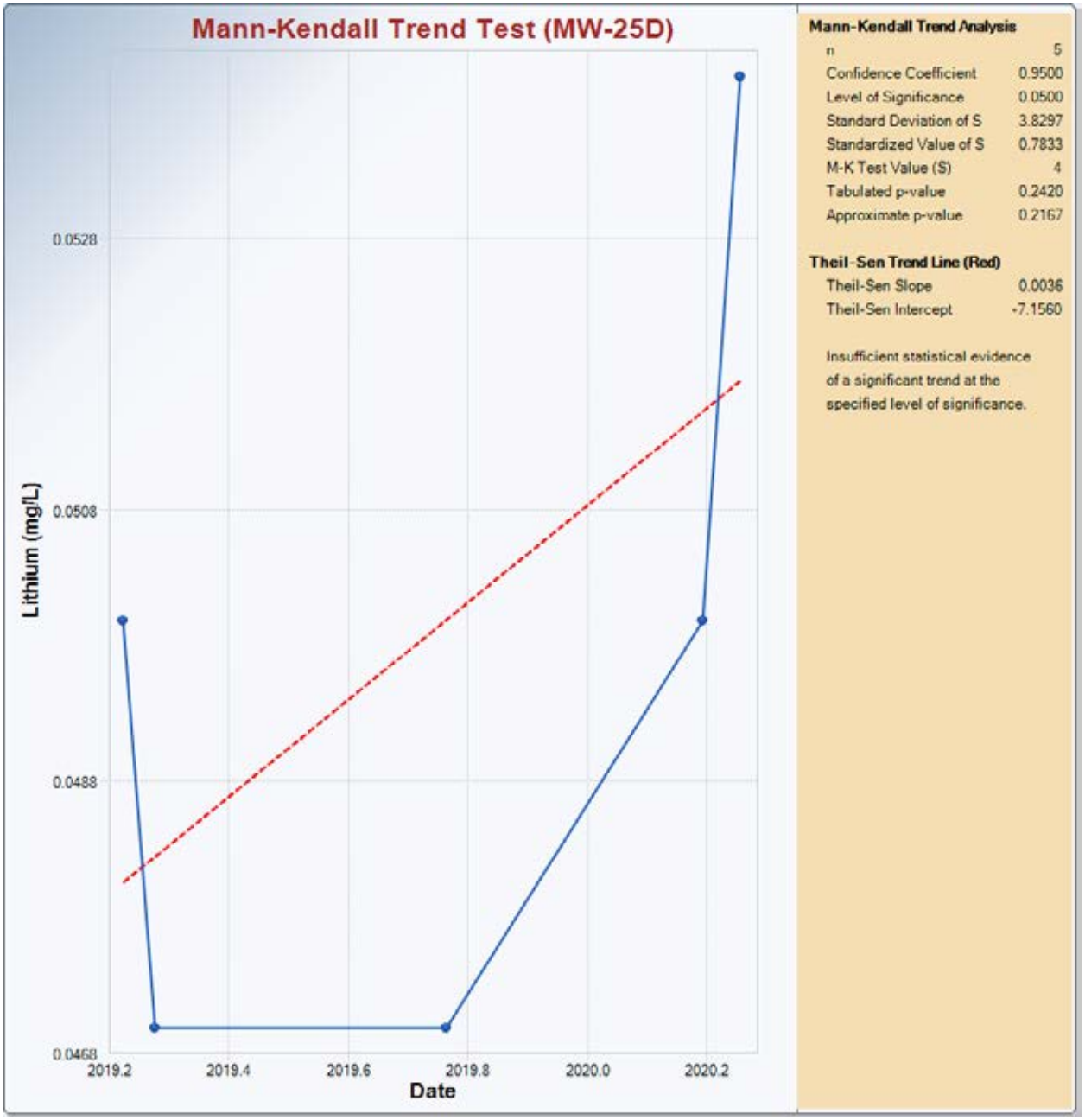


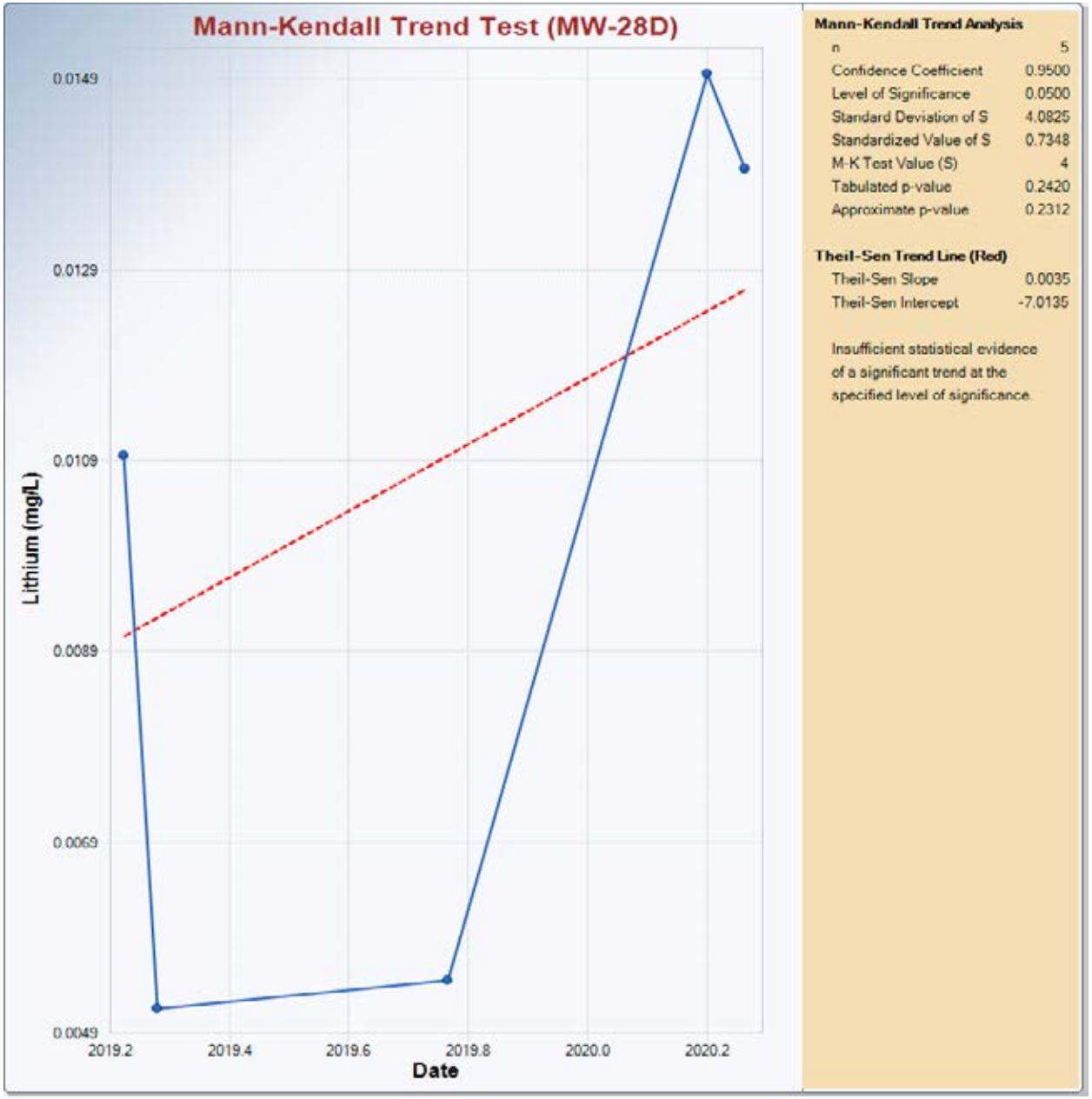

Mann-Kendall Trend Test (HGWC-12)
0.0155
0.0135
0.0115
0.0095
0.0075
0.0055
Lithium (mg/L)
2016.3
2016.9
2017.5
2018.1
2018.7
2019.3
2019.9
Date
Mann-Kendall Trend Analysis
n 16
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 22.1886
Standardized Value of S -3.0646
M-K Test Value (S) -69
Tabulated p-value 0.0010
Approximate p-value 0.0011
Theil-Sen Trend Line (Red)
Theil-Sen Slope -0.0014
Theil-Sen Intercept 2.8824
Statistically significant evidence of a decreasing trend at the specified level of significance.

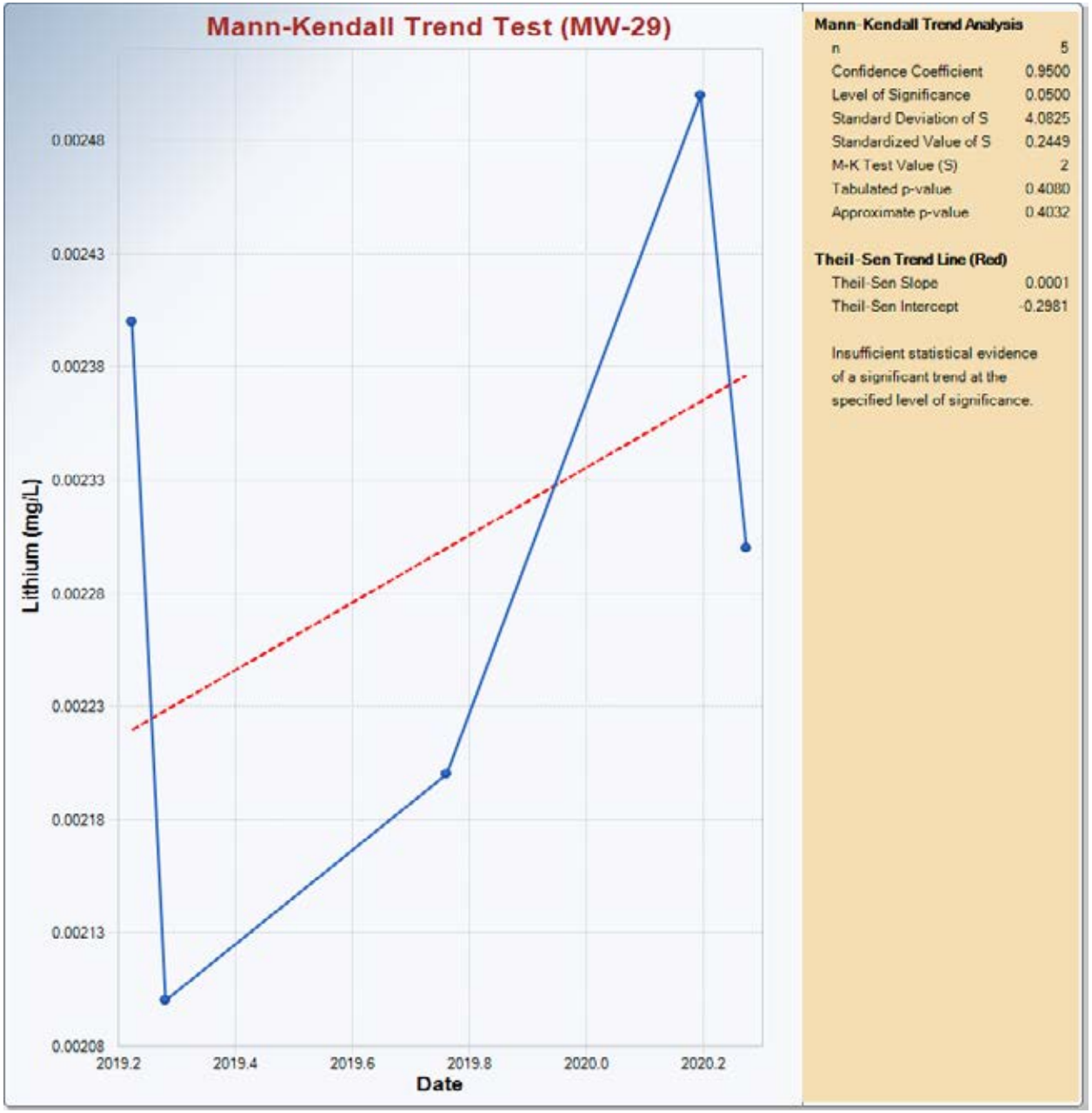

Mann-Kendall Trend Test (HGWC-13)
Lithium (mg/L)
0.0474
0.0424
0.0374
0.0324
0.0274
0.0224
2016.3
2016.9
2017.5
2018.1
2018.7
2019.3
2019.9
Date
Mann-Kendall Trend Analysis
n 16
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 22.1886
Standardized Value of S -1.8929
M-K Test Value (S) -43
Tabulated p-value 0.0320
Approximate p-value 0.0292
Theil-Sen Trend Line (Red)
Theil-Sen Slope -0.0029
Theil-Sen Intercept 5.9265
Statistically significant evidence of a decreasing trend at the specified level of significance.

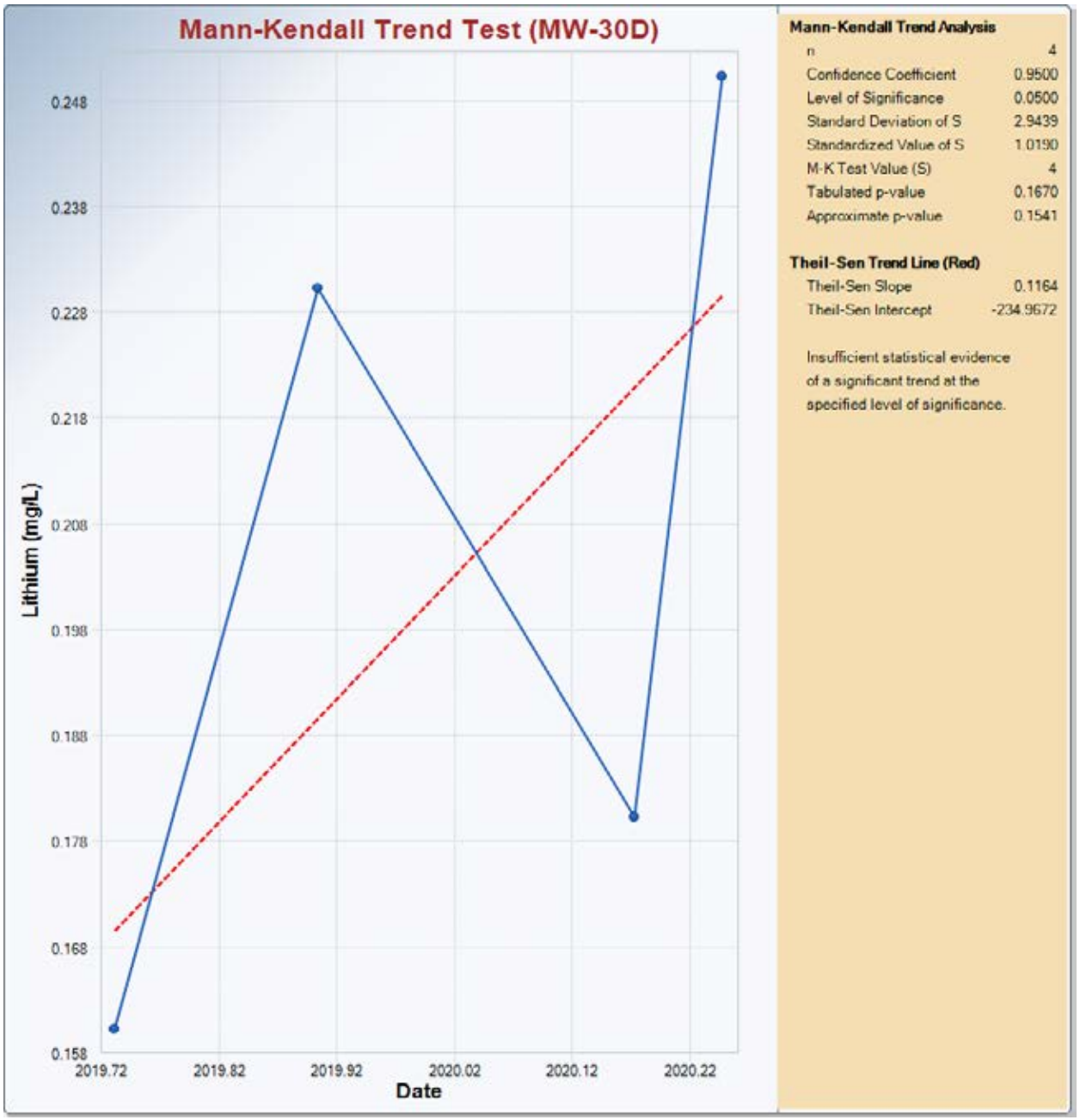

Mann-Kendall Trend Test (HGWC-7)
Lithium (mg/L)
0.051
0.041
0.031
0.021
0.011
0.001
2016.3
2016.9
2017.5
2018.1
2018.7
2019.3
2019.9
Date
Mann-Kendall Trend Analysis
n 16
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 22.0605
Standardized Value of S -1.0426
M-K Test Value (S) -24
Tabulated p-value 0.1530
Approximate p-value 0.1486
Theil-Sen Trend Line (Red)
Theil-Sen Slope -0.0001
Theil-Sen Intercept 0.1936
Insufficient statistical evidence of a significant trend at the specified level of significance.

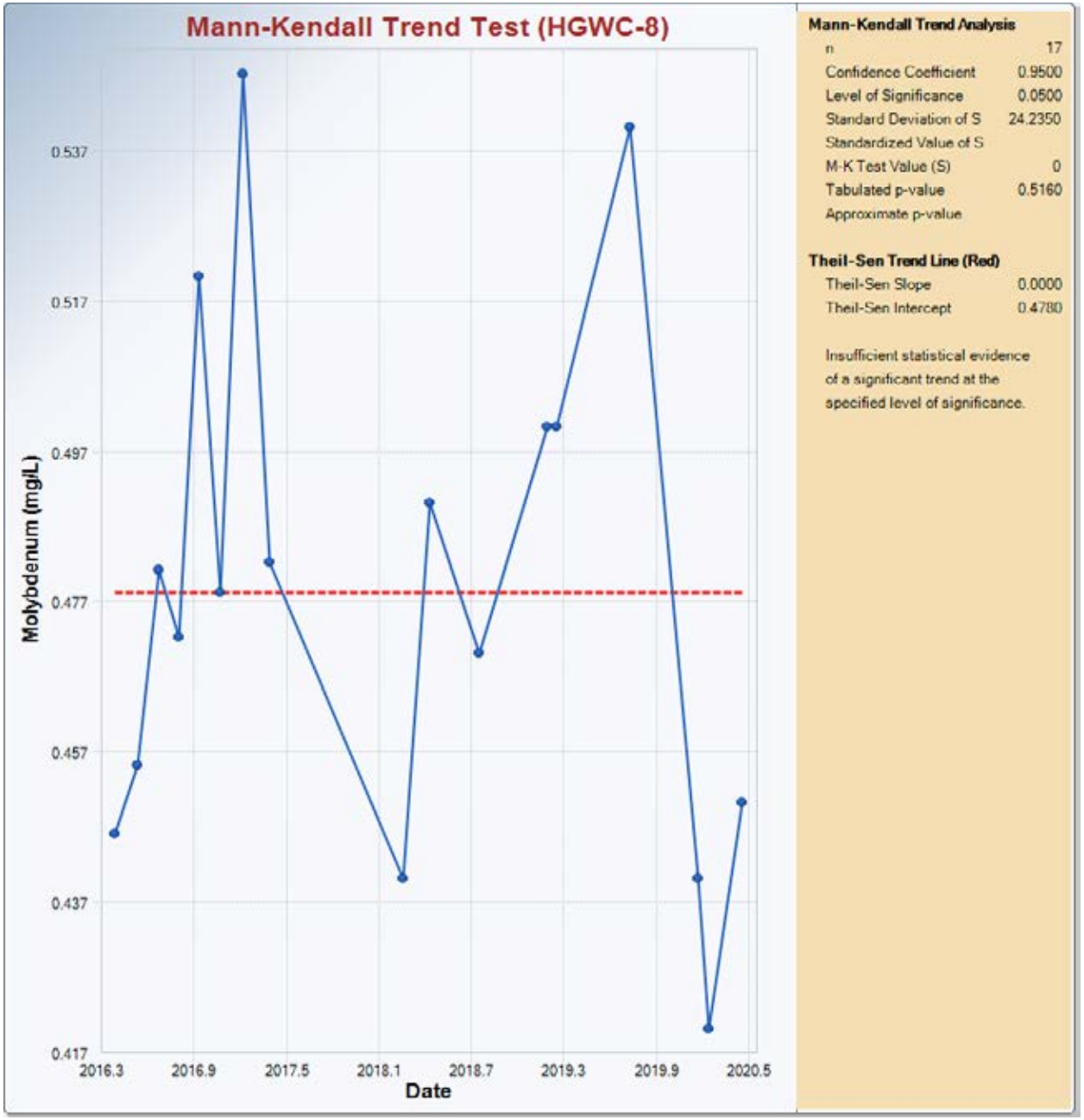

Mann-Kendall Trend Test (MW-19)
Lithium (mg/L)
0.0119
0.0099
0.0079
0.0059
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 5
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 3.9581
Standardized Value of S 1.0106
M-K Test Value (S) 5
Tabulated p-value 0.2420
Approximate p-value 0.1561
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0041
Theil-Sen Intercept -8.2718
Insufficient statistical evidence of a significant trend at the specified level of significance.

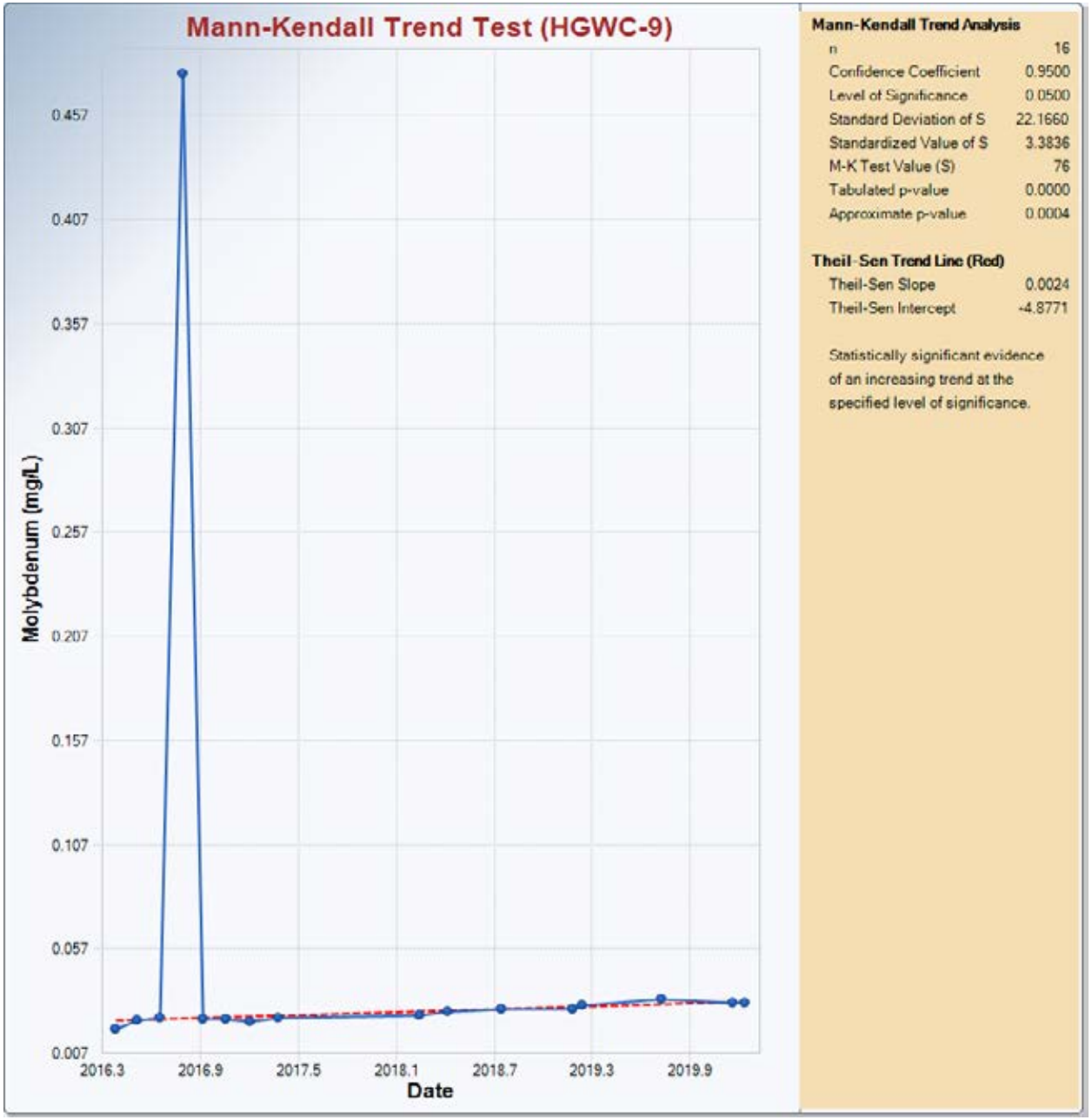

Mann-Kendall Trend Test (MW-25D)
Lithium (mg/L)
0.0528
0.0508
0.0488
0.0468
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 5
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 3.8297
Standardized Value of S 0.7833
M-K Test Value (S) 4
Tabulated p-value 0.2420
Approximate p-value 0.2167
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0036
Theil-Sen Intercept -7.1560
Insufficient statistical evidence of a significant trend at the specified level of significance.

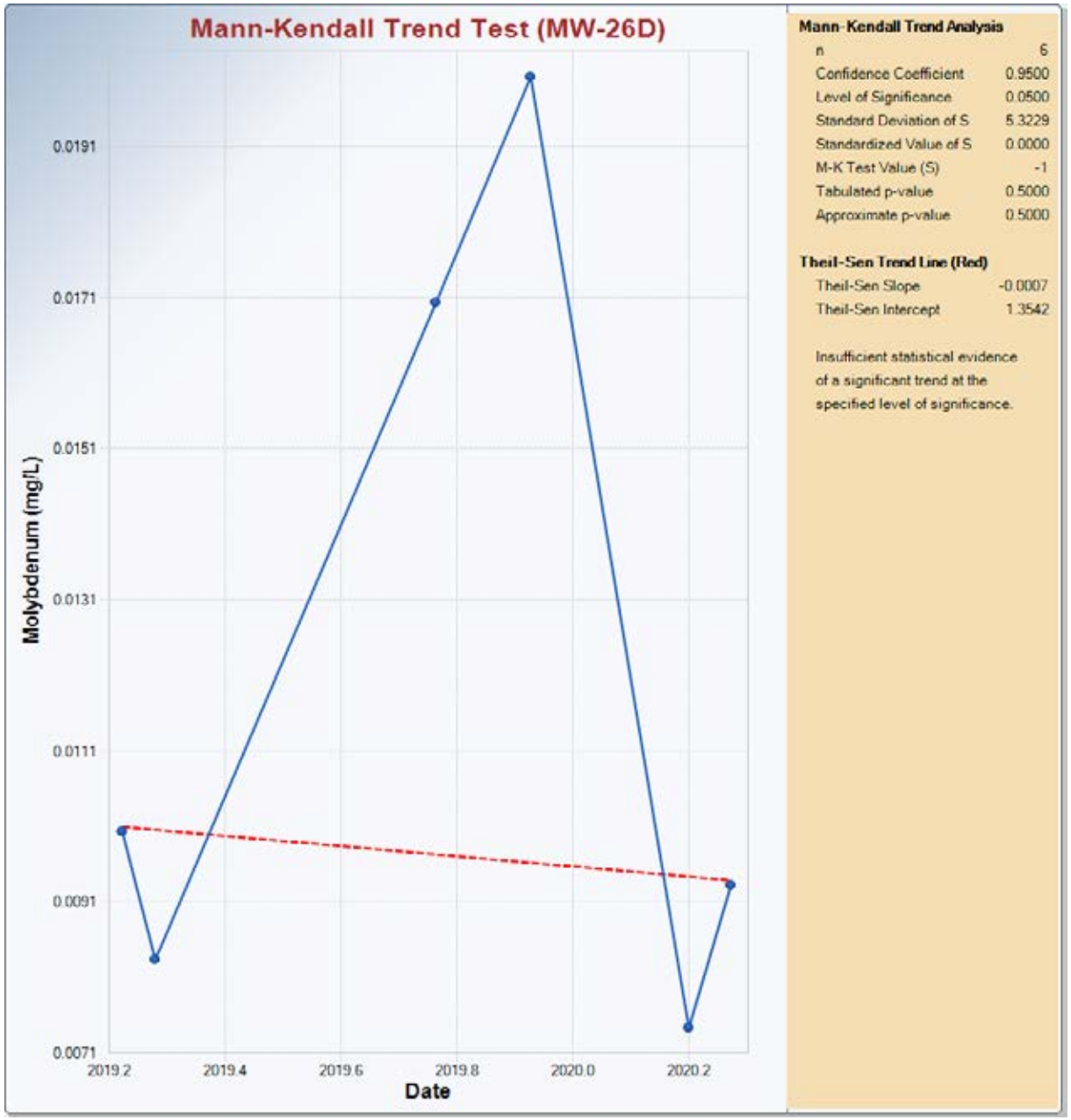

Mann-Kendall Trend Test (MW-28D)
0.0149
0.0129
0.0109
0.0089
0.0069
0.0049
Lithium (mg/L)
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 5
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 4.0825
Standardized Value of S 0.7348
M-K Test Value (S) 4
Tabulated p-value 0.2420
Approximate p-value 0.2312
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0035
Theil-Sen Intercept -7.0135
Insufficient statistical evidence of a significant trend at the specified level of significance.

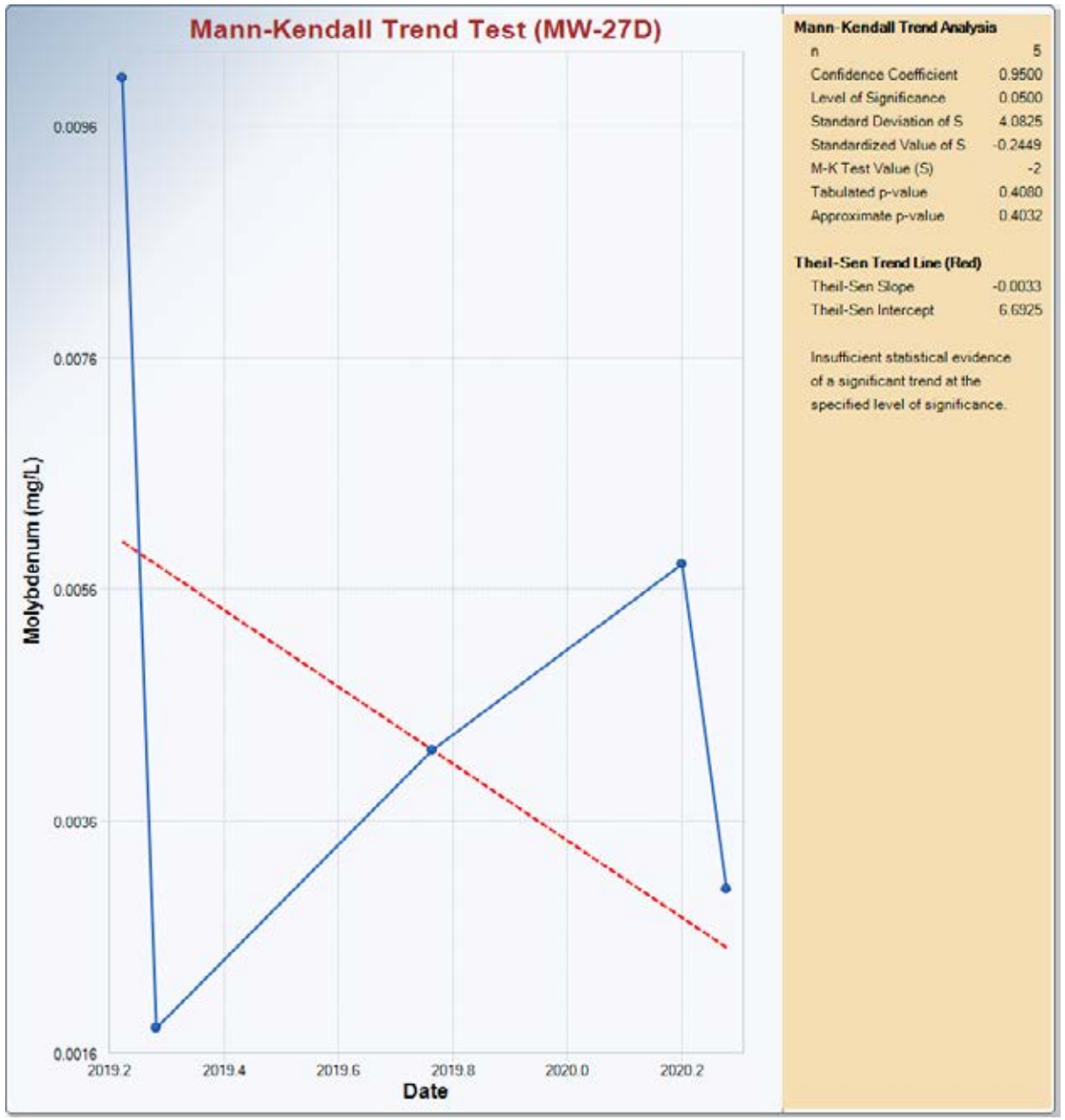

Mann-Kendall Trend Test (MW-29)
Lithium (mg/L)
0.00248
0.00243
0.00238
0.00233
0.00228
0.00223
0.00218
0.00213
0.00208
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 5
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 4.0825
Standardized Value of S 0.2449
M-K Test Value (S) 2
Tabulated p-value 0.4080
Approximate p-value 0.4032
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0001
Theil-Sen Intercept -0.2981
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test (MW-30D)
Lithium (mg/L)
0.248
0.238
0.228
0.218
0.208
0.198
0.188
0.178
0.168
0.158
2019.72
2019.82
2019.92
2020.02
2020.12
2020.22
Date
Mann-Kendall Trend Analysis
n 4
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 2.9439
Standardized Value of S 1.0190
M-K Test Value (S) 4
Tabulated p-value 0.1670
Approximate p-value 0.1541
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.1164
Theil-Sen Intercept -234.9672
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test (HGWC-8)
Molybdenum (mg/L)
0.537
0.517
0.497
0.477
0.457
0.437
0.417
2016.3
2016.9
2017.5
2018.1
2018.7
2019.3
2019.9
2020.5
Date
Mann-Kendall Trend Analysis
n 17
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 24.2350
Standardized Value of S
M-K Test Value (S) 0
Tabulated p-value 0.5160
Approximate p-value
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0000
Theil-Sen Intercept 0.4780
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test (HGWC-9)
Molybdenum (mg/L)
0.457
0.407
0.357
0.307
0.257
0.207
0.157
0.107
0.057
0.007
2016.3
2016.9
2017.5
2018.1
2018.7
2019.3
2019.9
Date
Mann-Kendall Trend Analysis
n 16
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 22.1660
Standardized Value of S 3.3836
M-K Test Value (S) 76
Tabulated p-value 0.0000
Approximate p-value 0.0004
Theil-Sen Trend Line (Red)
Theil-Sen Slope 0.0024
Theil-Sen Intercept -4.8771
Statistically significant evidence of an increasing trend at the specified level of significance.


Mann-Kendall Trend Test (MW-26D)
Molybdenum (mg/L)
0.0191
0.0171
0.0151
0.0131
0.0111
0.0091
0.0071
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 6
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 5.3229
Standardized Value of S 0.0000
M-K Test Value (S) -1
Tabulated p-value 0.5000
Approximate p-value 0.5000
Theil-Sen Trend Line (Red)
Theil-Sen Slope -0.0007
Theil-Sen Intercept 1.3542
Insufficient statistical evidence of a significant trend at the specified level of significance.


Mann-Kendall Trend Test (MW-27D)
Molybdenum (mg/L)
0.0096
0.0076
0.0056
0.0036
0.0016
2019.2
2019.4
2019.6
2019.8
2020.0
2020.2
Date
Mann-Kendall Trend Analysis
n 5
Confidence Coefficient 0.9500
Level of Significance 0.0500
Standard Deviation of S 4.0825
Standardized Value of S -0.2449
M-K Test Value (S) -2
Tabulated p-value 0.4080
Approximate p-value 0.4032
Theil-Sen Trend Line (Red)
Theil-Sen Slope -0.0033
Theil-Sen Intercept 6.6925
Insufficient statistical evidence of a significant trend at the specified level of significance.

APPENDIX B

Boring and Well Construction Logs for HGWA-43D and HGWA-44D

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1255 Roberts Boulevard
Kennesaw, GA 30144

HGWA-43D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 8/26/20 **COMPLETED** 8/26/20
NORTHING 1550422.85 ft **EASTING** 1940753.80 ft
DRILLER Cascade Drilling
GROUND ELEVATION 592.08 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 595.08 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181
LOGGED BY A. Ramsey **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	590			Hydro Excavation (0 ft to 10 ft) NO SAMPLE
10	580			582.1 CLAY, Yellowish red and light gray mottling, medium plasticity, trace coarse sand, hard, moist.
15	575			576.6 CLAY, Reddish yellow with light gray mottling, laminated brown, with organic material, trace limestone gravel, hard, moist. 17 ft: Trace of limestone gravel.
20	570			573.1 HIGHLY WEATHERED ROCK, Light brown, recovered as angular gravelly clay with trace limestone cobbles, non plastic to low plasticity, soft, wet.
25	565			569.1 LIMESTONE, Grayish blue to white, some white calcite healed fractures, 1 in clay filled fractures, mostly pulverized by drilling, powder reacts with HCl, hard, dry. 27 ft: Wet. 562.1

CONSTRUCTION DIAGRAM

- Schedule 40 PVC 2"
- Aquaguard Sodium Bentonite Grout
- Bentonite coated 3/8" pellets

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
30	560	30 ft to 50 ft: No voids reported.		30 ft to 34.5 ft: No recovery.	
				557.6	
35	555			LIMESTONE, Grayish blue to white, hard, dry, some white calcite healed fractures, 1 in clay filled fractures, 38 ft to 39 ft pulverized by drilling, powder reacts with HCl, wet.	
40	550			40 ft: Up to 1 in thick calcite healed fractures.	Bentonite coated 3/8" pellets
				548.1	
45	545			44 ft to 50 ft: No recovery.	
50	540			542.1	20/40 Silica Sand
				LIMESTONE, Grayish blue to white, hard, dry, up to 1 in thick calcite healed fractures, trace 1 in clay filled fractures, mostly pulverized by drilling, powder reacts with HCl.	0.010 slot size 2" Pre Pack, U-Pack Screen
55	535				Bottom of well: 58.25 ft
				533.8	

Bottom of borehole at 58.3 feet.

Easting and Northing in NAD 1983.
Elevation in NAVD 1988.

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Kennesaw, GA 30144

HGWA-44D

CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond
DATE STARTED 8/24/20 **COMPLETED** 8/25/20
NORTHING 1550409.13 ft **EASTING** 1940756.18 ft
DRILLER Cascade Drilling
GROUND ELEVATION 592.01 ft **BORING DIAMETER** 6 in
DRILLING METHOD Sonic
TOP OF CASING ELEVATION 594.79 ft
SAMPLING METHOD 4" core 6" override
GEOPHYSICAL CONTRACTOR ---
RIG TYPE Terrasonic 1051181
LOGGED BY A. Ramsey **CHECKED BY** J. Ivanowski

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION
0	590			Hydro Excavation (0 ft to 10 ft) NO SAMPLE
5	585			
10	580			582.0 CLAY, Red with yellowish red and light gray mottling, medium plasticity, trace coarse sand, hard, moist. 12 ft: Yellowish red and light gray mottling.
15	575			577.0 CLAY, Reddish yellow with light gray mottling, some brown organic matter, trace limestone gravel, medium to low plasticity, hard, moist. 576.0 HIGHLY WEATHER ROCK, Light brown, gravelley clay with some angular cobbles, gravel and cobbles are limestone, non to low plasticity, soft, wet. 573.0
20	570			LIMESTONE, Dark bluish gray, reacts with HCl when powdered, partially pulverized by drilling, hard, dry to moist. 20 ft: With abundant white calcite healed fractures.
25	565			
30	560	Driller reports void between 30 ft and 31 ft. No returns. 31 ft to 33 ft no recovery, but returns coming back. Driller reports 'soft' material, potentially washed away.		562.0 30 ft to 31 ft: Void. 31 ft to 33 ft: No recovery. 559.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry.

CONSTRUCTION DIAGRAM

- Schedule 40 PVC 2"
- Aquaguard Sodium Bentonite Grout
- Bentonite coated 3/8" pellets

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

(Continued Next Page)

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CLIENT Southern Company Services **PROJECT NAME** Plant Hammond Well Installation

PROJECT NUMBER GW6581B **PROJECT LOCATION** Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
35	555	40 ft: Driller reports no returns.		LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized and dry. *(continued)*	
40				552.0 40 ft to 42 ft: No recovery.	
	550			550.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
45	545				
50				542.0 50 ft to 52 ft: No recovery.	
	540			540.0 LIMESTONE, Dark bluish gray, wet, hard, reacts with HCl when powdered, abundant white calcite healed fractures, bottom 1 ft is pulverized by drilling.	
55	535				◄Bentonite coated 3/8" pellets
60				532.0 60 ft to 61 ft: No recovery.	
	530			531.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
65	525				
70				522.0 70 ft to 71 ft: No recovery.	
	520			521.0 LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures.	

(Continued Next Page)

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CLIENT Southern Company Services
PROJECT NAME Plant Hammond Well Installation
PROJECT NUMBER GW6581B
PROJECT LOCATION Plant Hammond

DEPTH (ft)	ELEVATION (ft)	REMARKS	GRAPHIC LOG	MATERIAL DESCRIPTION	CONSTRUCTION DIAGRAM
75	515			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white hite 0.1 in to 2 in thick calcite healed fractures. *(continued)*	
				512.0	
80	510			80 ft to 84 ft: No recovery.	
				508.0	
85	505			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	Bentonite coated 3/8" pellets
				502.0	
90	500			90 ft to 94 ft: No recovery.	
				498.0	
95	495			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	
				492.0	20/40 Silica Sand
100	490			100 ft to 102 ft: No recovery.	
				490.0	
105	485			LIMESTONE, Dark bluish gray, hard, wet, bottom 1 ft pulverized by drilling, reacts with HCl when powdered, abundant white 0.1 in to 2 in thick calcite healed fractures.	0.010 slot size 2" Pre Pack, U-Pack Screen
110					Bottom of well: 110.5 ft
				480.0	

Bottom of borehole at 112.0 feet.

Easting and Northing in NAD 1983.
Elevation in NAVD 1988.

SCS MONITORING WELLS PLANT HAMMOND HGWA7 TO HGWA114 AND MW46D_AUGUST 2020.GPJ ACP GINT LIBRARY CH.GLB 9/23/20

APPENDIX C

DPT Field Sampling Logs

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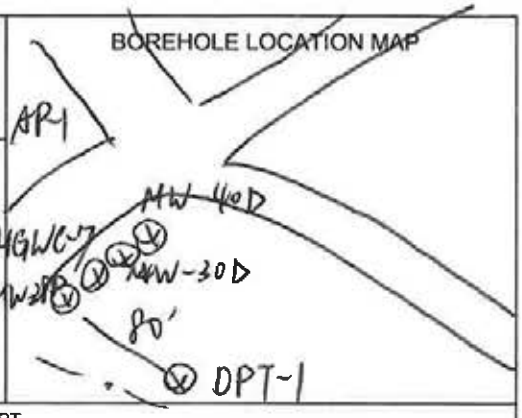
BORING LOG

BOREHOLE LOCATION MAP



BORING NO.: DPT-1 PROJECT NO.: GW6581 PAGE 1 OF 1

SITE: Plant Hammond DATE: 8/5/2020

TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: _____ GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe 7822DT

DRILLERS: Daniel Lerrell LOGGERS: S. Lin

LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0-12': no sample				
12' CLAY (10YR 5/6) yellowish brown		Sample DPT-1 12-17' at 9:30		Run 15-17' refusal recovery 3.5' Check 10-15', and 12-15' looks alike, as 15-17' sampled 12-17'
17' end of hole refusal				

Sample

DPT-1 12-17' at 9:30

DPT-1A 15-20 at 9:40 (refusal at 20')

DPT-1B 15-20' at 9:55 (refusal at 20')

⇒ core box

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BORING LOG

BORING NO.: DPT-2 PROJECT NO.: GW6581B PAGE 1 OF 1

SITE: Plant Hammond DATE: 8/4/2020

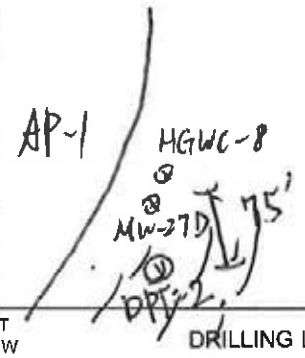
TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: _____ GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe 7288 DT

DRILLERS: Daniel Tewell LOGGERS: C. Hug & S. Liu

BOREHOLE LOCATION MAP



LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0-12': No sample				
12' CLAY (10YR 7/6) Yellow		DPT-2-12-22' 17:05		Run: 12-17' Run: 17-22' Sample fell out of liner, but recovered with the rod.
22' end of hole				

Sample:

DPT-2-12-22' at 17:05

DPT-2A-12-17' at 17:20 → Conex box

DPT-2A-17-22' at 17:20 → Conex Box

DPT-2B-12-17' at ~~17:40~~ → Conex Box

DPT-2B-17-22 at ~~17:40~~ 17:40

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BORING LOG

BORING NO.: DPT-3 PROJECT NO.: GW6581B PAGE 1 OF 1

SITE: Plant Hammond DATE: 8/4/2020

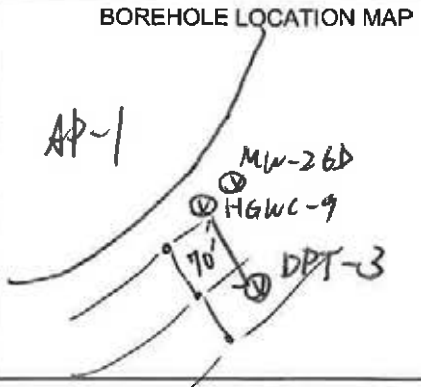
TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: 39 GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe 7822DT

DRILLERS: Daniel Tennell LOGGERS: C. Hug / S. Lin

BOREHOLE LOCATION MAP



LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0-32': No sample				
32' CLAY (10YR 6/8) brownish yellow		DPT-3_32-39' 14.30 pm		Run: 32'-37' 26" recovery Run: 37'-39' recovery 5' Refusal
39' End of hole Refusal				

Sample:

DPT-3_32-39' at 14.30pm

DPT-3A_32-37 at 3.30pm } Canex Box

DPT-3A_37-38.5 (Refusal 3:30pm }

DPT-3B-32-37 at 16:15pm } Canex

DPT-3B-37-39 at 16.15pm }

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BORING LOG

BORING NO.: DPT-4 PROJECT NO.: GW658113 PAGE 1 OF 1

SITE: Plant Hammond DATE: 8/4/2020

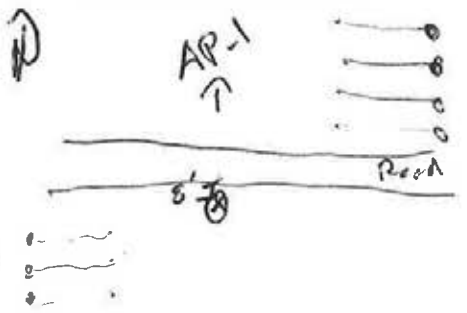
TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: 1 GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe 7822DT

DRILLERS: Daniel Terrell LOGGERS: C. Hug / S. Cin

BOREHOLE LOCATION MAP



LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0 0-12': No sample 12				
12' CLAY, Yellow (10YR 7/8), between 17 & 18' ~~dark yellowish brown 10YR~~ dark brown (10YR 3/3) Coco to med. plasticity		Sample: DPT-4_12-18' at 11.40 am		Run: 12-17' Run: 17-18' Refusal
18' End of hole Refusal Called sample DPT-4_12-18' at 11.40 am DPT-4A_12-17 at 1150 am ↳ Refusal at 17 DPT-4B_12-17' at 1200pm ↳ Refusal				Core box

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BORING LOG

BOREHOLE LOCATION MAP

BORING NO.: DPT-5 PROJECT NO.: GW6581 PAGE 1 OF 1

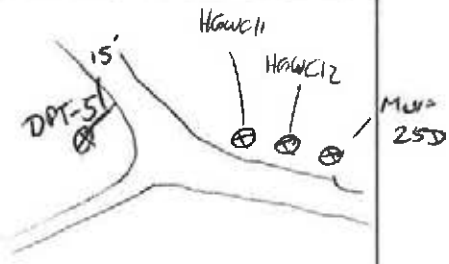
SITE: Plant Hammond DATE: 8/4/2020

TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: 25' GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe 7822DT

DRILLERS: Daniel Terrell LOGGERS: Christine Haug

LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0 0-15': NO Sample 15				
15' CLAYEY SAND, Brownish yellow (10YR 6/6), fine to medium grained, subrounded, quartz, wet. with fragments of limestone 19-20' Coarse sand and fine limestone frags.				Run: 15-20' Sample: DPT-5_15-25 ft 9:30am Run: 20-25'
20' CLAY, Yellowish brown, low to med. plasticity, trace fine sand. slightly silty.				~~Sample: 20-25'~~
25' End of hole				

Sample taken from DPT-5

Sample storage: DPT-5A_15-20 } 9:50am
20-25 }

DPT-5B_15-20 } 10:05am
20-25 }

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BORING LOG

BORING NO.: DPT-6 PROJECT NO.: GW6581B PAGE 1 OF 1

SITE: Plant Hammond DATE: 8/5/2020

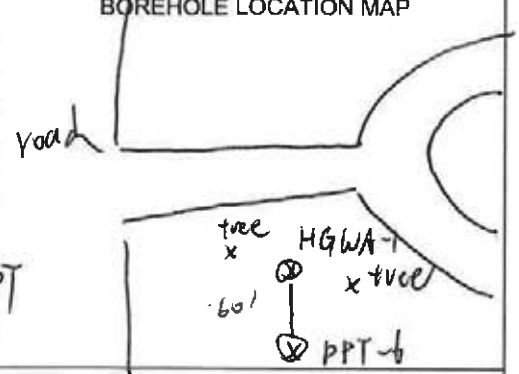
TOOLS AND METHOD: DPT BIT DIA: _____

TOTAL DEPTH: _____ GROUNDWATER DEPTH: _____

DRILLING COMPANY: Cascade Drilling RIG: Geoprobe / 7288DT

DRILLERS: Daniel Lenvel LOGGERS: S. Liu

BOREHOLE LOCATION MAP



LITHOLOGY LOG	GRAPHIC LOG	SAMPLE ID AND DEPTH	SPT BLOW COUNT	DRILLING LOG
0-15': no sample				
15' CLAY (10YR 8/6) Yellow		Sample DPT-6 15-23.5' at 11:55 am		Run 15-19' 5' recovery Run 19'-23.5' refusal
23.5' End of hole refusal				

Sample:

DPT-6 15-23.5' at 11:35

DPT-6A [15-19' at
[19-23'

DPT-6B [15-19' at 12:05
[19-23.5'

→ Cooler Box

APPENDIX D

SiREM Aquifer Solids Analytical Report

SiREM
Leading Science · Lasting Solutions

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Certificate of Analysis
SiREMNA™ Parameters

Customer: Geosyntec Consultants Inc.

SiREM Reference: S-6195

Customer Project ID: Hammond AP1 ACM Evaluation

Report Issued: 28 January 2021

Site Sampling Date: 4 and 5 August 2020

This report has been revised from the original issued on 12 November 2020 to include methodology descriptions.

INTRODUCTION

Geosyntec Consultants Inc. (Geosyntec) retained SiREM to perform SiREMNA™ testing including anion exchange capacity (AEC), cation exchange capacity (CEC), total sulfur, total sulfide, organic carbon content, total metals, X-Ray Diffraction (XRD) and Scanning Electron Microscopy (SEM) with Energy Dispersive X-Ray analysis (EDXA) from geologic materials collected at the Hammond AP1 Bowen ACM Site (the Site).

Site geologic materials were collected on 4 and 5 August 2020. SiREM received the samples on 21 September 2020 in good condition with a measured temperature of 15°C. Refer to Attachment A for Chain of Custody documentation received with the samples.

The site materials were stored at 4°C upon arrival until testing commenced. On 24 September 2020 geologic material samples were individually homogenized and subsampled in a chemical fume hood. The samples were shipped to external laboratories for analysis as outlined in the summary table below. Prior to performing the XRD analysis, SGS performed whole rock analysis on the samples to have as a reference for the mineral identification by XRD. Refer to Attachment B for the original external laboratory reports.

Method Summary Table

Parameter	Method	Laboratory
Total sulfur, total sulfide and organic carbon content	ASTM E1915-13	SGS, Lakefield, Ontario
Total metals	EPA 200.8	
Whole Rock Analysis	Borate Fusion and Xray Fluorescence Spectrometry	
XRD	Rietveld refinement method	
SEM and EDXA	SGS Internal method	
CEC	EPA method SW9081	SGS, Guelph, Ontario
AEC	modified EPA method SW9081	Specialty Analytical, Clackamas, Oregon

METHOD REFERENCES

ASTM W1915-13: Standard Test Methods for Analysis of Metal Bearing Ores and Related Materials for Carbon, Sulfur, and Acid-Base Characteristics

EPA 200.8: Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) is the method used by SGS and is accredited to the requirements of ISO/IEC 17025

Borate Fusion and Xray Fluorescence Spectrometry is the method used by SGS and is accredited to the requirements of ISO/IEC 17025

SEM-EDS analysis is conducted using the Tescan Vega II SEM which is equipped with an Oxford EDS detector

EPA 9081: Cation-Exchange Capacity of Soils (Sodium Acetate)

Modified EPA 9081: Anion-Exchange Capacity of Soils. Sodium nitrate used in place of sodium acetate to exchange anions, washed with isopropyl alcohol and nitrate extracted with sodium chloride. Nitrate analyzed by SM4500-NO_3-F.

TABLES

SiREM
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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Analytical Results

SiREM File Reference: S-6195

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14
Date Samples Received: September 21, 2020
Date Samples Analyzed: October 5, 2020 to October 21, 2020

Client Sample ID	Laboratory Sample ID	Client Sample Date	Anion Exchange Capacity	Cation Exchange Capcity	Total Sulfur	Total Sulfide	Total Organic Carbon
			meq/100g	meq/100g	%	%	%
DPT01(12-17)	20-2137	5-Aug-20	8.48	15.80	0.018	< 0.04	0.07
DPT02(12-22)	20-2138	4-Aug-20	6.58	19.00	0.008	< 0.04	0.04
DPT03(32-39)	20-2139	4-Aug-20	8.09	19.40	0.005	< 0.04	0.16
DPT04(12-18)	20-2140	4-Aug-20	7.85	20.20	0.006	< 0.04	0.09
DPT05(15-25)	20-2141	4-Aug-20	6.74	15.70	< 0.005	< 0.04	< 0.025
DPT06(15-23)	20-2142	5-Aug-20	4.57	5.70	< 0.005	< 0.04	0.12
		QL	0.0002	0.0002	0.005	0.04	0.025

Comments:
% - percent
< - compound not detected, the associated value is the detection limit
meq/100g - milliequivalents per 100 grams
NA - not applicable
QL - quantitation limit

Analyst:

Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:

Jeff Roberts, M.Sc.
Operations Manager

Date:

11-Nov-20

SiREM
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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Analytical Results - Total Metals

SiREM File Reference: S-6195

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14
Date Samples Received: September 21, 2020
Date Samples Analyzed: October 13, 2020

Client Sample ID	Laboratory Sample ID	Client Sample Date	Molybdenum	Lithium	Cobalt	Arsenic	Iron	Aluminum	Manganese
			µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
DPT01(12-17)	20-2137	5-Aug-20	1.2	38	12	4.9	26,000	50,000	710
DPT02(12-22)	20-2138	4-Aug-20	6.2	33	11	4.7	26,000	33,000	530
DPT03(32-39)	20-2139	4-Aug-20	0.54	43	26	12	52,000	55,000	1,100
DPT04(12-18)	20-2140	4-Aug-20	1.4	38	19	3.8	42,000	69,000	2,400
DPT05(15-25)	20-2141	4-Aug-20	13	36	38	4.6	50,000	75,000	830
DPT06(15-23)	20-2142	5-Aug-20	0.40	59	23	4.8	41,000	68,000	1,200
		QL	0.1	2	0.01	0.5	3	1	0.1

Comments:
< - compound not detected, the associated value is the detection limit
µg/g - microgram per gram
NA - not applicable
QL - quantitation limit

Analyst:

Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:

Jeff Roberts, M.Sc.
Operations Manager

Date:

11-Nov-20

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130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Analytical Results - Whole Rock Analysis

SiREM File Reference: S-6195

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14
Date Samples Received: September 21, 2020
Date Samples Analyzed: November 3, 2020

Client Sample ID	Laboratory Sample ID	Client Sample Date	Quartz (SiO2)	Aluminum Oxide (Al2O3)	Ferric Oxide (Fe2O3)	Magnesium Oxide (MgO)	Calcium Oxide (CaO)	Sodium Oxide (Na2O)	Potassium Oxide (K2O)	Titanium Dioxide (TiO2)	Phosphorous Pentoxide (P2O5)	Manganese Oxide (MnO)	Chromium (III) Oxide (Cr2O3)	Vanadium Oxide (V2O5)	Loss on Ignition
			%	%	%	%	%	%	%	%	%	%	%	%	%
DPT01(12-17)	20-2137	5-Aug-20	76.7	9.84	3.73	0.82	0.59	0.36	0.94	0.90	0.11	0.08	< 0.01	0.02	5.66
DPT02(12-22)	20-2138	4-Aug-20	84.1	6.43	3.72	0.58	0.34	0.24	0.79	0.39	0.11	0.06	< 0.01	< 0.01	3.69
DPT03(32-39)	20-2139	4-Aug-20	64.8	11.8	7.30	2.09	2.36	0.64	1.85	0.50	0.29	0.14	0.01	< 0.01	8.23
DPT04(12-18)	20-2140	4-Aug-20	66.7	13.4	5.99	1.63	1.03	0.64	1.95	0.64	0.22	0.29	< 0.01	0.01	7.36
DPT05(15-25)	20-2141	4-Aug-20	64.7	14.6	7.24	1.75	0.47	0.15	2.63	0.63	0.13	0.10	0.01	< 0.01	7.98
DPT06(15-23)	20-2142	5-Aug-20	52.5	16.3	6.12	1.78	6.37	0.10	2.40	0.70	0.17	0.14	0.01	0.01	13.5
		QL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Comments:
% - percent
< - compound not detected, the associated value is the detection limit
NA - not applicable
QL - quantitation limit

Analyst:

Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:

Jeff Roberts, M.Sc.
Operations Manager

Date:

11-Nov-20

130 Stone Rd. W
Guelph, ON N1G 3Z2
(519) 822-2265

Analytical Results - Rietveld Quantitative X-Ray Diffraction

SiREM File Reference: S-6195

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14
Date Samples Received: September 21, 2020
Date Samples Analyzed: October 6, 2020

Client Sample ID	Laboratory Sample ID	Client Sample Date	Quartz	Albite	Microcline	Muscovite	Chlorite	Kaolinite	Anatase	Nontronite	Calcite	Goethite
			wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %
DPT01(12-17)	20-2137	5-Aug-20	70.3	4.87	2.07	10.25	4.06	5.63	0.68	2.15	-	-
DPT02(12-22)	20-2138	4-Aug-20	82.0	3.21	1.18	6.96	2.46	3.81	0.13	0.23	-	-
DPT03(32-39)	20-2139	4-Aug-20	64.7	6.0	1.46	13.08	6.26	3.37	0.21	1.82	3.07	-
DPT04(12-18)	20-2140	4-Aug-20	55.8	8.5	3.26	20.46	-	7.33	0.58	4.09	-	-
DPT05(15-25)	20-2141	4-Aug-20	44.9	3.4	7.87	26.07	-	-	1.18	0.41	-	16.19
DPT06(15-23)	20-2142	5-Aug-20	34.4	4.5	4.60	23.98	-	-	1.68	4.86	15.01	10.9
QL			0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Comments:
% - percent
< - compound not detected, the associated value is the detection limit
-- not identified by analyst
wt % - weight percent
QL - quantitation limit

Analyst:
Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:
Jeff Roberts, M.Sc.
Operations Manager

Date:
11-Nov-20

ATTACHMENT A: Chain of Custody Documentation

SiREM

Chain-of-Custody Form

siremlab.com

130 Stone Road West
Guelph ON, Canada N1G 3Z2
(519) 822-2265

Lab # S-6195

*Project Name: Hammond AP1 ACM Evaluation	*Project #: GW6581B/14
*Project Manager: Whitney Law	*Company: Geosyntec Consultants
*Email Address: wlaw@geosyntec.com	
Address (Street): 1255 Roberts Blvd, NW, Suite 200	
City: Kennesaw / State/Province: GA (30144) / Country: USA	
*Phone #: 678-202-9573	
*Sampler's Signature	*Sampler's Printed Name

Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Anion Exch Capacity (AEC)	Cation Exch Capacity (CEC)	Total Sulfur	Total Sulfide	Organic Carbon Content	Total Metal Conc (See Note #1 for COCs)	X-Ray Diffraction, EDXA	Other Information
✓ DPT01(12-17)	8/5/20	09:30	S	1	X	X	X	X	X	X	X	NOTE#1: Total metals to be reported Mo, Li, F, As, Fe, Al, Mn
✓ DPT02(12-22)	8/4/20	17:05	S	1	X	X	X	X	X	X	X	
✓ DPT03(32-39)	8/4/20	14:30	S	1	X	X	X	X	X	X	X	
✓ DPT04(12-18)	8/4/20	11:40	S	1	X	X	X	X	X	X	X	
✓ DPT05(15-25)	8/4/20	09:30	S	1	X	X	X	X	X	X	X	
✓ DPT06(15-23)	8/5/20	11:35	S	1	X	X	X	X	X	X	X	

Preservative Key: 0. None; 1. HCL; 2. Other ____; 3. Other ____; 4. Other ____; 5. Other ____; 6. Other ____

Billing Information

P.O. #: Quote#: SI-4746-091420

*Bill To: GW6581B/14/01

Turnaround Time Requested

Normal [X]

Rush [ ]

For Lab Use Only

Cooler Condition: Good

Cooler Temperature: 15°C

Custody Seals: Yes [✓] No [ ]

For Lab Use Only

Proposal #: ____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: WBLaw	Signature: NBrent	Signature:	Signature:	Signature:	Signature:
Printed Name: Whitney B. Law	Printed Name: Natasha Brent	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: Geosyntec Consultants	Firm: ~~Fed Ex~~ SiREM	Firm:	Firm:	Firm:	Firm:
Date/Time: 9/17/20 14:30	Date/Time: 21 Sept 20 13:20	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - return to Originator; Yellow - Lab Copy; Pink - Retained by Client

** Mandatory Fields*

ATTACHMENT B: External Laboratory Reports

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : S-6195

14-October-2020

SiREM Laboratory
Attn : Kela Ashworth

130 Stone Rd. W, Guelph
Canada, N1G 3Z2
Phone: 519-822-2265, Fax:519-822-3151

Date Rec. : 25 September 2020
LR Report: **CA15479-SEP20**

Copy: #1

CERTIFICATE OF ANALYSIS

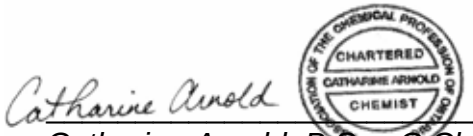
Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: S-6195-1	6: S-6195-2	7: S-6195-3	8: S-6195-4	9: S-6195-5	10: S-6195-6
Sample Date & Time					24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20
Ag [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	< 1	< 1	< 1	< 1	< 1	< 1
Al [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	50000	33000	55000	69000	75000	68000
As [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	4.9	4.7	12	3.8	4.6	4.8
Ba [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	220	190	170	260	260	280
Be [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	1.8	1.6	2.5	3.0	5.6	4.5
Bi [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	0.31	0.23	0.48	0.41	0.37	0.35
Ca [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	4200	2500	16000	7500	3500	46000
Cd [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	0.14	0.11	0.58	0.38	0.19	0.080
Co [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	12	11	26	19	38	23
Cr [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	28	20	64	53	57	16
Cu [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	10	12	29	26	28	25
Fe [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	26000	26000	52000	42000	50000	41000
K [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	7800	6700	13000	16000	22000	14000
Li [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	38	33	43	38	36	59
Mg [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	4900	3600	12000	9900	11000	8800
Mn [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	710	530	1100	2400	830	1200

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Project : S-6195
LR Report : **CA15479-SEP20**

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: S-6195-1	6: S-6195-2	7: S-6195-3	8: S-6195-4	9: S-6195-5	10: S-6195-6
Mo [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	1.2	6.2	0.54	1.4	13	0.40
Ni [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	25	25	52	47	48	55
Pb [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	18	11	20	20	16	20
Sb [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Se [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Sn [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	< 6	< 6	< 6	< 6	< 6	< 6
Sr [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	67	50	78	46	60	130
Ti [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	1600	970	2700	3500	3400	260
Tl [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	0.40	0.33	0.32	0.44	0.48	0.45
U [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	1.8	1.3	2.5	3.0	3.1	0.88
V [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	63	42	60	71	70	40
Y [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	19	18	22	31	30	64
Zn [µg/g]	07-Oct-20	15:21	13-Oct-20	14:29	52	49	76	79	100	86
S [%]	08-Oct-20	15:16	09-Oct-20	11:21	0.018	0.008	0.005	0.006	< 0.005	< 0.005
C [%]	08-Oct-20	15:16	09-Oct-20	11:21	0.086	0.044	0.412	0.157	0.036	1.15
Sulphide [%]	09-Oct-20	15:49	09-Oct-20	16:46	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
TOC [%]	09-Oct-20	10:44	09-Oct-20	11:21	0.070	0.040	0.160	0.090	< 0.025	0.120



Catharine Arnold, B.Sc., C.Chem
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0002285504

SGS	**Minerals** **Geochemistry** **Lakefield Laboratory**	Revision **2.7** Doc Type **Method Summary** Method No: **GO/GC/GT_XR** Code **F76V** Service **Testing** Issued Date **23/Sep/2014**
Minerals	**Preparation and Determination of Major Element Oxides, LOI and Rare Earth Oxides in Oxide Ores, and Process Control and Trade Products by Borate Fusion and Xray Fluorescence Spectrometry** [SiO_2, Al_2O_3, Fe_2O_3, MgO, CaO, Na_2O, K_2O, P_2O_5, MnO, TiO_2, Cr_2O_3; V_2O_5; LOI; additions BaO; Ce_2O_3; Nd_2O_3, La_2O_3; Pr_2O_3, Sm_2O_3; Nb_2O_5, ThO_2, Ta_2O_5; SnO_2; SrO; ZrO_2; HfO_2; Y_2O_3; WO_3; U_3O_8; Co; Ni ; XRF]	Approved by **K. Patel**

1. **Parameter(s) measured, unit(s):**
   Silicon Dioxide (SiO_2), Aluminum Oxide (Al_2O_3), Iron(III) Oxide (Fe_2O_3), Magnesium Oxide (MgO), Calcium Oxide (CaO), Sodium Oxide (Na_2O), Potassium Oxide (K_2O), Phosphorus Pentoxide (P_2O_5), Manganese Oxide (MnO), Titanium Dioxide (TiO_2), Chromium (III) Oxide (Cr_2O_3), Vanadium Oxide (V_2O_5), LOI, in %
   Barium Oxide (BaO), Cerium (III) Oxide(Ce_2O_3), Neodymium Oxide (Nd_2O_3), Lanthanum Oxide (La_2O_3), Praseodymium Oxide (Pr_2O_3), Samarium Oxide (Sm_2O_3), Niobium Pentoxide (Nb_2O_5), Thorium Dioxide (ThO_2), Tantalum Pentoxide (Ta_2O_5), Tin Dioxide (SnO_2) Uranium Oxide (U_3O_8), Cobalt (Co), Nickel (Ni), Strontium Oxide (SrO), Zirconium Dioxide (ZrO_2), Hafnium Oxide (HfO_2), Yttrium Oxide (Y_2O_3), Tungsten Trioxide (WO_3) in % can be added as additions

2. **Typical sample size:**
   0.2 to 0.5g, 1g additional for LOI analysis

3. **Type of sample applicable (media):**
   Rocks, oxide ores, concentrates and catalysts

4. **Sample preparation technique used:**
   Samples are crushed and pulverized according to client specified instructions or default preparation procedures. This method is used to report, in percentage, the whole rock suite (SiO_2, Al_2O_3, Fe_2O_3, MgO, CaO, Na_2O, K_2O, P_2O_5, MnO, TiO_2, Cr_2O_3 ,V_2O_5). Sample preparation entails the formation of a homogenous glass disk by the fusion of the sample and a lithium tetraborate/lithium metaborate mixture. The LOI is determined separately and gravimetrically at 1000°C.

5. **Method of analysis used:**
   The prepared disks are analyzed by wavelength dispersion X-ray fluorescence (WD-XRF). The

LOI is included in the matrix correction calculations, which are performed by the XRF software.

6. **Data reduction by:**
Computer, on line, data fed to Laboratory Information Management System with secure audit trail.

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7. **Figures of Merit:**
This method has been fully validated for the range of samples typically analyzed. Method validation includes the use of reference materials, replicates, duplicates and blanks to calculate accuracy, precision, linearity, range, limit of detection, reporting limit, specificity and measurement uncertainty.

The reporting limits has been determined according to the following

Element	Report Limit %
SiO2	0.01
Al2O3	0.01
MgO	0.01
Na2O	0.01
K2O	0.01
CaO	0.01
P2O5	0.01
TiO2	0.01
Cr2O3	0.01
V2O5	0.01
Fe2O3	0.01
MnO	0.01
LOI	-10

*upper limit for all elements is 100%. A negative LOI indicates a gain on ignition

8. **Quality control:**
Quality control materials include method blanks, replicates and reference materials and are randomly inserted with the frequency set according to method protocols at ~12% for ore grade analysis and 18% for process control analysis. Quality control materials will also include BRM (Barren reference materials, or preparations blanks) and preparation duplicates if samples have been taken through the sample reduction process. Party quality samples are assayed in replicate, umpire quality samples are in triplicate. Calibration materials that cover the range upon method set-up; calibration check performed daily.

9. **Accreditation:**
The Standards Council of Canada has accredited this test in conformance with the requirements of ISO/IEC 17025. See www.scc.ca/en/search/palcan for scope of accreditation.

Note: Scopes of accreditation are site specific, please check with the local representative.

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

03-November-2020

SiREM Laboratory
Attn : Kela Ashworth

130 Stone Rd. W, Guelph
Canada, N1G 3Z2
Phone: 519-822-2265, Fax:519-822-3151

Date Rec. : 25 September 2020
LR Report: **CA15480-SEP20**
Reference: S-6195

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	**5: S-6195-1**	**6: S-6195-2**	**7: S-6195-3**	**8: S-6195-4**	**9: S-6195-5**	**10: S-6195-6**
Sample Date & Time	24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20	24-Sep-20
SiO2 [%]	76.7	84.1	64.8	66.7	64.7	52.5
Al2O3 [%]	9.84	6.43	11.8	13.4	14.6	16.3
Fe2O3 [%]	3.73	3.72	7.30	5.99	7.24	6.12
MgO [%]	0.82	0.58	2.09	1.63	1.75	1.78
CaO [%]	0.59	0.34	2.36	1.03	0.47	6.37
Na2O [%]	0.36	0.24	0.64	0.64	0.15	0.10
K2O [%]	0.94	0.79	1.85	1.95	2.63	2.40
TiO2 [%]	0.90	0.39	0.50	0.64	0.63	0.70
P2O5 [%]	0.11	0.11	0.29	0.22	0.13	0.17
MnO [%]	0.08	0.06	0.14	0.29	0.10	0.14
Cr2O3 [%]	< 0.01	< 0.01	0.01	< 0.01	0.01	0.01
V2O5 [%]	0.02	< 0.01	< 0.01	0.01	< 0.01	0.01
LOI [%]	5.66	3.69	8.23	7.36	7.98	13.5
Sum [%]	99.8	100.5	100.0	99.9	100.5	100.1

Catharine Arnold

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Project Specialist,
Environment, Health & Safety

OnLine LIMS

0002309056

Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for:	*Environmental Services*
Project Number/ LIMS No.	*Custom XRD/MI4503-OCT20*
Sample Receipt:	*October 6, 2020*
Sample Analysis:	*October 6, 2020*
Reporting Date:	*October 23, 2020*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions:	Co radiation, 35 kV, 40 mA Regular Scanning: Step: 0.02°, Step time: 1s, 2θ range: 3-80°
Interpretations :	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva and Topas software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geo.
Senior Mineralogist

ACCREDITATION: SGS Minerals Services Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada - Minerals Services - Lakefield: http://palcan.scc.ca/SpecsSearch/GLSearchForm.do.

Method Summary

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) method used by SGS Minerals Services is accredited to the requirements of ISO/IEC 17025.

Mineral Identification and Interpretation:

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Topas 4.2 (Bruker AXS), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

Mineral/Compound	S-6195-1 OCT4503-01 (wt %)	S-6195-2 OCT4503-02 (wt %)	S-6195-3 OCT4503-03 (wt %)	S-6195-4 OCT4503-04 (wt %)	S-6195-5 OCT4503-05 (wt %)	S-6195-6 OCT4503-06 (wt %)
Quartz	70.3	82.0	64.7	55.8	44.9	34.4
Albite	4.9	3.2	6.0	8.5	3.4	4.5
Microcline	2.1	1.2	1.5	3.3	7.9	4.6
Muscovite	10.2	7.0	13.1	20.5	26.1	24.0
Chlorite	4.1	2.5	6.3	-	-	-
Kaolinite	5.6	3.8	3.4	7.3	-	-
Anatase	0.7	0.1	0.2	0.6	1.2	1.7
Nontronite	2.2	0.2	1.8	4.1	0.4	4.9
Calcite	-	-	3.1	-	-	15.0
Goethite	-	-	-	-	16.2	10.9
TOTAL	100	100	100	100	100	100

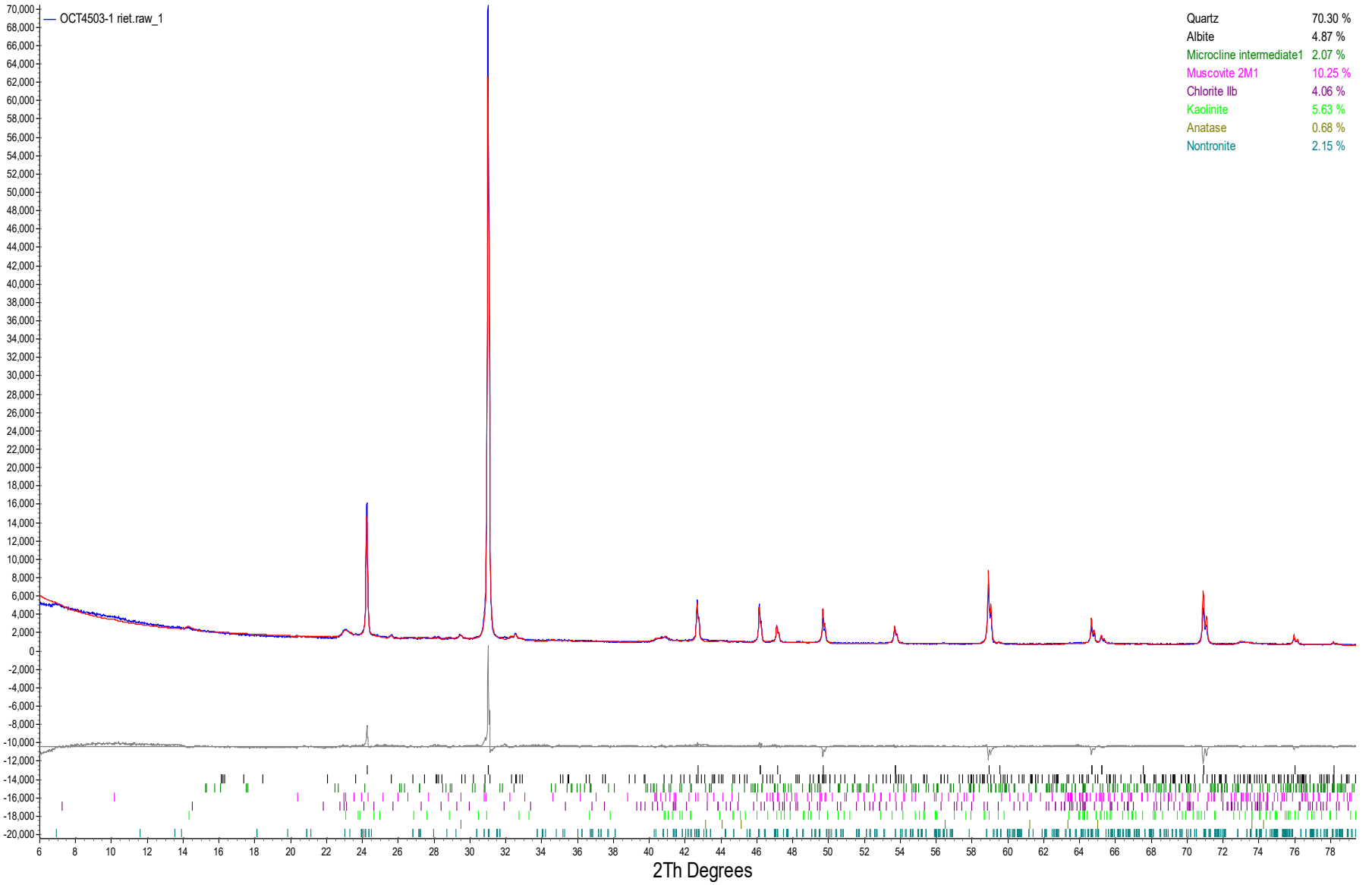
Zero values indicate that the mineral was included in the refinement, but the calculated concentration is below a measurable value.

Dashes indicate that the mineral was not identified by the analyst and not included in the refinement calculation for the sample.

The weight percent quantities indicated have been normalized to a sum of 100%. The quantity of amorphous material has not been determined.

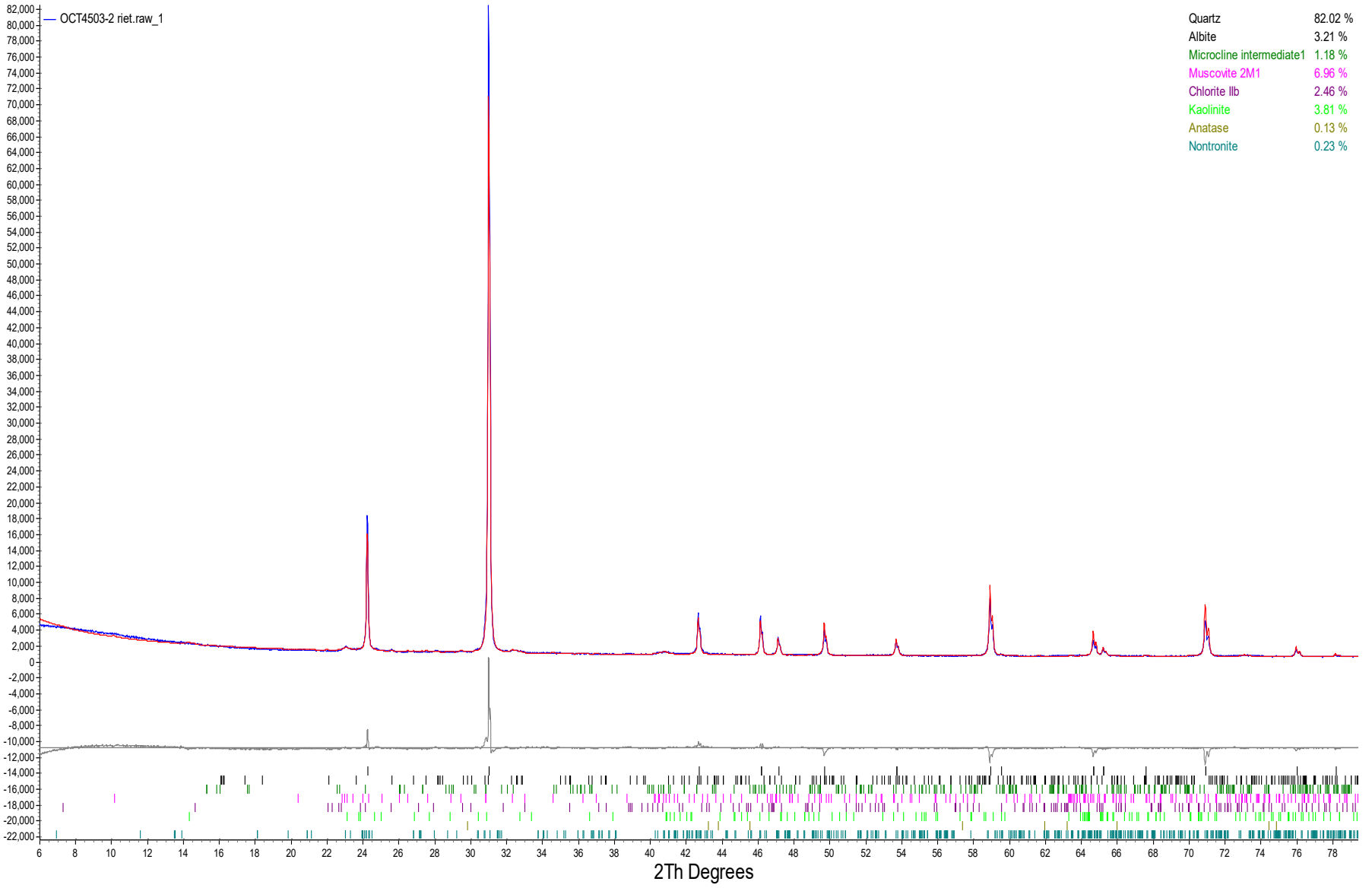
Mineral/Compound	Formula
Quartz	SiO_2
Albite	$NaAlSi_3O_8$
Microcline	$KAlSi_3O_8$
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$
Kaolinite	$Al_2Si_2O_5(OH)_4$
Anatase	TiO_2
Nontronite	$Fe_2(Al,Si)_4O_{10}(OH)_2Na_{0.3}\cdot 4(H_2O)$
Calcite	$CaCO_3$
Goethite	$\alpha FeO\cdot OH$

S-6195-1



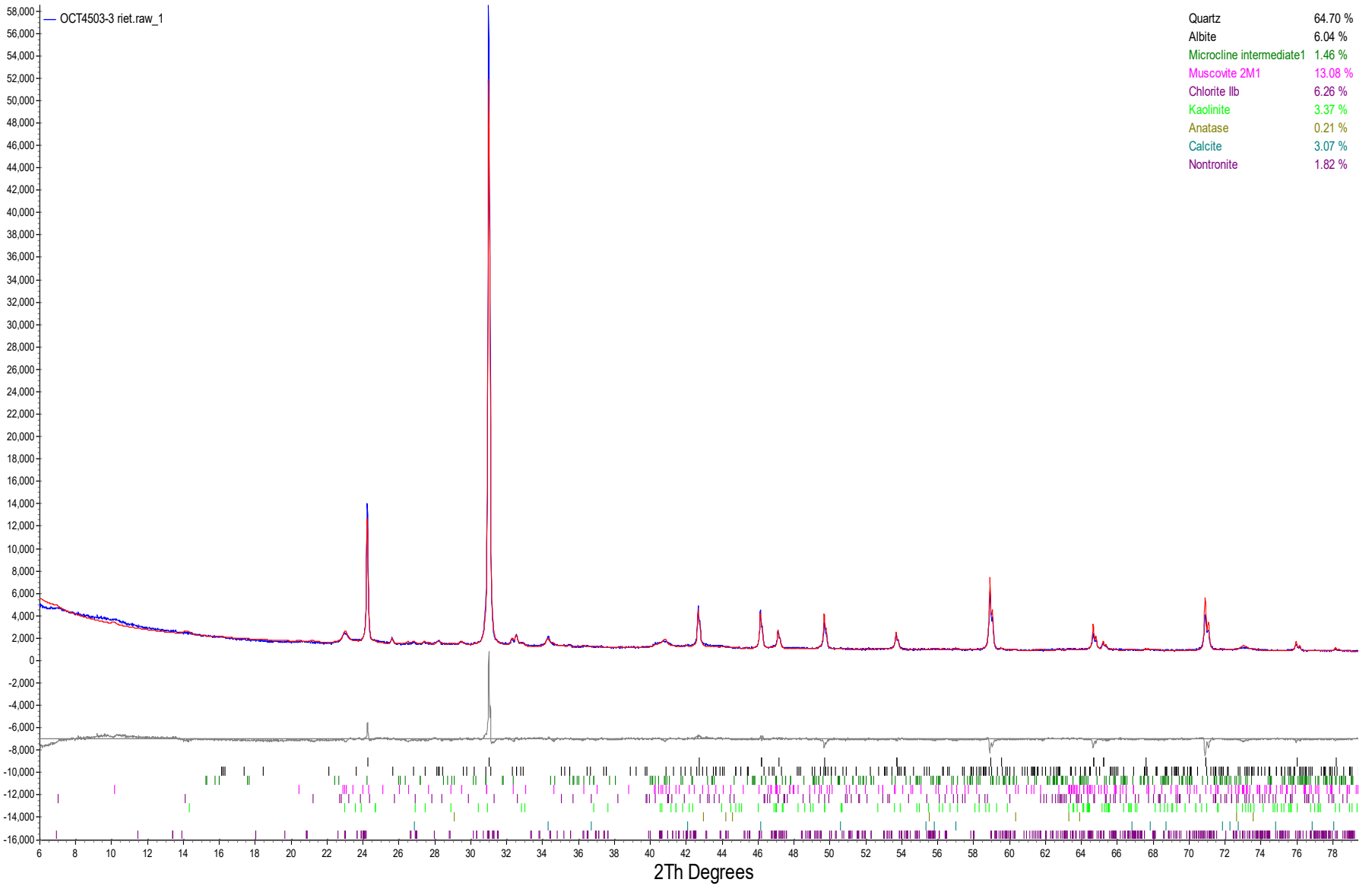
Quartz	70.30 %
Albite	4.87 %
Microcline intermediate1	2.07 %
Muscovite 2M1	10.25 %
Chlorite IIb	4.06 %
Kaolinite	5.63 %
Anatase	0.68 %
Nontronite	2.15 %

S-6195-2



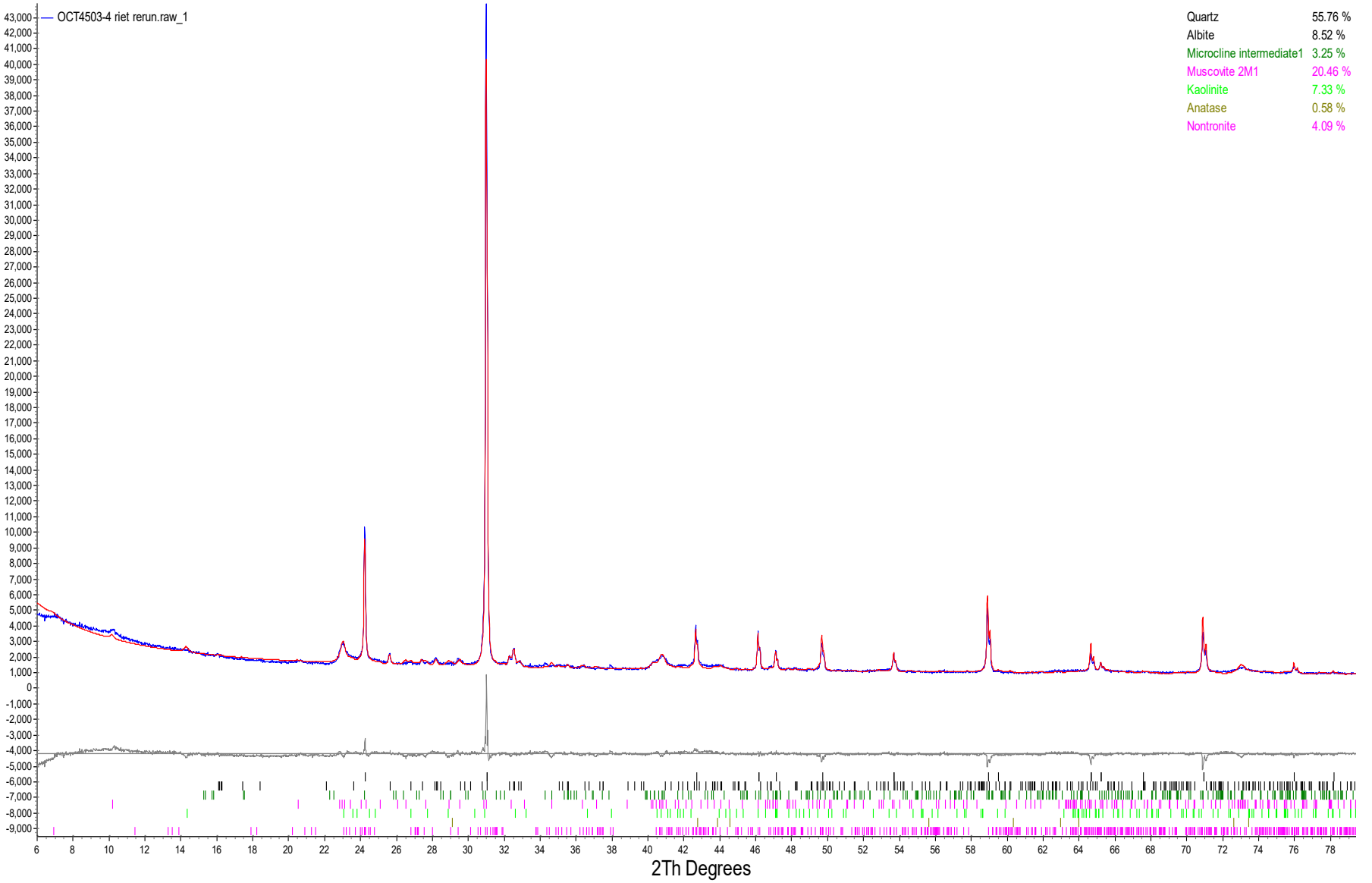
Quartz	82.02 %
Albite	3.21 %
Microcline intermediate1	1.18 %
Muscovite 2M1	6.96 %
Chlorite IIb	2.46 %
Kaolinite	3.81 %
Anatase	0.13 %
Nontronite	0.23 %

S-6195-3



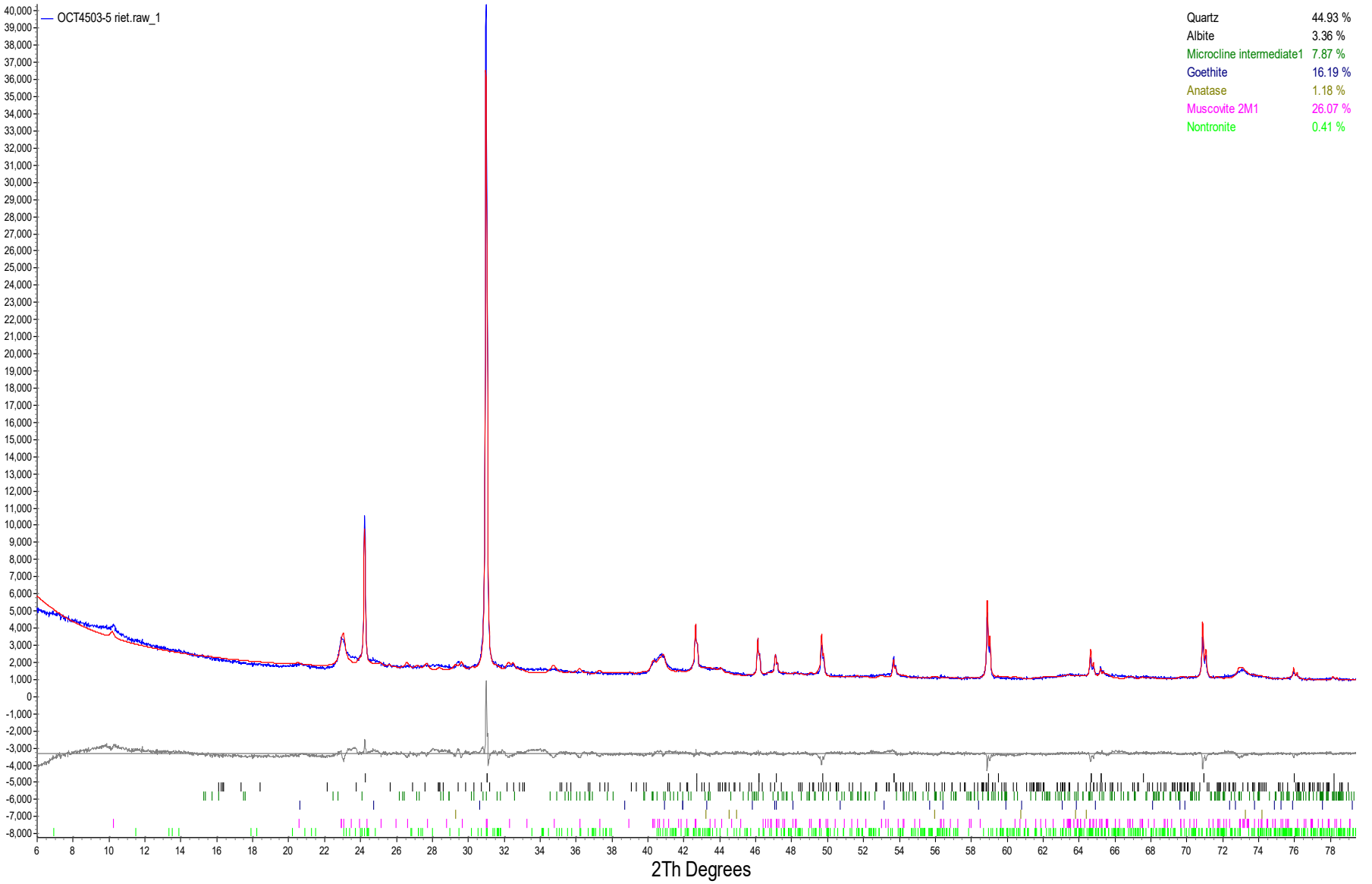
Quartz	64.70 %
Albite	6.04 %
Microcline intermediate1	1.46 %
Muscovite 2M1	13.08 %
Chlorite IIb	6.26 %
Kaolinite	3.37 %
Anatase	0.21 %
Calcite	3.07 %
Nontronite	1.82 %

S-6195-4



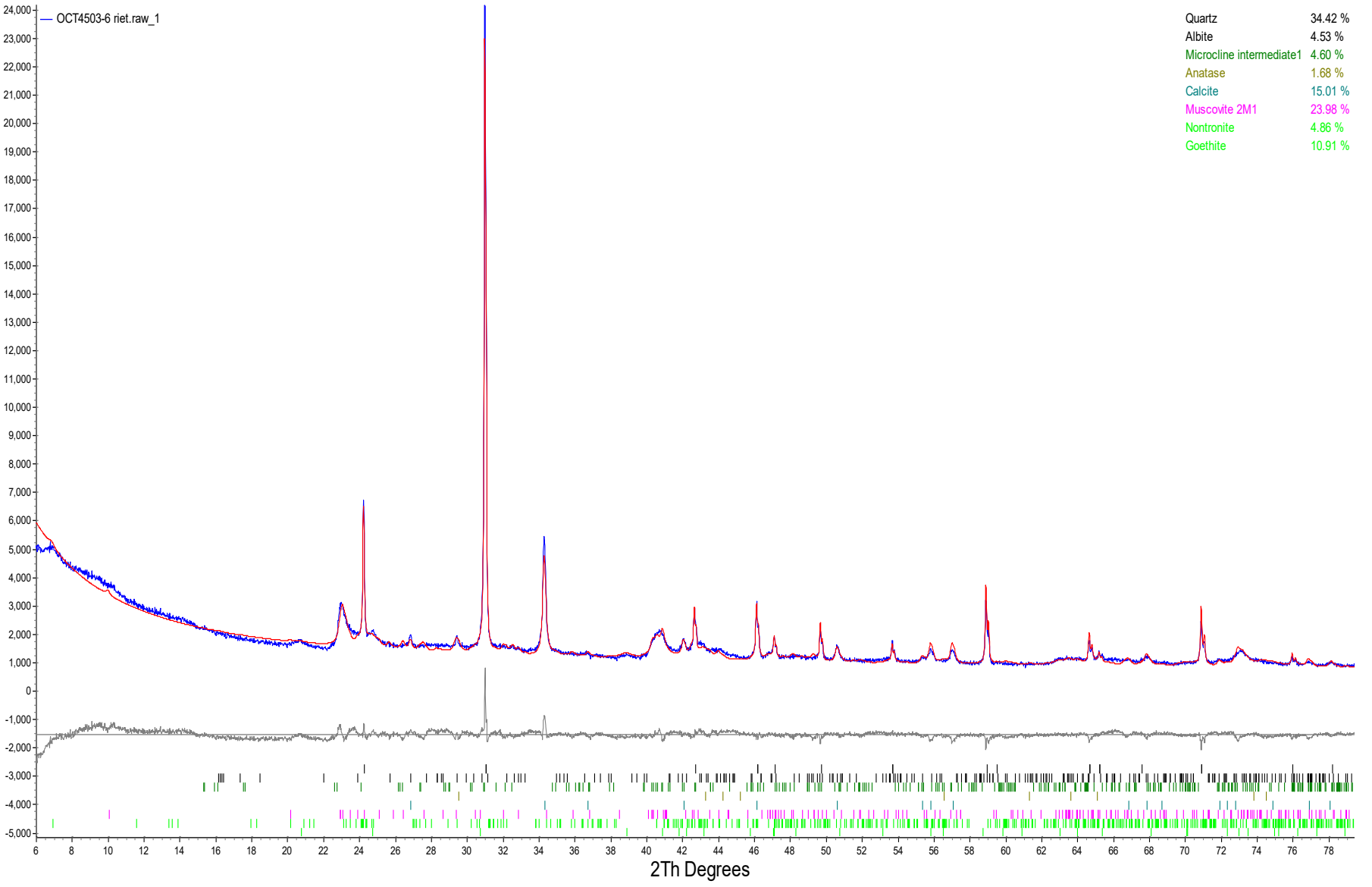
Quartz	55.76 %
Albite	8.52 %
Microcline intermediate1	3.25 %
Muscovite 2M1	20.46 %
Kaolinite	7.33 %
Anatase	0.58 %
Nontronite	4.09 %

S-6195-5



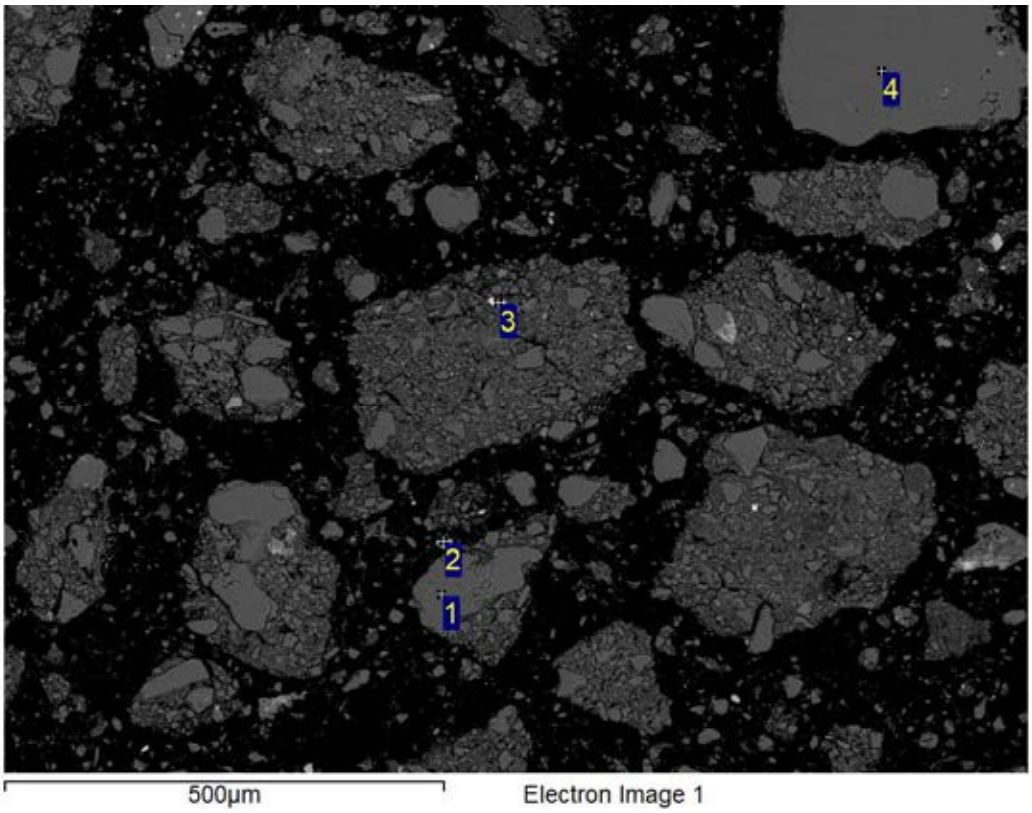
Quartz	44.93 %
Albite	3.36 %
Microcline intermediate1	7.87 %
Goethite	16.19 %
Anatase	1.18 %
Muscovite 2M1	26.07 %
Nontronite	0.41 %

S-6195-6



Quartz	34.42 %
Albite	4.53 %
Microcline intermediate1	4.60 %
Anatase	1.68 %
Calcite	15.01 %
Muscovite 2M1	23.98 %
Nontronite	4.86 %
Goethite	10.91 %

Sample Notes:
S-6195-1

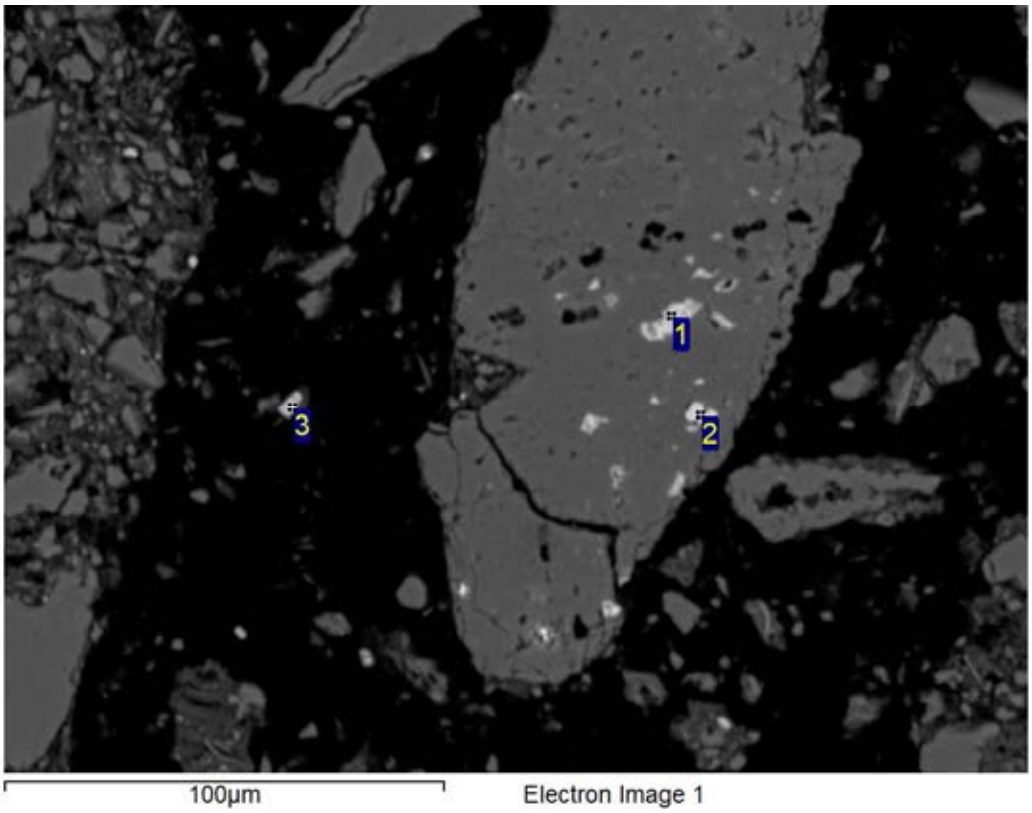


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Si	P	Ca	Ti	Mn	Fe	W	Total	Mineral ID
1	51.8		48.2							100.0	Quartz
A2	36.8	8.2		16.8	36.9				1.3	100.0	Apatite
3	33.5					31.2	3.4	32.0		100.0	Ilmenite
4	52.2		47.8							100.0	Quartz

All results in weight%

Sample Notes:
S-6195-1

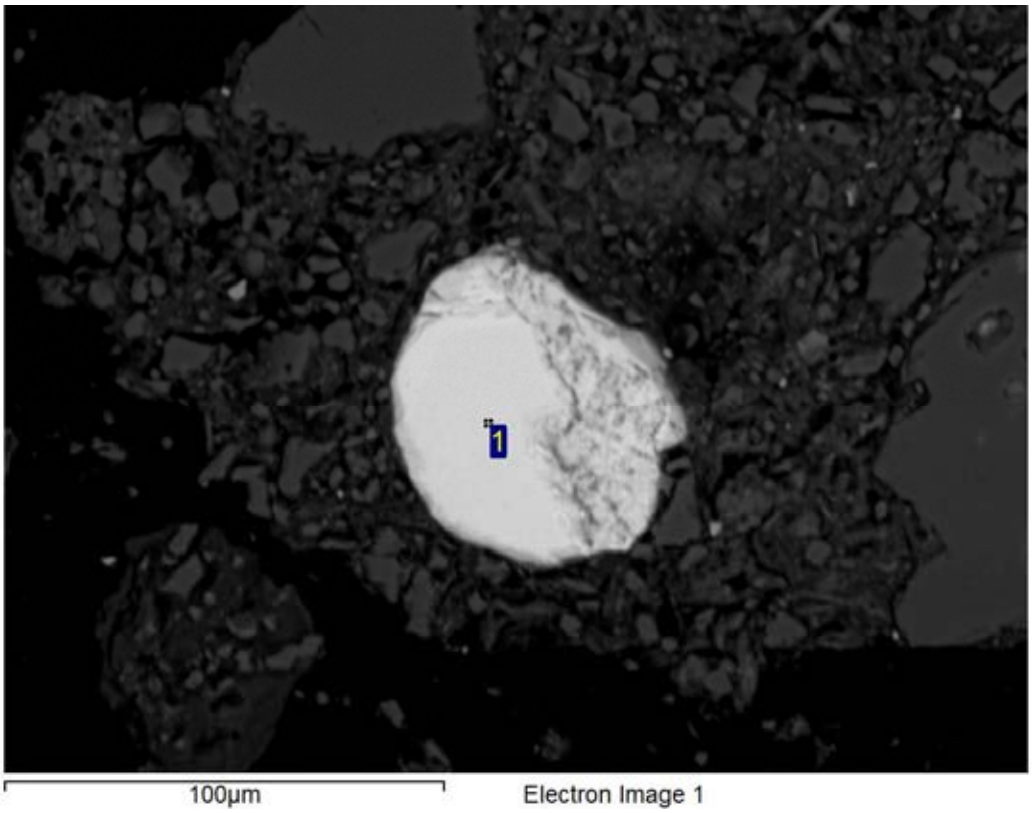


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	Ti	Fe	Total	Mineral ID
1	35.2	1.6	14.1	0.7		48.5	100.0	FeOx
2	40.4	0.8	7.9	0.6		50.3	100.0	FeOx
3	46.1	0.5	0.9		51.9	0.6	100.0	Rutile

All results in weight%

Sample Notes:
S-6195-1

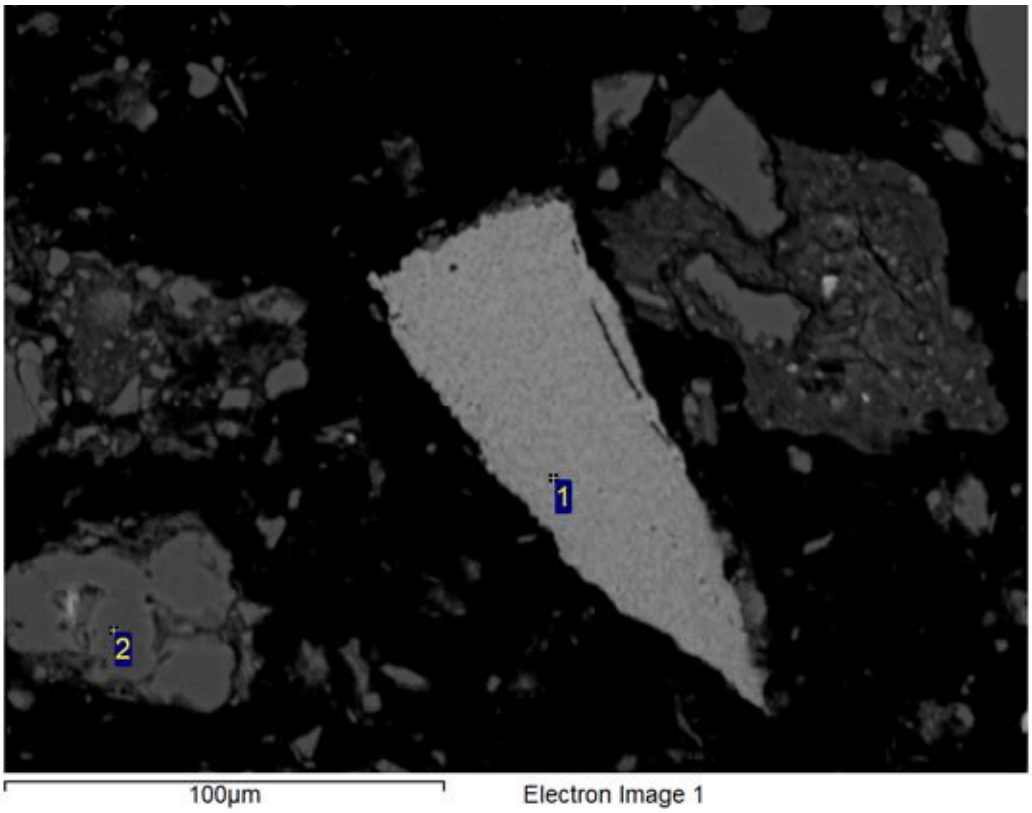


Processing option : All elements analysed (Normalised)

Spectrum	O	Si	Zr	Total	Mineral ID
1	34.2	16.0	49.8	100.0	Zircon

All results in weight%

Sample Notes:
S-6195-1

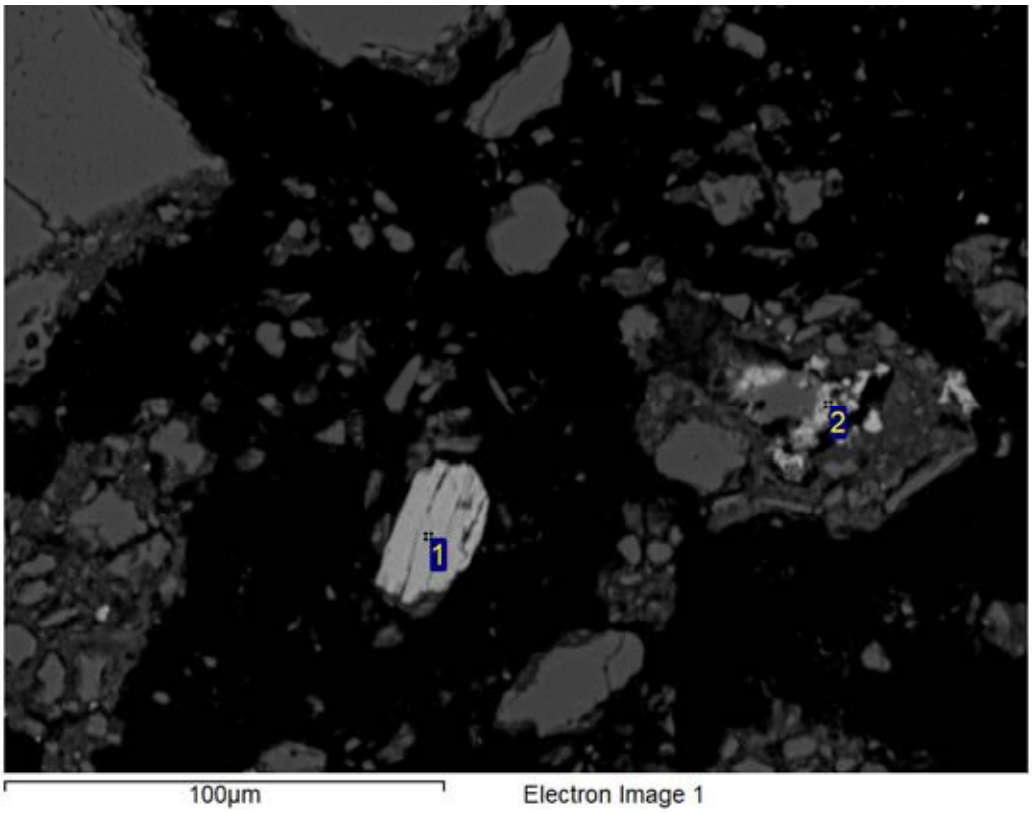


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Na	Si	P	Ca	W	Total	Mineral ID
1	36.6	7.3	0.3		16.9	37.6	1.3	100.0	Apatite
2	52.2			47.8				100.0	Quartz

All results in weight%

Sample Notes:
S-6195-1

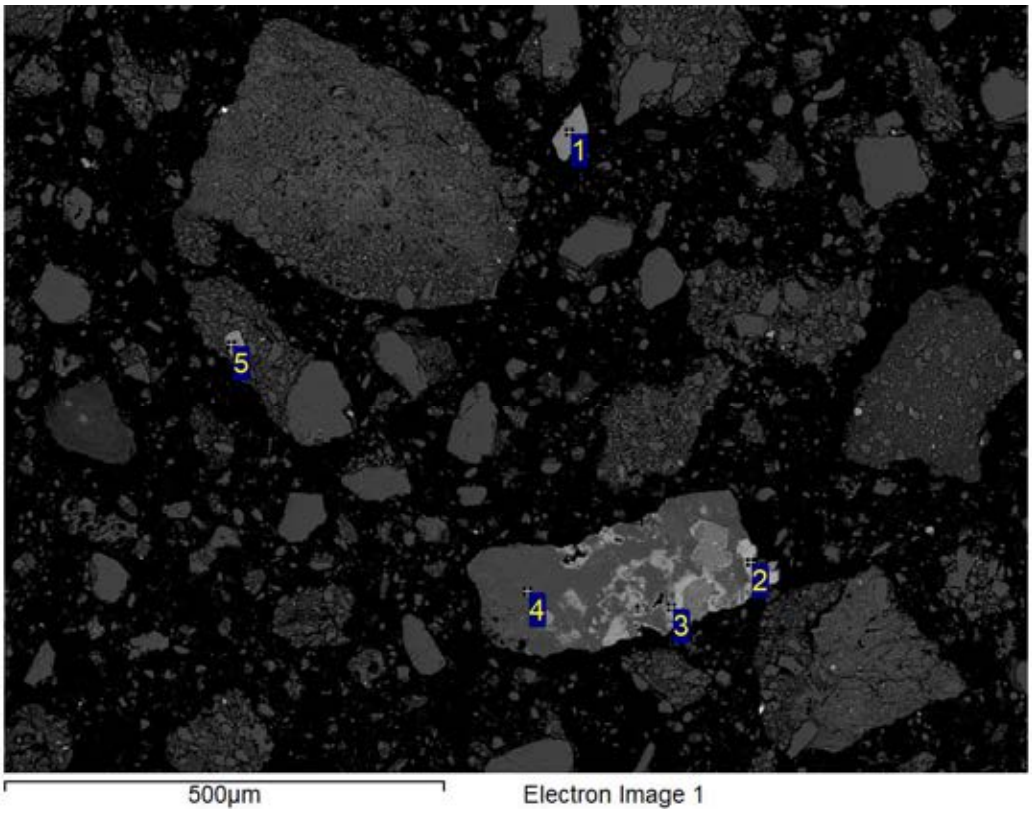


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	41.7			0.2				57.4		0.6	100.0	Rutile
2	38.5	0.4	3.9	9.6	0.5	1.5	0.4		0.4	44.6	100.0	FeOx

All results in weight%

Sample Notes:
S-6195-1

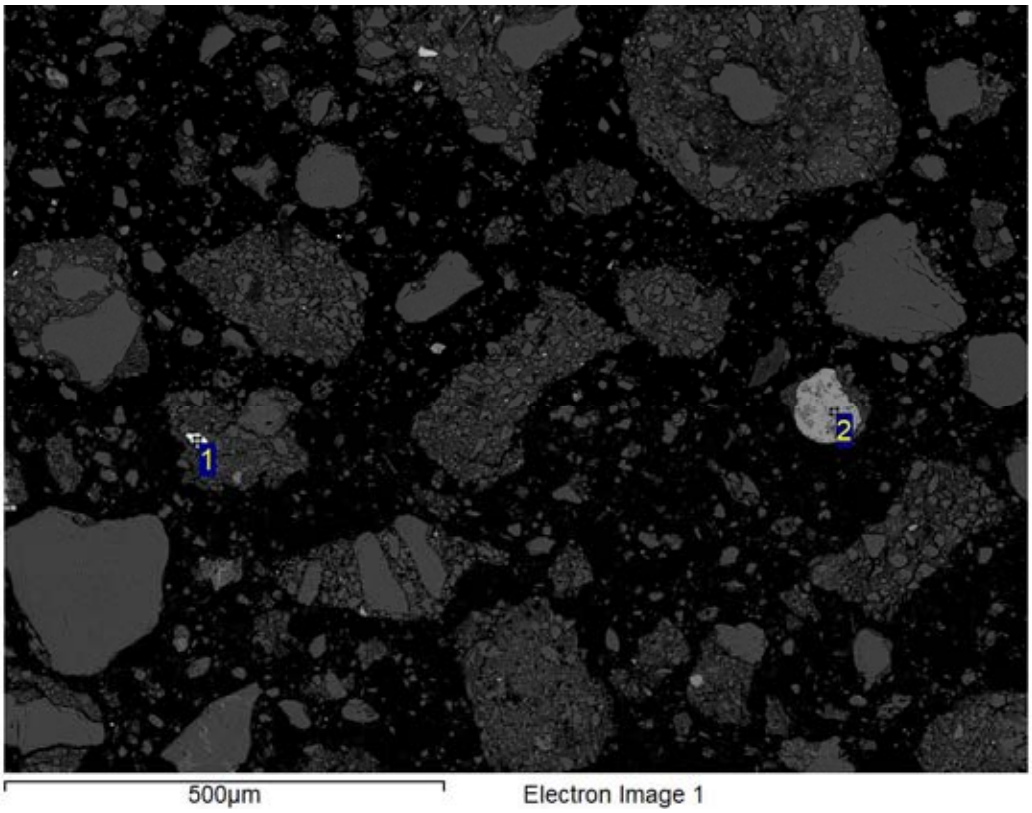


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Mg	Al	Si	P	K	Ca	Ti	Fe	Ce	W	Total	Mineral ID
1	36.2	8.4				17.0		36.5			0.6	1.4	100.0	Apatite
2	37.2			2.5	2.1	0.4				57.9			100.0	FeOx
3	38.3			5.4	5.5	0.4	0.4	0.2		49.8			100.0	FeOx
4	51.7				47.5					0.8			100.0	Quartz
5	45.4		0.3	4.5	6.7		1.7		39.4	2.0			100.0	Rutile

All results in weight%

Sample Notes:
S-6195-1

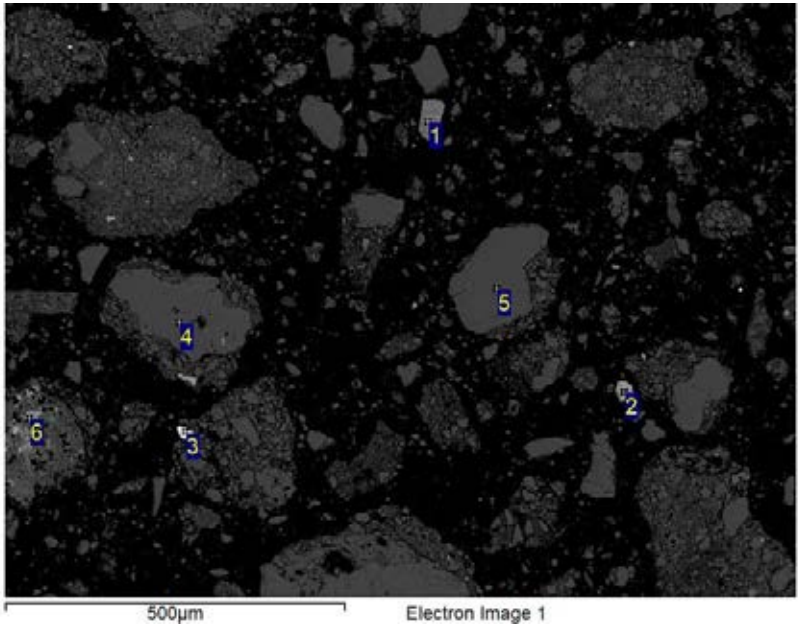


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	Ti	Fe	Zr	Total	Mineral ID
1	34.1		15.8			50.1	100.0	Zircon
2	49.9	0.8	1.9	46.6	0.7		100.0	Rutile

All results in weight%

Sample Notes:
S-6195-1 Rep

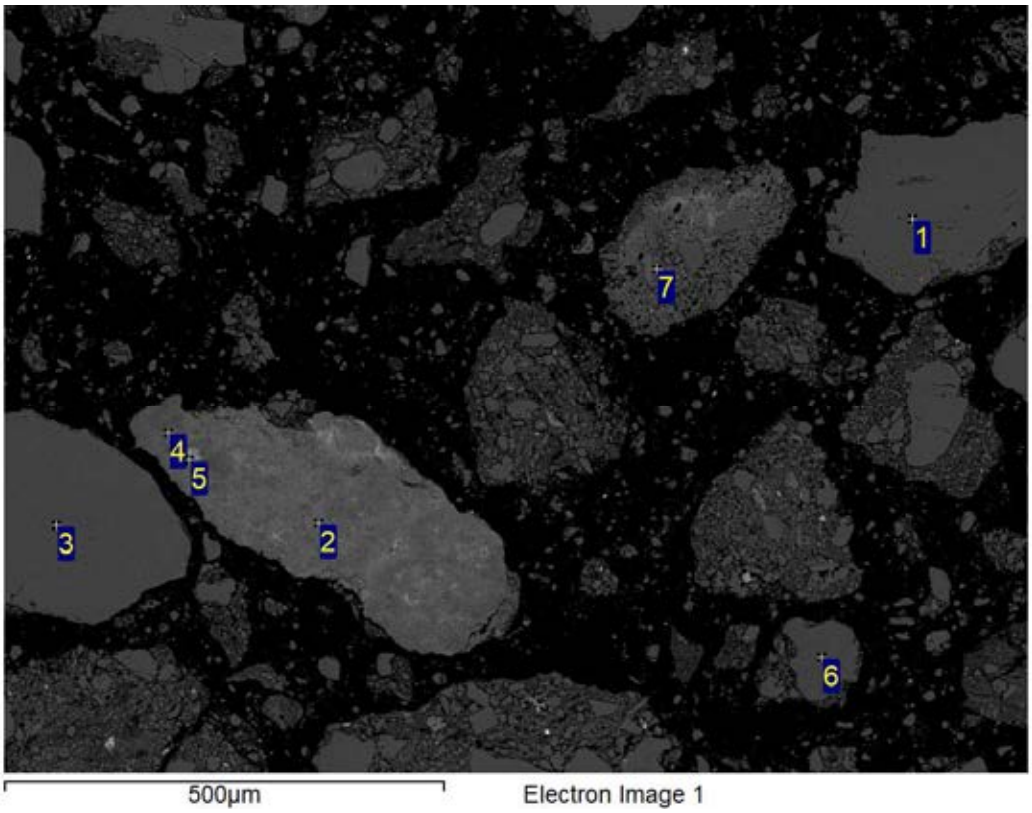


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Zr	Ba	W	Total	Mineral ID
1	37.6	7.2					17.2		36.6						1.3	100.0	Apatite
2	44.5				1.5	4.7		1.6		47.3		0.3				100.0	Rutile
3	35.3					15.6							49.1			100.0	Zircon
4	49.1		8.3		9.7	32.9										100.0	Albite
5	52.1					47.9										100.0	Quartz
6	43.8	4.5		1.4	2.6	2.4		0.3	3.6		33.8	5.6		2.1		100.0	MnOx

All results in weight%

Sample Notes:
S-6195-1 Rep

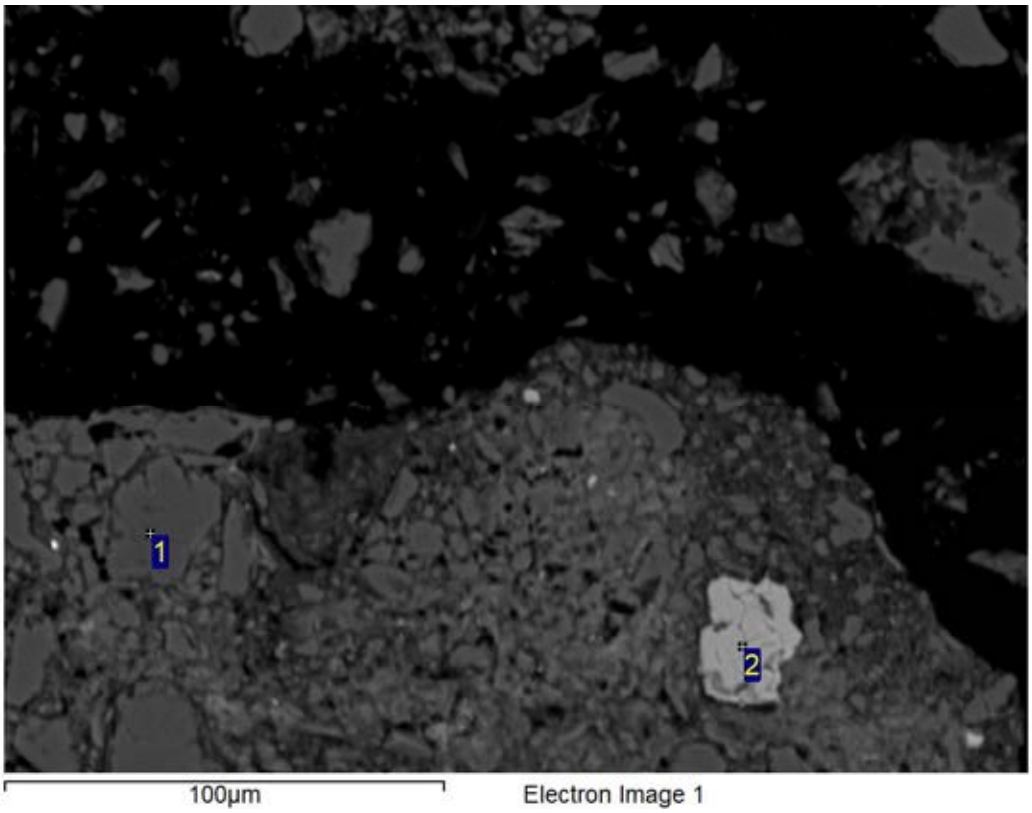


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ca	Ti	Cr	Fe	Total	Mineral ID
1	52.4				47.6							100.0	Quartz
2	48.6			1.1	38.4						11.9	100.0	FeOx/Quartz
3	52.6				47.4							100.0	Quartz
4	46.6			1.4	39.1						12.9	100.0	FeOx/Quartz
5	36.6			7.0	2.4	0.8		0.5		0.4	52.2	100.0	FeOX
6	51.8				48.2							100.0	Quartz
7	44.0	0.9	0.4	19.2	23.8		9.1		0.4		2.2	100.0	Mica

All results in weight%

Sample Notes:
S-6195-1 Rep

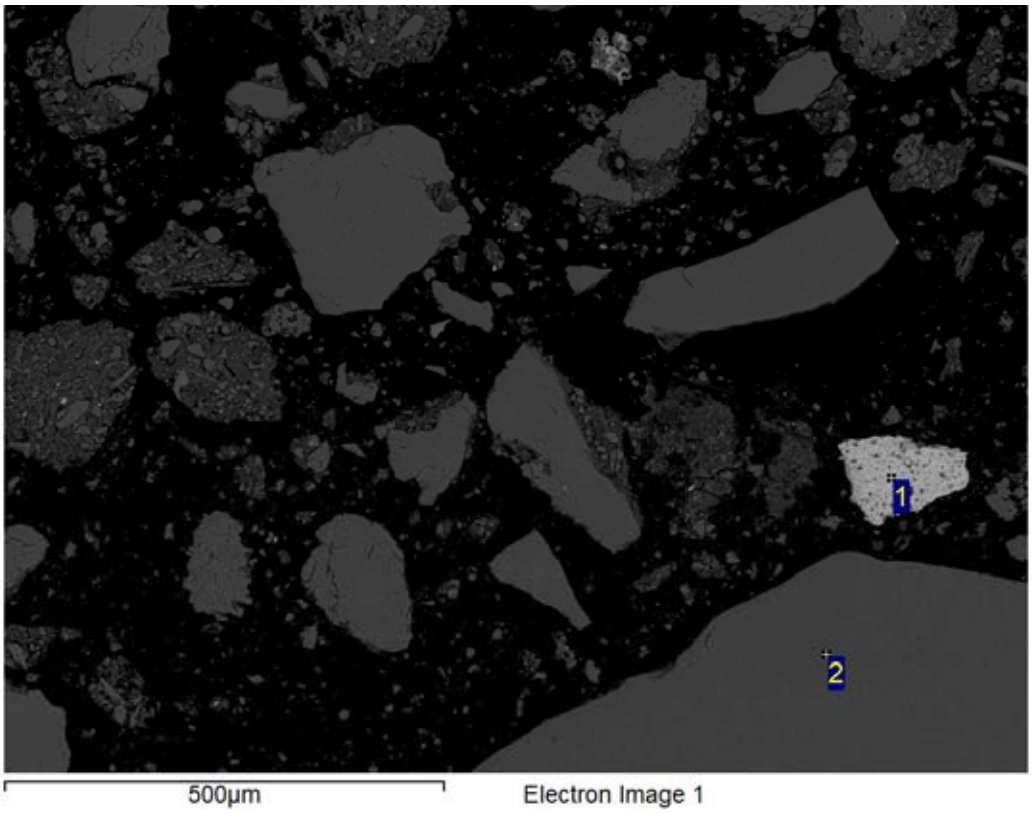


Processing option : All elements analysed (Normalised)

Spectrum	O	Si	Ti	Fe	Total	Mineral ID
1	52.1	47.7		0.2	100.0	Quartz
2	42.2		57.8		100.0	Rutile

All results in weight%

Sample Notes:
S-6195-2

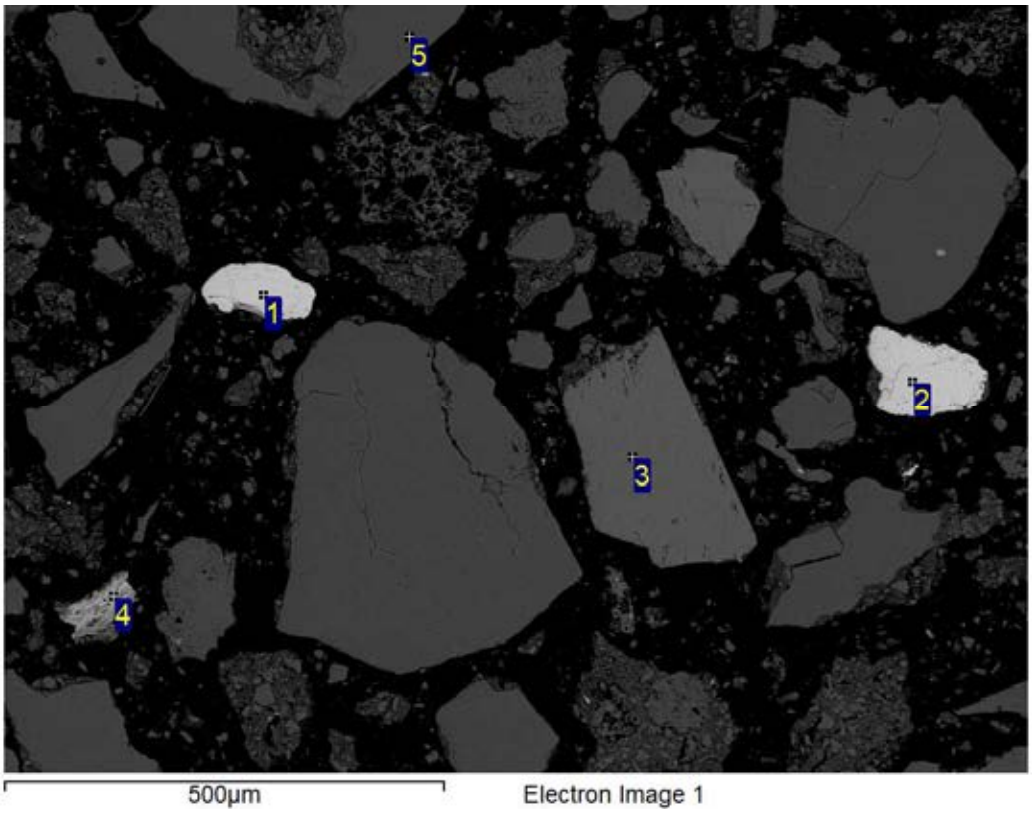


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	K	Ca	Fe	Total	Mineral ID
1	41.9	2.0	4.2	0.7	0.2	0.4	50.7	100.0	FeOx
2	50.9		49.1					100.0	Quartz

All results in weight%

Sample Notes:
S-6195-2

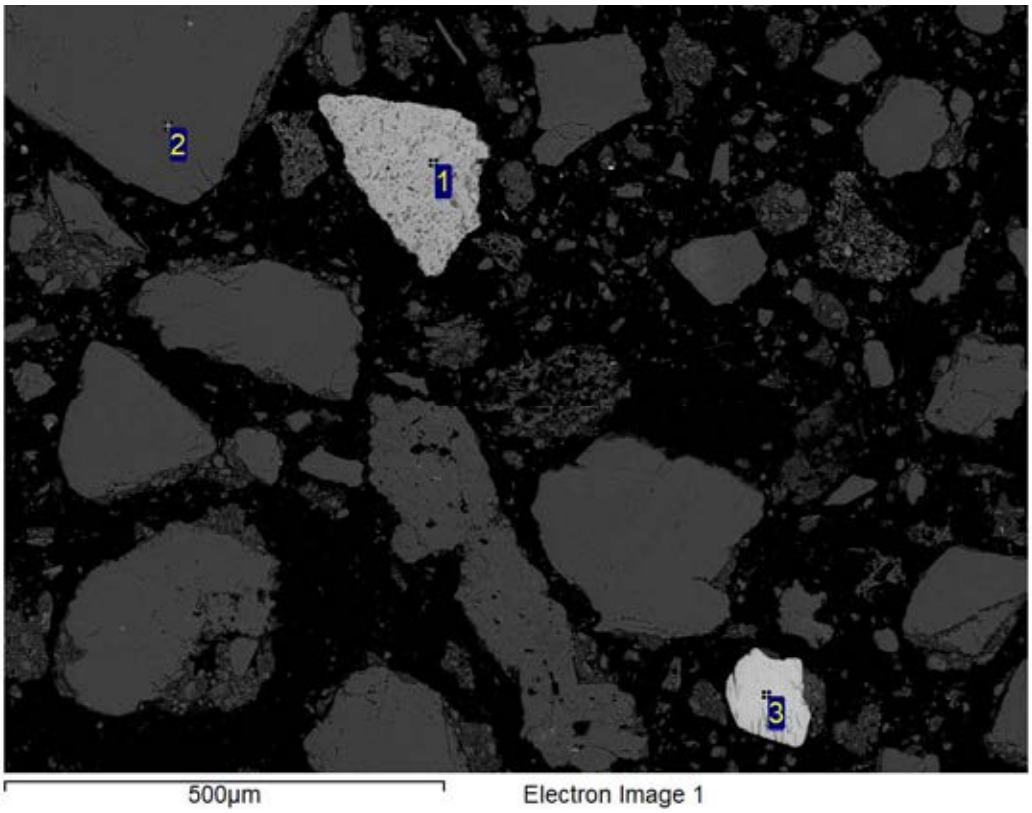


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	34.3							30.8		34.8	100.0	Ilmenite
2	33.7							30.6	0.6	35.0	100.0	Ilmenite
3	45.3	0.7	9.4	32.0		12.6					100.0	Mica
4	41.2		1.3	2.7	0.5		0.3			54.0	100.0	FeOx
5	51.5			48.5							100.0	Quartz

All results in weight%

Sample Notes:
S-6195-2

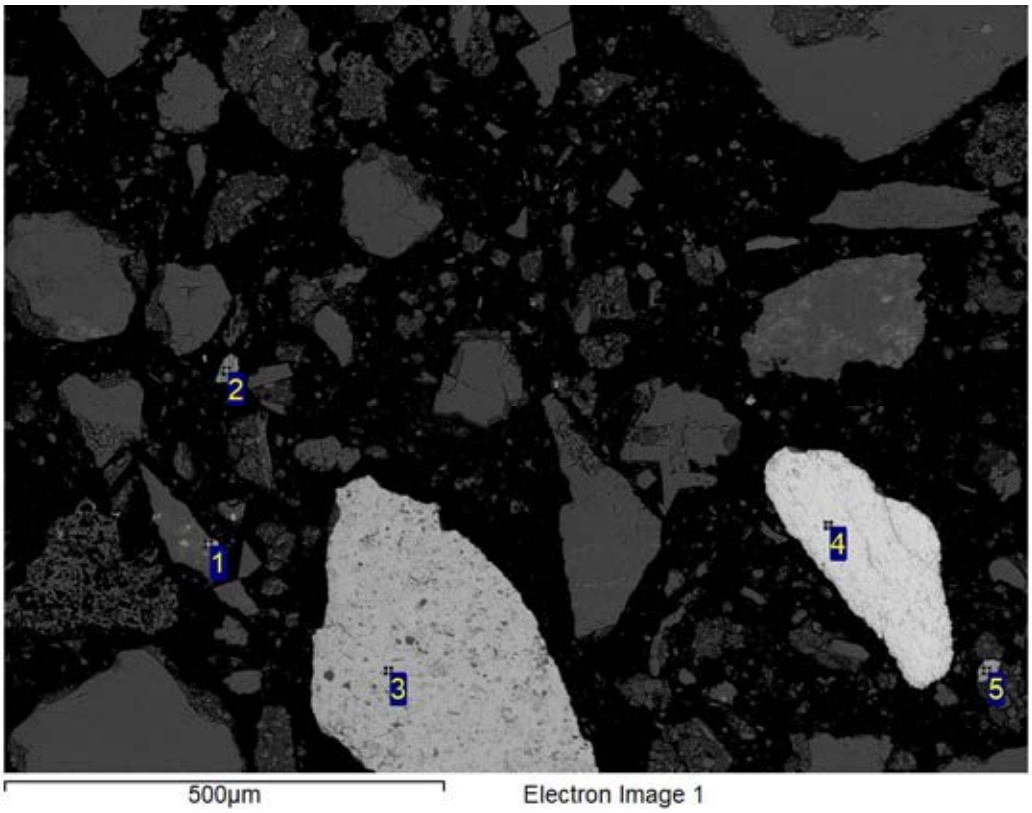


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	Ca	Ti	Mn	Fe	Total	Mineral ID
1	42.5	1.2	3.2	0.6	0.3			52.2	100.0	FeOx
2	52.1		47.9						100.0	Quartz
3	34.0					28.9	0.4	36.7	100.0	Ilmenite

All results in weight%

Sample Notes:
S-6195-2

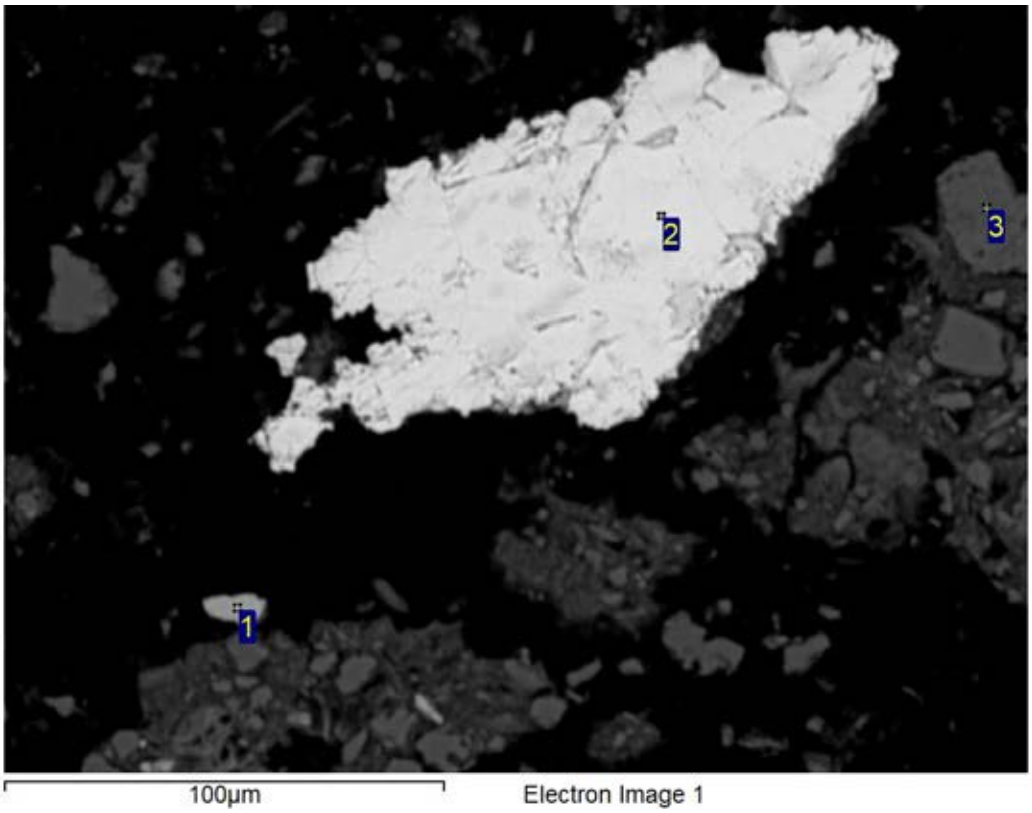


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	46.4		1.7	22.4	0.3					29.2	100.0	FeOx/Quartz
2	40.5	0.6	4.5	7.6		1.1	0.4	2.3		43.0	100.0	FeOx/Quartz
3	41.1		1.0	4.7	0.7	0.2	0.4		1.4	50.4	100.0	FeOx
4	34.3							11.9	0.6	53.3	100.0	Ilmenite/FeOx
5	42.8		0.3	0.2				41.7		14.9	100.0	Ilmenite/FeOx

All results in weight%

Sample Notes:
S-6195-2

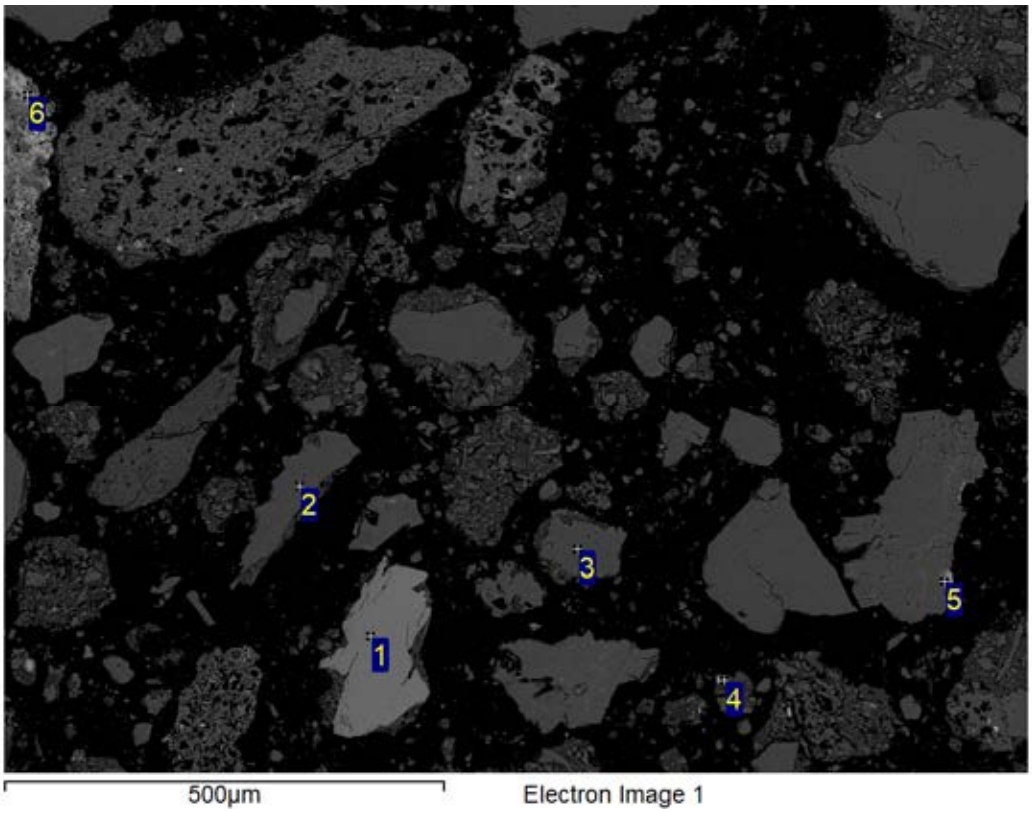


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	Ti	Fe	Total	Mineral ID
1	44.4	0.5	0.9	53.5	0.7	100.0	Rutile
2	33.6			7.0	59.4	100.0	FeOx
3	52.0		47.5		0.5	100.0	Quartz

All results in weight%

Sample Notes:
S-6195-2



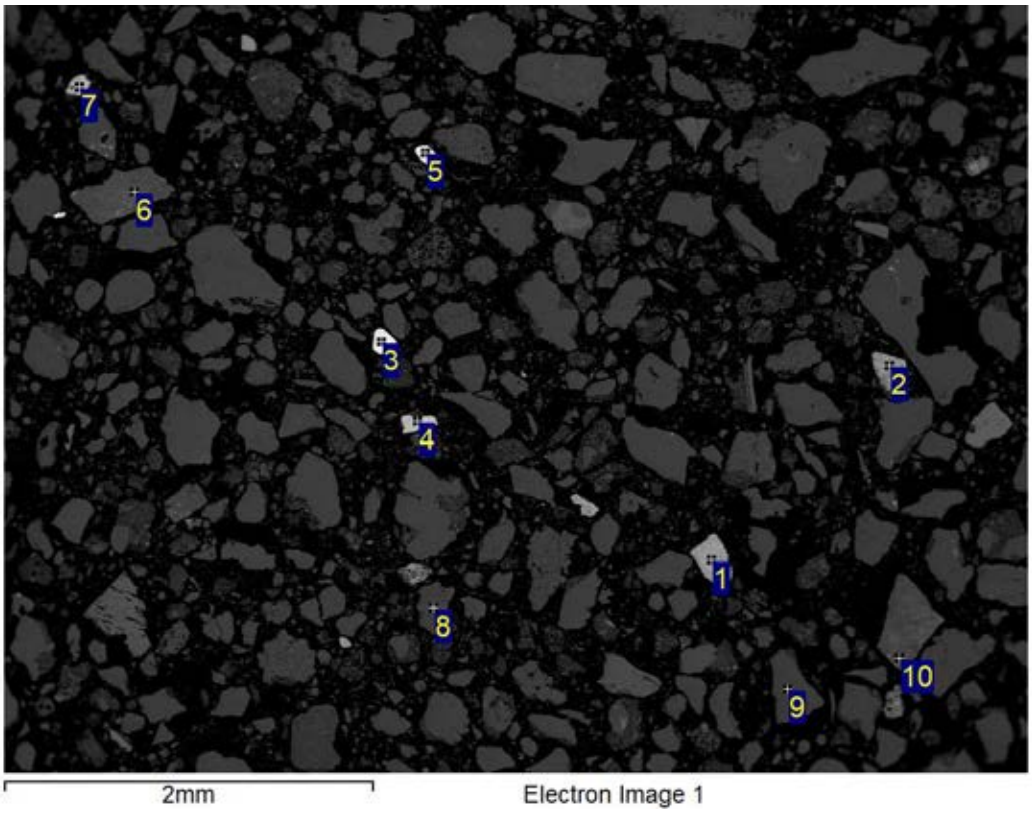
Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	K	Ca	Ti	Fe	Total	Mineral ID
1	44.8	12.5	18.5			16.1		8.1	100.0	Epidote
2	51.8		48.2						100.0	Quartz
3	52.0		48.0						100.0	Quartz
4	46.6	0.4	0.7				52.0	0.4	100.0	Rutile
5	42.0	2.1	37.3		0.1			18.5	100.0	FeOx/Quartz
6	43.6	1.9	19.9	0.4	0.4	0.3		33.6	100.0	FeOx/Quartz

All results in weight%

q

Sample Notes:
S-6195-2

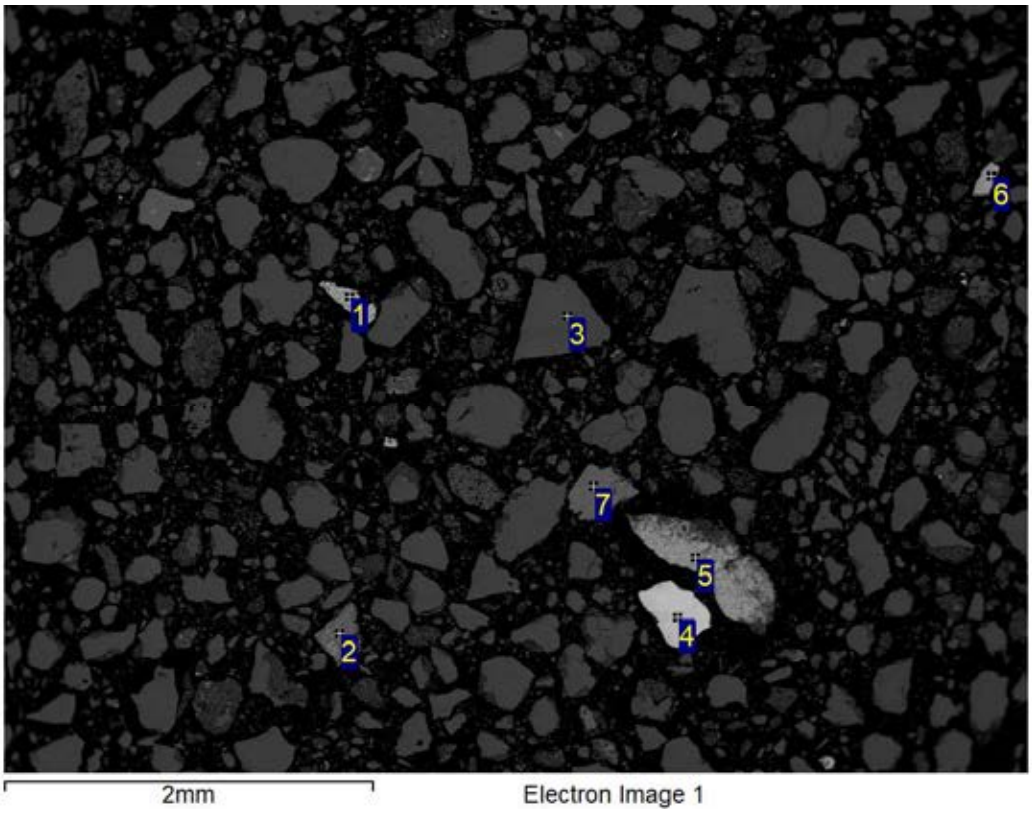


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Zr	Total	Mineral ID
1	42.2	0.3	4.5	7.3	0.5	1.3	0.3			43.6		100.0	FeOx/Silc
2	46.7	0.6	3.4	22.8		1.1	0.2			25.2		100.0	FeOx/Silc
3	34.3			15.8							49.9	100.0	Zircon
4	34.3							31.0	1.6	33.0		100.0	Ilmenite
5	34.9			15.6							49.6	100.0	Zircon
6	53.4		0.7	40.9						5.0		100.0	Quartz
7	36.6			0.5				30.5	2.3	30.1		100.0	Ilmenite
8	52.8			47.2								100.0	Quartz
9	50.6			49.4								100.0	Quartz
10	50.2			45.2						4.6		100.0	Quartz

All results in weight%

Sample Notes:
S-6195-2 Rep

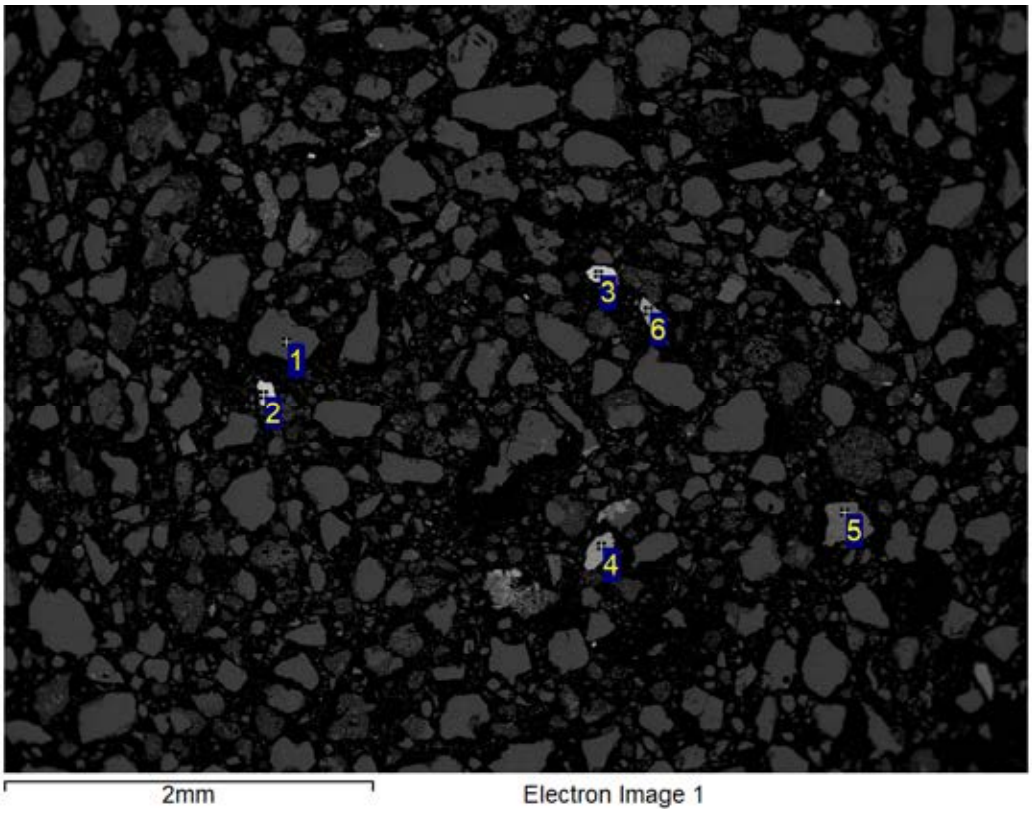


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	42.4			2.1	4.2	0.7	0.2	0.4			50.0	100.0	FeOx
2	51.3			1.3	33.6						13.8	100.0	FeOx/Quartz
3	52.6				46.3						1.1	100.0	Quartz
4	34.6								34.3	1.6	29.6	100.0	Ilmenite
5	42.8		0.8	5.7	10.4		1.9	0.2	0.8		37.5	100.0	FeOx/Silc
6	44.4			2.4	5.7	0.4	0.7	0.3	0.3		45.7	100.0	FeOx/Silc
7	43.9	1.0	10.1	4.8	25.0			8.1			7.1	100.0	Pyroxene

All results in weight%

Sample Notes:
S-6195-2 Rep

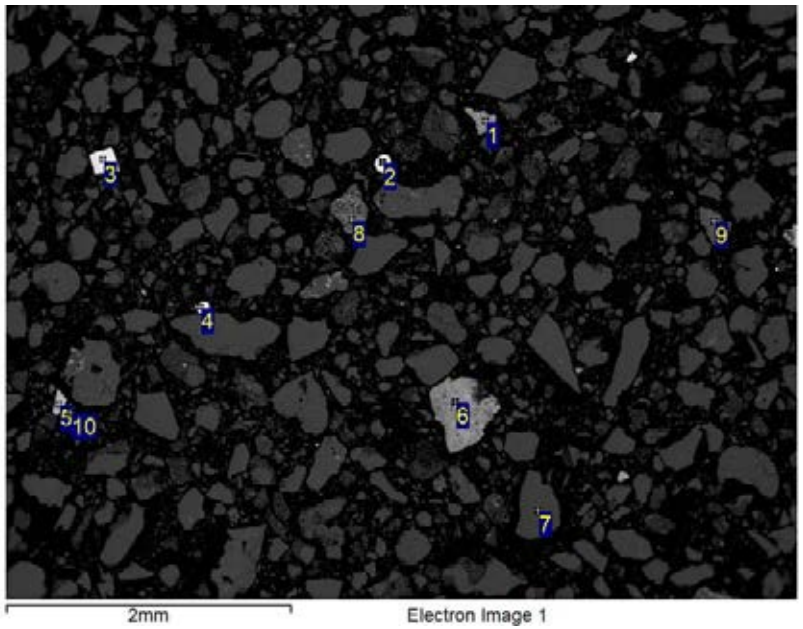


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	52.5		47.5							100.0	Quartz
2	34.2						26.9	2.3	36.6	100.0	Ilmenite
3	34.7						9.1		56.2	100.0	FeOx
4	40.5						59.2		0.4	100.0	Rutile
5	39.4	3.6	20.3						36.7	100.0	FeOx/Quartz
6	42.1	1.3	4.2	0.6	0.3	0.5			51.1	100.0	FeOx

All results in weight%

Sample Notes:
S-6195-2 Rep

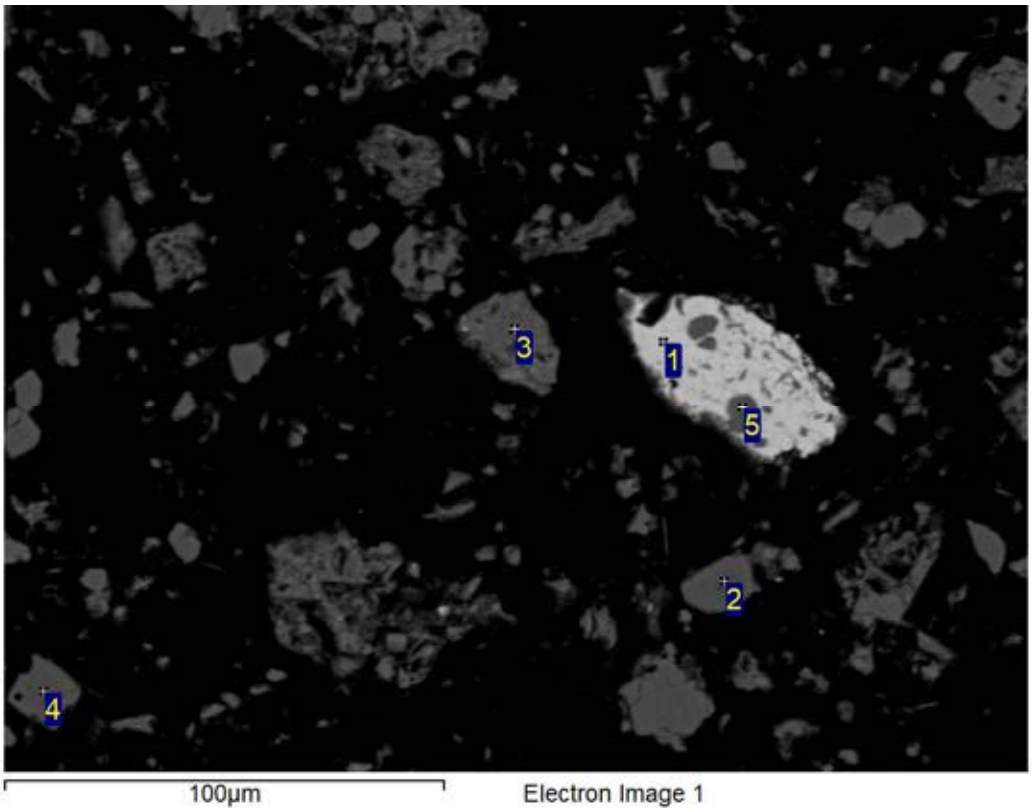


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ca	Ti	Fe	Zr	Ag	La	Ce	Nd	Hf	Total	Mineral ID
1	47.2		0.3	2.6	5.5	0.6	0.4	0.3	1.1	42.0							100.0	FeOx/Silc
2	34.3				15.4						48.8					1.4	100.0	Zircon
3	36.3				15.2						48.6						100.0	Zircon
4	32.9					14.8		0.8				2.6	12.8	25.7	10.5		100.0	Monazite
5	34.8								30.2	35.0							100.0	Ilmenite
6	44.4		0.4	3.5	5.5	0.5	0.7	0.3	0.4	44.3							100.0	FeOx
7	50.4				49.6												100.0	Quartz
8	41.2			1.7	4.4	0.4	0.4			51.9							100.0	FeOx
9	49.8	0.8		9.2	29.2		11.1										100.0	Mica
10	36.0			0.7	15.4						47.8						100.0	Zircon

All results in weight%

Sample Notes:
S-6195-3

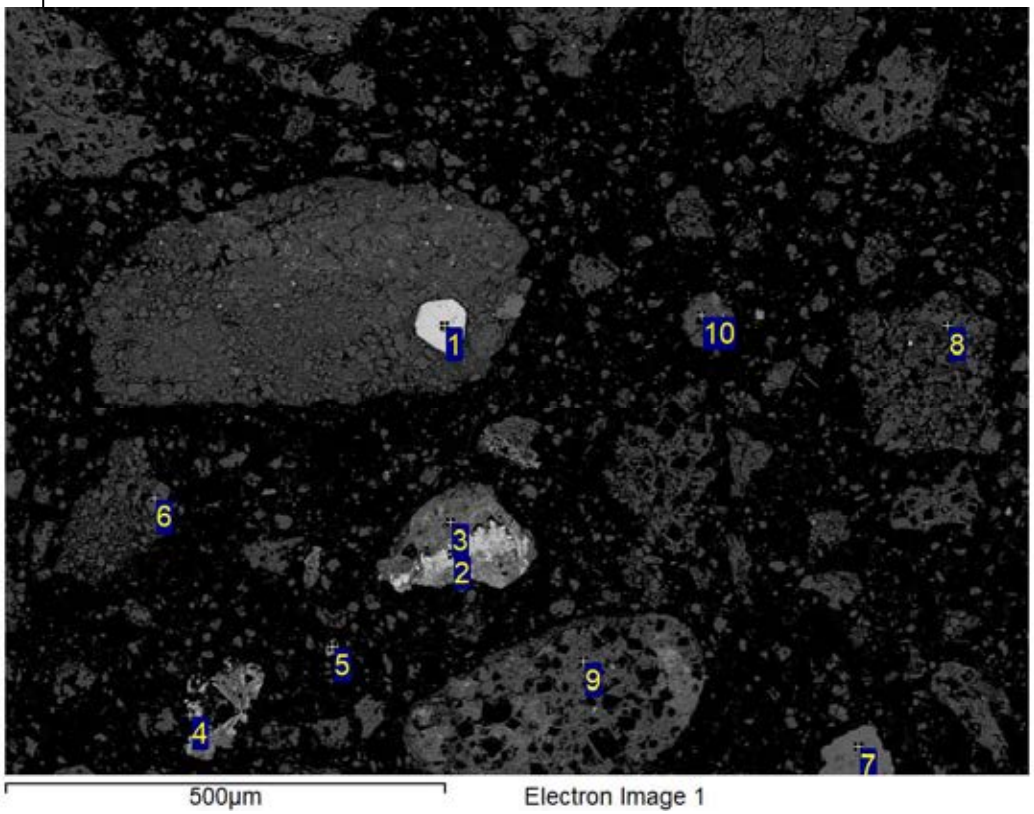


Processing option : All elements analysed (Normalised)

Spectrum	In stats.	O	Mg	Al	Si	K	Ca	Ti	Fe	Total	Mineral ID
1	Yes	42.2			4.3		0.5		53.0	100.0	FeOx
2	Yes	52.2			47.6				0.2	100.0	Quartx
3	Yes	49.3	2.5	14.6	26.2	5.0		0.2	2.1	100.0	Micas
4	Yes	52.1			47.9					100.0	Quartz
5	Yes	43.9	0.5	1.0	21.7	0.2	0.3		32.4	100.0	Quartz/FeOx
Max.		52.2	2.5	14.6	47.9	5.0	0.5	0.2	53.0		
Min.		42.2	0.5	1.0	4.3	0.2	0.3	0.2	0.2		

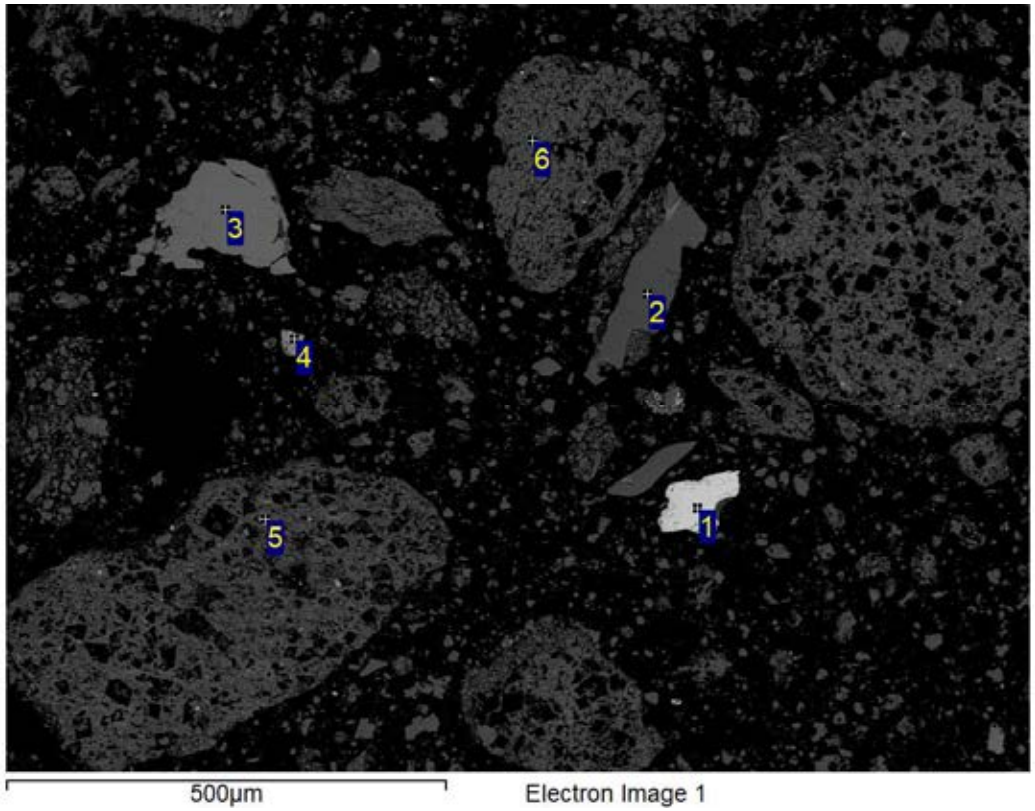
All results in weight%

Sample Notes:
S-6195-3



Spectrum	In stats.	O	F	Na	Mg	Al	Si	P	S	K	Ca	Ti	Fe	Total	Mineral ID
1	Yes	37.9					1.7				0.3		60.1	100.0	FeOx
2	Yes	38.5				0.6	1.4	0.3				0.5	58.7	100.0	FeOx
3	Yes	44.7		3.5	1.4	10.2	22.8		0.3	3.5	0.7	1.2	11.7	100.0	Micas
4	Yes	40.7				3.0	4.1	0.5		0.2	0.4		51.1	100.0	FeOx
5	Yes	38.4	5.5					18.6			37.2		0.3	100.0	Apatite
6	Yes	49.5		8.2		9.8	32.4							100.0	Plagioclase
7	Yes	53.0			0.8	1.0	4.3				40.6		0.3	100.0	Calcite
8	Yes	44.5			1.9	13.9	26.8			3.8	0.6	0.3	8.2	100.0	Micas
9	Yes	49.8		0.4	1.5	8.6	34.2			3.6		0.2	1.7	100.0	Micas
10	Yes	52.7			0.7	3.0	42.1			1.0			0.5	100.0	Quartz
Max.		53.0	5.5	8.2	1.9	13.9	42.1	18.6	0.3	3.8	40.6	1.2	60.1		
Min.		37.9	5.5	0.4	0.7	0.6	1.4	0.3	0.3	0.2	0.3	0.2	0.3		

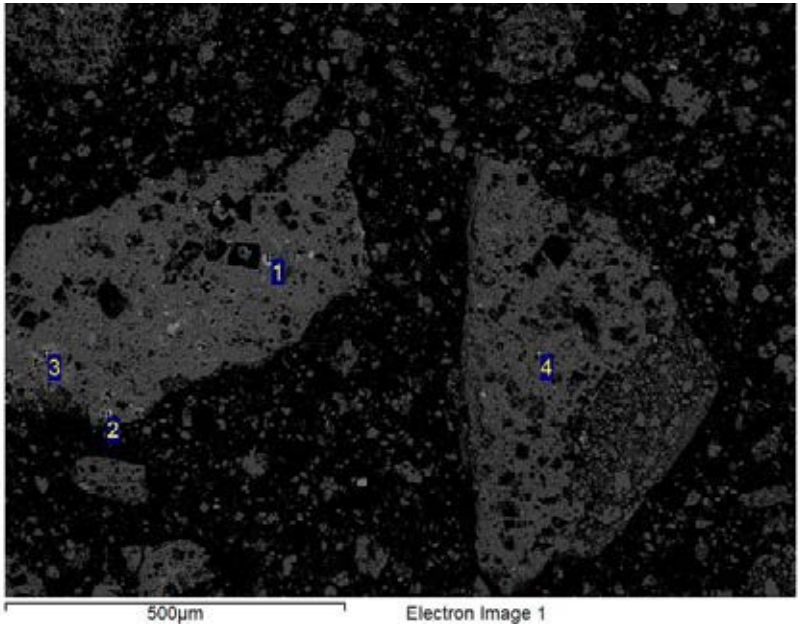
Sample Notes:
S-6195-3



Spectrum	In stats.	O	F	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	W	Total	Mineral ID
1	Yes	32.3								31.2	2.2	34.4		100.0	Ilmenite
2	Yes	52.3				47.7								100.0	Quartz
3	Yes	53.5		0.4					45.8			0.4		100.0	Calcite
4	Yes	37.3	7.2				17.3		37.0				1.3	100.0	Apatite
5	Yes	40.0	6.7		0.6	0.9	16.7		33.3			1.8		100.0	Apatite
6	Yes	50.9		0.4	1.7	46.1		0.4				0.5		100.0	Quartz
Max.		53.5	7.2	0.4	1.7	47.7	17.3	0.4	45.8	31.2	2.2	34.4	1.3		
Min.		32.3	6.7	0.4	0.6	0.9	16.7	0.4	33.3	31.2	2.2	0.4	1.3		

All results in weight%

Sample Notes:
S-6195-3

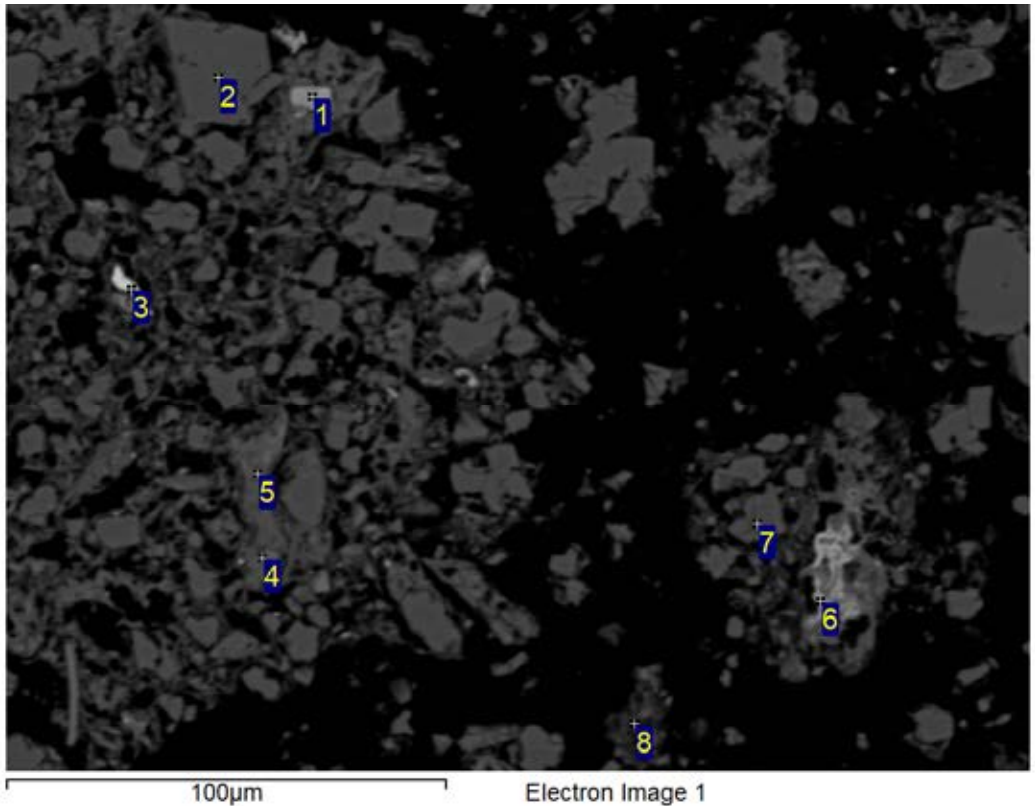


Processing option : All elements analysed (Normalised)

Spectrum	In stats.	O	F	Na	Mg	Al	Si	P	S	K	Ca	Mn	Fe	Co	Ni	W	Total	Mineral ID
1	Yes	36.2	6.5					18.5			36.9		0.6			1.3	100.0	Apatite
2	Yes	39.8		0.5	0.5	1.7	0.9				5.3	39.1	8.9	1.2	2.2		100.0	MnOx
3	Yes	34.8			0.6	5.2	4.5	0.6	0.4		0.5		53.4				100.0	FeOx
4	Yes	50.6			2.5	8.9	32.4			2.4	0.2		3.1				100.0	Silicates
Max.		50.6	6.5	0.5	2.5	8.9	32.4	18.5	0.4	2.4	36.9	39.1	53.4	1.2	2.2	1.3		
Min.		34.8	6.5	0.5	0.5	1.7	0.9	0.6	0.4	2.4	0.2	39.1	0.6	1.2	2.2	1.3		

All results in weight%

Sample Notes:
S-6195-3 Rep

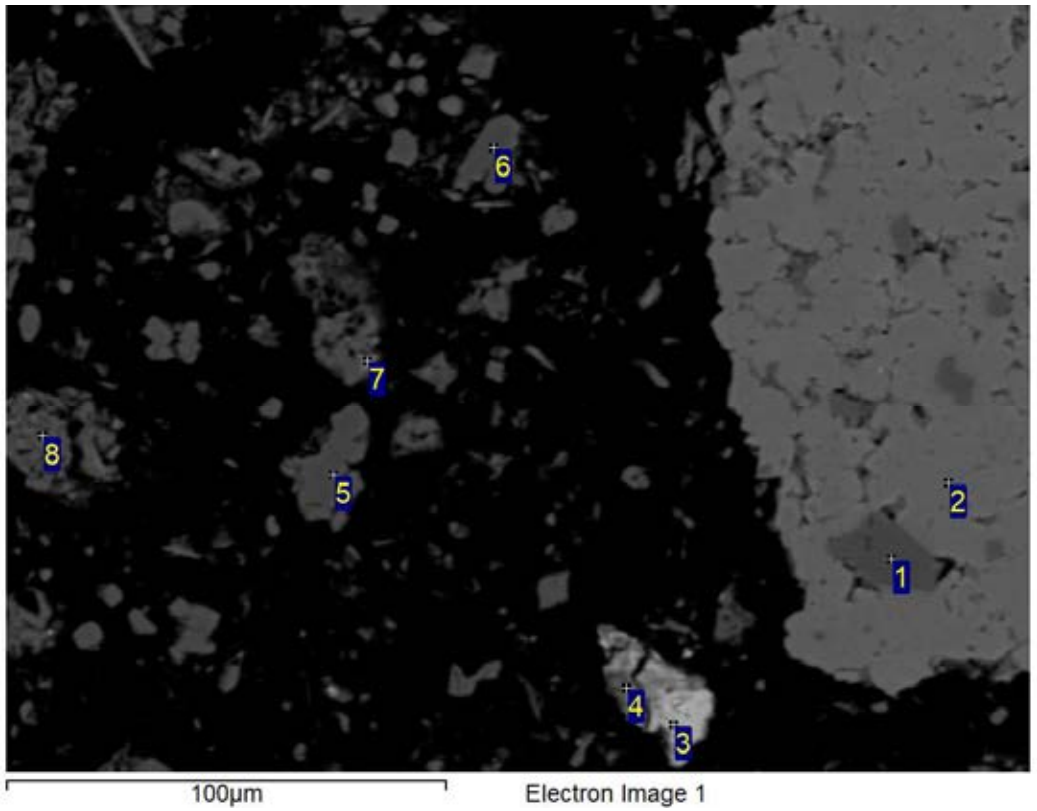


Processing option : All elements analysed (Normalised)

Spectrum	In stats.	O	F	Na	Mg	Al	Si	P	Cl	K	Ca	Ti	Fe	Total	Mineral ID
1	Yes	37.9	6.7			0.3		17.6			37.1		0.3	100.0	Apatite
2	Yes	48.5		7.4		10.9	31.5			0.6	0.8		0.2	100.0	Silicates
3	Yes	40.3				1.2	4.0	0.5			0.6		53.4	100.0	FeOx
4	Yes	52.4			1.3	5.7	36.4			2.7			1.5	100.0	Silicates
5	Yes	46.3			4.3	10.5	20.8	1.0		2.8	3.3	0.3	10.7	100.0	Silicates
6	Yes	25.0			1.0	8.1	19.0		1.2	1.4	0.7		43.6	100.0	Silicates
7	Yes	55.5				0.7	42.6			0.1			1.0	100.0	Quartz
8	Yes	43.2			1.9	12.0	28.5		0.4	2.7	0.7		10.6	100.0	Silicates
Max.		55.5	6.7	7.4	4.3	12.0	42.6	17.6	1.2	2.8	37.1	0.3	53.4		
Min.		25.0	6.7	7.4	1.0	0.3	4.0	0.5	0.4	0.1	0.6	0.3	0.2		

All results in weight%

Sample Notes:
S-6195-3 Rep

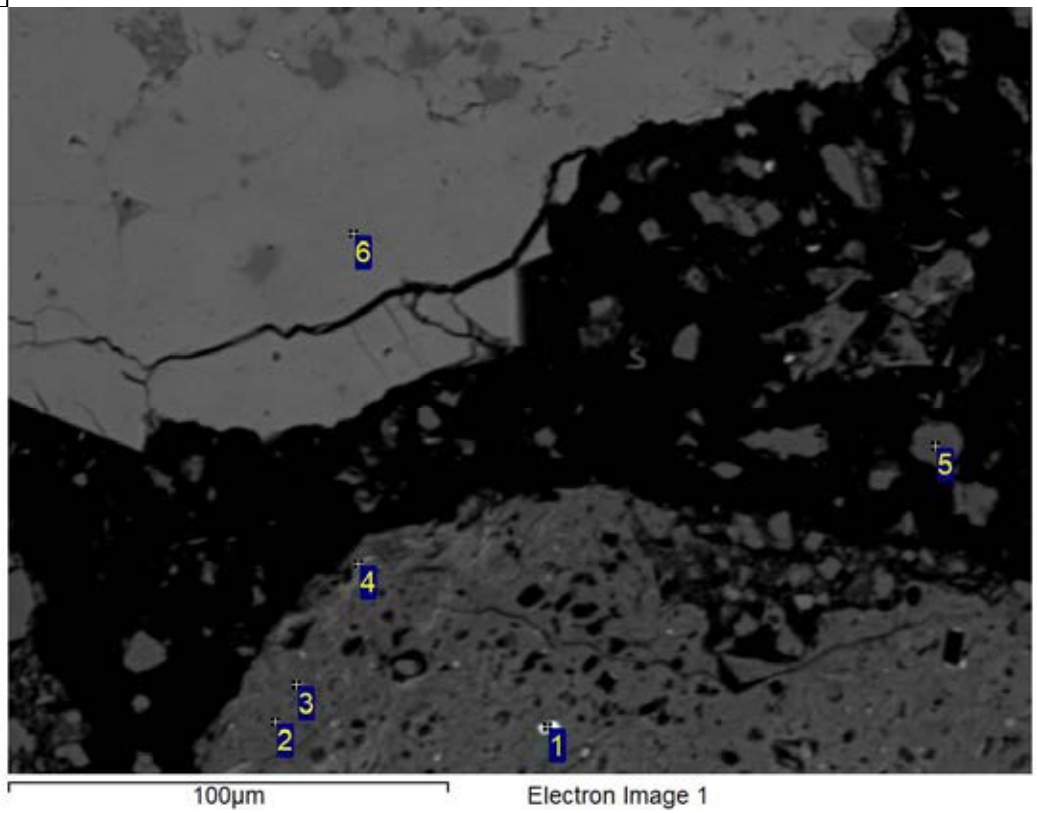


Processing option : All elements analysed (Normalised)

Spectrum	In stats.	O	Na	Mg	Al	Si	P	K	Ca	Ti	Fe	Total	Mineral ID
1	Yes	48.9	8.2		9.7	32.8			0.4			100.0	Albite
2	Yes	55.1		0.6					44.3			100.0	Calcite
3	Yes	41.9			1.6	5.6	0.6		1.0		49.3	100.0	FeOx
4	Yes	42.6		1.9	7.4	21.6		2.2	0.8	1.0	22.6	100.0	Silicates
5	Yes	52.1		0.2	0.4	47.3						100.0	Quartz
6	Yes	53.7				46.3						100.0	Quartz
7	Yes	51.5		1.8	6.7	15.8	5.9	2.0	13.3	0.3	2.7	100.0	Silicates
8	Yes	52.0		1.4	4.1	40.1		1.0			1.3	100.0	Quartz
Max.		55.1	8.2	1.9	9.7	47.3	5.9	2.2	44.3	1.0	49.3		
Min.		41.9	8.2	0.2	0.4	5.6	0.6	1.0	0.4	0.3	1.3		

All results in weight%

Sample Notes:
S-6195-3 Rep

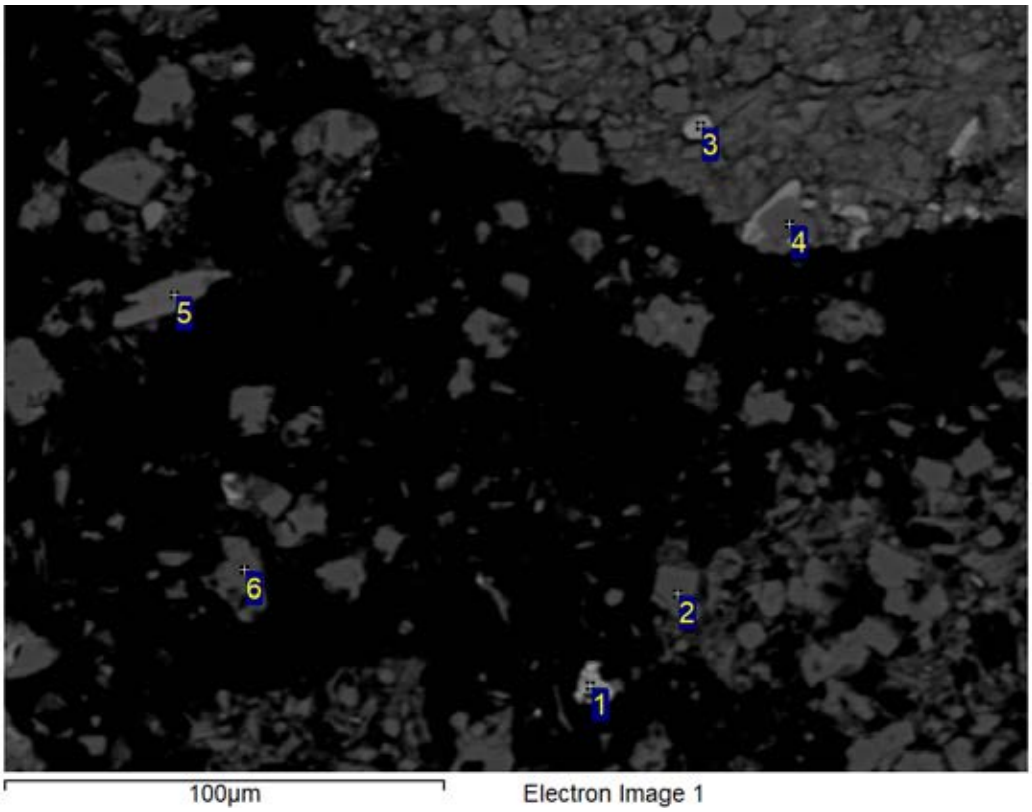


Processing option : All elements analysed (Normalised)

Spectrum	In stats.	O	Mg	Al	Si	P	S	K	Ca	Ti	Fe	Zr	Hf	Total	Mineral ID
1	Yes	39.0	0.3	1.2	15.1			0.4			0.6	42.3	1.2	100.0	Zircon
2	Yes	46.8	3.3	15.0	25.8			4.4		0.4	4.4			100.0	Micas
3	Yes	49.1	2.4	10.0	16.0			2.6		16.9	2.9			100.0	Ti-Silicates
4	Yes	40.3	2.7	11.3	15.9	0.5	0.3	2.2	0.5		26.4			100.0	Silicates
5	Yes	52.0			48.0									100.0	Quartz
6	Yes	54.6	0.3						45.1					100.0	Calcite
Max.		54.6	3.3	15.0	48.0	0.5	0.3	4.4	45.1	16.9	26.4	42.3	1.2		
Min.		39.0	0.3	1.2	15.1	0.5	0.3	0.4	0.5	0.4	0.6	42.3	1.2		

All results in weight%

Sample Notes:
S-6195-3 Rep

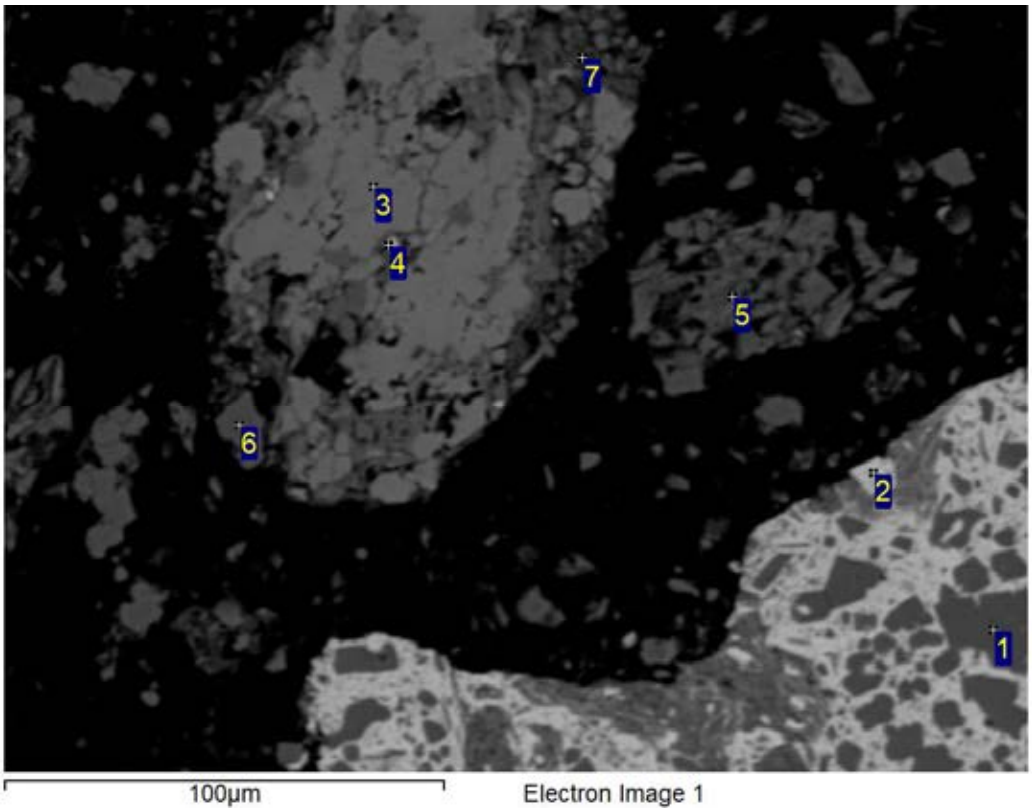


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	S	Cl	K	Ca	Ti	Fe	Total	Mineral ID
1	42.0		0.9	4.9	9.4	0.4		0.2	1.0	0.5		40.7	100.0	FeOx
2	52.3			0.4	46.9				0.0			0.3	100.0	Quartz
3	40.7		2.5	9.2	19.7	4.7	0.6		2.3	10.5	0.3	9.6	100.0	Pyroxene
4	52.6				44.8	1.1				1.4			100.0	Quartz
5	47.7	0.3	0.7	17.2	23.2				8.6		0.6	1.7	100.0	Mica
6	52.7		0.9	3.9	40.3				1.0			1.2	100.0	Quartz

All results in weight%

Sample Notes:
S-6195-3 Rep

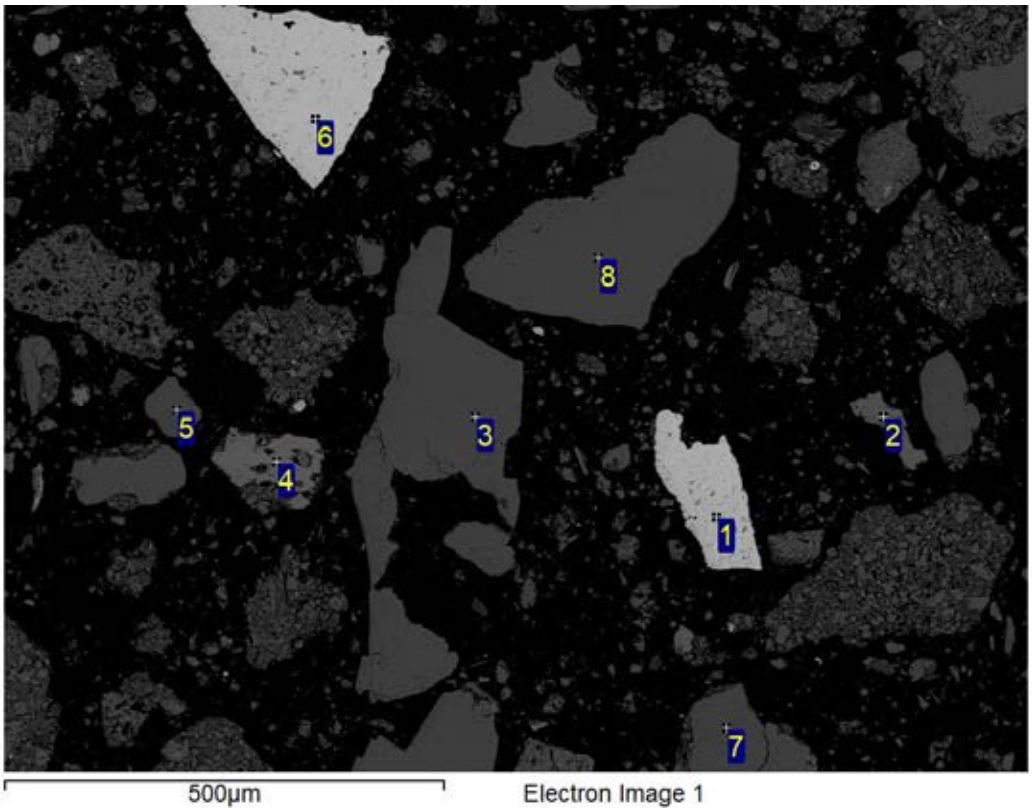


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ca	Ti	Fe	Total	Mineral ID
1	51.8				47.6					0.6	100.0	Quartz
2	42.6			0.7	8.2			0.4		48.2	100.0	FeOx
3	55.3		0.7					43.3		0.6	100.0	Calcite
4	51.4	0.4	1.8	7.6	17.1		2.1	3.3	15.0	1.3	100.0	Rutile
5	46.1		3.9	9.4	31.4	0.2	2.3	0.4	0.3	5.9	100.0	Feldspar
6	52.4				47.6						100.0	Quartz
7	44.6		2.0	9.1	20.4		2.4	15.8		5.9	100.0	Pyroxene

All results in weight%

Sample Notes:
S-6195-4

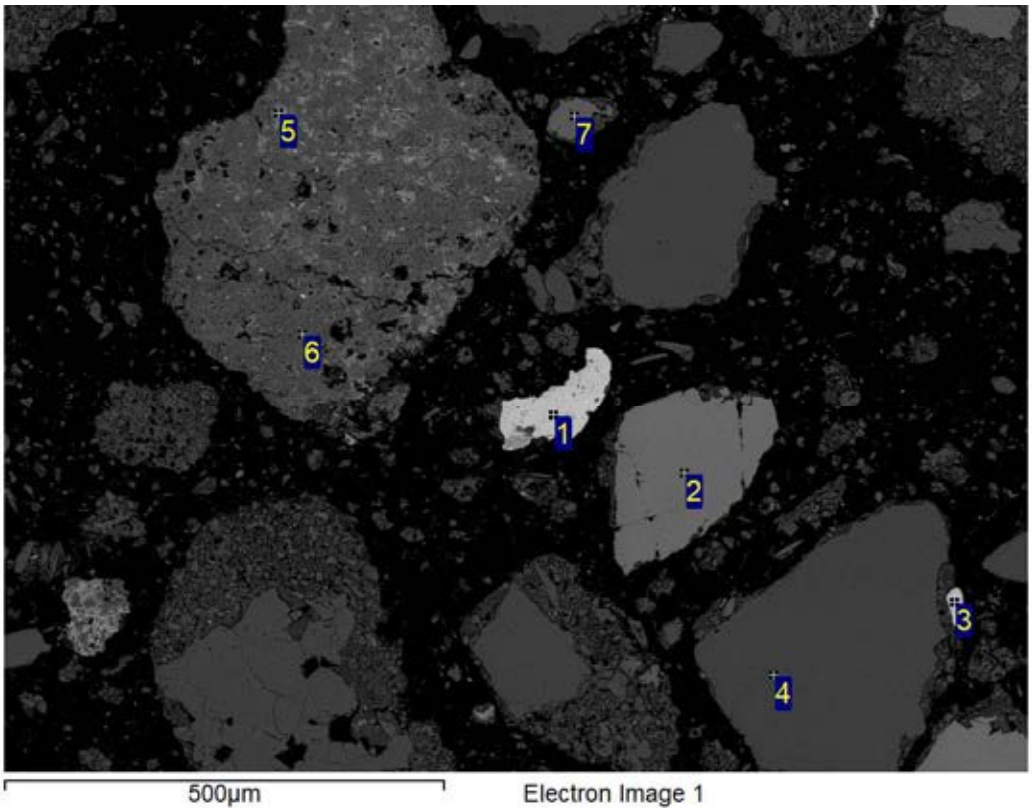


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Fe	Total	Mineral ID
1	40.7		0.8	3.5	0.9			54.1	100.0	FeOx
2	45.4		9.3	31.6		13.6			100.0	Mica
3	51.6			48.4					100.0	Quartz
4	54.5	0.4					45.0		100.0	Calcite
5	52.0			48.0					100.0	Quartz
6	40.6		0.5	2.8	0.4			55.7	100.0	FeOx
7	51.2			48.8					100.0	Quartz
8	51.8			48.2					100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4

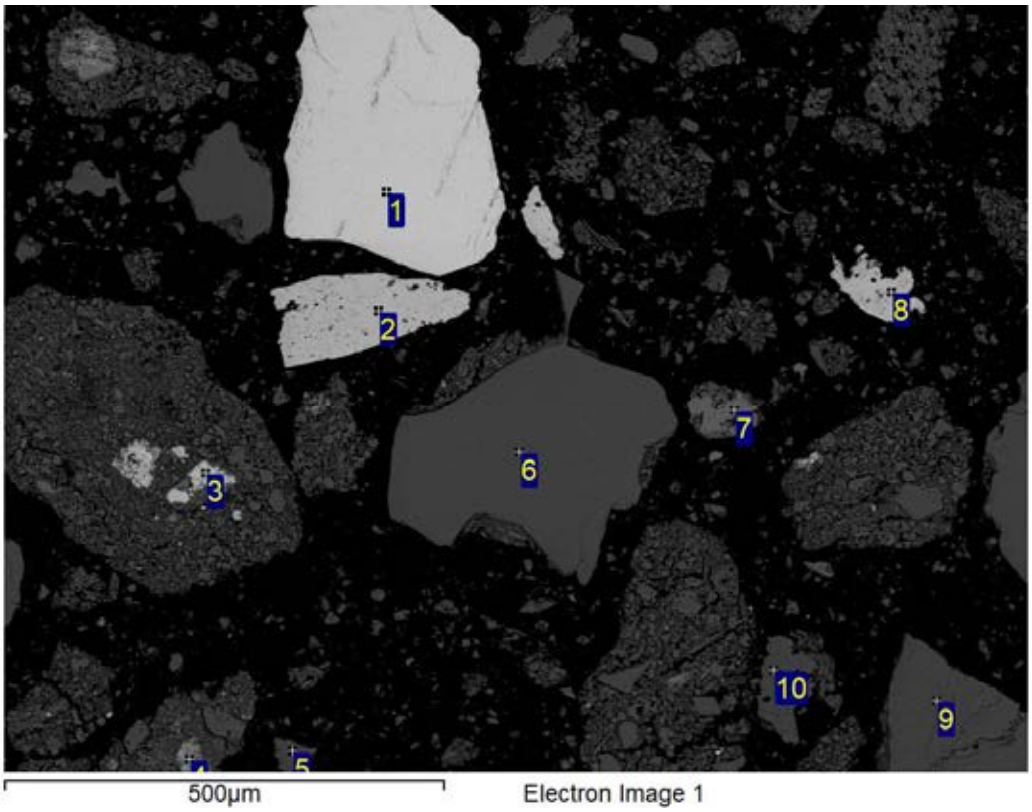


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	35.2								32.2		32.7	100.0	Ilmenite
2	44.4			12.7	18.9			16.3			7.7	100.0	Epidote
3	35.3								30.5	0.4	33.7	100.0	Ilmenite
4	51.6				48.4							100.0	Quartz
5	37.3		1.1	6.0	10.1	0.6	1.0	0.7			43.2	100.0	FeOx/Feldpsar
6	49.6	3.4	2.1	11.9	26.2		2.5	0.5			3.8	100.0	FeOx/Feldspar
7	54.5							45.5				100.0	Calcite

All results in weight%

Sample Notes:
S-6195-4

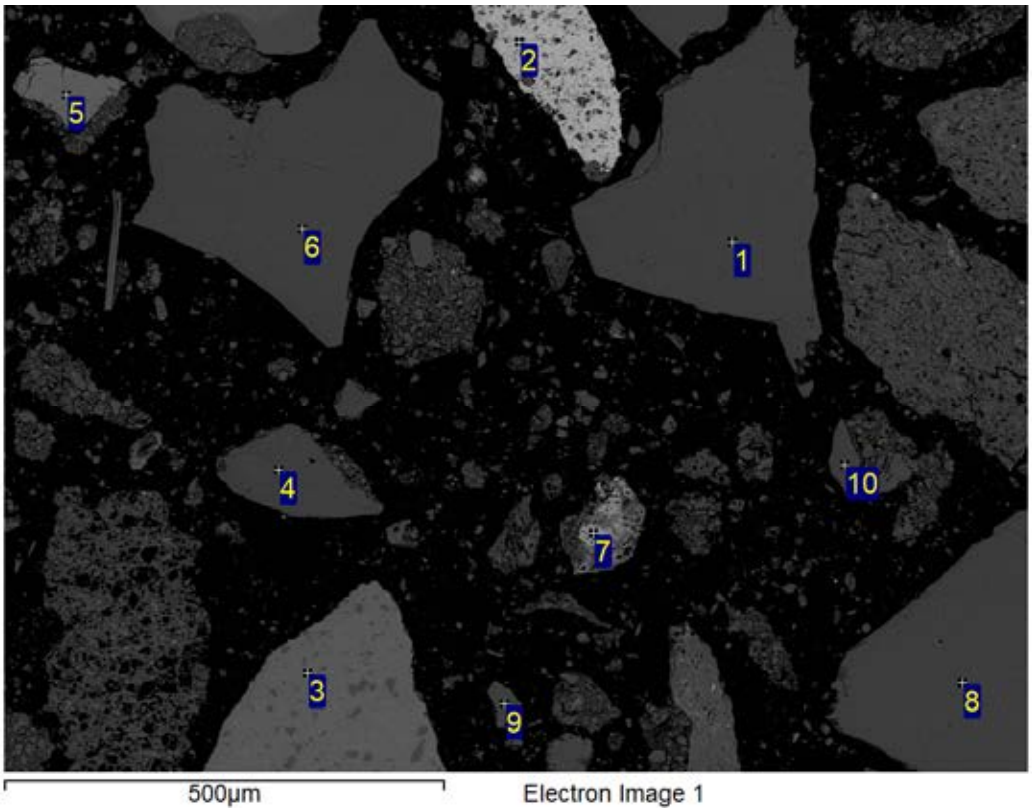


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Ni	Total	Mineral ID
1	33.9								31.0	0.6	34.5		100.0	Ilmenite
2	41.3			1.2	3.5	0.8	0.3			0.8	52.2		100.0	FeOx
3	40.2			0.7	2.0	0.9		0.3			56.0		100.0	FeOx
4	42.7	1.9	1.3	6.4	11.3		1.4	4.0		26.9	3.7	0.4	100.0	MnOx/Silc
5	52.3				47.7								100.0	Quartz
6	51.8				48.2								100.0	Quartz
7	54.9		0.4					44.2			0.4		100.0	Calcite
8	41.9			0.9	2.7	1.0		0.2			53.3		100.0	FeOx
9	51.6				48.4								100.0	Quartz
10	49.9				50.1								100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4

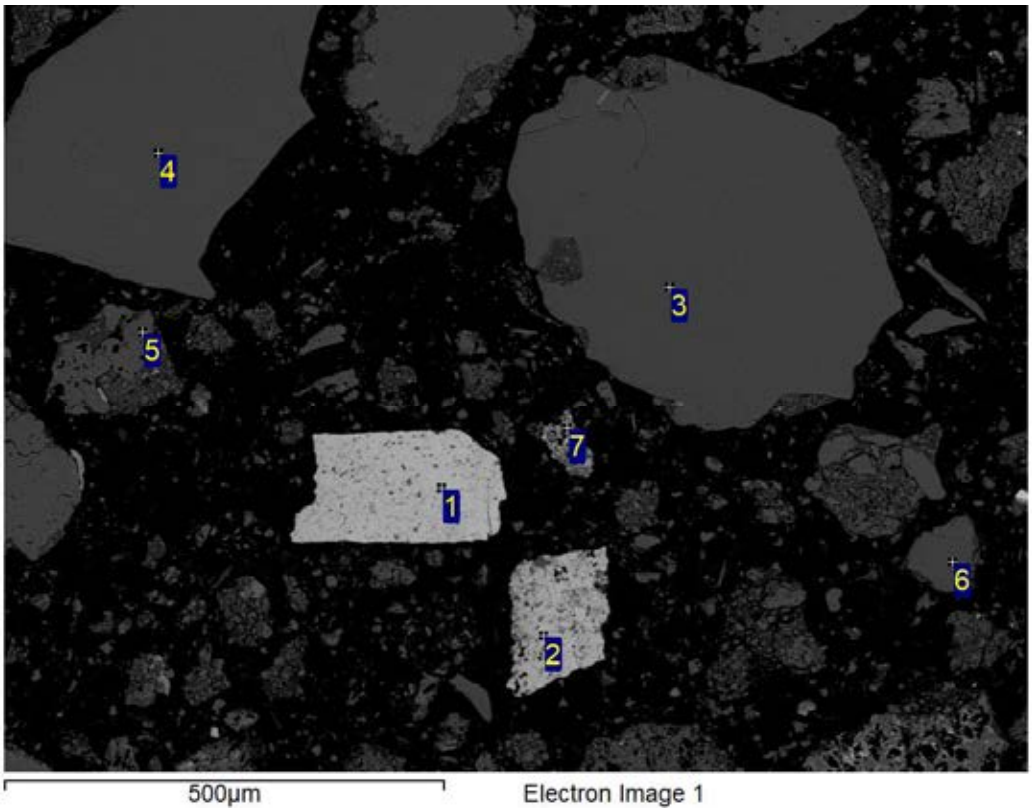


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ca	Mn	Fe	Ba	Total	Mineral ID
1	52.1				47.9							100.0	Quartz
2	40.2			0.8	2.8	0.6				55.5		100.0	FeOx
3	54.9		0.4					44.8				100.0	Calcite
4	52.3				47.7							100.0	Quartz
5	45.0	0.7		9.6	30.7		11.6				2.4	100.0	Mica
6	52.2				47.8							100.0	Quartz
7	39.7			2.6	2.4	1.6		0.7	4.4	48.6		100.0	FeOx
8	51.8				48.2							100.0	Quartz
9	49.1	8.3		9.7	32.9							100.0	Plagioclase
10	51.7				48.3							100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4

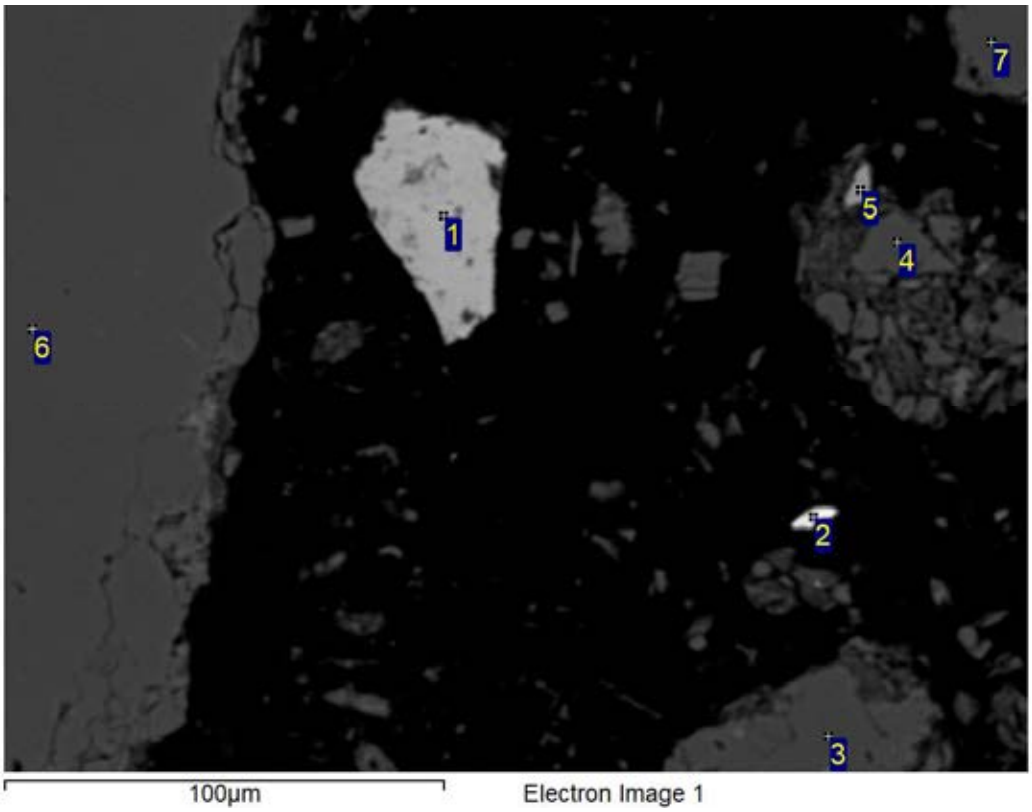


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Fe	Total	Mineral ID
1	39.0	0.4	1.5	5.2	0.6	0.2		53.0	100.0	FeOx
2	40.8		2.6	3.5	1.1	0.4		51.7	100.0	FeOx
3	51.6			48.4					100.0	Quartz
4	51.4			48.6					100.0	Quartz
5	51.8			48.2					100.0	Quartz
6	51.5			48.5					100.0	Quartz
7	44.2		2.4	25.0	0.4	0.4	0.2	27.5	100.0	FeOx/Plagioclase

All results in weight%

Sample Notes:
S-6195-4

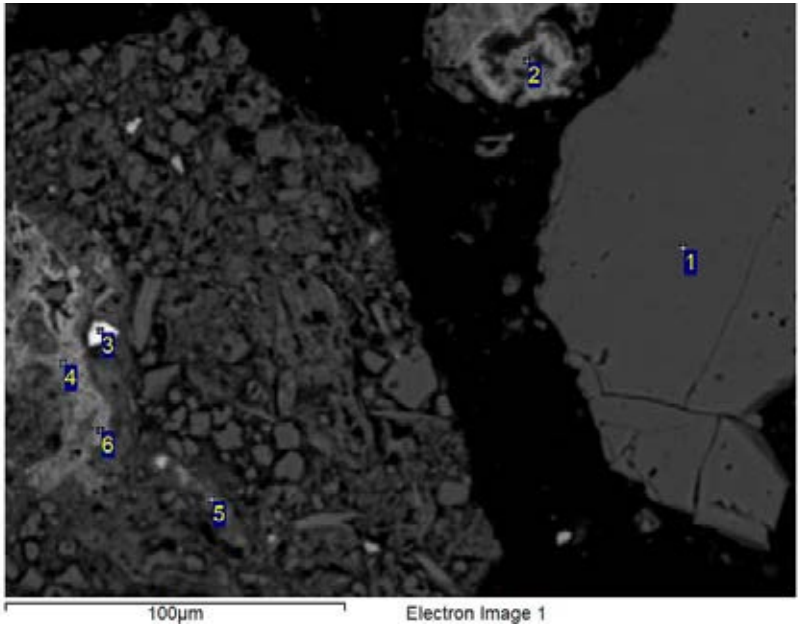


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	K	Ca	Ti	Fe	Zr	Total	Mineral ID
1	40.8	0.8	1.9	1.6		0.3		54.6		100.0	FeOx
2	43.2	0.4	13.9			0.3		0.3	41.9	100.0	Zircon
3	51.9		48.1							100.0	Quartz
4	51.6		48.4							100.0	Quartz
5	47.5	0.9	2.1		0.2		48.8	0.4		100.0	Rutile
6	51.7		48.3							100.0	Quartz
7	51.7		48.3							100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4 Rep

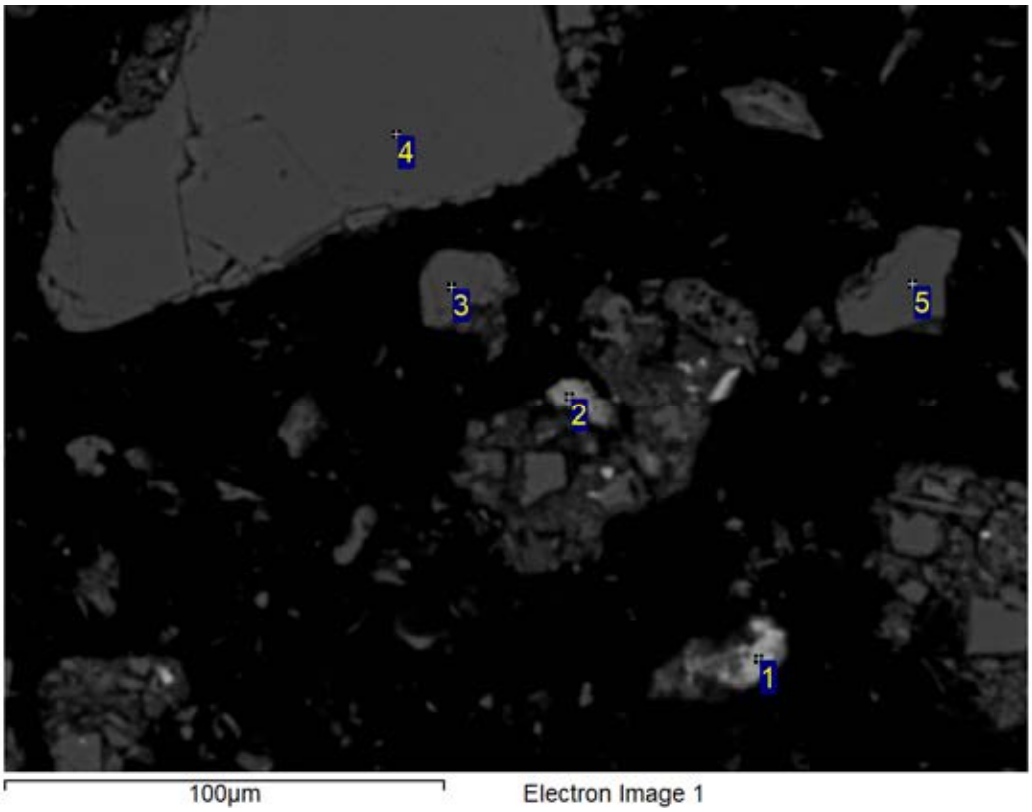


Processing option : All elements analysed (Normalised)

Spectrum	O	F	Al	Si	P	S	Cl	K	Ca	Mn	Fe	Co	Zr	Ce	Total	Mineral ID
1	50.6			49.4											100.0	Quartz
2	36.6		5.8	3.6	1.1		0.3		1.4	23.3	24.3	2.5		1.1	100.0	FeMnOx
3	40.0			14.5							0.4		45.0		100.0	Zircon
4	31.5		4.3	5.4	1.8			0.6	0.7		55.7				100.0	FeOx
5	35.6	2.8	1.1	0.7		0.4	0.4		6.2	43.3	9.6				100.0	MnOx
6	38.7		4.6	6.1	1.6			0.7	0.8		47.4				100.0	FeOx

All results in weight%

Sample Notes:
S-6195-4 Rep

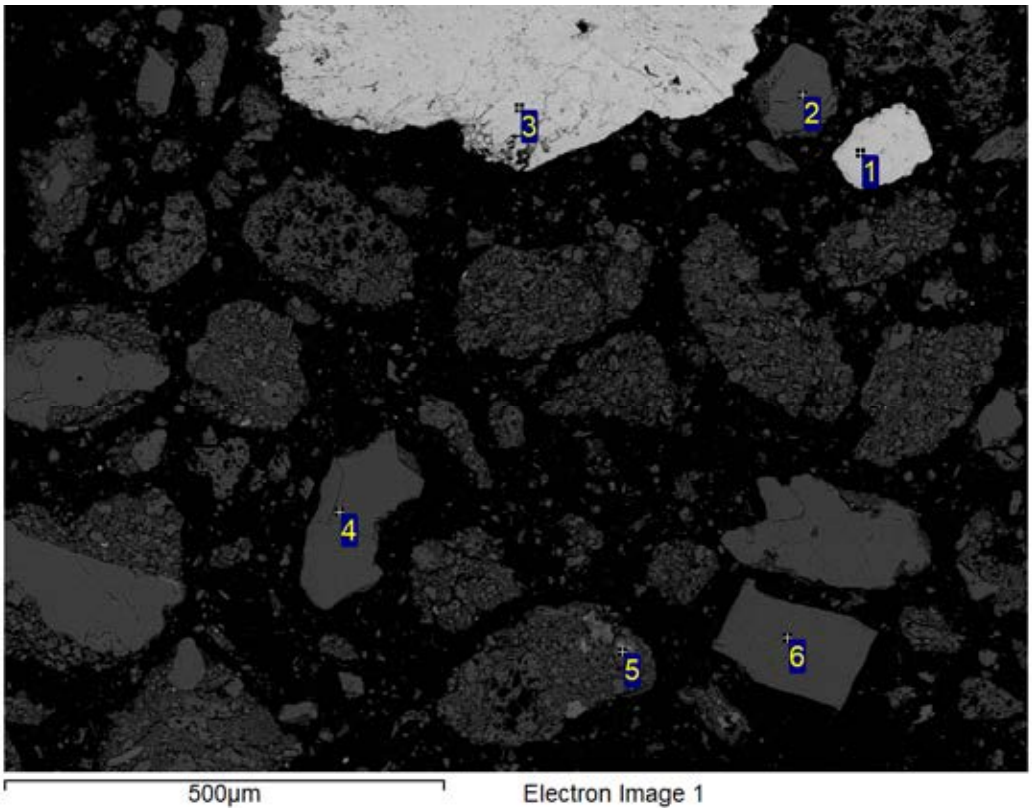


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Al	Si	P	K	Ca	Mn	Fe	Total	Mineral ID
1	41.8		1.9	7.3	0.8	0.3	0.3		47.7	100.0	FeOx
2	29.9		2.3	4.0	1.6		0.6	0.4	61.1	100.0	FeOx
3	46.6	7.7	10.7	33.8			0.8		0.3	100.0	Feldspar
4	50.2			49.5					0.2	100.0	Quartz
5	50.7			49.0					0.2	100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4 Rep

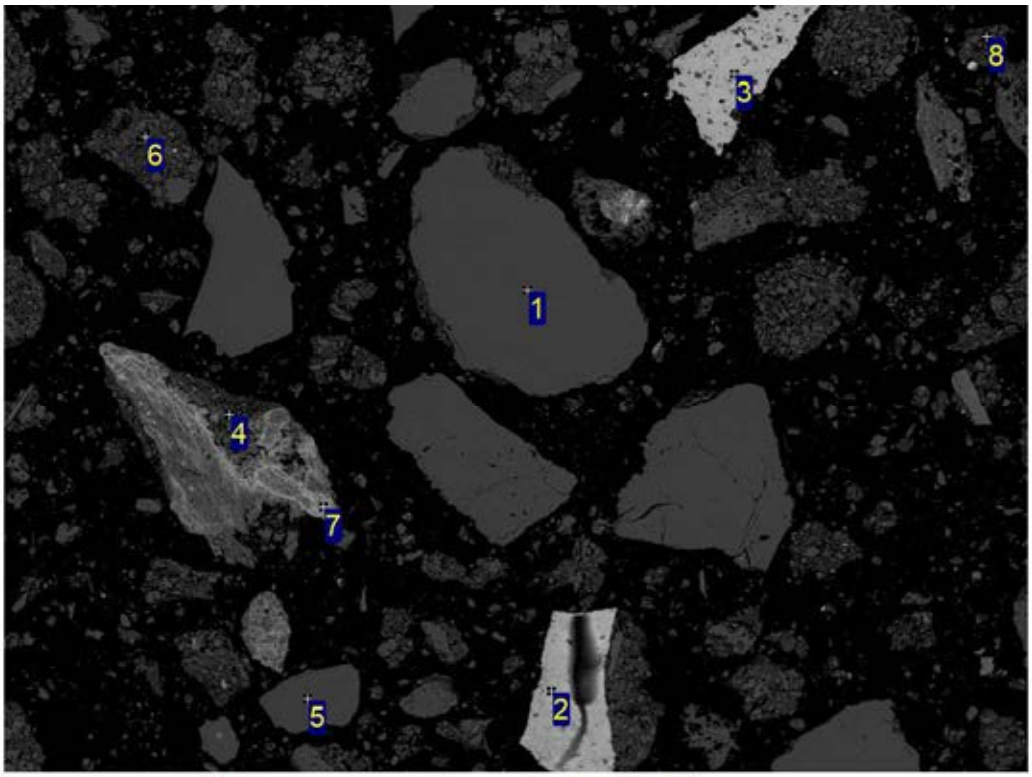


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	34.2						31.2	2.5	32.1	100.0	Ilmenite
2	49.5			50.5						100.0	Quartz
3	37.0			1.5					61.6	100.0	FeOx
4	50.7			49.3						100.0	Quartz
5	54.1	0.2	1.3	34.7	0.2	0.3	0.2	7.3	1.7	100.0	MnOx/Quartz
6	51.6			48.4						100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4 Rep

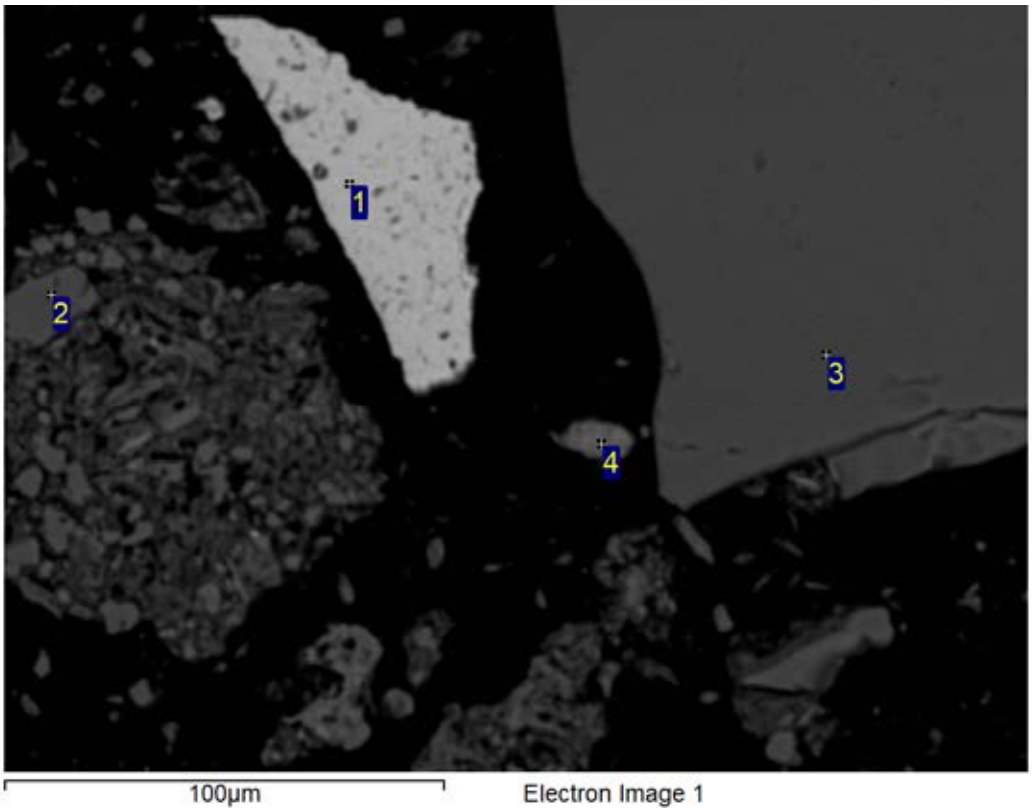


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	Cl	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	50.0				50.0								100.0	Quartz
2	39.4			1.4	1.9	1.3			0.5			55.4	100.0	FeOx
3	39.5			0.6	2.8	1.2			0.2			55.5	100.0	FeOx
4	40.9		1.3	10.8	36.8		0.3	1.9	0.7		0.5	6.8	100.0	Feldspar
5	50.8				49.2								100.0	Quartz
6	38.9		1.4	11.3	39.5		0.8	3.8	0.7	0.9		2.7	100.0	Feldspar
7	40.8	0.4	0.8	5.8	13.3	0.4		0.8	0.8		2.2	34.7	100.0	FeOx/Feldspar
8	50.3			1.2	47.6			0.1				0.9	100.0	Quartz

All results in weight%

Sample Notes:
S-6195-4 Rep

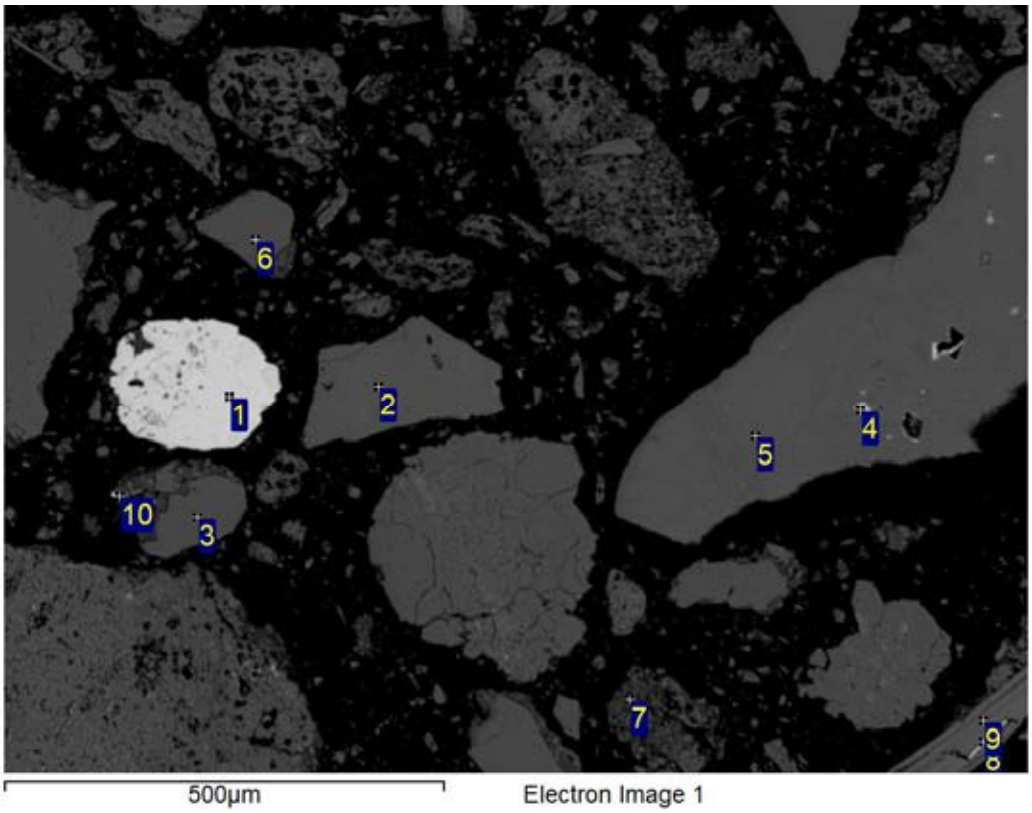


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	Ca	Fe	Total	Mineral ID
1	39.9		0.7	3.7	0.5	0.3	54.9	100.0	FeOx
2	51.7			48.1			0.2	100.0	Quartz
3	50.3			49.7				100.0	Quartz
4	48.8	6.0	13.1	15.8		0.3	16.0	100.0	Feldpsar

All results in weight%

Sample Notes:
S-6195-5

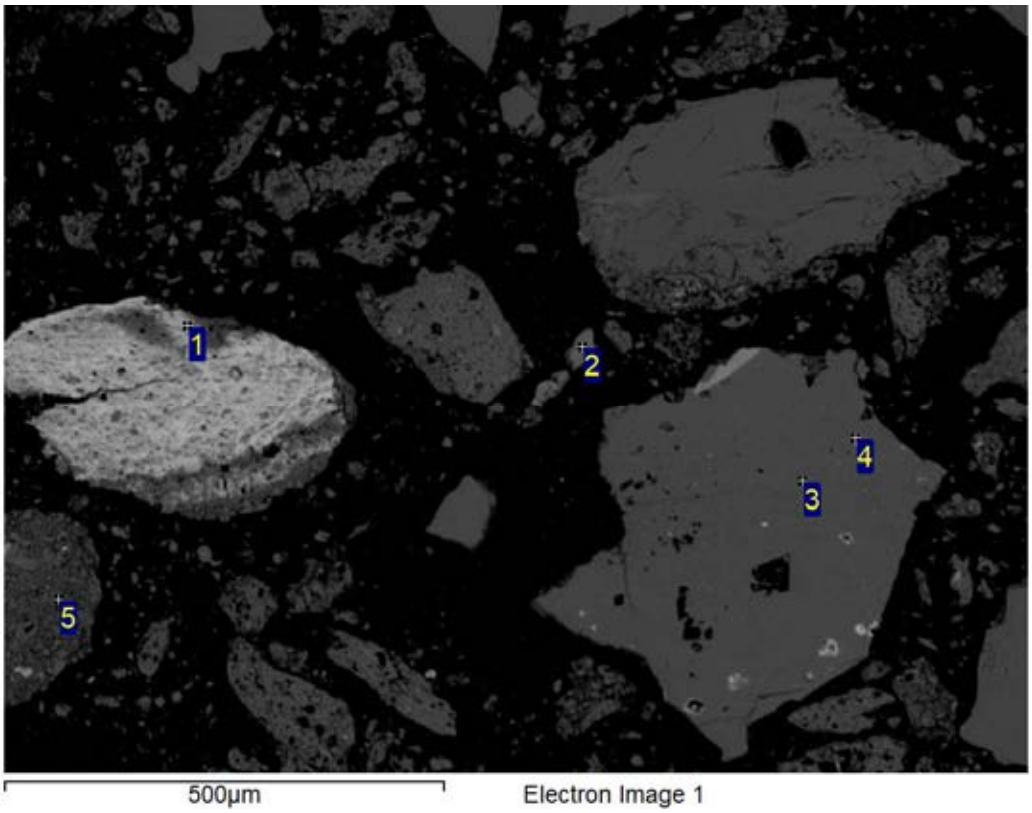


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ca	Ti	Mn	Fe	Zr	Total	Mineral ID
1	36.0		0.4	0.6	1.6						61.4		100.0	FeOx
2	52.0				48.0								100.0	Quartz
3	52.1				47.9								100.0	Quartz
4	36.6			0.7	2.4	0.3					60.1		100.0	FeOx
5	51.2				47.0						1.8		100.0	Quartz
6	51.5				48.5								100.0	Quartz
7	42.4		1.3	9.0	40.1		3.6		0.3		3.2		100.0	Quartz
8	36.5			1.4	1.3		0.5		27.9	2.7	29.6		100.0	Ilmenite
9	47.0	0.6	0.7	17.9	23.4		8.7		0.4		1.3		100.0	Mica
10	44.7		0.5	11.6	17.2		1.5	0.3	10.1		12.1	2.1	100.0	Felspar

All results in weight%

Sample Notes:
S-6195-5

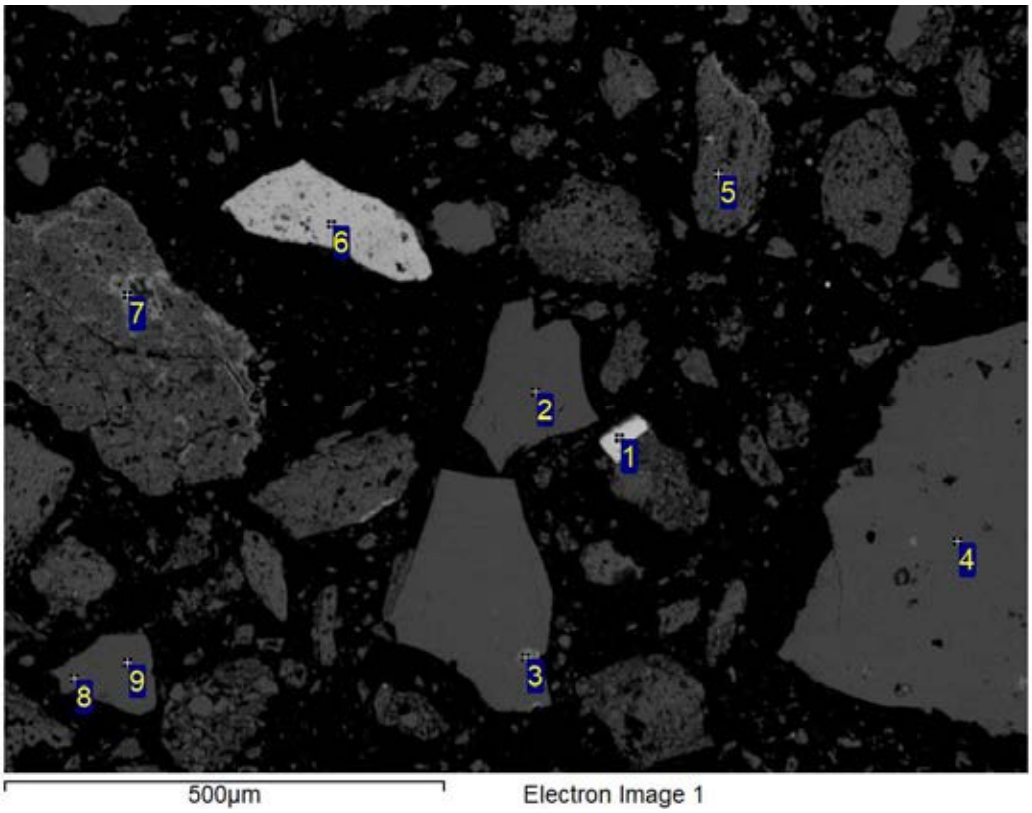


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	Cl	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	42.9	0.4	2.6	12.3	0.3		0.6				40.9	100.0	FeOx
2	47.8	1.1	15.0	23.1			9.2		0.2		3.6	100.0	Mica
3	51.6			48.4								100.0	Quartz
4	47.8		0.4	41.9							9.8	100.0	Quartz
5	42.2	1.3	12.5	23.3		0.5	2.6	0.4		0.4	16.8	100.0	Pyroxene

All results in weight%

Sample Notes:
S-6195-5

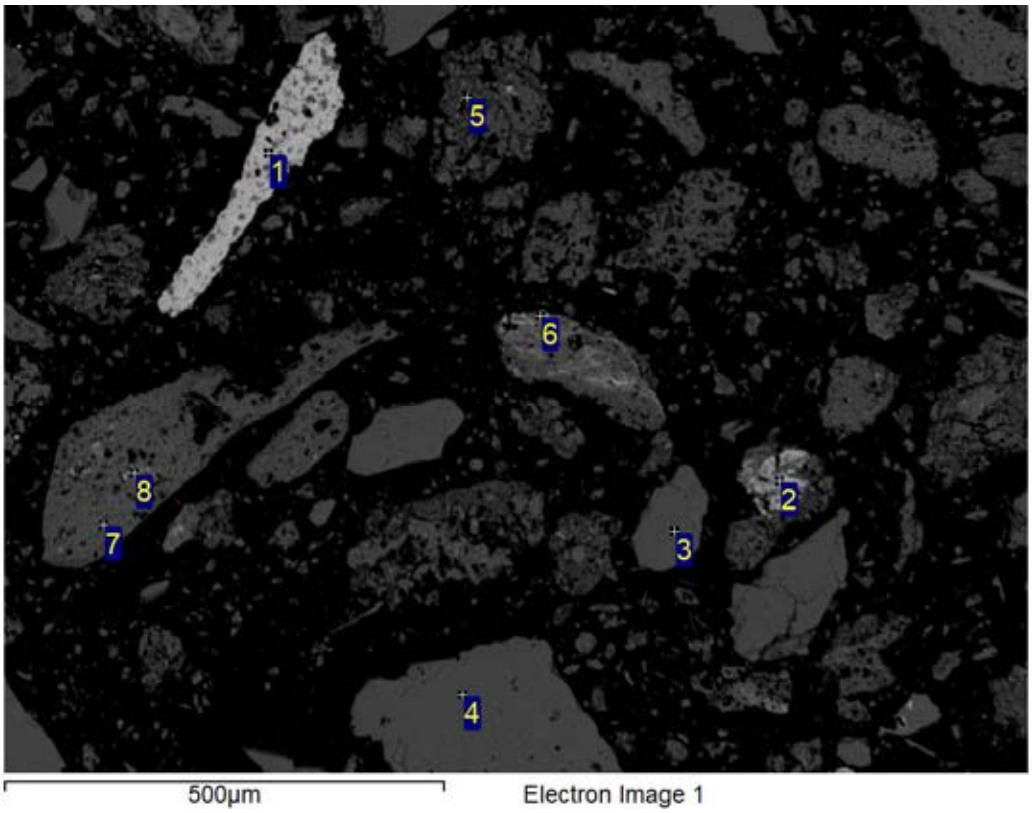


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ti	Mn	Fe	Total	Mineral ID
1	33.9						31.7	2.4	32.1	100.0	Ilmenite
2	51.6			48.4						100.0	Quartz
3	23.5		1.4	6.2		0.3		0.6	68.0	100.0	FeOx
4	52.2		0.4	46.6		0.1			0.6	100.0	Quartz
5	48.9	1.8	13.7	26.7		5.5	0.3		3.1	100.0	Mica
6	42.5		1.7	3.2	0.6				51.9	100.0	FeOx
7	42.7	0.6	8.0	13.0	0.6	2.8			32.2	100.0	Feldspar
8	52.2			14.6			33.1		0.2	100.0	Titanite
9	52.2			47.8						100.0	Quartz

All results in weight%

Sample Notes:
S-6195-5

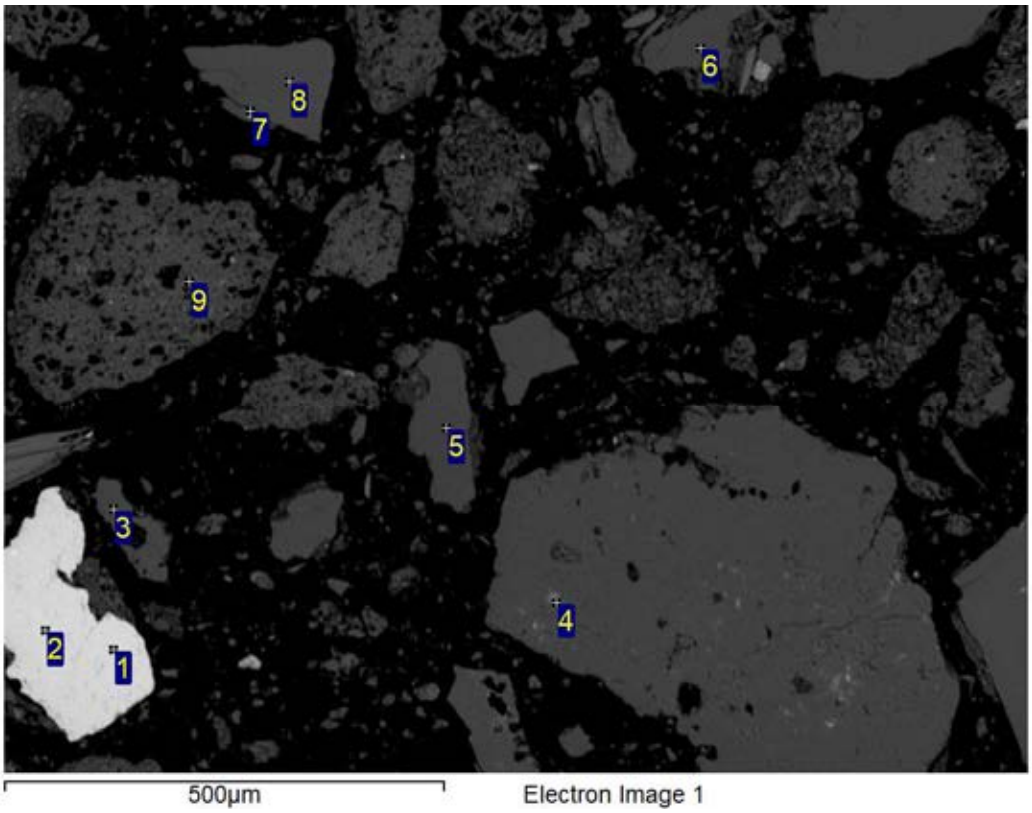


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	S	K	Ti	Mn	Fe	Total	Mineral ID
1	41.9		1.7	3.9	0.5					52.0	100.0	FeOx
2	38.7	0.4	3.9	6.6	0.4		0.7			49.3	100.0	FeOx
3	51.7			48.3							100.0	Quartz
4	52.1			47.9							100.0	Quartz
5	49.0		1.2	46.7			0.2			2.8	100.0	Quartz
6	36.7	0.8	7.5	13.2	0.8	0.3	1.1		0.4	39.2	100.0	FeOx/Feldpsar
7	56.2	1.7	10.2	26.2			3.1	0.4		2.3	100.0	Feldspar
8	36.1		7.3	3.9	1.0		0.3			51.4	100.0	FeOx

All results in weight%

Sample Notes:
S-6195-5

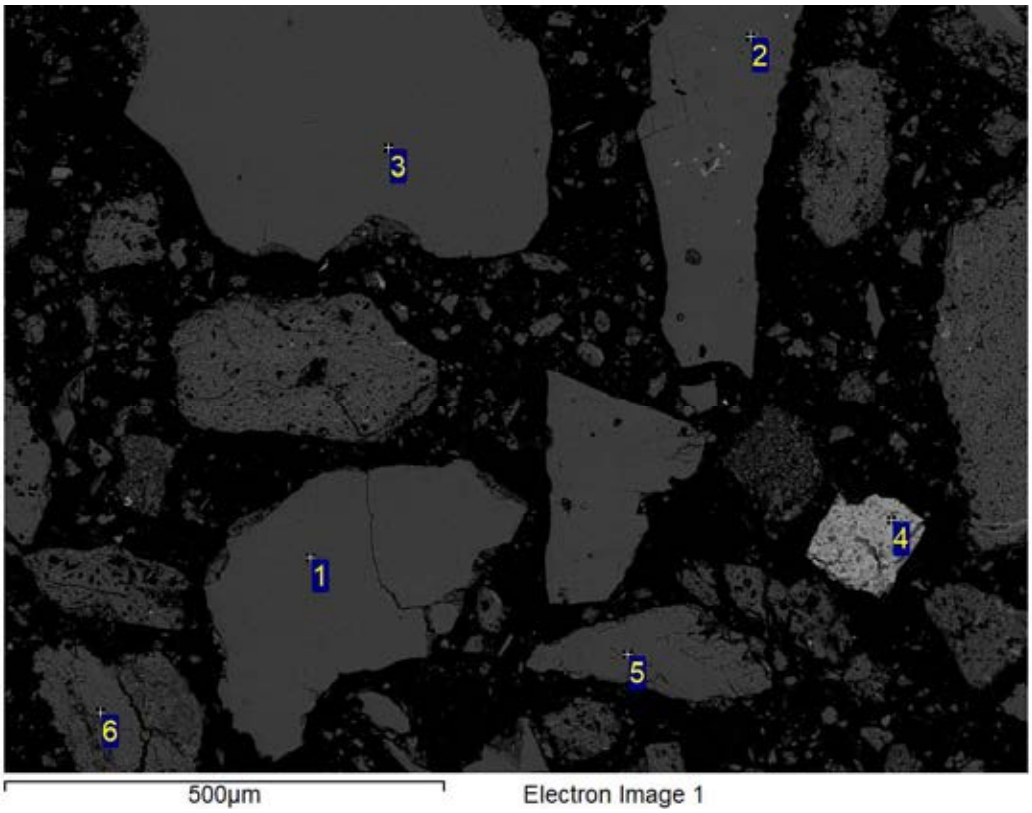


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ti	Fe	Total	Mineral ID
1	32.1					6.5	61.4	100.0	FeOx
2	31.9					6.4	61.7	100.0	FeOx
3	53.3			46.7				100.0	Quartz
4	55.7		0.7	38.8			4.8	100.0	Quartz
5	51.4			48.6				100.0	Quartz
6	51.4			48.6				100.0	Quartz
7	50.0			47.9			2.1	100.0	Quartz
8	51.5			48.1			0.4	100.0	Quartz
9	44.9	1.2	15.4	24.6	7.5	0.8	5.6	100.0	Amphibole

All results in weight%

Sample Notes:
S-6195-5 Rep

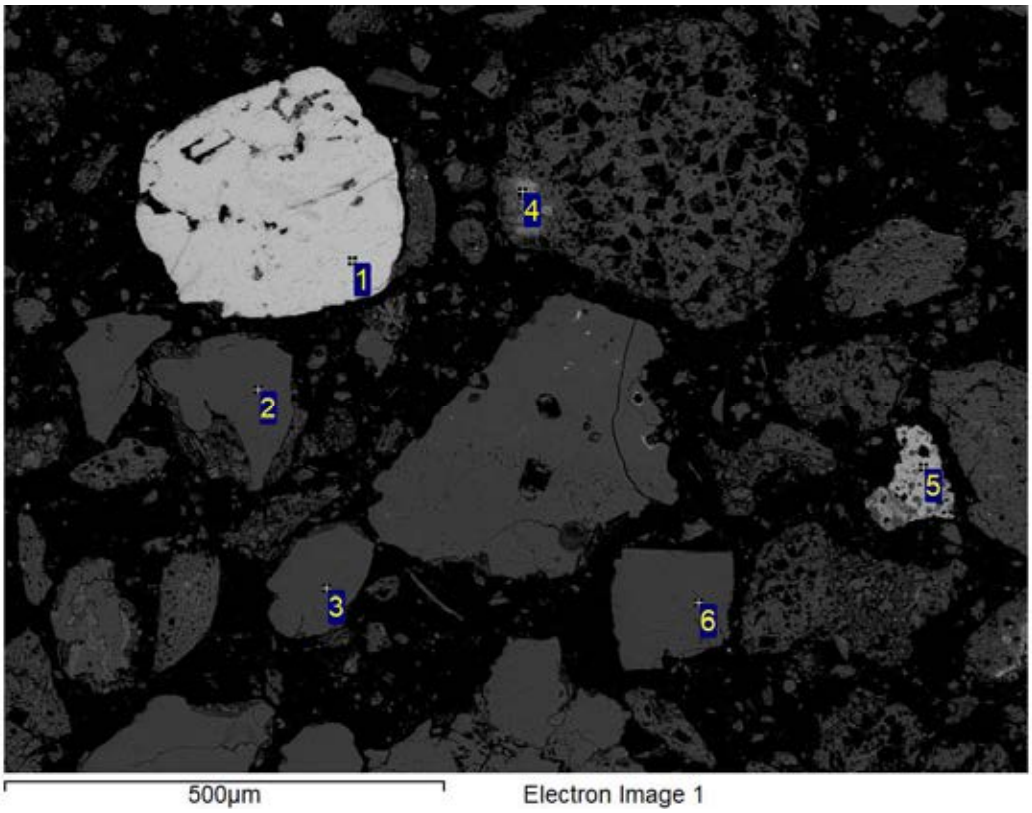


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	Fe	Total	Mineral ID
1	51.9		48.1			100.0	Quartz
2	51.2	0.4	47.8		0.6	100.0	Quartz
3	52.1		47.9			100.0	Quartz
4	39.4	2.0	4.1	0.6	54.0	100.0	FeOx
5	51.5		48.5			100.0	Quartz
6	52.4	0.6	46.6		0.5	100.0	Quartz

All results in weight%

Sample Notes:
S-6195-5 Rep

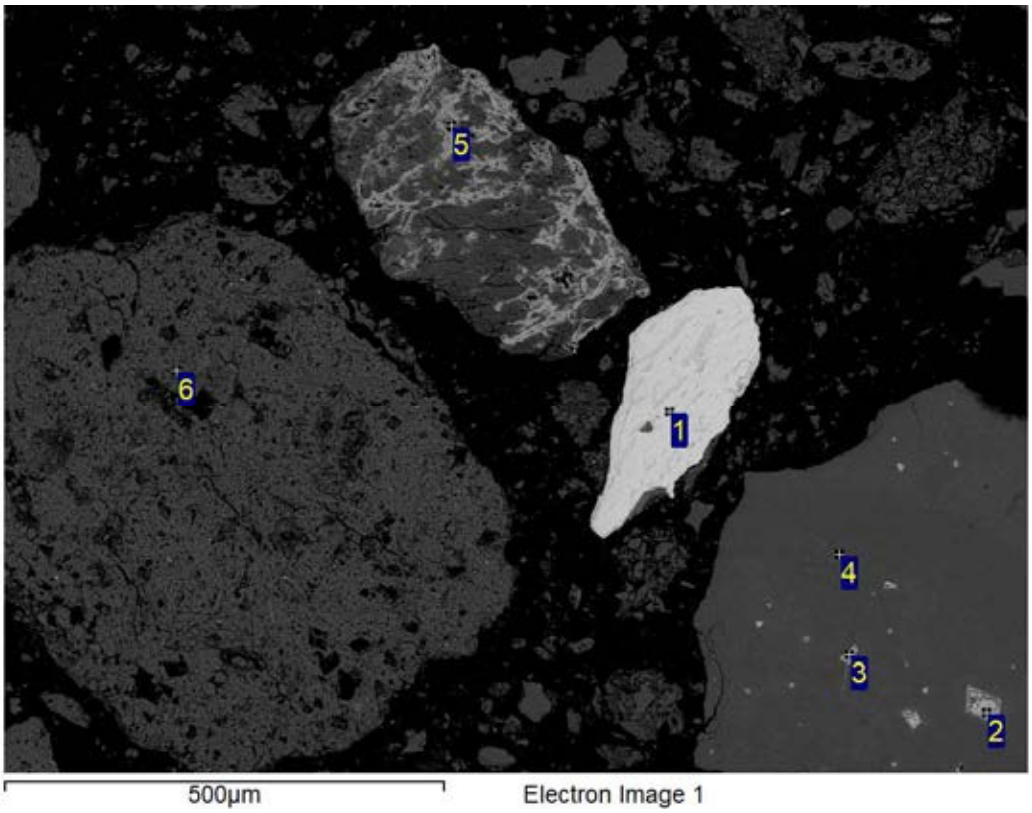


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	Ca	Ti	Mn	Fe	Co	Ni	Ba	Total	Mineral ID
1	34.4					31.1	0.9	33.7				100.0	Ilmenite
2	52.1		47.9									100.0	Quartz
3	51.8		48.2									100.0	Quartz
4	27.5	5.6	1.9		2.2		53.0	6.0	1.3	1.2	1.3	100.0	MnOx
5	42.7	1.5	8.6	0.3				46.8				100.0	FeOx
6	51.6		48.4									100.0	Quartz

All results in weight%

Sample Notes:
S-6195-5 Rep

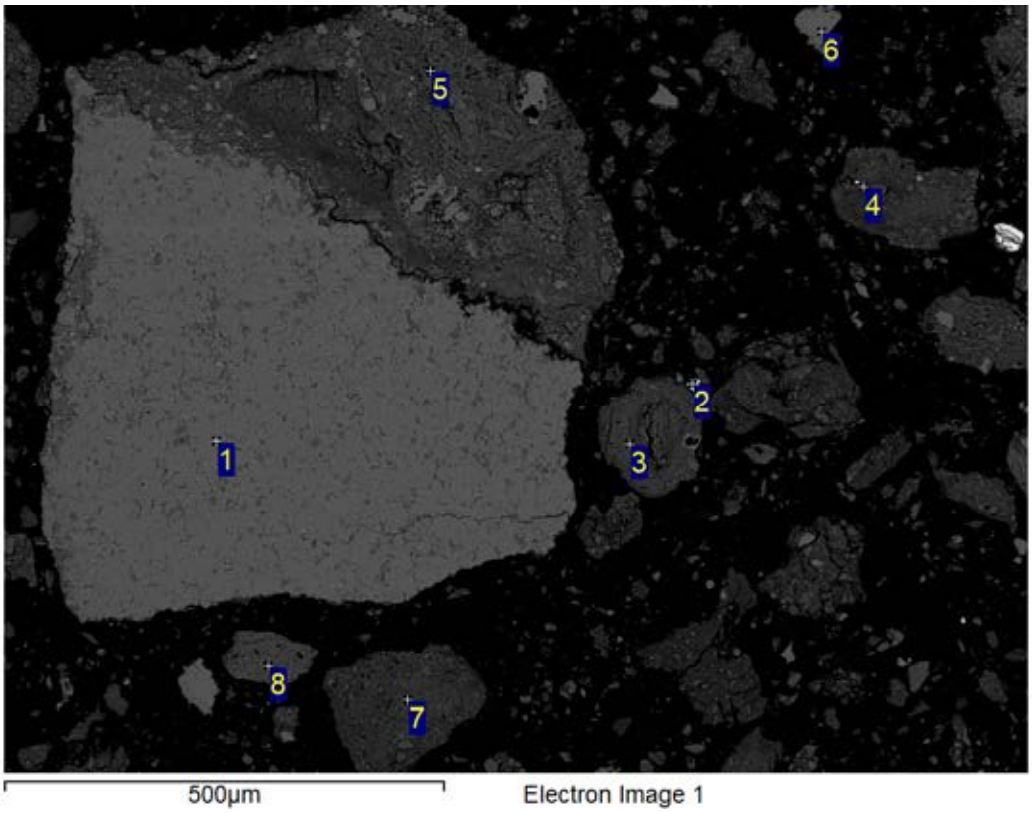


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ti	V	Fe	Total	Mineral ID
1	31.5						9.7	0.3	58.5	100.0	FeOx
2	53.9		0.9	16.4					28.9	100.0	FeOx/Quartz
3	29.7		0.9	24.9	0.4				44.1	100.0	FeOx/Quartz
4	52.0			47.5					0.5	100.0	Quartz
5	38.7	0.4	5.0	8.0		1.0			46.9	100.0	FeOx
6	50.9	2.8	14.7	25.5		3.3	0.4		2.4	100.0	Feldspar

All results in weight%

Sample Notes:
S-6195-6

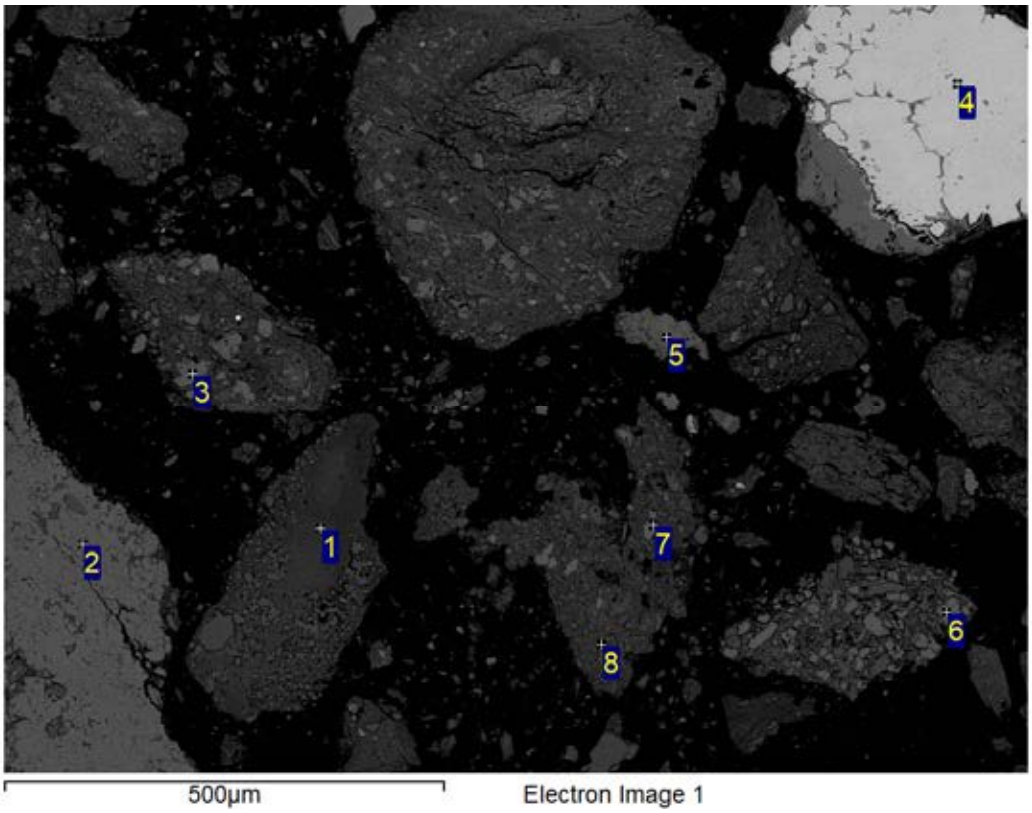


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ca	Ti	Fe	Ba	Total	Mineral ID
1	54.4	0.7		0.6			44.3				100.0	Calcite
2	31.4				14.3					54.2	100.0	Baryte
3	47.7	1.7	14.2	28.2		3.1	0.6	0.6	3.8		100.0	Feldspar
4	42.8	0.7	15.0	23.4	0.6	2.0	0.8	0.3	14.4		100.0	Feldspar
5	47.1	2.7	13.2	28.4		5.2	0.4	0.2	2.8		100.0	Feldspar
6	54.8	0.2					44.6		0.4		100.0	Calcite
7	46.6	2.0	12.0	27.5		4.8	0.4	0.5	6.3		100.0	Feldspar
8	51.0	2.2	11.8	26.3		4.1	0.3	0.4	3.9		100.0	Feldspar

All results in weight%

Sample Notes:
S-6195-6

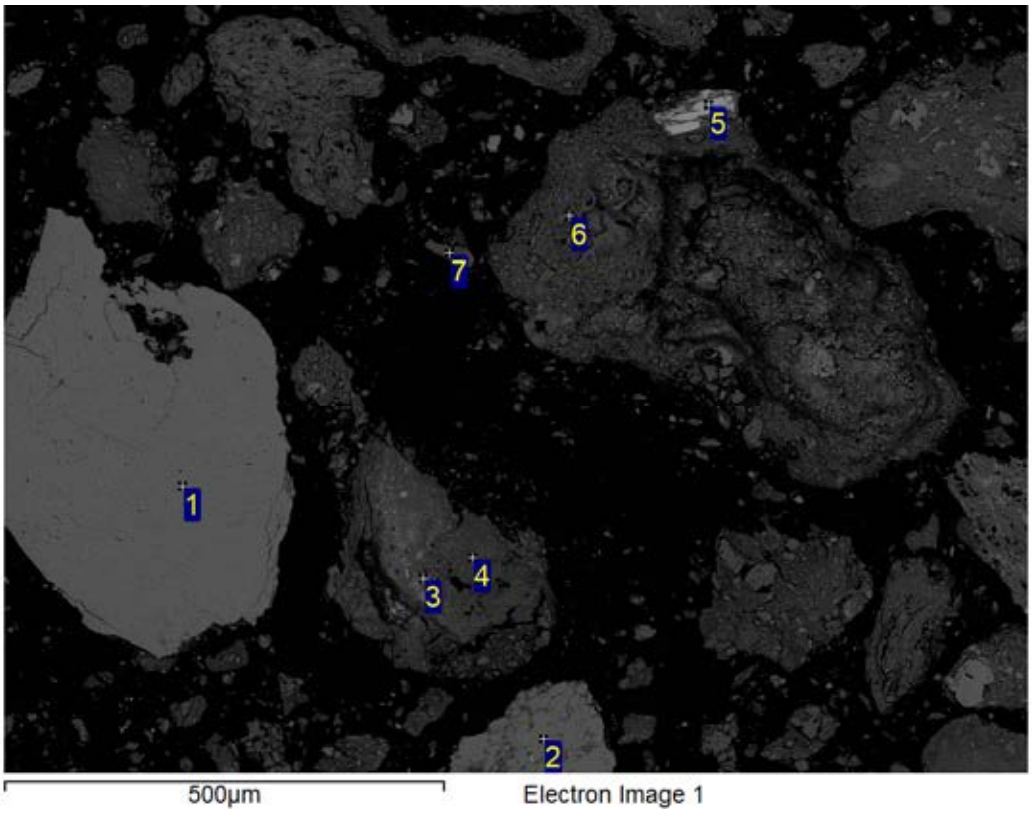


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ca	Ti	Fe	Total	Mineral ID
1	48.7	1.6	14.6	25.9		3.4	0.7	0.4	4.6	100.0	Feldspar
2	54.9	0.4	2.7	5.0		0.7	35.4	0.3	0.5	100.0	Calcite
3	53.0	0.4					46.1		0.6	100.0	Calcite
4	38.6			1.8			0.3		59.3	100.0	FeOx
5	54.5		1.9	4.2		0.2	38.8		0.3	100.0	Calcite
6	54.0	0.4		0.4			45.2			100.0	Calcite
7	56.2	0.5	0.4	0.7			41.7		0.5	100.0	Calcite
8	44.1	1.2	7.5	40.0	1.4	2.2	0.6	0.3	2.8	100.0	Quartz/ Feldspar

All results in weight%

Sample Notes:
S-6195-6

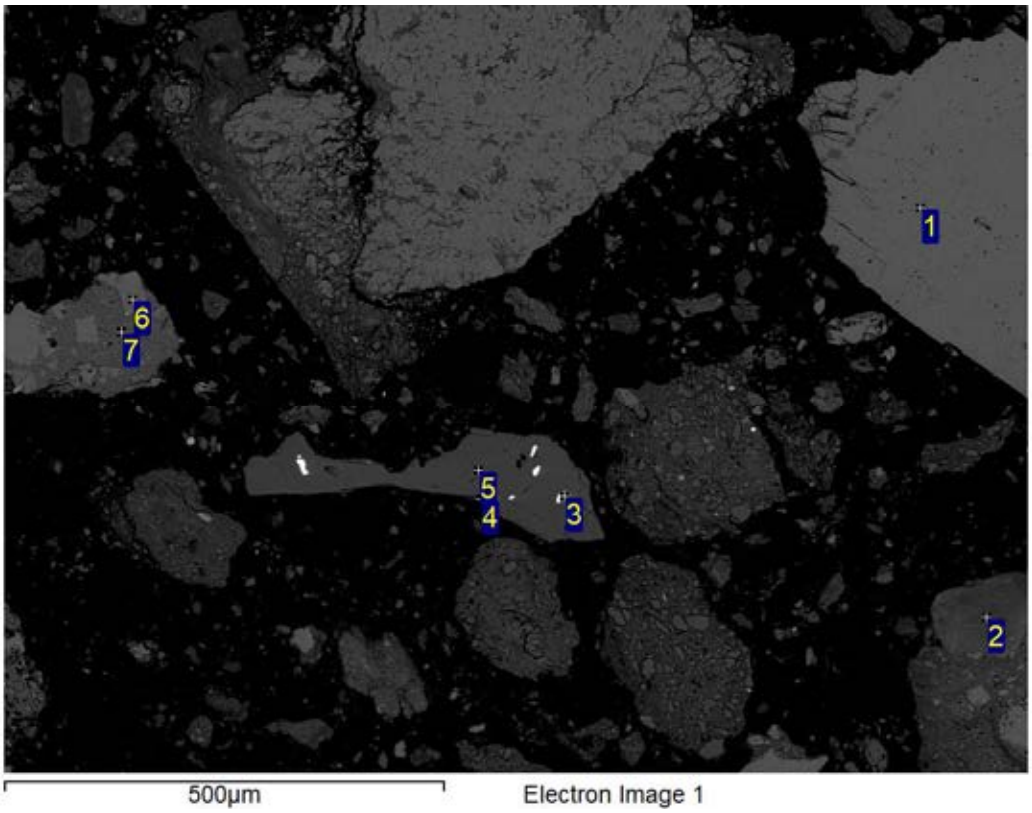


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ca	Ti	V	Fe	Total	Mineral ID
1	54.9						45.1				100.0	Calcite
2	54.2						45.8				100.0	Calcite
3	44.0	1.3	9.0	17.1		1.5	0.7	0.6		25.9	100.0	Feldspar/FeOx
4	46.7	0.9	14.5	26.9	0.4	1.4	0.8	0.6		7.9	100.0	Feldspar
5	41.1							57.9	1.0		100.0	Rutile
6	45.1	0.7	14.6	30.8		4.3	0.5	1.9		2.1	100.0	Quartz/Feldspar
7	51.5			48.5							100.0	Quartz

All results in weight%

Sample Notes:
S-6195-6

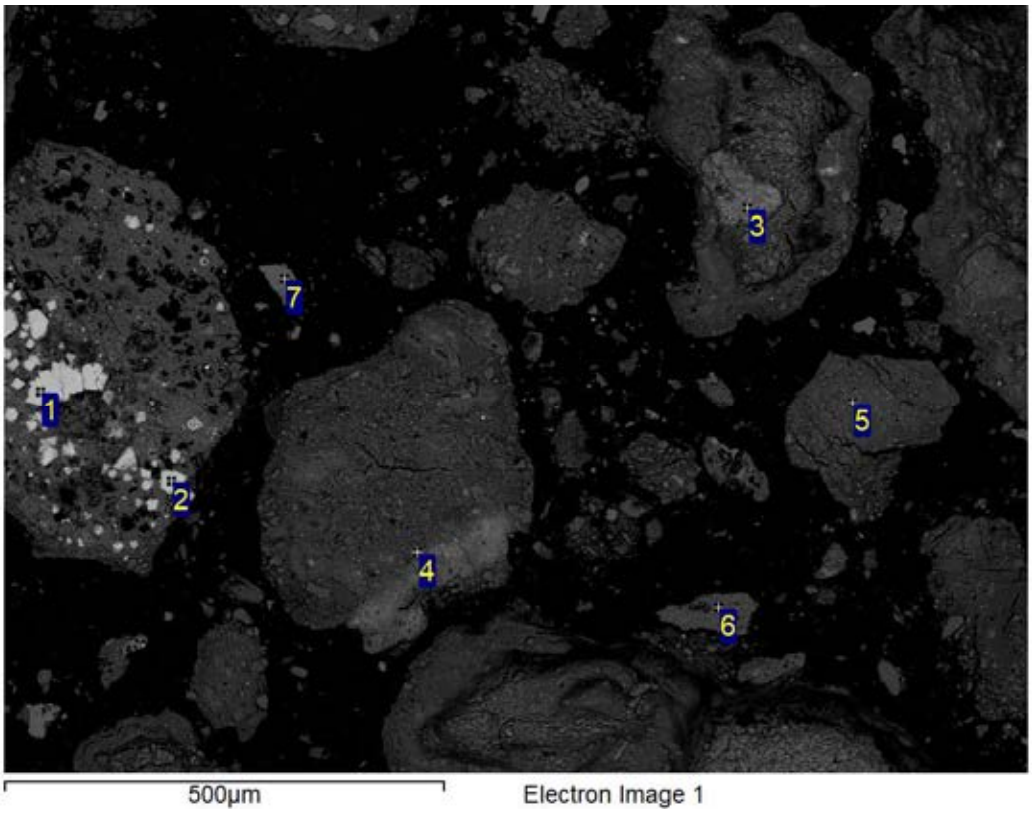


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ca	Ti	Fe	Sr	Ba	Total	Mineral ID
1	53.4		0.4					45.9		0.3			100.0	Calcite
2	42.5		0.8	13.0	22.9		1.5	0.8	0.5	18.1			100.0	Feldspar
3	21.3				0.5	14.4					3.6	60.1	100.0	Baryte
4	39.8	0.3			59.1	0.3			0.4				100.0	Quartz
5	51.3				48.7								100.0	Quartz
6	55.0		0.9		0.6			42.7		0.8			100.0	Calcite
7	53.3		2.2	9.5	21.7		3.7	5.2	0.5	4.0			100.0	Feldpsar

All results in weight%

Sample Notes:
S-6195-6 Rep

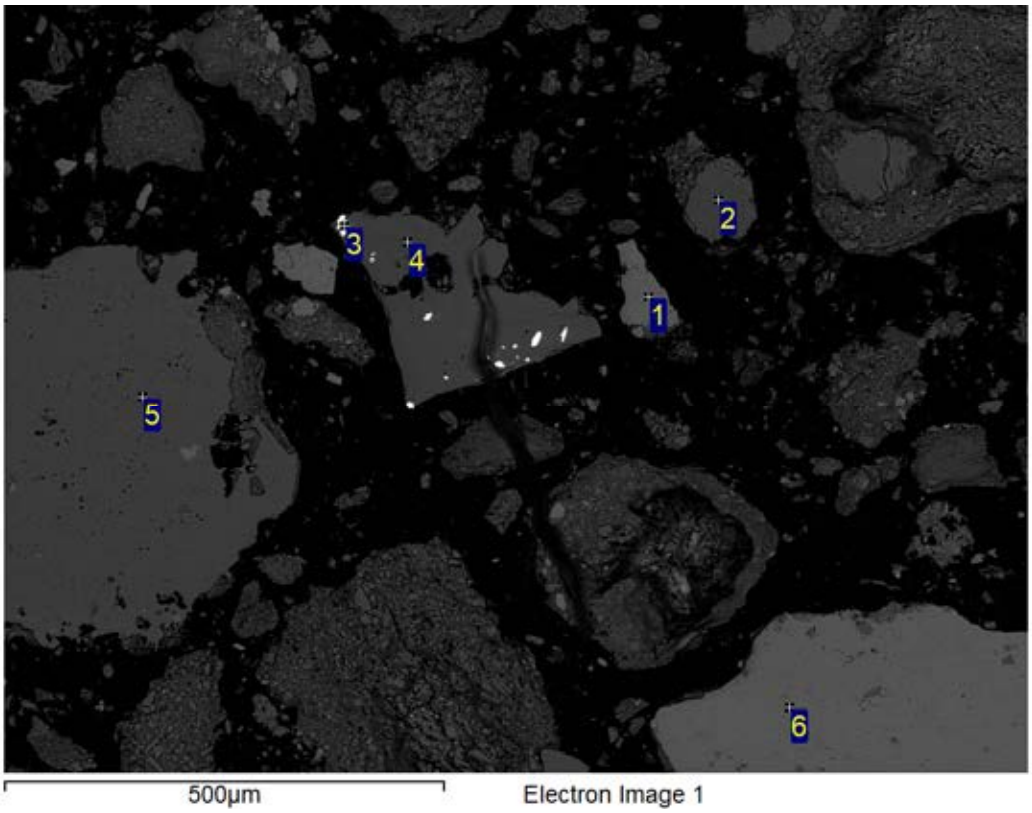


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	S	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	35.6			1.6	0.4			0.5		0.9	61.0	100.0	FeOx
2	36.5			1.5				0.4		1.4	60.2	100.0	FeOx
3	44.1	0.5	5.5	29.2		0.2	0.6	0.4			19.5	100.0	Feldspar/FeOx
4	42.5	0.4	7.9	7.5	0.4	0.3	0.4	0.4	0.3		39.8	100.0	FeOx/Feldspar
5	41.5	1.5	8.5	25.2			2.5	0.8	0.3		19.7	100.0	Feldspar/FeOx
6	46.3	2.5	11.1	32.1			4.8				3.2	100.0	Mica
7	54.0							45.6			0.3	100.0	Calcite

All results in weight%

Sample Notes:
S-6195-6 Rep

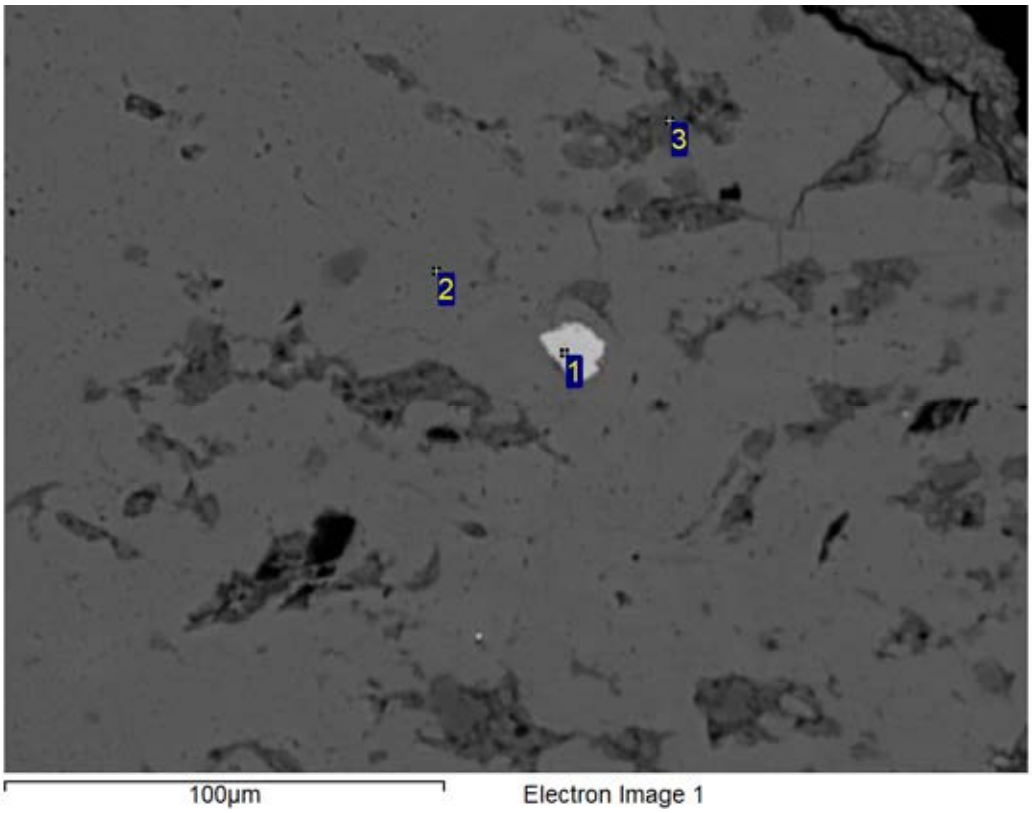


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Si	S	Ca	Fe	Co	Sr	Ba	Total	Mineral ID
1	52.6				47.4					100.0	Calcite
2	51.2		48.8							100.0	Quartz
3	26.2			14.7			0.0	2.5	56.7	100.0	Baryte
4	50.6		49.4							100.0	Quartz
5	51.2		48.8							100.0	Quartz
6	53.1	0.4			46.1	0.3				100.0	Calcite

All results in weight%

Sample Notes:
S-6195-6 Rep

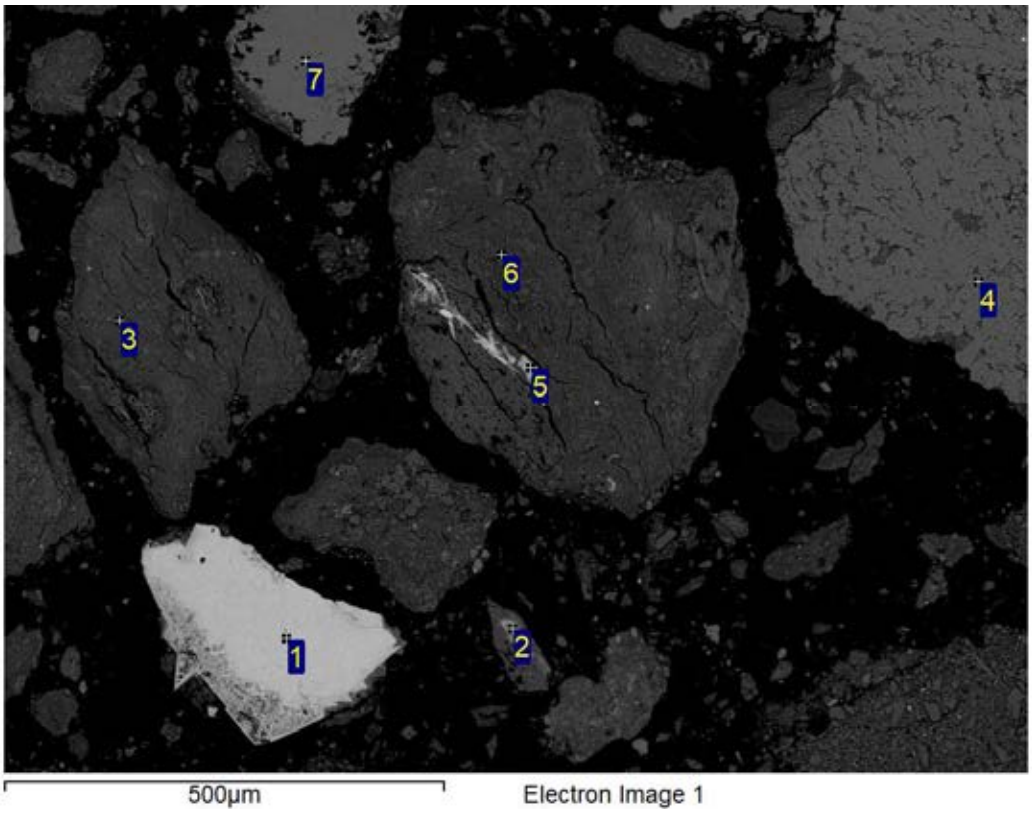


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ca	Fe	Cu	Total	Mineral ID
1	36.8	0.5	0.7	2.2		1.7	57.5	0.6	100.0	FeOx
2	53.5	0.4				46.1			100.0	Calcite
3	55.5	0.3	0.9	40.0	0.2	3.1			100.0	Quartz

All results in weight%

Sample Notes:
S-6195-6 Rep

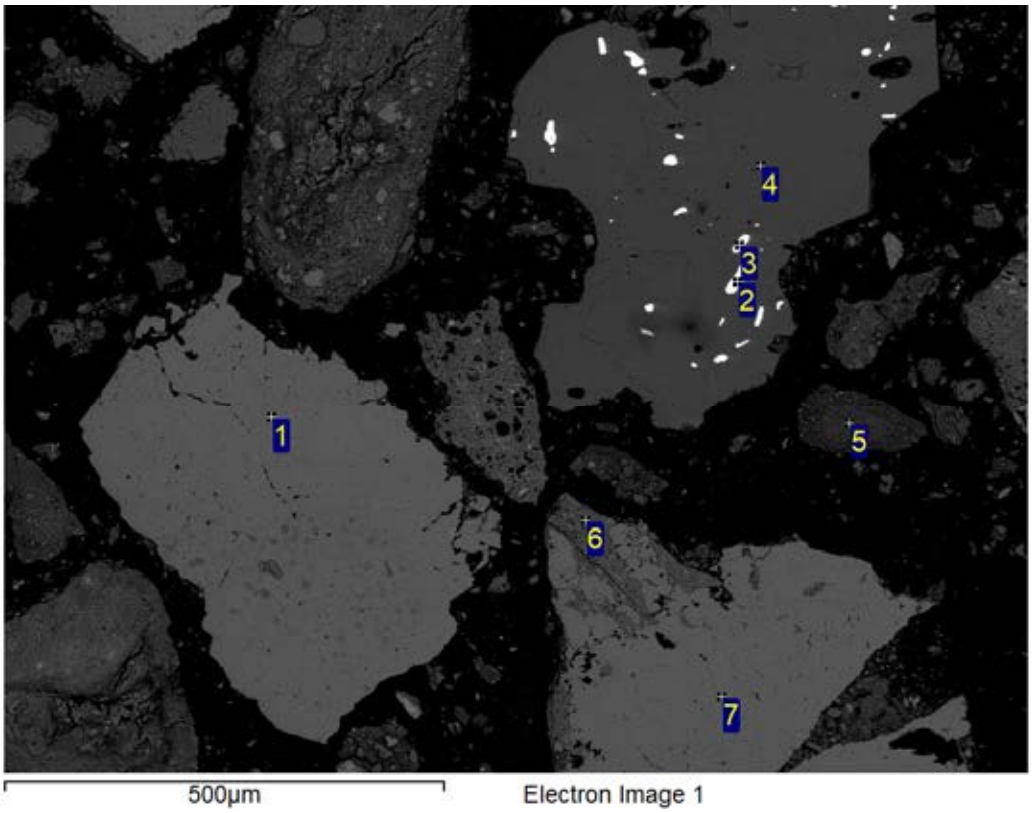


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	Cl	K	Ca	Ti	Mn	Fe	Co	Ba	Total	Mineral ID
1	37.2			1.7			0.4			60.7			100.0	FeOx
2	31.7		1.2	0.9			2.6		50.4	4.9	0.6	7.8	100.0	MnOx
3	46.0	1.7	15.2	27.5		2.9	0.6	0.3		5.7			100.0	Feldspar/Mica
4	53.1		1.5	3.0		0.3	42.1						100.0	Calcite
5	27.4		1.4	1.8		0.3	1.8		52.0	3.4		12.0	100.0	MnOx
6	43.7	2.0	13.0	25.7	0.3	4.1	0.9	1.0		9.2			100.0	Feldspar/Mica
7	53.9	0.3					45.5			0.3			100.0	Calcite

All results in weight%

Sample Notes:
S-6195-6 Rep



Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ca	Ti	Fe	Co	Sr	Ba	Total	Mineral ID
1	57.6						42.4						100.0	Calcite
2	21.0			0.9	14.8					0.0	3.9	59.5	100.0	Baryte
3	20.4			21.0	11.0					0.1		47.5	100.0	Baryte
4	52.2			47.8									100.0	Quartz
5	46.7	0.9	13.0	34.3		1.6	0.9	0.3	2.3				100.0	Feldspar/Quartz
6	49.7	0.3	0.7	48.5		0.1	0.1		0.6				100.0	Quartz
7	53.5						46.5						100.0	Calcite

All results in weight%

1-503 Imperial Road North Guelph, ON, N1H 6T9 t: 519-837-1600 1-800-265-7175 f: 519-837-1242 ca.agri.guelph.lab@sgs.com

Report # 565002

Analytical Report

Email

SGS LAKEFIELD - Catharine Arnold - S6195 Pulp
CEC
185 Concession St.
Lakefield, ON K0L 2H0

Fax: 705-652-6365
Email: catharine.arnold@sgs.com; lisa.thompson@sgs.com

Date Received: Sep-29-2020
Date Reported: Oct-16-2020

Laboratory Number:	32182101	32182102	32182103	32182104
Sample ID:	S-6195-1	S-6195-2	S-6195-3	S-6195-4
Sample Description:	Pulp			
CEC - Actual (MEQ/100g)	15.80	19.00	19.40	20.20

Authorized By: *Jack Legg*
CCA-ON, 4R NMS

1-503 Imperial Road North Guelph, ON, N1H 6T9 t: 519-837-1600 1-800-265-7175 f: 519-837-1242 ca.agri.guelph.lab@sgs.com

Analytical Report

Email

SGS LAKEFIELD - Catharine Arnold - S6195 Pulp
CEC
185 Concession St.
Lakefield, ON K0L 2H0

Fax: 705-652-6365
Email: catharine.arnold@sgs.com; lisa.thompson@sgs.com

Date Received: Sep-29-2020
Date Reported: Oct-16-2020

Laboratory Number:	32182105	32182107
Sample ID:	S-6195-5	S-6195-6
Sample Description:		

CEC - Actual (MEQ/100g)	15.70	5.70

Authorized By: *Jack Legg*
CCA-ON, 4R NMS

Specialty Analytical

9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

October 21, 2020

Kela Ashworth
SiREM Lab
130 Stone Road West
Guelph, Ontario N1G3Z2

TEL: (519) 822-2265
FAX
RE: S-6195

Dear Kela Ashworth: Order No.: 2009184

Specialty Analytical received 6 sample(s) on 9/25/2020 for the analyses presented in the following report.

REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Case Narrative

WO#: **2009184**

Date: **10/21/2020**

Specialty Analytical

CLIENT: SiREM Lab
Project: S-6195

Revision 1.

This report has been revised to include sample 006.

Specialty Analytical

Date Reported: 21-Oct-20

CLIENT: SiREM Lab
Project: S-6195

Lab Order: 2009184

Lab ID: 2009184-001 **Collection Date:** 9/24/2020
Client Sample ID: S-6195-1 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	8.48	0.000200		meq/100g	1	10/5/2020 12:10:00 AM

Lab ID: 2009184-002 **Collection Date:** 9/24/2020
Client Sample ID: S-6195-2 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	6.58	0.000200		meq/100g	1	10/5/2020 12:12:00 AM

Lab ID: 2009184-003 **Collection Date:** 9/24/2020
Client Sample ID: S-6195-3 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	8.09	0.000200		meq/100g	1	10/5/2020 12:14:00 AM

Lab ID: 2009184-004 **Collection Date:** 9/24/2020
Client Sample ID: S-6195-4 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	7.85	0.000200		meq/100g	1	10/5/2020 12:16:00 AM

Lab ID: 2009184-005 **Collection Date:** 9/24/2020
Client Sample ID: S-6195-5 **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	6.74	0.000200		meq/100g	1	10/5/2020 12:18:00 AM

Specialty Analytical

Date Reported: 21-Oct-20

CLIENT: SiREM Lab
Project: S-6195

Lab Order: 2009184

Lab ID: 2009184-006
Client Sample ID: S-6195-6

Collection Date: 9/24/2020
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY		**SW9081**				Analyst: **SH**
Anion Exchange Capacity	4.57	0.000200		meq/100g	1	10/21/2020 4:37:16 PM

KEY TO FLAGS

Rev. May 12, 2010

A	This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
A1	This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
A2	This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
A3	The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
A4	The product appears to be aged or degraded diesel.
B	The blank exhibited a positive result great than the reporting limit for this compound.
CN	See Case Narrative.
D	Result is based from a dilution.
E	Result exceeds the calibration range for this compound. The result should be considered as estimate.
F	The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
G	Result may be biased high due to biogenic interferences. Clean up is recommended.
H	Sample was analyzed outside recommended holding time.
HT	At clients request, samples was analyzed outside of recommended holding time.
J	The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
K	Diesel result is biased high due to amount of Oil contained in the sample.
L	Diesel result is biased high due to amount of Gasoline contained in the sample.
M	Oil result is biased high due to amount of Diesel contained in the sample.
MC	Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
MI	Result is outside control limits due to matrix interference.
MSA	Value determined by Method of Standard Addition.
O	Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
Q	Detection levels elevated due to sample matrix.
R	RPD control limits were exceeded.
RF	Duplicate failed due to result being at or near the method-reporting limit.
RP	Matrix spike values exceed established QC limits; post digestion spike is in control.
S	Recovery is outside control limits.
SC	Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
*	The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

www.specialtyanalytical.com

Chain of Custody Record 2009184

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Date: | Page: 1 of: 1 | Laboratory Project No (internal): 2009184-M

Project Name: | Temperature on Receipt: 5.9 °C

Client: SiREM Lab | Project No: S-6195 PO No: | Cooling: ice | Shipped Via: fedex

Address: 130 Stone Road West | Collected by: Kela Ashworth | Custody Seal: Y / N Intact / Broken Cooler / Bottle

City, State, Zip: Guelph, Ontario, N1G 3Z2 | State Collected: OR ☐ WA ☐ OTHER | MDL ☐ TIER IV ☐ EDD ☐

Telephone: 519-822-2265 | Report To (PM): Kela Ashworth | Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 60 days)

AP Email: accountspayablecan@siremlab.com | PM Email: kashworth@siremlab.com

	Sample Name	Sample Date	Sample Time	Sample Matrix*	# of Containers	Requested Tests: Anion Exchange Capacity										Anion Exchange Capacity		Comments
1	S-6195-1	24-Sep-20		S	1	✓												
2	S-6195-2	24-Sep-20		S	1	✓												
3	S-6195-3	24-Sep-20		S	1	✓												
4	S-6195-4	24-Sep-20		S	1	✓												
5	S-6195-5	24-Sep-20		S	1	✓												
6	S-6195-6	24-Sep-20		S	1	✓												
7																		
8																		
9																		
10																		

*Matrix: A = Air, AQ = Aqueous, L=Liquid, O = Oil, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water, M = Miscellaneous

Turn-around Time: Standard (5-7 Business): ✓ 3 Day: ☐ 2 Day: ☐ Next Day: ☐ Same Day: ☐

Expedited turn-around requests should be coordinated in advance

Relinquished	Date/Time	Received	Date/Time
x Kela Ashworth	24 Sept 2020 / 4:30pm	x	9/24/2020 9/25/2020 9:30
x		x	
x		x	

APPENDIX E

Laboratory Analytical and Field Sampling Reports

APPENDIX E1
Laboratory Analytical Data Packages and Data Validation Reports

Laboratory Reports

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

March 23, 2020

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

RE: Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory between March 03, 2020 and March 05, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.

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

CERTIFICATIONS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

SAMPLE SUMMARY

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2629703001	**MW-20**	Water	03/02/20 16:19	03/03/20 12:20
2629703002	**FB-01**	Water	03/02/20 17:10	03/03/20 12:20
2629703003	**MW-29**	Water	03/02/20 17:35	03/03/20 12:20
2629703004	**MW-5**	Water	03/02/20 16:21	03/03/20 12:20
2629714001	**HGWA-1**	Water	03/02/20 11:39	03/03/20 12:20
2629714002	**HGWA-2**	Water	03/02/20 11:10	03/03/20 12:20
2629714003	**HGWA-3**	Water	03/02/20 13:15	03/03/20 12:20
2629703008	**MW-6**	Water	03/03/20 10:12	03/04/20 10:05
2629703009	**MW-7**	Water	03/03/20 13:10	03/04/20 10:05
2629703010	**HGWC-10**	Water	03/03/20 13:20	03/04/20 10:05
2629703011	**HGWC-11**	Water	03/03/20 13:30	03/04/20 10:05
2629703012	**HGWC-12**	Water	03/03/20 14:15	03/04/20 10:05
2629703013	**MW-25D**	Water	03/03/20 15:15	03/04/20 10:05
2629703014	**HGWC-8**	Water	03/03/20 16:46	03/04/20 10:05
2629703015	**MW-30D**	Water	03/04/20 14:15	03/05/20 12:00
2629703016	**HGWC-7**	Water	03/04/20 11:50	03/05/20 12:00
2629703017	**MW-28D**	Water	03/04/20 10:05	03/05/20 12:00
2629703018	**MW-24D**	Water	03/04/20 12:27	03/05/20 12:00
2629703019	**FD-02**	Water	03/04/20 12:00	03/05/20 12:00
2629703020	**HGWC-13**	Water	03/04/20 13:25	03/05/20 12:00
2629703021	**MW-19**	Water	03/04/20 17:55	03/05/20 12:00
2629703022	**HGWC-9**	Water	03/04/20 10:26	03/05/20 12:00
2629703023	**MW-26D**	Water	03/04/20 13:41	03/05/20 12:00
2629703024	**MW-27D**	Water	03/04/20 16:27	03/05/20 12:00

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

SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2629703001	**MW-20**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703002	**FB-01**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703003	**MW-29**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703004	**MW-5**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629714001	**HGWA-1**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629714002	**HGWA-2**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629714003	**HGWA-3**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703008	**MW-6**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703009	**MW-7**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703010	**HGWC-10**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703011	**HGWC-11**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703012	**HGWC-12**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703013	**MW-25D**	EPA 6020B	CSW	12	PASI-GA

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

SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703014	**HGWC-8**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703015	**MW-30D**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703016	**HGWC-7**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703017	**MW-28D**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703018	**MW-24D**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703019	**FD-02**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703020	**HGWC-13**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703021	**MW-19**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703022	**HGWC-9**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703023	**MW-26D**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629703024	**MW-27D**	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2629703001	**MW-20**					
	Field pH	6.98	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.00038J	mg/L	0.0050	03/10/20 19:33	
EPA 6020B	Barium	0.099	mg/L	0.010	03/10/20 19:33	
EPA 6020B	Chromium	0.00071J	mg/L	0.010	03/10/20 19:33	
EPA 6020B	Lead	0.00017J	mg/L	0.0050	03/10/20 19:33	
EPA 6020B	Lithium	0.00082J	mg/L	0.030	03/10/20 19:33	
2629703003	**MW-29**					
	Field pH	7.13	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.088	mg/L	0.010	03/10/20 19:56	
EPA 6020B	Cobalt	0.00067J	mg/L	0.0050	03/10/20 19:56	
EPA 6020B	Lead	0.000090J	mg/L	0.0050	03/10/20 19:56	
EPA 6020B	Lithium	0.0025J	mg/L	0.030	03/10/20 19:56	
EPA 6020B	Molybdenum	0.0025J	mg/L	0.010	03/10/20 19:56	
2629703004	**MW-5**					
	Field pH	6.12	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.049	mg/L	0.010	03/10/20 20:01	
EPA 6020B	Chromium	0.0042J	mg/L	0.010	03/10/20 20:01	
EPA 6020B	Lead	0.000047J	mg/L	0.0050	03/10/20 20:01	
EPA 6020B	Selenium	0.0041J	mg/L	0.010	03/10/20 20:01	
EPA 300.0 Rev 2.1 1993	Fluoride	0.065J	mg/L	0.30	03/10/20 14:25	
2629714001	**HGWA-1**					
	Field pH	7.10	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.034	mg/L	0.010	03/10/20 20:07	
EPA 6020B	Lead	0.000048J	mg/L	0.0050	03/10/20 20:07	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	03/10/20 20:07	
EPA 300.0 Rev 2.1 1993	Fluoride	0.076J	mg/L	0.30	03/10/20 15:07	
2629714002	**HGWA-2**					
	Field pH	5.43	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.00043J	mg/L	0.0050	03/10/20 20:13	
EPA 6020B	Barium	0.11	mg/L	0.010	03/10/20 20:13	
EPA 6020B	Beryllium	0.00014J	mg/L	0.0030	03/10/20 20:13	
EPA 6020B	Chromium	0.00041J	mg/L	0.010	03/10/20 20:13	
EPA 6020B	Cobalt	0.019	mg/L	0.0050	03/10/20 20:13	
EPA 6020B	Lead	0.000095J	mg/L	0.0050	03/10/20 20:13	
EPA 6020B	Lithium	0.0017J	mg/L	0.030	03/10/20 20:13	
2629714003	**HGWA-3**					
	Field pH	7.12	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.00040J	mg/L	0.0050	03/10/20 20:18	
EPA 6020B	Barium	0.14	mg/L	0.010	03/10/20 20:18	
EPA 6020B	Lithium	0.0037J	mg/L	0.030	03/10/20 20:18	
2629703008	**MW-6**					
	Field pH	6.78	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.090	mg/L	0.010	03/11/20 16:05	
EPA 6020B	Chromium	0.00044J	mg/L	0.010	03/11/20 16:05	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2629703008	**MW-6**					
EPA 6020B	Cobalt	0.00094J	mg/L	0.0050	03/11/20 16:05	
EPA 6020B	Lead	0.00013J	mg/L	0.0050	03/11/20 16:05	
EPA 6020B	Molybdenum	0.0022J	mg/L	0.010	03/11/20 16:05	
EPA 6020B	Thallium	0.000082J	mg/L	0.0010	03/11/20 16:05	
EPA 300.0 Rev 2.1 1993	Fluoride	0.062J	mg/L	0.30	03/11/20 01:44	
2629703009	**MW-7**					
	Field pH	6.10	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.0013J	mg/L	0.0030	03/11/20 16:28	
EPA 6020B	Barium	0.043	mg/L	0.010	03/11/20 16:28	
EPA 6020B	Chromium	0.0015J	mg/L	0.010	03/11/20 16:28	
EPA 6020B	Lead	0.000062J	mg/L	0.0050	03/11/20 16:28	
2629703010	**HGWC-10**					
	Field pH	6.67	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.048	mg/L	0.010	03/11/20 16:34	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11J	mg/L	0.30	03/11/20 02:13	
2629703011	**HGWC-11**					
	Field pH	5.95	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	03/11/20 16:40	
EPA 6020B	Barium	0.022	mg/L	0.010	03/11/20 16:40	
EPA 6020B	Beryllium	0.00012J	mg/L	0.0030	03/11/20 16:40	
EPA 6020B	Chromium	0.00061J	mg/L	0.010	03/11/20 16:40	
EPA 6020B	Cobalt	0.00087J	mg/L	0.0050	03/11/20 16:40	
EPA 6020B	Lead	0.00021J	mg/L	0.0050	03/11/20 16:40	
EPA 6020B	Molybdenum	0.011	mg/L	0.010	03/11/20 16:40	
EPA 6020B	Selenium	0.016	mg/L	0.010	03/12/20 16:52	
EPA 300.0 Rev 2.1 1993	Fluoride	0.24J	mg/L	0.30	03/11/20 02:57	
2629703012	**HGWC-12**					
	Field pH	6.95	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	03/11/20 16:45	
EPA 6020B	Barium	0.092	mg/L	0.010	03/11/20 16:45	
EPA 6020B	Cadmium	0.00015J	mg/L	0.0025	03/11/20 16:45	
EPA 6020B	Cobalt	0.0013J	mg/L	0.0050	03/11/20 16:45	
EPA 6020B	Lead	0.000056J	mg/L	0.0050	03/11/20 16:45	
EPA 6020B	Lithium	0.0063J	mg/L	0.030	03/11/20 16:45	
EPA 6020B	Molybdenum	0.045	mg/L	0.010	03/11/20 16:45	
EPA 6020B	Thallium	0.000066J	mg/L	0.0010	03/11/20 16:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.21J	mg/L	0.30	03/11/20 03:12	
2629703013	**MW-25D**					
	Field pH	7.59	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.0010J	mg/L	0.0050	03/11/20 17:13	
EPA 6020B	Barium	0.42	mg/L	0.010	03/11/20 17:13	
EPA 6020B	Lithium	0.050	mg/L	0.030	03/11/20 17:13	
EPA 300.0 Rev 2.1 1993	Fluoride	1.4	mg/L	0.30	03/10/20 16:40	

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-1
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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2629703014	**HGWC-8**					
	Field pH	7.06	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.052	mg/L	0.010	03/11/20 17:18	
EPA 6020B	Cadmium	0.00017J	mg/L	0.0025	03/11/20 17:18	
EPA 6020B	Chromium	0.00070J	mg/L	0.010	03/11/20 17:18	
EPA 6020B	Cobalt	0.0020J	mg/L	0.0050	03/11/20 17:18	
EPA 6020B	Lead	0.00013J	mg/L	0.0050	03/11/20 17:18	
EPA 6020B	Lithium	0.0028J	mg/L	0.030	03/11/20 17:18	
EPA 6020B	Molybdenum	0.44	mg/L	0.010	03/11/20 17:18	
EPA 6020B	Thallium	0.000061J	mg/L	0.0010	03/11/20 17:18	
EPA 300.0 Rev 2.1 1993	Fluoride	0.45	mg/L	0.30	03/10/20 17:22	
2629703015	**MW-30D**					
	Field pH	8.12	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	03/11/20 21:23	
EPA 6020B	Barium	0.065	mg/L	0.010	03/11/20 21:23	
EPA 6020B	Chromium	0.0013J	mg/L	0.010	03/11/20 21:23	B
EPA 6020B	Lead	0.00041J	mg/L	0.0050	03/11/20 21:23	
EPA 6020B	Lithium	0.18	mg/L	0.030	03/11/20 21:23	
EPA 6020B	Molybdenum	0.021	mg/L	0.010	03/11/20 21:23	
EPA 300.0 Rev 2.1 1993	Fluoride	9.4	mg/L	1.2	03/11/20 07:50	
2629703016	**HGWC-7**					
	Field pH	7.17	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.068	mg/L	0.010	03/11/20 21:28	
EPA 6020B	Beryllium	0.000077J	mg/L	0.0030	03/11/20 21:28	
EPA 6020B	Chromium	0.0016J	mg/L	0.010	03/11/20 21:28	B
EPA 6020B	Cobalt	0.0011J	mg/L	0.0050	03/11/20 21:28	
EPA 6020B	Lead	0.00051J	mg/L	0.0050	03/11/20 21:28	
EPA 6020B	Lithium	0.0034J	mg/L	0.030	03/11/20 21:28	
EPA 6020B	Molybdenum	0.045	mg/L	0.010	03/11/20 21:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.077J	mg/L	0.30	03/10/20 17:50	
2629703017	**MW-28D**					
	Field pH	7.55	Std. Units		03/16/20 16:27	
EPA 6020B	Barium	0.77	mg/L	0.010	03/12/20 20:06	M1
EPA 6020B	Beryllium	0.00014J	mg/L	0.0030	03/12/20 20:06	
EPA 6020B	Chromium	0.0027J	mg/L	0.010	03/12/20 20:06	
EPA 6020B	Cobalt	0.00093J	mg/L	0.0050	03/12/20 20:06	
EPA 6020B	Lead	0.0010J	mg/L	0.0050	03/12/20 20:06	
EPA 6020B	Lithium	0.015J	mg/L	0.030	03/12/20 20:06	
EPA 6020B	Molybdenum	0.0090J	mg/L	0.010	03/12/20 20:06	
EPA 6020B	Thallium	0.000092J	mg/L	0.0010	03/12/20 20:06	
EPA 300.0 Rev 2.1 1993	Fluoride	0.26J	mg/L	0.30	03/10/20 18:04	
2629703018	**MW-24D**					
	Field pH	7.47	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.0017J	mg/L	0.0030	03/12/20 20:28	B
EPA 6020B	Barium	0.081	mg/L	0.010	03/12/20 20:28	
EPA 6020B	Cobalt	0.00056J	mg/L	0.0050	03/12/20 20:28	

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2629703018	**MW-24D**					
EPA 6020B	Lead	0.00019J	mg/L	0.0050	03/12/20 20:28	
EPA 6020B	Lithium	0.0026J	mg/L	0.030	03/12/20 20:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.051J	mg/L	0.30	03/10/20 18:18	
2629703019	**FD-02**					
EPA 6020B	Antimony	0.00084J	mg/L	0.0030	03/12/20 20:34	B
EPA 6020B	Arsenic	0.49	mg/L	0.0050	03/12/20 20:34	
EPA 6020B	Barium	0.096	mg/L	0.010	03/12/20 20:34	
EPA 6020B	Beryllium	0.000086J	mg/L	0.0030	03/12/20 20:34	
EPA 6020B	Chromium	0.00045J	mg/L	0.010	03/12/20 20:34	
EPA 6020B	Cobalt	0.0063	mg/L	0.0050	03/12/20 20:34	
EPA 6020B	Lead	0.00012J	mg/L	0.0050	03/12/20 20:34	
EPA 6020B	Lithium	0.039	mg/L	0.030	03/12/20 20:34	
EPA 6020B	Molybdenum	0.029	mg/L	0.010	03/12/20 20:34	
EPA 6020B	Thallium	0.00053J	mg/L	0.0010	03/12/20 20:34	
EPA 300.0 Rev 2.1 1993	Fluoride	0.37	mg/L	0.30	03/10/20 19:14	
2629703020	**HGWC-13**					
	Field pH	7.16	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.00061J	mg/L	0.0030	03/12/20 20:40	B
EPA 6020B	Arsenic	0.52	mg/L	0.0050	03/12/20 20:40	
EPA 6020B	Barium	0.10	mg/L	0.010	03/12/20 20:40	
EPA 6020B	Beryllium	0.000093J	mg/L	0.0030	03/12/20 20:40	
EPA 6020B	Cobalt	0.0066	mg/L	0.0050	03/12/20 20:40	
EPA 6020B	Lead	0.00014J	mg/L	0.0050	03/12/20 20:40	
EPA 6020B	Lithium	0.041	mg/L	0.030	03/12/20 20:40	
EPA 6020B	Molybdenum	0.030	mg/L	0.010	03/12/20 20:40	
EPA 6020B	Thallium	0.00056J	mg/L	0.0010	03/12/20 20:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.37	mg/L	0.30	03/10/20 19:28	
2629703021	**MW-19**					
	Field pH	6.29	Std. Units		03/16/20 16:27	
EPA 6020B	Arsenic	0.00045J	mg/L	0.0050	03/12/20 20:46	
EPA 6020B	Barium	0.069	mg/L	0.010	03/12/20 20:46	
EPA 6020B	Cadmium	0.00026J	mg/L	0.0025	03/12/20 20:46	
EPA 6020B	Chromium	0.00066J	mg/L	0.010	03/12/20 20:46	
EPA 6020B	Cobalt	0.048	mg/L	0.0050	03/12/20 20:46	
EPA 6020B	Lead	0.00011J	mg/L	0.0050	03/12/20 20:46	
EPA 6020B	Lithium	0.010J	mg/L	0.030	03/12/20 20:46	
EPA 6020B	Molybdenum	0.032	mg/L	0.010	03/12/20 20:46	
EPA 6020B	Selenium	0.0044J	mg/L	0.010	03/12/20 20:46	
EPA 6020B	Thallium	0.00026J	mg/L	0.0010	03/12/20 20:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.096J	mg/L	0.30	03/10/20 19:42	
2629703022	**HGWC-9**					
	Field pH	6.97	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.00032J	mg/L	0.0030	03/12/20 21:03	B
EPA 6020B	Barium	0.11	mg/L	0.010	03/12/20 21:03	
EPA 6020B	Cobalt	0.00053J	mg/L	0.0050	03/12/20 21:03	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2629703022	**HGWC-9**					
EPA 6020B	Lead	0.000084J	mg/L	0.0050	03/12/20 21:03	
EPA 6020B	Lithium	0.0040J	mg/L	0.030	03/12/20 21:03	
EPA 6020B	Molybdenum	0.031	mg/L	0.010	03/12/20 21:03	
EPA 300.0 Rev 2.1 1993	Fluoride	0.080J	mg/L	0.30	03/10/20 19:56	
2629703023	**MW-26D**					
	Field pH	7.14	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.0020J	mg/L	0.0030	03/12/20 21:09	B
EPA 6020B	Arsenic	0.00060J	mg/L	0.0050	03/12/20 21:09	
EPA 6020B	Barium	0.17	mg/L	0.010	03/12/20 21:09	
EPA 6020B	Chromium	0.0028J	mg/L	0.010	03/12/20 21:09	
EPA 6020B	Lithium	0.030J	mg/L	0.030	03/12/20 21:09	
EPA 6020B	Molybdenum	0.0074J	mg/L	0.010	03/12/20 21:09	
EPA 300.0 Rev 2.1 1993	Fluoride	0.052J	mg/L	0.30	03/10/20 20:10	
2629703024	**MW-27D**					
	Field pH	8.33	Std. Units		03/16/20 16:27	
EPA 6020B	Antimony	0.00037J	mg/L	0.0030	03/12/20 21:14	B
EPA 6020B	Arsenic	0.00069J	mg/L	0.0050	03/12/20 21:14	
EPA 6020B	Barium	0.95	mg/L	0.010	03/12/20 21:14	
EPA 6020B	Cobalt	0.00045J	mg/L	0.0050	03/12/20 21:14	
EPA 6020B	Lithium	0.0047J	mg/L	0.030	03/12/20 21:14	
EPA 6020B	Molybdenum	0.0058J	mg/L	0.010	03/12/20 21:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.25J	mg/L	0.30	03/10/20 20:52	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-20 **Lab ID: 2629703001** Collected: 03/02/20 16:19 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.98**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 19:33	7440-36-0	
Arsenic	**0.00038J**	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:33	7440-38-2	
Barium	**0.099**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:33	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:33	7440-43-9	
Chromium	**0.00071J**	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:33	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:33	7440-48-4	
Lead	**0.00017J**	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:33	7439-92-1	
Lithium	**0.00082J**	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/04/20 15:00	03/05/20 15:57	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/10/20 13:43	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: FB-01 **Lab ID: 2629703002** Collected: 03/02/20 17:10 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 19:38	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:38	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:38	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:38	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:38	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:38	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:38	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:38	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:38	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:38	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/04/20 15:00	03/05/20 15:59	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/10/20 13:57	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-29 **Lab ID: 2629703003** Collected: 03/02/20 17:35 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.13**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 19:56	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:56	7440-38-2	
Barium	**0.088**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:56	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:56	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:56	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:56	7440-47-3	
Cobalt	**0.00067J**	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:56	7440-48-4	
Lead	**0.000090J**	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:56	7439-92-1	
Lithium	**0.0025J**	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:56	7439-93-2	
Molybdenum	**0.0025J**	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:56	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/04/20 15:00	03/05/20 16:02	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/10/20 14:11	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-5 **Lab ID: 2629703004** Collected: 03/02/20 16:21 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.12**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 20:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 20:01	7440-38-2	
Barium	**0.049**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 20:01	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 20:01	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 20:01	7440-43-9	
Chromium	**0.0042J**	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 20:01	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 20:01	7440-48-4	
Lead	**0.000047J**	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 20:01	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 20:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 20:01	7439-98-7	
Selenium	**0.0041J**	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 20:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 20:01	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:10	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.065J**	mg/L	0.30	0.050	1		03/10/20 14:25	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWA-1 **Lab ID: 2629714001** Collected: 03/02/20 11:39 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.10**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 20:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 20:07	7440-38-2	
Barium	**0.034**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 20:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 20:07	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 20:07	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 20:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 20:07	7440-48-4	
Lead	**0.000048J**	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 20:07	7439-92-1	
Lithium	**0.0012J**	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 20:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 20:07	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 20:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 20:07	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:19	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.076J**	mg/L	0.30	0.050	1		03/10/20 15:07	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWA-2 **Lab ID: 2629714002** Collected: 03/02/20 11:10 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**5.43**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 20:13	7440-36-0	
Arsenic	**0.00043J**	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 20:13	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 20:13	7440-39-3	
Beryllium	**0.00014J**	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 20:13	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 20:13	7440-43-9	
Chromium	**0.00041J**	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 20:13	7440-47-3	
Cobalt	**0.019**	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 20:13	7440-48-4	
Lead	**0.000095J**	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 20:13	7439-92-1	
Lithium	**0.0017J**	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 20:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 20:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 20:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 20:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:22	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/10/20 15:21	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWA-3 **Lab ID: 2629714003** Collected: 03/02/20 13:15 Received: 03/03/20 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.12**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/05/20 22:19	03/10/20 20:18	7440-36-0	
Arsenic	**0.00040J**	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 20:18	7440-38-2	
Barium	**0.14**	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 20:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 20:18	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 20:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 20:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 20:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 20:18	7439-92-1	
Lithium	**0.0037J**	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 20:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 20:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 20:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 20:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:39	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/10/20 15:35	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-6 **Lab ID: 2629703008** Collected: 03/03/20 10:12 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.78**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 16:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 16:05	7440-38-2	
Barium	**0.090**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 16:05	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 16:05	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 16:05	7440-43-9	
Chromium	**0.00044J**	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 16:05	7440-47-3	
Cobalt	**0.00094J**	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 16:05	7440-48-4	
Lead	**0.00013J**	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 16:05	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 16:05	7439-93-2	
Molybdenum	**0.0022J**	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 16:05	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 16:05	7782-49-2	
Thallium	**0.000082J**	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 16:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:42	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.062J**	mg/L	0.30	0.050	1		03/11/20 01:44	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-7 **Lab ID: 2629703009** Collected: 03/03/20 13:10 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.10**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.0013J**	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 16:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 16:28	7440-38-2	
Barium	**0.043**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 16:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 16:28	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 16:28	7440-43-9	
Chromium	**0.0015J**	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 16:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 16:28	7440-48-4	
Lead	**0.000062J**	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 16:28	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 16:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 16:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 16:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 16:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:44	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	ND	mg/L	0.30	0.050	1		03/11/20 01:59	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-10 **Lab ID: 2629703010** Collected: 03/03/20 13:20 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.67**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 16:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 16:34	7440-38-2	
Barium	**0.048**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 16:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 16:34	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 16:34	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 16:34	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 16:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 16:34	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 16:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 16:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 16:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 16:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:47	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.11J**	mg/L	0.30	0.050	1		03/11/20 02:13	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-11 **Lab ID: 2629703011** Collected: 03/03/20 13:30 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**5.95**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 16:40	7440-36-0	
Arsenic	**0.0022J**	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 16:40	7440-38-2	
Barium	**0.022**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 16:40	7440-39-3	
Beryllium	**0.00012J**	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 16:40	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 16:40	7440-43-9	
Chromium	**0.00061J**	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 16:40	7440-47-3	
Cobalt	**0.00087J**	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 16:40	7440-48-4	
Lead	**0.00021J**	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 16:40	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 16:40	7439-93-2	
Molybdenum	**0.011**	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 16:40	7439-98-7	
Selenium	**0.016**	mg/L	0.010	0.0013	1	03/10/20 14:34	03/12/20 16:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 16:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:49	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.24J**	mg/L	0.30	0.050	1		03/11/20 02:57	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-12 **Lab ID: 2629703012** Collected: 03/03/20 14:15 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.95**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 16:45	7440-36-0	
Arsenic	**0.0023J**	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 16:45	7440-38-2	
Barium	**0.092**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 16:45	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 16:45	7440-41-7	
Cadmium	**0.00015J**	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 16:45	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 16:45	7440-47-3	
Cobalt	**0.0013J**	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 16:45	7440-48-4	
Lead	**0.000056J**	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 16:45	7439-92-1	
Lithium	**0.0063J**	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 16:45	7439-93-2	
Molybdenum	**0.045**	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 16:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 16:45	7782-49-2	
Thallium	**0.000066J**	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 16:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:51	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.21J**	mg/L	0.30	0.050	1		03/11/20 03:12	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-25D **Lab ID: 2629703013** Collected: 03/03/20 15:15 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.59**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 17:13	7440-36-0	
Arsenic	**0.0010J**	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:13	7440-38-2	
Barium	**0.42**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:13	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:13	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:13	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:13	7439-92-1	
Lithium	**0.050**	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:54	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**1.4**	mg/L	0.30	0.050	1		03/10/20 16:40	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-8 **Lab ID: 2629703014** Collected: 03/03/20 16:46 Received: 03/04/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.06**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 14:34	03/11/20 17:18	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:18	7440-38-2	
Barium	**0.052**	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:18	7440-41-7	
Cadmium	**0.00017J**	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:18	7440-43-9	
Chromium	**0.00070J**	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:18	7440-47-3	
Cobalt	**0.0020J**	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:18	7440-48-4	
Lead	**0.00013J**	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:18	7439-92-1	
Lithium	**0.0028J**	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:18	7439-93-2	
Molybdenum	**0.44**	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:18	7782-49-2	
Thallium	**0.000061J**	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 17:56	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.45**	mg/L	0.30	0.050	1		03/10/20 17:22	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-30D **Lab ID: 2629703015** Collected: 03/04/20 14:15 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**8.12**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 20:52	03/11/20 21:23	7440-36-0	
Arsenic	**0.0021J**	mg/L	0.0050	0.00035	1	03/10/20 20:52	03/11/20 21:23	7440-38-2	
Barium	**0.065**	mg/L	0.010	0.00049	1	03/10/20 20:52	03/11/20 21:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 20:52	03/11/20 21:23	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 20:52	03/11/20 21:23	7440-43-9	
Chromium	**0.0013J**	mg/L	0.010	0.00039	1	03/10/20 20:52	03/11/20 21:23	7440-47-3	B
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 20:52	03/11/20 21:23	7440-48-4	
Lead	**0.00041J**	mg/L	0.0050	0.000046	1	03/10/20 20:52	03/11/20 21:23	7439-92-1	
Lithium	**0.18**	mg/L	0.030	0.00078	1	03/10/20 20:52	03/11/20 21:23	7439-93-2	
Molybdenum	**0.021**	mg/L	0.010	0.00095	1	03/10/20 20:52	03/11/20 21:23	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 20:52	03/11/20 21:23	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 20:52	03/11/20 21:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 19:17	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**9.4**	mg/L	1.2	0.20	4		03/11/20 07:50	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-7 **Lab ID: 2629703016** Collected: 03/04/20 11:50 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.17**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/10/20 20:52	03/11/20 21:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 20:52	03/11/20 21:28	7440-38-2	
Barium	**0.068**	mg/L	0.010	0.00049	1	03/10/20 20:52	03/11/20 21:28	7440-39-3	
Beryllium	**0.000077J**	mg/L	0.0030	0.000074	1	03/10/20 20:52	03/11/20 21:28	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 20:52	03/11/20 21:28	7440-43-9	
Chromium	**0.0016J**	mg/L	0.010	0.00039	1	03/10/20 20:52	03/11/20 21:28	7440-47-3	B
Cobalt	**0.0011J**	mg/L	0.0050	0.00030	1	03/10/20 20:52	03/11/20 21:28	7440-48-4	
Lead	**0.00051J**	mg/L	0.0050	0.000046	1	03/10/20 20:52	03/11/20 21:28	7439-92-1	
Lithium	**0.0034J**	mg/L	0.030	0.00078	1	03/10/20 20:52	03/11/20 21:28	7439-93-2	
Molybdenum	**0.045**	mg/L	0.010	0.00095	1	03/10/20 20:52	03/11/20 21:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 20:52	03/11/20 21:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 20:52	03/11/20 21:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 19:19	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.077J**	mg/L	0.30	0.050	1		03/10/20 17:50	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-28D **Lab ID: 2629703017** Collected: 03/04/20 10:05 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.55**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 20:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 20:06	7440-38-2	
Barium	**0.77**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 20:06	7440-39-3	M1
Beryllium	**0.00014J**	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 20:06	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 20:06	7440-43-9	
Chromium	**0.0027J**	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 20:06	7440-47-3	
Cobalt	**0.00093J**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 20:06	7440-48-4	
Lead	**0.0010J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 20:06	7439-92-1	
Lithium	**0.015J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 20:06	7439-93-2	
Molybdenum	**0.0090J**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 20:06	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 20:06	7782-49-2	
Thallium	**0.000092J**	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 20:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 19:22	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.26J**	mg/L	0.30	0.050	1		03/10/20 18:04	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-24D **Lab ID: 2629703018** Collected: 03/04/20 12:27 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.47**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.0017J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 20:28	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 20:28	7440-38-2	
Barium	**0.081**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 20:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 20:28	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 20:28	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 20:28	7440-47-3	
Cobalt	**0.00056J**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 20:28	7440-48-4	
Lead	**0.00019J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 20:28	7439-92-1	
Lithium	**0.0026J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 20:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 20:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 20:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 20:28	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 19:24	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.051J**	mg/L	0.30	0.050	1		03/10/20 18:18	16984-48-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: FD-02 **Lab ID: 2629703019** Collected: 03/04/20 12:00 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.00084J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 20:34	7440-36-0	B
Arsenic	**0.49**	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 20:34	7440-38-2	
Barium	**0.096**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 20:34	7440-39-3	
Beryllium	**0.000086J**	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 20:34	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 20:34	7440-43-9	
Chromium	**0.00045J**	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 20:34	7440-47-3	
Cobalt	**0.0063**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 20:34	7440-48-4	
Lead	**0.00012J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 20:34	7439-92-1	
Lithium	**0.039**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 20:34	7439-93-2	
Molybdenum	**0.029**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 20:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 20:34	7782-49-2	
Thallium	**0.00053J**	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 20:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/10/20 08:40	03/10/20 19:26	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.37**	mg/L	0.30	0.050	1		03/10/20 19:14	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-13 **Lab ID: 2629703020** Collected: 03/04/20 13:25 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.16**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.00061J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 20:40	7440-36-0	B
Arsenic	**0.52**	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 20:40	7440-38-2	
Barium	**0.10**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 20:40	7440-39-3	
Beryllium	**0.000093J**	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 20:40	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 20:40	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 20:40	7440-47-3	
Cobalt	**0.0066**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 20:40	7440-48-4	
Lead	**0.00014J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 20:40	7439-92-1	
Lithium	**0.041**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 20:40	7439-93-2	
Molybdenum	**0.030**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 20:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 20:40	7782-49-2	
Thallium	**0.00056J**	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 20:40	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/11/20 09:30	03/12/20 18:20	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.37**	mg/L	0.30	0.050	1		03/10/20 19:28	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-19 **Lab ID: 2629703021** Collected: 03/04/20 17:55 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.29**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 20:46	7440-36-0	
Arsenic	**0.00045J**	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 20:46	7440-38-2	
Barium	**0.069**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 20:46	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 20:46	7440-41-7	
Cadmium	**0.00026J**	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 20:46	7440-43-9	
Chromium	**0.00066J**	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 20:46	7440-47-3	
Cobalt	**0.048**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 20:46	7440-48-4	
Lead	**0.00011J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 20:46	7439-92-1	
Lithium	**0.010J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 20:46	7439-93-2	
Molybdenum	**0.032**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 20:46	7439-98-7	
Selenium	**0.0044J**	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 20:46	7782-49-2	
Thallium	**0.00026J**	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 20:46	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/11/20 09:30	03/12/20 18:34	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.096J**	mg/L	0.30	0.050	1		03/10/20 19:42	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: HGWC-9 **Lab ID: 2629703022** Collected: 03/04/20 10:26 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**6.97**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.00032J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 21:03	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 21:03	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 21:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 21:03	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 21:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 21:03	7440-47-3	
Cobalt	**0.00053J**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 21:03	7440-48-4	
Lead	**0.000084J**	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 21:03	7439-92-1	
Lithium	**0.0040J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 21:03	7439-93-2	
Molybdenum	**0.031**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 21:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 21:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 21:03	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/11/20 09:30	03/12/20 18:37	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.080J**	mg/L	0.30	0.050	1		03/10/20 19:56	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-26D **Lab ID: 2629703023** Collected: 03/04/20 13:41 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**7.14**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.0020J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 21:09	7440-36-0	B
Arsenic	**0.00060J**	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 21:09	7440-38-2	
Barium	**0.17**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 21:09	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 21:09	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 21:09	7440-43-9	
Chromium	**0.0028J**	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 21:09	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 21:09	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 21:09	7439-92-1	
Lithium	**0.030J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 21:09	7439-93-2	
Molybdenum	**0.0074J**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 21:09	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 21:09	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 21:09	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/11/20 09:30	03/12/20 18:39	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.052J**	mg/L	0.30	0.050	1		03/10/20 20:10	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Sample: MW-27D **Lab ID: 2629703024** Collected: 03/04/20 16:27 Received: 03/05/20 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method:								
Field pH	**8.33**	Std. Units			1		03/16/20 16:27		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	**0.00037J**	mg/L	0.0030	0.00027	1	03/11/20 19:35	03/12/20 21:14	7440-36-0	B
Arsenic	**0.00069J**	mg/L	0.0050	0.00035	1	03/11/20 19:35	03/12/20 21:14	7440-38-2	
Barium	**0.95**	mg/L	0.010	0.00049	1	03/11/20 19:35	03/12/20 21:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/11/20 19:35	03/12/20 21:14	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/11/20 19:35	03/12/20 21:14	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/11/20 19:35	03/12/20 21:14	7440-47-3	
Cobalt	**0.00045J**	mg/L	0.0050	0.00030	1	03/11/20 19:35	03/12/20 21:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/11/20 19:35	03/12/20 21:14	7439-92-1	
Lithium	**0.0047J**	mg/L	0.030	0.00078	1	03/11/20 19:35	03/12/20 21:14	7439-93-2	
Molybdenum	**0.0058J**	mg/L	0.010	0.00095	1	03/11/20 19:35	03/12/20 21:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/11/20 19:35	03/12/20 21:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/11/20 19:35	03/12/20 21:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/11/20 09:30	03/12/20 18:41	7439-97-6	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	**0.25J**	mg/L	0.30	0.050	1		03/10/20 20:52	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44210 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2629703001, 2629703002, 2629703003

METHOD BLANK: 202602 Matrix: Water
Associated Lab Samples: 2629703001, 2629703002, 2629703003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	03/05/20 14:53	

LABORATORY CONTROL SAMPLE: 202603

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 202604 202605

Parameter	Units	2629719006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0026	0.0026	106	106	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44366 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703013, 2629703014, 2629714001, 2629714002, 2629714003

METHOD BLANK: 203475 Matrix: Water
Associated Lab Samples: 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703013, 2629703014, 2629714001, 2629714002, 2629714003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	03/10/20 17:03	

LABORATORY CONTROL SAMPLE: 203476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203477 203478

Parameter	Units	2629703004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0024	96	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44367 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2629703015, 2629703016, 2629703017, 2629703018, 2629703019

METHOD BLANK: 203479 Matrix: Water
Associated Lab Samples: 2629703015, 2629703016, 2629703017, 2629703018, 2629703019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	03/10/20 18:17	

LABORATORY CONTROL SAMPLE: 203480

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203481 203482

Parameter	Units	2629786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0025	98	101	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44416 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

METHOD BLANK: 203797 Matrix: Water
Associated Lab Samples: 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	03/12/20 18:15	

LABORATORY CONTROL SAMPLE: 203798

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203799 203800

Parameter	Units	2629703020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0025	97	102	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44279 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629714001, 2629714002, 2629714003

METHOD BLANK: 202988 Matrix: Water
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629714001, 2629714002, 2629714003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00029J	0.0030	0.00027	03/10/20 17:38	
Arsenic	mg/L	ND	0.0050	0.00035	03/10/20 17:38	
Barium	mg/L	ND	0.010	0.00049	03/10/20 17:38	
Beryllium	mg/L	ND	0.0030	0.000074	03/10/20 17:38	
Cadmium	mg/L	ND	0.0025	0.00011	03/10/20 17:38	
Chromium	mg/L	ND	0.010	0.00039	03/10/20 17:38	
Cobalt	mg/L	ND	0.0050	0.00030	03/10/20 17:38	
Lead	mg/L	ND	0.0050	0.000046	03/10/20 17:38	
Lithium	mg/L	ND	0.030	0.00078	03/10/20 17:38	
Molybdenum	mg/L	ND	0.010	0.00095	03/10/20 17:38	
Selenium	mg/L	ND	0.010	0.0013	03/10/20 17:38	
Thallium	mg/L	ND	0.0010	0.000052	03/10/20 17:38	

LABORATORY CONTROL SAMPLE: 202989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	109	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.11	105	80-120	
Cadmium	mg/L	0.1	0.10	102	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	104	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.10	101	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 202990 202991

Parameter	Units	2629679001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	107	111	75-125	3	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.10	99	101	75-125	2	20	
Barium	mg/L	0.035	0.1	0.1	0.14	0.15	109	110	75-125	1	20	
Beryllium	mg/L	0.000096J	0.1	0.1	0.10	0.11	104	105	75-125	2	20	
Cadmium	mg/L	0.00041J	0.1	0.1	0.10	0.11	102	105	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 202990 202991

Parameter	Units	2629679001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	mg/L	0.0013J	0.1	0.1	0.11	0.11	107	108	75-125	2	20	
Cobalt	mg/L	0.00037J	0.1	0.1	0.11	0.11	105	106	75-125	1	20	
Lead	mg/L	0.000074J	0.1	0.1	0.098	0.10	98	101	75-125	3	20	
Lithium	mg/L	ND	0.1	0.1	0.11	0.11	105	106	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.11	103	105	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.10	95	103	75-125	8	20	
Thallium	mg/L	0.000078J	0.1	0.1	0.10	0.10	100	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44398 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703013, 2629703014

METHOD BLANK: 203664 Matrix: Water
Associated Lab Samples: 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703013, 2629703014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	03/11/20 15:54	
Arsenic	mg/L	ND	0.0050	0.00035	03/11/20 15:54	
Barium	mg/L	ND	0.010	0.00049	03/11/20 15:54	
Beryllium	mg/L	ND	0.0030	0.000074	03/11/20 15:54	
Cadmium	mg/L	ND	0.0025	0.00011	03/11/20 15:54	
Chromium	mg/L	ND	0.010	0.00039	03/11/20 15:54	
Cobalt	mg/L	ND	0.0050	0.00030	03/11/20 15:54	
Lead	mg/L	ND	0.0050	0.000046	03/11/20 15:54	
Lithium	mg/L	ND	0.030	0.00078	03/11/20 15:54	
Molybdenum	mg/L	ND	0.010	0.00095	03/11/20 15:54	
Selenium	mg/L	ND	0.010	0.0013	03/11/20 15:54	
Thallium	mg/L	ND	0.0010	0.000052	03/11/20 15:54	

LABORATORY CONTROL SAMPLE: 203665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	110	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	103	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Cadmium	mg/L	0.1	0.10	102	80-120	
Chromium	mg/L	0.1	0.11	105	80-120	
Cobalt	mg/L	0.1	0.10	104	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.10	105	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.11	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203666 203667

Parameter	Units	2629703008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	107	109	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	
Barium	mg/L	0.090	0.1	0.1	0.19	0.19	98	98	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.099	0.10	99	101	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203666 203667

Parameter	Units	2629703008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	mg/L	0.00044J	0.1	0.1	0.11	0.11	107	108	75-125	0	20	
Cobalt	mg/L	0.00094J	0.1	0.1	0.10	0.10	102	104	75-125	2	20	
Lead	mg/L	0.00013J	0.1	0.1	0.095	0.096	95	96	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	0	20	
Molybdenum	mg/L	0.0022J	0.1	0.1	0.10	0.10	99	102	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.11	100	105	75-125	5	20	
Thallium	mg/L	0.000082J	0.1	0.1	0.10	0.10	101	101	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44440 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2629703015, 2629703016

METHOD BLANK: 203914 Matrix: Water
Associated Lab Samples: 2629703015, 2629703016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	03/11/20 18:48	
Arsenic	mg/L	ND	0.0050	0.00035	03/11/20 18:48	
Barium	mg/L	ND	0.010	0.00049	03/11/20 18:48	
Beryllium	mg/L	ND	0.0030	0.000074	03/11/20 18:48	
Cadmium	mg/L	ND	0.0025	0.00011	03/11/20 18:48	
Chromium	mg/L	0.00054J	0.010	0.00039	03/11/20 18:48	
Cobalt	mg/L	ND	0.0050	0.00030	03/11/20 18:48	
Lead	mg/L	ND	0.0050	0.000046	03/11/20 18:48	
Lithium	mg/L	ND	0.030	0.00078	03/11/20 18:48	
Molybdenum	mg/L	ND	0.010	0.00095	03/11/20 18:48	
Selenium	mg/L	ND	0.010	0.0013	03/11/20 18:48	
Thallium	mg/L	ND	0.0010	0.000052	03/11/20 18:48	

LABORATORY CONTROL SAMPLE: 203915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	112	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.10	103	80-120	
Beryllium	mg/L	0.1	0.10	103	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Chromium	mg/L	0.1	0.11	105	80-120	
Cobalt	mg/L	0.1	0.10	103	80-120	
Lead	mg/L	0.1	0.10	104	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.11	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203916 203917

Parameter	Units	2629786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	107	107	75-125	0	20	
Arsenic	mg/L	0.00073J	0.1	0.1	0.099	0.099	99	98	75-125	1	20	
Barium	mg/L	0.017	0.1	0.1	0.12	0.12	100	100	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	101	104	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 203916 203917

Parameter	Units	2629786001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	103	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	2	20	
Lead	mg/L	0.000051J	0.1	0.1	0.096	0.096	96	96	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	104	105	75-125	0	20	
Molybdenum	mg/L	0.0064J	0.1	0.1	0.10	0.10	95	96	75-125	2	20	
Selenium	mg/L	0.0053J	0.1	0.1	0.10	0.11	98	104	75-125	6	20	
Thallium	mg/L	0.00012J	0.1	0.1	0.10	0.10	103	104	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 44486 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

METHOD BLANK: 204134 Matrix: Water
Associated Lab Samples: 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00041J	0.0030	0.00027	03/12/20 19:54	
Arsenic	mg/L	ND	0.0050	0.00035	03/12/20 19:54	
Barium	mg/L	ND	0.010	0.00049	03/12/20 19:54	
Beryllium	mg/L	ND	0.0030	0.000074	03/12/20 19:54	
Cadmium	mg/L	ND	0.0025	0.00011	03/12/20 19:54	
Chromium	mg/L	ND	0.010	0.00039	03/12/20 19:54	
Cobalt	mg/L	ND	0.0050	0.00030	03/12/20 19:54	
Lead	mg/L	ND	0.0050	0.000046	03/12/20 19:54	
Lithium	mg/L	ND	0.030	0.00078	03/12/20 19:54	
Molybdenum	mg/L	ND	0.010	0.00095	03/12/20 19:54	
Selenium	mg/L	ND	0.010	0.0013	03/12/20 19:54	
Thallium	mg/L	ND	0.0010	0.000052	03/12/20 19:54	

LABORATORY CONTROL SAMPLE: 204135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	108	80-120	
Arsenic	mg/L	0.1	0.10	101	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Cadmium	mg/L	0.1	0.10	103	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	102	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.11	105	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 204136 204137

Parameter	Units	2629703017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	109	110	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	
Barium	mg/L	0.77	0.1	0.1	0.88	0.91	104	136	75-125	4	20	M1
Beryllium	mg/L	0.00014J	0.1	0.1	0.094	0.095	94	95	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.11	0.11	107	105	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 204136 204137

Parameter	Units	2629703017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	mg/L	0.0027J	0.1	0.1	0.11	0.11	106	103	75-125	3	20	
Cobalt	mg/L	0.00093J	0.1	0.1	0.10	0.10	102	104	75-125	2	20	
Lead	mg/L	0.0010J	0.1	0.1	0.099	0.10	98	99	75-125	1	20	
Lithium	mg/L	0.015J	0.1	0.1	0.11	0.11	94	96	75-125	2	20	
Molybdenum	mg/L	0.0090J	0.1	0.1	0.11	0.12	105	106	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.079	0.078	79	77	75-125	2	20	
Thallium	mg/L	0.000092J	0.1	0.1	0.099	0.10	99	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 529175 Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629714001, 2629714002, 2629714003

METHOD BLANK: 2826400 Matrix: Water
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629714001, 2629714002, 2629714003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/10/20 12:19	

LABORATORY CONTROL SAMPLE: 2826401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826402 2826403

Parameter	Units	92468470002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	96	99	90-110	3	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826404 2826405

Parameter	Units	2629679002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.5	2.7	99	108	90-110	8	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 529177 Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2629703008, 2629703009, 2629703010, 2629703011, 2629703012

METHOD BLANK: 2826406 Matrix: Water
Associated Lab Samples: 2629703008, 2629703009, 2629703010, 2629703011, 2629703012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/10/20 19:28	

LABORATORY CONTROL SAMPLE: 2826407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826408 2826409

Parameter	Units	92468412012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	3.0	2.9	119	114	90-110	4	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826410 2826411

Parameter	Units	2629734005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	103	105	90-110	2	10	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

QC Batch: 529390 Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2629703013, 2629703014, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

METHOD BLANK: 2827590 Matrix: Water
Associated Lab Samples: 2629703013, 2629703014, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/10/20 16:12	

LABORATORY CONTROL SAMPLE: 2827591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2827592 2827593

Parameter	Units	2629703013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	1.4	2.5	2.5	4.0	4.0	101	102	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2827594 2827595

Parameter	Units	2629703023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.052J	2.5	2.5	2.6	2.6	103	103	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2629703001	**MW-20**				
2629703003	**MW-29**				
2629703004	**MW-5**				
2629714001	**HGWA-1**				
2629714002	**HGWA-2**				
2629714003	**HGWA-3**				
2629703008	**MW-6**				
2629703009	**MW-7**				
2629703010	**HGWC-10**				
2629703011	**HGWC-11**				
2629703012	**HGWC-12**				
2629703013	**MW-25D**				
2629703014	**HGWC-8**				
2629703015	**MW-30D**				
2629703016	**HGWC-7**				
2629703017	**MW-28D**				
2629703018	**MW-24D**				
2629703020	**HGWC-13**				
2629703021	**MW-19**				
2629703022	**HGWC-9**				
2629703023	**MW-26D**				
2629703024	**MW-27D**				
2629703001	**MW-20**	EPA 3005A	44279	EPA 6020B	44313
2629703002	**FB-01**	EPA 3005A	44279	EPA 6020B	44313
2629703003	**MW-29**	EPA 3005A	44279	EPA 6020B	44313
2629703004	**MW-5**	EPA 3005A	44279	EPA 6020B	44313
2629714001	**HGWA-1**	EPA 3005A	44279	EPA 6020B	44313
2629714002	**HGWA-2**	EPA 3005A	44279	EPA 6020B	44313
2629714003	**HGWA-3**	EPA 3005A	44279	EPA 6020B	44313
2629703008	**MW-6**	EPA 3005A	44398	EPA 6020B	44434
2629703009	**MW-7**	EPA 3005A	44398	EPA 6020B	44434
2629703010	**HGWC-10**	EPA 3005A	44398	EPA 6020B	44434
2629703011	**HGWC-11**	EPA 3005A	44398	EPA 6020B	44434
2629703012	**HGWC-12**	EPA 3005A	44398	EPA 6020B	44434
2629703013	**MW-25D**	EPA 3005A	44398	EPA 6020B	44434
2629703014	**HGWC-8**	EPA 3005A	44398	EPA 6020B	44434
2629703015	**MW-30D**	EPA 3005A	44440	EPA 6020B	44463
2629703016	**HGWC-7**	EPA 3005A	44440	EPA 6020B	44463
2629703017	**MW-28D**	EPA 3005A	44486	EPA 6020B	44510
2629703018	**MW-24D**	EPA 3005A	44486	EPA 6020B	44510
2629703019	**FD-02**	EPA 3005A	44486	EPA 6020B	44510
2629703020	**HGWC-13**	EPA 3005A	44486	EPA 6020B	44510
2629703021	**MW-19**	EPA 3005A	44486	EPA 6020B	44510
2629703022	**HGWC-9**	EPA 3005A	44486	EPA 6020B	44510
2629703023	**MW-26D**	EPA 3005A	44486	EPA 6020B	44510
2629703024	**MW-27D**	EPA 3005A	44486	EPA 6020B	44510

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2629703001	**MW-20**	EPA 7470A	44210	EPA 7470A	44266
2629703002	**FB-01**	EPA 7470A	44210	EPA 7470A	44266
2629703003	**MW-29**	EPA 7470A	44210	EPA 7470A	44266
2629703004	**MW-5**	EPA 7470A	44366	EPA 7470A	44419
2629714001	**HGWA-1**	EPA 7470A	44366	EPA 7470A	44419
2629714002	**HGWA-2**	EPA 7470A	44366	EPA 7470A	44419
2629714003	**HGWA-3**	EPA 7470A	44366	EPA 7470A	44419
2629703008	**MW-6**	EPA 7470A	44366	EPA 7470A	44419
2629703009	**MW-7**	EPA 7470A	44366	EPA 7470A	44419
2629703010	**HGWC-10**	EPA 7470A	44366	EPA 7470A	44419
2629703011	**HGWC-11**	EPA 7470A	44366	EPA 7470A	44419
2629703012	**HGWC-12**	EPA 7470A	44366	EPA 7470A	44419
2629703013	**MW-25D**	EPA 7470A	44366	EPA 7470A	44419
2629703014	**HGWC-8**	EPA 7470A	44366	EPA 7470A	44419
2629703015	**MW-30D**	EPA 7470A	44367	EPA 7470A	44420
2629703016	**HGWC-7**	EPA 7470A	44367	EPA 7470A	44420
2629703017	**MW-28D**	EPA 7470A	44367	EPA 7470A	44420
2629703018	**MW-24D**	EPA 7470A	44367	EPA 7470A	44420
2629703019	**FD-02**	EPA 7470A	44367	EPA 7470A	44420
2629703020	**HGWC-13**	EPA 7470A	44416	EPA 7470A	44475
2629703021	**MW-19**	EPA 7470A	44416	EPA 7470A	44475
2629703022	**HGWC-9**	EPA 7470A	44416	EPA 7470A	44475
2629703023	**MW-26D**	EPA 7470A	44416	EPA 7470A	44475
2629703024	**MW-27D**	EPA 7470A	44416	EPA 7470A	44475
2629703001	**MW-20**	EPA 300.0 Rev 2.1 1993	529175		
2629703002	**FB-01**	EPA 300.0 Rev 2.1 1993	529175		
2629703003	**MW-29**	EPA 300.0 Rev 2.1 1993	529175		
2629703004	**MW-5**	EPA 300.0 Rev 2.1 1993	529175		
2629714001	**HGWA-1**	EPA 300.0 Rev 2.1 1993	529175		
2629714002	**HGWA-2**	EPA 300.0 Rev 2.1 1993	529175		
2629714003	**HGWA-3**	EPA 300.0 Rev 2.1 1993	529175		
2629703008	**MW-6**	EPA 300.0 Rev 2.1 1993	529177		
2629703009	**MW-7**	EPA 300.0 Rev 2.1 1993	529177		
2629703010	**HGWC-10**	EPA 300.0 Rev 2.1 1993	529177		
2629703011	**HGWC-11**	EPA 300.0 Rev 2.1 1993	529177		
2629703012	**HGWC-12**	EPA 300.0 Rev 2.1 1993	529177		
2629703013	**MW-25D**	EPA 300.0 Rev 2.1 1993	529390		
2629703014	**HGWC-8**	EPA 300.0 Rev 2.1 1993	529390		
2629703015	**MW-30D**	EPA 300.0 Rev 2.1 1993	529390		
2629703016	**HGWC-7**	EPA 300.0 Rev 2.1 1993	529390		
2629703017	**MW-28D**	EPA 300.0 Rev 2.1 1993	529390		
2629703018	**MW-24D**	EPA 300.0 Rev 2.1 1993	529390		
2629703019	**FD-02**	EPA 300.0 Rev 2.1 1993	529390		
2629703020	**HGWC-13**	EPA 300.0 Rev 2.1 1993	529390		
2629703021	**MW-19**	EPA 300.0 Rev 2.1 1993	529390		
2629703022	**HGWC-9**	EPA 300.0 Rev 2.1 1993	529390		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND APP IV AP-1
Pace Project No.: 2629703

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2629703023	**MW-26D**	EPA 300.0 Rev 2.1 1993	529390		
2629703024	**MW-27D**	EPA 300.0 Rev 2.1 1993	529390		

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project #

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

Tracking #:

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

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

Thermometer Used 233 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.0°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3/3/20 CdH

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

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

Section B Required Project Information:
Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond App. IV Scan Event 1 (AP-1)
Project Number: GW658

Section C Invoice Information:
Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 2912-4

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

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-20	WT	G	3.2.20	15:19			18	4	1		3							X	X	X		2624703
2	FB-01	WT	G	3.2.20	17:10				4	1		3							X	X	X		pH 6.98
3									4	1		3							X	X	X		
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

03.02.2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Shawn Lin / Geosyntec	03.02.2020	17:32	Mollie Martin / Geosyntec	03/02/20	17:32				
	Mollie Martin / Geosyntec	3/3/20	1220		3/3/20	1220				
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl					3/3/20	1430	8.0	Y	N	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Shawn Lin				
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY):	03/02/2020		

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond App. IV Scan Event (A7-1)
Project Number:	GW6581

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Fluoride N; Metals 6010/6020* N; RAD 226/228 N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-29	WT	G	3/2/2020	1735	3/2/2020	1735	17	4	1		3						X	X	X	N	pH = 7.13
2									4	1		3						X	X	X		
3									4	1		3						X	X	X		
4									4	1		3						X	X	X		
5									4	1		3						X	X	X		
6									4	1		3						X	X	X		
7									4	1		3						X	X	X		
8									4	1		3						X	X	X		
9									4	1		3						X	X	X		
10									4	1		3						X	X	X		
11									4	1		3						X	X	X		
12									4	1		3						X	X	X		

Pace Project No./Lab I.D.: 2624703

CK 3/2/2020

ADDITIONAL COMMENTS

Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.

*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Chad Russo	3/2/2020	1755	Malia M. / Geosyntec	3/2/2020	1755				
Malia Munbr / Geosyntec	3/3/20	1220	[signature] / Pace	3/3/20	1220				
			[signature]	3/3/20	1430	1.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 03/02/2020

*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, 15-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond App. IV Scan Event (AP-1)
Project Number:	GV6581

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N): Fluoride N, Metals 6010/6020* N, RAD 226/228 N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 2624703
1	MW-5	WT	G	3-2-20	1621	—	—		4	1		3							X	X	X		pH 6.12
2									4	1		3							X	X	X		
3									4	1		3							X	X	X		
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

AR 3-2-2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	[signature] / Sampler	3-2-20	1757	Moilia Mullins / Georgia	3/2/20	1757				
	Moilia Mullins / Georgia	3/3/20	1220	[signature] / Pace	3/3/20	12:20				
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl				[signature]	3/3/20	1430	1.0	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Raeder

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 03/02/2020

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

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond App. IV Scan Event	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	6W6581	Pace Profile #:	2912-4

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER GGR– (checked: OTHER)

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Fluoride N; Metals 6010/6020* N; RAD 226/228 N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HGWA-1	WT	G	3-2-20	1139				4	1		3						X	X	X		pH 7.10
2									4	1		3						X	X	X		
3									4	1		3						X	X	X		
4									4	1		3						X	X	X		
5									4	1		3						X	X	X		
6									4	1		3						X	X	X		
7									4	1		3						X	X	X		
8									4	1		3						X	X	X		
9									4	1		3						X	X	X		
10									4	1		3						X	X	X		
11									4	1		3						X	X	X		
12									4	1		3						X	X	X		

AR 3-2-2020

Pace Project No.: 2624703 ~~2624714~~

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	[signature] / Sampler	3-2-20	1751	[signature] / Geosyntec	3/2/20	1751				
	[signature] / Geosyntec	3/3/20	1220	[signature] / PACE	3.3.20	12:20				
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl				[signature]	3/3/20	1430	1.0	Y	N	Y
Include in AP-1 and AP-2										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Reeder

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 03/02/2020

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 2

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond App. IV Scan Event
Project Number:	GW658

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N		2624707 / ~~2624714~~
1	HGWA-2	WT	G	3/2/2020	0947	3/2/2020	1110	16	4	1		3							X	X	X	N	pH=5.43
2	HGWA-3	WT	G	3/2/2020	1253	3/2/2020	1315	16	4	1		3							X	X	X	N	pH=9.12
3									4	1		3							X	X	X		
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

ER

3/2/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo	3/2/2020	1800	Malia Mankey/Geosyntec	3/2/20	1800	
	Malia Mankey/Geosyntec	3/3/20	1220	Pace	3.3.20	1220	
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl				Charles Hanks	3/3/20	1430	Temp in °C: 1.0 / Received on Ice (Y/N): X / Custody Sealed Cooler (Y/N): N / Samples Intact (Y/N): X
Include in AP-1 and AP-2							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 03/02/2020

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section B Required Project Information:
Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond App. IV Scan Event (AP-1)
Project Number: GW6581

Section C Invoice Information:
Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 2912-4

Page: 1 of 3

REGULATORY AGENCY
NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): N N N (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 2624703
1	MW-6	WT	G	3-3-20	1012	—	—	19.60	4	1		3						x	x	x		PH = 6.78 Temp 19.60 008
2	MW-7	WT	G	3-3-20	131	—	—	17.34	4	1		3						x	x	x		PH - 6.10 Temp 17.34 009
3									4	1		3						x	x	x		
4									4	1		3						x	x	x		
5									4	1		3						x	x	x		
6									4	1		3						x	x	x		
7									4	1		3						x	x	x		
8									4	1		3						x	x	x		
9									4	1		3						x	x	x		
10									4	1		3						x	x	x		
11									4	1		3						x	x	x		
12									4	1		3						x	x	x		

AR-3-3-2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.	[signature] Sampler	3-3-20	1805	Chad Russo / Geosyntec	3/3/20	1805	
	Chad Russo / Geo	3/3/20	2015	Nellia Madan / Geosyntec	3/3/20	2015	
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl	Nellia Madan / Geosyntec	3/4/2020	1005	[signature] / Pace	3/4/20	1005	
	[signature] / Pace	3/4/20	15:16				

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Aaron Reeder
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 03/03/2020

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

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

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

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Page: 2 of 3

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond App. IV Scan Event (AP-1)
Project Number:	6W658

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N		26626203
1	MW-10	WT	G	3/3	12:20			17	4	1		3							X	X	X		MW-10 pH=6.65
2	MW-11	WT	G	3/3	13:30			18	4	1		3							X	X	X		MW-11 pH=5.95
3	MW-2	WT	G	3/3	14:55			19	4	1		3							X	X	X		MW-2 pH=6.9
4	MW-20	WT	G	3/3	15:15			14	4	1		3							X	X	X		MW-20 pH=7.55
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	[signature]	3/3/20	1900	Brad Rudd / GEO	3/3/20	1900
	Brad Rudd / GEO	3/3/20	2015	Martin Murton / Geosyntec	3/3/20	2015
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl	Martin Murton / Geosyntec	3/4/2020		Romero Dirk / Pace	3/4/20	1003
	Romero Dirk / Pace	3/4/20	1516			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [signature]

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/3/20

SAMPLE CONDITIONS

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond App. IV Scan Event (AP-1)
Project Number: GW6581

Section C Invoice Information:

Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MGWC-8	GW	G	3/3/20	1617	3/3/20	1646	19	4	1		3						N	X	X	X	N	2624703
2									4	1		3							X	X	X		pH: 7.06 014
3									4	1		3							X	X	X		
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

(CR) 3/3/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/SCS	3/3/20	2015	Julia Mullen/Geosyntec	3/3/20	2015
	Julia Mullen/Geosyntec	3/4/2020	1005	Thomas Hester/Pace	3/4/20	1005
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl	Thomas Hester/Pace	3/4/20	1516			

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo
SIGNATURE of SAMPLER: Chad Russo
DATE Signed (MM/DD/YY): 03/03/2020

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.	
Project Name:	Plant Hammond App. IV Scan Event
Project Number:	6 W185J

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-30D	WT	G	3/4	1415				4	1		3							X	X	X	N	26247 03
2	MW-16D	WT	G	3/4	1157				4	1		3							X	X	X	N	016
3	MW-28D	WT	G	3/4	1015				4	1		3							X	X	X	N	017
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.		3/4	1835		3/4/20	1235	
		3/4/20	1945		3/4/20	1945	
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl		3/5/20	1045		3-5-20	1045	
					3/5/20	1200	2.5

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:		DATE Signed (MM/DD/YY):	3/4/20
SIGNATURE of SAMPLER:			

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

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

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

Section B Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Plant Hammond App. IV Scan Event
- Project Number: GW6581

Section C Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Kevin Herring
- Pace Profile #: 2912-4

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

Site Location STATE: GA

Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 2629703
1	MW-24D	GW	G	3/4/20	1216	3/4/20	1227	19	4	1		3							X	X	X		pH: 7.47 018
2	FD-02	GW	G		1200		1200	–	4	1		3							X	X	X		— 019
3	HGWC-13	GW	G		1457		1325	19	4	1		3							X	X	X		pH: 7.16 020
4	MW-19	GW	G		1743		1755	18	4	1		3							X	X	X		pH: 6.29 021
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

(Rows 5–12 struck through; annotated "CR 03/4/2020")

ADDITIONAL COMMENTS: Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.

*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Chad Russo / geo	3/4/2020	1945	Shawn Liu / Geosyntec	3/4/20	1945				
Shawn Liu / geosyntec	3/5/20	1045	T E / roc	3-4-20	1045				
			[illegible] / PACE	3/5/20	1200	2.1	Y	N	Y

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Chad Russo
- SIGNATURE of SAMPLER: Chad Russo
- DATE Signed (MM/DD/YY): 3/4/2020

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 3

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond App. IV Scan Event
Project Number:	GV6581

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Fluoride	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N		2629703
1	H6VC-9	WT	G	3-4-20	1026			16.28	4	1		3							X	X	X		pH 6.97 022
2	MV-26D	WT	G	3-4-20	1341			16.55	4	1		3							X	X	X		pH 7.14 023
3	MV-27D	WT	G	3-4-20	1627			16.25	4	1		3							X	X	X		pH 8.33 024
4									4	1		3							X	X	X		
5									4	1		3							X	X	X		
6									4	1		3							X	X	X		
7									4	1		3							X	X	X		
8									4	1		3							X	X	X		
9									4	1		3							X	X	X		
10									4	1		3							X	X	X		
11									4	1		3							X	X	X		
12									4	1		3							X	X	X		

AR 3-4-2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Sampler	3-4-2020	1841	Brad Rubio / geo	3/4/20	1841
	Brad Rubio / GEO	3/4/20	1945	Shawna Lin / Geosyntec	3/4/20	1945
*Metals=As,Ba,Be,Cd,Co,Cr,Hg,Li,Mo,Pb,Sb,Se,Tl	Shawna Lin / Geosyntec	3/5/2020	1045	[illegible]	3-4-20	1045
				[illegible] / PACE	3/5/20	1200

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Beeler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 03/04/2020

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

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

March 30, 2020

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: 2629703
Pace Project No.: 30353287

Dear Mr. Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory between March 05, 2020 and March 07, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 2629703
Pace Project No.: 30353287

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

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

SAMPLE SUMMARY

Project: 2629703
Pace Project No.: 30353287

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2629703001	**MW-20**	Water	03/02/20 16:19	03/05/20 09:15
2629703002	**FB-01**	Water	03/02/20 17:10	03/05/20 09:15
2629703003	**MW-29**	Water	03/02/20 17:35	03/05/20 09:15
2629703004	**MW-5**	Water	03/02/20 16:21	03/05/20 09:15
2629714001	**HGWA-1**	Water	03/02/20 11:39	03/05/20 09:15
2629714002	**HGWA-2**	Water	03/02/20 11:10	03/05/20 09:15
2629714003	**HGWA-3**	Water	03/02/20 13:15	03/05/20 09:15
2629703008	**MW-6**	Water	03/03/20 10:12	03/06/20 09:30
2629703009	**MW-7**	Water	03/03/20 13:10	03/06/20 09:30
2629703010	**HGWC-10**	Water	03/03/20 13:20	03/06/20 09:30
2629703011	**HGWC-11**	Water	03/03/20 13:30	03/06/20 09:30
2629703012	**HGWC-12**	Water	03/03/20 14:15	03/06/20 09:30
2629703013	**MW-25D**	Water	03/03/20 15:15	03/06/20 09:30
2629703014	**HGWC-8**	Water	03/03/20 16:46	03/06/20 09:30
2629703015	**MW-30D**	Water	03/04/20 14:15	03/07/20 10:30
2629703016	**HGWC-7**	Water	03/04/20 11:50	03/07/20 10:30
2629703017	**MW-28D**	Water	03/04/20 10:05	03/07/20 10:30
2629703018	**MW-24D**	Water	03/04/20 12:27	03/07/20 10:30
2629703019	**FD-02**	Water	03/04/20 12:00	03/07/20 10:30
2629703020	**HGWC-13**	Water	03/04/20 13:25	03/07/20 10:30
2629703021	**MW-19**	Water	03/04/20 17:55	03/07/20 10:30
2629703022	**HGWC-9**	Water	03/04/20 10:26	03/07/20 10:30
2629703023	**MW-26D**	Water	03/04/20 13:41	03/07/20 10:30
2629703024	**MW-27D**	Water	03/04/20 16:27	03/07/20 10:30

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

SAMPLE ANALYTE COUNT

Project: 2629703
Pace Project No.: 30353287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2629703001	**MW-20**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703002	**FB-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703003	**MW-29**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703004	**MW-5**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629714001	**HGWA-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629714002	**HGWA-2**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629714003	**HGWA-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703008	**MW-6**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703009	**MW-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703010	**HGWC-10**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703011	**HGWC-11**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703012	**HGWC-12**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703013	**MW-25D**	EPA 9315	LAL	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: 2629703
Pace Project No.: 30353287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703014	**HGWC-8**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703015	**MW-30D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703016	**HGWC-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703017	**MW-28D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703018	**MW-24D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703019	**FD-02**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703020	**HGWC-13**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703021	**MW-19**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703022	**HGWC-9**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703023	**MW-26D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2629703024	**MW-27D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: MW-20 **Lab ID: 2629703001** Collected: 03/02/20 16:19 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.653 ± 0.214 (0.231) C:88% T:NA**	pCi/L	03/17/20 19:14	13982-63-3	
Radium-228	EPA 9320	**-0.0509 ± 0.301 (0.716) C:73% T:91%**	pCi/L	03/26/20 17:46	15262-20-1	
Total Radium	Total Radium Calculation	**0.653 ± 0.515 (0.947)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: FB-01 **Lab ID: 2629703002** Collected: 03/02/20 17:10 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.367 ± 0.185 (0.299) C:95% T:NA**	pCi/L	03/17/20 19:15	13982-63-3	
Radium-228	EPA 9320	**0.0818 ± 0.346 (0.789) C:72% T:81%**	pCi/L	03/26/20 17:46	15262-20-1	
Total Radium	Total Radium Calculation	**0.449 ± 0.531 (1.09)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-29 **Lab ID: 2629703003** Collected: 03/02/20 17:35 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.413 ± 0.188 (0.281) C:84% T:NA**	pCi/L	03/17/20 19:16	13982-63-3	
Radium-228	EPA 9320	**-0.127 ± 0.329 (0.788) C:77% T:88%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.413 ± 0.517 (1.07)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-5 **Lab ID: 2629703004** Collected: 03/02/20 16:21 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.408 ± 0.206 (0.338) C:88% T:NA**	pCi/L	03/17/20 19:16	13982-63-3	
Radium-228	EPA 9320	**0.556 ± 0.374 (0.713) C:79% T:85%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.964 ± 0.580 (1.05)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: HGWA-1 **Lab ID: 2629714001** Collected: 03/02/20 11:39 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.577 ± 0.324 (0.458) C:90% T:NA**	pCi/L	03/12/20 08:33	13982-63-3	
Radium-228	EPA 9320	**0.0334 ± 0.328 (0.762) C:72% T:85%**	pCi/L	03/24/20 19:44	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: HGWA-1 **Lab ID: 2629714001** Collected: 03/02/20 11:39 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.610 ± 0.652 (1.22)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: HGWA-2 **Lab ID: 2629714002** Collected: 03/02/20 11:10 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.903 ± 0.376 (0.345) C:93% T:NA**	pCi/L	03/12/20 08:33	13982-63-3	
Radium-228	EPA 9320	**0.680 ± 0.497 (0.984) C:71% T:86%**	pCi/L	03/24/20 19:44	15262-20-1	
Total Radium	Total Radium Calculation	**1.58 ± 0.873 (1.33)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: HGWA-3 **Lab ID: 2629714003** Collected: 03/02/20 13:15 Received: 03/05/20 09:15 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.230 ± 0.208 (0.350) C:87% T:NA**	pCi/L	03/12/20 08:33	13982-63-3	
Radium-228	EPA 9320	**0.0192 ± 0.394 (0.910) C:69% T:87%**	pCi/L	03/24/20 19:44	15262-20-1	
Total Radium	Total Radium Calculation	**0.249 ± 0.602 (1.26)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: MW-6 **Lab ID: 2629703008** Collected: 03/03/20 10:12 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.614 ± 0.214 (0.248) C:80% T:NA**	pCi/L	03/17/20 19:17	13982-63-3	
Radium-228	EPA 9320	**0.143 ± 0.300 (0.662) C:74% T:95%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.757 ± 0.514 (0.910)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: MW-7 **Lab ID: 2629703009** Collected: 03/03/20 13:10 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.434 ± 0.170 (0.214) C:93% T:NA**	pCi/L	03/17/20 19:17	13982-63-3	
Radium-228	EPA 9320	**0.718 ± 0.458 (0.866) C:73% T:78%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**1.15 ± 0.628 (1.08)**	pCi/L	03/30/20 10:57	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: HGWC-10 **Lab ID: 2629703010** Collected: 03/03/20 13:20 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.310 ± 0.190 (0.331) C:92% T:NA**	pCi/L	03/17/20 19:18	13982-63-3	
Radium-228	EPA 9320	**0.357 ± 0.371 (0.770) C:72% T:91%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.667 ± 0.561 (1.10)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: HGWC-11 **Lab ID: 2629703011** Collected: 03/03/20 13:30 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.523 ± 0.189 (0.212) C:89% T:NA**	pCi/L	03/17/20 19:18	13982-63-3	
Radium-228	EPA 9320	**0.193 ± 0.330 (0.720) C:76% T:85%**	pCi/L	03/26/20 17:47	15262-20-1	
Total Radium	Total Radium Calculation	**0.716 ± 0.519 (0.932)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: HGWC-12 **Lab ID: 2629703012** Collected: 03/03/20 14:15 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.631 ± 0.195 (0.136) C:91% T:NA**	pCi/L	03/17/20 18:26	13982-63-3	
Radium-228	EPA 9320	**0.340 ± 0.400 (0.846) C:77% T:87%**	pCi/L	03/26/20 17:46	15262-20-1	
Total Radium	Total Radium Calculation	**0.971 ± 0.595 (0.982)**	pCi/L	03/30/20 10:57	7440-14-4	

Sample: MW-25D **Lab ID: 2629703013** Collected: 03/03/20 15:15 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.663 ± 0.319 (0.368) C:87% T:NA**	pCi/L	03/18/20 09:01	13982-63-3	
Radium-228	EPA 9320	**0.694 ± 0.425 (0.796) C:79% T:82%**	pCi/L	03/27/20 11:41	15262-20-1	
Total Radium	Total Radium Calculation	**1.36 ± 0.744 (1.16)**	pCi/L	03/30/20 13:35	7440-14-4	

Sample: HGWC-8 **Lab ID: 2629703014** Collected: 03/03/20 16:46 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.493 ± 0.282 (0.367) C:83% T:NA**	pCi/L	03/18/20 09:01	13982-63-3	
Radium-228	EPA 9320	**0.342 ± 0.361 (0.749) C:78% T:89%**	pCi/L	03/27/20 11:41	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: HGWC-8 **Lab ID: 2629703014** Collected: 03/03/20 16:46 Received: 03/06/20 09:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**0.835 ± 0.643 (1.12)**	pCi/L	03/30/20 13:35	7440-14-4	

Sample: MW-30D **Lab ID: 2629703015** Collected: 03/04/20 14:15 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.332 ± 0.171 (0.262) C:78% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.260 ± 0.389 (0.840) C:75% T:79%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**0.592 ± 0.560 (1.10)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: HGWC-7 **Lab ID: 2629703016** Collected: 03/04/20 11:50 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.510 ± 0.193 (0.228) C:77% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.114 ± 0.363 (0.819) C:73% T:83%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**0.624 ± 0.556 (1.05)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-28D **Lab ID: 2629703017** Collected: 03/04/20 10:05 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.904 ± 0.245 (0.205) C:94% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.404 ± 0.321 (0.637) C:90% T:84%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.31 ± 0.566 (0.842)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-24D **Lab ID: 2629703018** Collected: 03/04/20 12:27 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.255 ± 0.135 (0.202) C:92% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.0776 ± 0.355 (0.808) C:75% T:86%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**0.333 ± 0.490 (1.01)**	pCi/L	03/27/20 14:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: FD-02 **Lab ID: 2629703019** Collected: 03/04/20 12:00 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.650 ± 0.201 (0.194) C:94% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.519 ± 0.366 (0.709) C:78% T:90%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.17 ± 0.567 (0.903)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: HGWC-13 **Lab ID: 2629703020** Collected: 03/04/20 13:25 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.486 ± 0.191 (0.267) C:93% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.222 ± 0.348 (0.754) C:74% T:90%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**0.708 ± 0.539 (1.02)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-19 **Lab ID: 2629703021** Collected: 03/04/20 17:55 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.542 ± 0.191 (0.223) C:95% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.496 ± 0.363 (0.709) C:80% T:84%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.04 ± 0.554 (0.932)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: HGWC-9 **Lab ID: 2629703022** Collected: 03/04/20 10:26 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.557 ± 0.194 (0.204) C:81% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.477 ± 0.335 (0.640) C:73% T:92%**	pCi/L	03/26/20 17:45	15262-20-1	
Total Radium	Total Radium Calculation	**1.03 ± 0.529 (0.844)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-26D **Lab ID: 2629703023** Collected: 03/04/20 13:41 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.933 ± 0.499 (0.615) C:88% T:NA**	pCi/L	03/23/20 10:28	13982-63-3	
Radium-228	EPA 9320	**0.333 ± 0.337 (0.692) C:73% T:87%**	pCi/L	03/26/20 17:46	15262-20-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

Sample: MW-26D **Lab ID: 2629703023** Collected: 03/04/20 13:41 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Total Radium	Total Radium Calculation	**1.27 ± 0.836 (1.31)**	pCi/L	03/27/20 14:39	7440-14-4	

Sample: MW-27D **Lab ID: 2629703024** Collected: 03/04/20 16:27 Received: 03/07/20 10:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	**0.904 ± 0.237 (0.187) C:98% T:NA**	pCi/L	03/17/20 19:34	13982-63-3	
Radium-228	EPA 9320	**0.220 ± 0.422 (0.927) C:71% T:78%**	pCi/L	03/26/20 17:46	15262-20-1	
Total Radium	Total Radium Calculation	**1.12 ± 0.659 (1.11)**	pCi/L	03/27/20 14:39	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387516 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

METHOD BLANK: 1877158 Matrix: Water
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703023, 2629703024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0408 ± 0.333 (0.765) C:71% T:89%	pCi/L	03/26/20 17:45	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 388320 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2629703023

METHOD BLANK: 1881003 Matrix: Water
Associated Lab Samples: 2629703023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.387 ± 0.205 (0.273) C:94% T:NA	pCi/L	03/23/20 10:25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387666 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2629703013, 2629703014

METHOD BLANK: 1877857 Matrix: Water
Associated Lab Samples: 2629703013, 2629703014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.516 ± 0.299 (0.401) C:81% T:NA	pCi/L	03/18/20 09:01	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387205 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2629714001, 2629714002, 2629714003

METHOD BLANK: 1875683 Matrix: Water
Associated Lab Samples: 2629714001, 2629714002, 2629714003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.605 ± 0.326 (0.434) C:90% T:NA	pCi/L	03/12/20 08:26	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387515 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703024

METHOD BLANK: 1877156 Matrix: Water
Associated Lab Samples: 2629703001, 2629703002, 2629703003, 2629703004, 2629703008, 2629703009, 2629703010, 2629703011, 2629703012, 2629703015, 2629703016, 2629703017, 2629703018, 2629703019, 2629703020, 2629703021, 2629703022, 2629703024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.400 ± 0.158 (0.182) C:89% T:NA	pCi/L	03/17/20 19:34	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387667 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2629703013, 2629703014

METHOD BLANK: 1877863 Matrix: Water
Associated Lab Samples: 2629703013, 2629703014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.158 ± 0.316 (0.696) C:78% T:86%	pCi/L	03/27/20 11:43	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2629703
Pace Project No.: 30353287

QC Batch: 387208 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2629714001, 2629714002, 2629714003

METHOD BLANK: 1875688 Matrix: Water
Associated Lab Samples: 2629714001, 2629714002, 2629714003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.275 ± 0.357 (0.757) C:73% T:81%	pCi/L	03/24/20 19:45	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 2629703
Pace Project No.: 30353287

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.

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

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/3/2020 Results Requested By: ~~3/17/2020~~ 21 days

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Workorder: 2629703 **Workorder Name:** PLANT HAMMOND APP IV AP-1

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30353287

30353287

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: RAD 9315	RAD 9320	LAB USE ONLY
1	MW-20	PS	3/2/2020 16:19	2629703001	Water	X	2					X	X	001
2	FB-01	PS	3/2/2020 17:10	2629703002	Water	X	2					X	X	002
3	MW-29	PS	3/2/2020 17:35	2629703003	Water	X	2					X	X	003
4	MW-5	PS	3/2/2020 16:21	2629703004	Water	X	2					X	X	004
5	HGWA-1	PS	3/2/2020 11:39	2629714001	Water	X	2					X	X	001
6	HGWA-2	PS	3/2/2020 11:10	2629714002	Water	X	2					X	X	002
7	HGWA-3	PS	3/2/2020 13:15	2629714003	Water	X	2					X	X	003

Transfers	Released By	Date/Time	Received By	Date/Time
1			Brian Mueller	3-5-2020 0915
2				
3				

Comments

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

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

30353287

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/3/2020
Results Requested By: ~~3/17/2020~~ 7 days

Pace Analytical
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Workorder: 2629703 **Workorder Name:** PLANT HAMMOND APP IV AP-1

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis RAD 9315	RAD 9320										LAB USE ONLY
1	MW-20	PS	3/2/2020 16:19	2629703001	Water	1	2					X	X										CC1
2	FB-01	PS	3/2/2020 17:10	2629703002	Water	1	2					X	X										CC2
3	MW-29	PS	3/2/2020 17:35	2629703003	Water	1	2					X	X										CC3
4	MW-5	PS	3/2/2020 16:21	2629703004	Water	1	2					X	X										CC4
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1		3.4.20 1900		3-5-20 9:15
2				
3				

Comments:

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

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

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No

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Workorder: 2629703 **Workorder Name:** PLANT HAMMOND APP IV AP-1
Owner Received Date: 3/3/2020 **Results Requested By:** 3/17/2020

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30353287
PM: JAC **Due Date: 03/26/20**
CLIENT: PACE_26_ATGA

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis RAD 9315	Requested Analysis RAD 9320										LAB USE ONLY
1	MW-20	PS	3/2/2020 16:19	2629703001	Water	1						X	X										
2	FB-01	PS	3/2/2020 17:10	2629703002	Water	1						X	X										
3	MW-29	PS	3/2/2020 17:35	2629703003	Water	1						X	X										
4	MW-5	PS	3/2/2020 16:21	2629703004	Water	1						X	X										
5	MW-6	PS	3/3/2020 10:12	2629703008	Water	1						X	X										005
6	MW-7	PS	3/3/2020 13:10	2629703009	Water	1						X	X										006
7	HGWC-10	PS	3/3/2020 13:20	2629703010	Water	1						X	X										007
8	HGWC-11	PS	3/3/2020 13:30	2629703011	Water	1						X	X										008
9	HGWC-12	PS	3/3/2020 14:15	2629703012	Water	1						X	X										009
10	MW-25D	PS	3/3/2020 15:15	2629703013	Water	1						X	X										010
11	HGWC-8	PS	3/3/2020 16:46	2629703014	Water	1						X	X										011
12	HGWA-1	PS	3/2/2020 11:39	2629714001	Water	1						X	X										~~0~~ mms
13	HGWA-2	PS	3/2/2020 11:10	2629714002	Water	1						X	X										3/4/2020
14	HGWA-3	PS	3/2/2020 13:15	2629714003	Water	1						X	X										

WO# : 30353287

PM: JAC **Due Date: 03/26/20**
CLIENT: PACE_26_ATGA

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]Pace	3/5/2017 08	[illegible]	3/6/20 0932
2				
3				

Cooler Temperature on Receipt ____°C	Custody Seal Y or (N)	Received on Ice Y or (N)	Samples Intact (Y) or N

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

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No

Pace Analytical®
www.pacelabs.com

Workorder: 2629703 **Workorder Name:** PLANT HAMMOND APP IV AP-1 **Owner Received Date:** 3/3/2020 **Results Requested By:** 3/17/2020

Report To

Kevin Herring
Pace Analytical Charlotte
9800 Kincey Ave.
Suite 100
Huntersville, NC 28078
Phone (704)875-9092

Subcontract To

Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone (724)850-5600

WO# : 30353287

PM: JAC Due Date: 03/26/20
CLIENT: PACE_26_ATGA

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analyses: RAD 9315	RAD 9320	LAB USE ONLY
1	MW-20	PS	3/2/2020 16:19	2629703001	Water	1						X	X	
2	FB-01	PS	3/2/2020 17:10	2629703002	Water	1						X	X	
3	MW-29	PS	3/2/2020 17:35	2629703003	Water	1						X	X	
4	MW-5	PS	3/2/2020 16:21	2629703004	Water	1						X	X	
5	MW-6	PS	3/3/2020 10:12	2629703008	Water	1						X	X	
6	MW-7	PS	3/3/2020 13:10	2629703009	Water	1						X	X	
7	HGWC-10	PS	3/3/2020 13:20	2629703010	Water	1						X	X	
8	HGWC-11	PS	3/3/2020 13:30	2629703011	Water	1						X	X	
9	HGWC-12	PS	3/3/2020 14:15	2629703012	Water	1						X	X	
10	MW-25D	PS	3/3/2020 15:15	2629703013	Water	1						X	X	
11	HGWC-8	PS	3/3/2020 16:46	2629703014	Water	1						X	X	
12	MW-30D	PS	3/4/2020 14:15	2629703015	Water	1	2					X	X	015
13	HGWC-7	PS	3/4/2020 11:50	2629703016	Water	1	2					X	X	016
14	MW-28D	PS	3/4/2020 10:05	2629703017	Water	1	2					X	X	017
15	MW-24D	PS	3/4/2020 12:27	2629703018	Water	1	2					X	X	018
16	FD-02	PS	3/4/2020 12:00	2629703019	Water	1	2					X	X	019
17	HGWC-13	PS	3/4/2020 13:25	2629703020	Water	1	2					X	X	020
18	MW-19	PS	3/4/2020 17:55	2629703021	Water	1	2					X	X	021
19	HGWC-9	PS	3/4/2020 10:26	2629703022	Water	1	2					X	X	022

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/3/2020 Results Requested By: 3/17/2020

Pace Analytical®
www.pacelabs.com

Workorder: 2629703 **Workorder Name:** PLANT HAMMOND APP IV AP-1

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis RAD 9315	RAD 9320													LAB USE ONLY
20	MW-26D	PS	3/4/2020 13:41	2629703023	Water	1	2					X	X													02
21	MW-27D	PS	3/4/2020 16:27	2629703024	Water	1	2					X	X													02
22	HGWA-1	PS	3/2/2020 11:39	2629714001	Water	1						X	X													
23	HGWA-2	PS	[illegible]	2629714002	Water	1						X	X													
24	HGWA-3	PS	3/2/2020 13:15	2629714003	Water	1						X	X													

Transfers	Released By	Date/Time	Received By	Date/Time
1			[signature]	3-7-20 10:30
2				
3				

Comments: Add on project

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

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace NC

Project # 30353287

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

Label DLC

Tracking #: 1857 9506 7400

LIMS Login MM

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

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

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 10D219	Date and Initials of person examining contents: DLC 3-5-20
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓			3.	
Sampler Name & Signature on COC:		✓		4.	
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.	
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:		✓		8.	
Sufficient Volume:	✓			9.	
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.	
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2	
All containers meet method preservation requirements.	✓			Initial when completed DLC	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			✓	17.	
Trip Blank Present:		✓		18.	
Trip Blank Custody Seals Present			✓		
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: DLC	Date: 3-5-20

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace NC

Project# 30353287 BM 3-6-2020

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

Label DK

Tracking #: 1657 9506 7400

LIMS Login DK

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

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

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 10D219 / Date and Initials of person examining contents: DK 3-5-20
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed DK / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: DK / Date: 3-5-20

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GH

Project # 30353287

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

Label JSM

LIMS Login NMR

Tracking #: 1687 9506 8083

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

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

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 1000391 / Date and Initials of person examining contents: JSM 3/6/2020
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed JSM / Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:			✓	18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: JSM / Date: 3/6/2020

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

WO# : 30353287

PM: JAC Due Date: 03/26/20
CLIENT: PACE_26_ATGA

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace NC

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

Label NC
LIMS Login NC

Tracking #: 1657 9506 9598

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

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

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

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# 10011391 / Date and Initials of person examining contents: DM 3-9-20
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓	✓		3. DM 3-9-20
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: DM / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: DM / Date: 3-9-20

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

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

May 27, 2020

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

RE: Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 26, 2020 and April 03, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Atlanta, GA

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.

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

CERTIFICATIONS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630471001	**HGWA-1**	Water	03/25/20 15:56	03/26/20 11:10
2630471002	**HGWA-3**	Water	03/25/20 15:17	03/26/20 11:10
2630471003	**HGWA-2**	Water	03/25/20 16:32	03/26/20 11:10
2630471004	**HGWC-12**	Water	03/26/20 08:50	03/27/20 13:00
2630471005	**MW-25D**	Water	03/26/20 10:45	03/27/20 13:00
2630471006	**MW-19**	Water	03/26/20 12:30	03/27/20 13:00
2630471007	**MW-5**	Water	03/26/20 14:10	03/27/20 13:00
2630471008	**HGWC-7**	Water	03/27/20 09:30	03/30/20 10:20
2630471009	**MW-28D**	Water	03/27/20 10:40	03/30/20 10:20
2630471010	**MW-20**	Water	03/27/20 09:30	03/30/20 10:20
2630471011	**HGWC-8**	Water	03/27/20 10:40	03/30/20 10:20
2630471012	**MW-6**	Water	03/27/20 13:00	03/30/20 10:20
2630471013	**FB-01**	Water	03/27/20 00:00	03/30/20 10:20
2630471014	**MW-7**	Water	03/30/20 09:05	03/31/20 11:35
2630471015	**MW-24D**	Water	03/30/20 10:30	03/31/20 11:35
2630471016	**HGWC-13**	Water	03/30/20 12:15	03/31/20 11:35
2630471017	**MW-29**	Water	03/30/20 15:35	03/31/20 11:35
2630471018	**HGWC-11**	Water	03/31/20 15:22	04/01/20 10:30
2630471019	**MW-26D**	Water	03/31/20 09:35	04/01/20 10:30
2630471020	**HGWC-9**	Water	03/31/20 12:00	04/01/20 10:30
2630471021	**MW-30D**	Water	03/31/20 10:00	04/01/20 10:30
2630471022	**FD-01**	Water	03/31/20 00:00	04/01/20 10:30
2630471023	**HGWC-10**	Water	04/01/20 09:47	04/02/20 10:25
2630471024	**MW-27D**	Water	04/02/20 10:48	04/03/20 11:50

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630471001	**HGWA-1**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471002	**HGWA-3**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471003	**HGWA-2**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471004	**HGWC-12**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471005	**MW-25D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471006	**MW-19**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471007	**MW-5**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471008	**HGWC-7**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471009	**MW-28D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471010	**MW-20**	EPA 6010D	DRB	1	PASI-GA

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471011	**HGWC-8**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471012	**MW-6**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471013	**FB-01**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630471014	**MW-7**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471015	**MW-24D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471016	**HGWC-13**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471017	**MW-29**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471018	**HGWC-11**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471019	**MW-26D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471020	**HGWC-9**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471021	**MW-30D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471022	**FD-01**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471023	**HGWC-10**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630471024	**MW-27D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	13	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-GA = Pace Analytical Services - Atlanta, GA

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471001	**HGWA-1**					
	Field pH	6.95	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	127	mg/L	1.0	04/02/20 13:58	
EPA 6020B	Barium	0.043	mg/L	0.010	04/02/20 20:39	
EPA 6020B	Boron	0.025J	mg/L	0.10	04/02/20 20:39	
EPA 6020B	Chromium	0.00072J	mg/L	0.010	04/02/20 20:39	
EPA 6020B	Lithium	0.00083J	mg/L	0.030	04/02/20 20:39	
SM 2540C	Total Dissolved Solids	496	mg/L	10.0	04/01/20 15:05	
EPA 300.0 Rev 2.1 1993	Chloride	20.4	mg/L	1.0	04/03/20 00:17	
EPA 300.0 Rev 2.1 1993	Fluoride	0.098J	mg/L	0.30	04/03/20 00:17	
EPA 300.0 Rev 2.1 1993	Sulfate	85.9	mg/L	1.0	04/03/20 00:17	
2630471002	**HGWA-3**					
	Field pH	7.4	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	89.8	mg/L	1.0	04/02/20 14:01	
EPA 6020B	Barium	0.13	mg/L	0.010	04/02/20 20:56	
EPA 6020B	Boron	0.0096J	mg/L	0.10	04/02/20 20:56	
EPA 6020B	Lithium	0.0035J	mg/L	0.030	04/02/20 20:56	
SM 2540C	Total Dissolved Solids	284	mg/L	10.0	04/01/20 15:05	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	04/03/20 01:01	
EPA 300.0 Rev 2.1 1993	Sulfate	50.5	mg/L	1.0	04/03/20 01:01	
2630471003	**HGWA-2**					
	Field pH	5.36	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	23.0	mg/L	1.0	04/02/20 14:05	
EPA 6020B	Barium	0.12	mg/L	0.010	04/02/20 21:02	
EPA 6020B	Beryllium	0.00016J	mg/L	0.0030	04/02/20 21:02	
EPA 6020B	Boron	0.039J	mg/L	0.10	04/02/20 21:02	
EPA 6020B	Cadmium	0.00014J	mg/L	0.0025	04/02/20 21:02	
EPA 6020B	Cobalt	0.020	mg/L	0.0050	04/02/20 21:02	
EPA 6020B	Lead	0.00011J	mg/L	0.0050	04/02/20 21:02	
EPA 6020B	Lithium	0.0017J	mg/L	0.030	04/02/20 21:02	
SM 2540C	Total Dissolved Solids	138	mg/L	10.0	04/01/20 15:06	
EPA 300.0 Rev 2.1 1993	Chloride	5.2	mg/L	1.0	04/03/20 01:46	
EPA 300.0 Rev 2.1 1993	Sulfate	46.3	mg/L	1.0	04/03/20 01:46	
2630471004	**HGWC-12**					
	Field pH	6.99	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	145	mg/L	1.0	04/02/20 17:59	
EPA 6020B	Arsenic	0.0028J	mg/L	0.0050	04/02/20 22:30	
EPA 6020B	Barium	0.089	mg/L	0.010	04/02/20 22:30	
EPA 6020B	Boron	1.6	mg/L	0.10	04/02/20 22:30	
EPA 6020B	Cobalt	0.0012J	mg/L	0.0050	04/02/20 22:30	
EPA 6020B	Lead	0.00043J	mg/L	0.0050	04/02/20 22:30	
EPA 6020B	Lithium	0.0063J	mg/L	0.030	04/02/20 22:30	
EPA 6020B	Molybdenum	0.045	mg/L	0.010	04/02/20 22:30	
EPA 6020B	Thallium	0.000080J	mg/L	0.0010	04/02/20 22:30	
SM 2540C	Total Dissolved Solids	533	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	48.0	mg/L	1.0	04/03/20 03:23	
EPA 300.0 Rev 2.1 1993	Fluoride	0.17J	mg/L	0.30	04/03/20 03:23	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471004	**HGWC-12**					
EPA 300.0 Rev 2.1 1993	Sulfate	182	mg/L	4.0	04/03/20 10:34	
2630471005	**MW-25D**					
	Field pH	7.57	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	27.0	mg/L	1.0	04/03/20 21:08	
EPA 6020B	Arsenic	0.00075J	mg/L	0.0050	04/02/20 22:47	
EPA 6020B	Barium	0.45	mg/L	0.010	04/02/20 22:47	
EPA 6020B	Boron	0.44	mg/L	0.10	04/02/20 22:47	
EPA 6020B	Chromium	0.00061J	mg/L	0.010	04/02/20 22:47	
EPA 6020B	Lithium	0.054	mg/L	0.030	04/02/20 22:47	
SM 2540C	Total Dissolved Solids	385	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	34.6	mg/L	1.0	04/03/20 03:37	
EPA 300.0 Rev 2.1 1993	Fluoride	1.6	mg/L	0.30	04/03/20 03:37	
EPA 300.0 Rev 2.1 1993	Sulfate	32.3	mg/L	1.0	04/03/20 03:37	
2630471006	**MW-19**					
	Field pH	6.28	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	171	mg/L	1.0	04/03/20 21:22	
EPA 6020B	Barium	0.067	mg/L	0.010	04/02/20 22:52	
EPA 6020B	Boron	1.0	mg/L	0.10	04/02/20 22:52	
EPA 6020B	Cadmium	0.00019J	mg/L	0.0025	04/02/20 22:52	
EPA 6020B	Chromium	0.00047J	mg/L	0.010	04/02/20 22:52	
EPA 6020B	Cobalt	0.045	mg/L	0.0050	04/02/20 22:52	
EPA 6020B	Lithium	0.013J	mg/L	0.030	04/02/20 22:52	
EPA 6020B	Molybdenum	0.033	mg/L	0.010	04/02/20 22:52	
EPA 6020B	Selenium	0.0053J	mg/L	0.010	04/02/20 22:52	
EPA 6020B	Thallium	0.00026J	mg/L	0.0010	04/02/20 22:52	
SM 2540C	Total Dissolved Solids	626	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	64.0	mg/L	1.0	04/03/20 03:52	
EPA 300.0 Rev 2.1 1993	Fluoride	0.12J	mg/L	0.30	04/03/20 03:52	
EPA 300.0 Rev 2.1 1993	Sulfate	310	mg/L	6.0	04/03/20 10:55	
2630471007	**MW-5**					
	Field pH	6.14	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	89.6	mg/L	1.0	04/03/20 21:26	
EPA 6020B	Barium	0.046	mg/L	0.010	04/02/20 22:58	
EPA 6020B	Boron	0.041J	mg/L	0.10	04/02/20 22:58	
EPA 6020B	Chromium	0.0044J	mg/L	0.010	04/02/20 22:58	
EPA 6020B	Selenium	0.0039J	mg/L	0.010	04/02/20 22:58	
SM 2540C	Total Dissolved Solids	385	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	0.73J	mg/L	1.0	04/03/20 04:07	M1
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.30	04/03/20 04:07	
EPA 300.0 Rev 2.1 1993	Sulfate	176	mg/L	4.0	04/03/20 11:16	
2630471008	**HGWC-7**					
	Field pH	7.05	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	119	mg/L	1.0	04/03/20 22:40	
EPA 6020B	Barium	0.059	mg/L	0.010	04/03/20 17:05	
EPA 6020B	Boron	1.2	mg/L	0.10	04/03/20 17:05	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471008	**HGWC-7**					
EPA 6020B	Chromium	0.00040J	mg/L	0.010	04/03/20 17:05	
EPA 6020B	Cobalt	0.00074J	mg/L	0.0050	04/03/20 17:05	
EPA 6020B	Lead	0.000054J	mg/L	0.0050	04/03/20 17:05	
EPA 6020B	Lithium	0.0020J	mg/L	0.030	04/03/20 17:05	
EPA 6020B	Molybdenum	0.044	mg/L	0.010	04/03/20 17:05	
SM 2540C	Total Dissolved Solids	413	mg/L	10.0	04/02/20 17:56	
EPA 300.0 Rev 2.1 1993	Chloride	48.3	mg/L	1.0	04/02/20 18:44	
EPA 300.0 Rev 2.1 1993	Fluoride	0.059J	mg/L	0.30	04/02/20 18:44	
EPA 300.0 Rev 2.1 1993	Sulfate	109	mg/L	2.0	04/03/20 08:03	
2630471009	**MW-28D**					
	Field pH	7.42	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	53.0	mg/L	1.0	04/03/20 19:47	
EPA 6020B	Barium	0.64	mg/L	0.010	04/03/20 17:22	
EPA 6020B	Boron	0.14	mg/L	0.10	04/03/20 17:22	
EPA 6020B	Lead	0.000062J	mg/L	0.0050	04/03/20 17:22	
EPA 6020B	Lithium	0.014J	mg/L	0.030	04/03/20 17:22	
EPA 6020B	Molybdenum	0.0068J	mg/L	0.010	04/03/20 17:22	
SM 2540C	Total Dissolved Solids	287	mg/L	10.0	04/02/20 17:56	
EPA 300.0 Rev 2.1 1993	Chloride	33.0	mg/L	1.0	04/02/20 18:59	
EPA 300.0 Rev 2.1 1993	Fluoride	0.26J	mg/L	0.30	04/02/20 18:59	
EPA 300.0 Rev 2.1 1993	Sulfate	36.0	mg/L	1.0	04/02/20 18:59	
2630471010	**MW-20**					
	Field pH	6.75	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	126	mg/L	1.0	04/03/20 19:50	
EPA 6020B	Barium	0.093	mg/L	0.010	04/03/20 17:28	
EPA 6020B	Boron	0.12	mg/L	0.10	04/03/20 17:28	
EPA 6020B	Chromium	0.00051J	mg/L	0.010	04/03/20 17:28	
EPA 6020B	Lead	0.00013J	mg/L	0.0050	04/03/20 17:28	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	04/03/20 17:28	
SM 2540C	Total Dissolved Solids	429	mg/L	10.0	04/02/20 17:56	
EPA 300.0 Rev 2.1 1993	Chloride	28.8	mg/L	1.0	04/02/20 19:43	
EPA 300.0 Rev 2.1 1993	Sulfate	114	mg/L	2.0	04/03/20 08:26	
2630471011	**HGWC-8**					
	Field pH	6.95	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	133	mg/L	1.0	04/03/20 19:54	
EPA 6020B	Barium	0.059	mg/L	0.010	04/03/20 17:33	
EPA 6020B	Boron	2.4	mg/L	0.10	04/03/20 17:33	
EPA 6020B	Cadmium	0.00014J	mg/L	0.0025	04/03/20 17:33	
EPA 6020B	Cobalt	0.0018J	mg/L	0.0050	04/03/20 17:33	
EPA 6020B	Lithium	0.0026J	mg/L	0.030	04/03/20 17:33	
EPA 6020B	Molybdenum	0.42	mg/L	0.010	04/03/20 17:33	
EPA 6020B	Thallium	0.000077J	mg/L	0.0010	04/03/20 17:33	
SM 2540C	Total Dissolved Solids	541	mg/L	10.0	04/02/20 17:56	
EPA 300.0 Rev 2.1 1993	Chloride	79.8	mg/L	1.0	04/02/20 19:58	
EPA 300.0 Rev 2.1 1993	Fluoride	0.46	mg/L	0.30	04/02/20 19:58	
EPA 300.0 Rev 2.1 1993	Sulfate	173	mg/L	4.0	04/03/20 08:48	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471012	**MW-6**					
	Field pH	6.82	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	186	mg/L	1.0	04/03/20 19:57	
EPA 6020B	Barium	0.086	mg/L	0.010	04/03/20 17:39	
EPA 6020B	Boron	0.77	mg/L	0.10	04/03/20 17:39	
EPA 6020B	Chromium	0.00059J	mg/L	0.010	04/03/20 17:39	
EPA 6020B	Cobalt	0.00059J	mg/L	0.0050	04/03/20 17:39	
EPA 6020B	Molybdenum	0.0026J	mg/L	0.010	04/03/20 17:39	
SM 2540C	Total Dissolved Solids	676	mg/L	10.0	04/02/20 17:57	
EPA 300.0 Rev 2.1 1993	Chloride	48.6	mg/L	1.0	04/02/20 20:13	
EPA 300.0 Rev 2.1 1993	Sulfate	204	mg/L	4.0	04/03/20 09:09	
2630471013	**FB-01**					
EPA 6020B	Lead	0.00019J	mg/L	0.0050	04/03/20 17:51	
2630471014	**MW-7**					
	Field pH	6.06	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	31.1	mg/L	1.0	04/03/20 20:04	
EPA 6020B	Barium	0.050	mg/L	0.010	04/02/20 15:28	
EPA 6020B	Boron	0.051J	mg/L	0.10	04/02/20 15:28	
EPA 6020B	Chromium	0.0021J	mg/L	0.010	04/02/20 15:28	
EPA 6020B	Selenium	0.0014J	mg/L	0.010	04/02/20 15:28	
SM 2540C	Total Dissolved Solids	142	mg/L	10.0	04/02/20 17:57	
EPA 300.0 Rev 2.1 1993	Chloride	1.5	mg/L	1.0	04/04/20 15:22	
EPA 300.0 Rev 2.1 1993	Sulfate	46.2	mg/L	1.0	04/04/20 15:22	
2630471015	**MW-24D**					
	Field pH	7.49	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	84.4	mg/L	1.0	04/03/20 20:08	
EPA 6020B	Barium	0.056	mg/L	0.010	04/02/20 15:34	
EPA 6020B	Boron	0.51	mg/L	0.10	04/02/20 15:34	
EPA 6020B	Lead	0.000064J	mg/L	0.0050	04/02/20 15:34	
EPA 6020B	Lithium	0.0027J	mg/L	0.030	04/02/20 15:34	
SM 2540C	Total Dissolved Solids	280	mg/L	10.0	04/02/20 17:58	
EPA 300.0 Rev 2.1 1993	Chloride	37.4	mg/L	1.0	04/04/20 16:35	
EPA 300.0 Rev 2.1 1993	Fluoride	0.064J	mg/L	0.30	04/04/20 16:35	
EPA 300.0 Rev 2.1 1993	Sulfate	84.9	mg/L	1.0	04/04/20 16:35	
2630471016	**HGWC-13**					
	Field pH	6.91	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	234	mg/L	1.0	04/03/20 20:11	
EPA 6020B	Antimony	0.00036J	mg/L	0.0030	04/02/20 15:52	
EPA 6020B	Arsenic	0.47	mg/L	0.0050	04/02/20 15:52	
EPA 6020B	Barium	0.080	mg/L	0.010	04/02/20 15:52	
EPA 6020B	Beryllium	0.000099J	mg/L	0.0030	04/02/20 15:52	
EPA 6020B	Boron	1.8	mg/L	0.10	04/02/20 15:52	
EPA 6020B	Chromium	0.00059J	mg/L	0.010	04/02/20 15:52	
EPA 6020B	Cobalt	0.0053	mg/L	0.0050	04/02/20 15:52	
EPA 6020B	Lead	0.00010J	mg/L	0.0050	04/02/20 15:52	
EPA 6020B	Lithium	0.038	mg/L	0.030	04/02/20 15:52	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471016	**HGWC-13**					
EPA 6020B	Molybdenum	0.029	mg/L	0.010	04/02/20 15:52	
EPA 6020B	Thallium	0.00048J	mg/L	0.0010	04/02/20 15:52	
SM 2540C	Total Dissolved Solids	895	mg/L	10.0	04/02/20 17:58	
EPA 300.0 Rev 2.1 1993	Chloride	75.1	mg/L	1.0	04/04/20 16:49	
EPA 300.0 Rev 2.1 1993	Fluoride	0.44	mg/L	0.30	04/04/20 16:49	
EPA 300.0 Rev 2.1 1993	Sulfate	393	mg/L	8.0	04/05/20 07:07	
2630471017	**MW-29**					
	Field pH	7.07	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	148	mg/L	1.0	04/03/20 20:15	
EPA 6020B	Arsenic	0.00037J	mg/L	0.0050	04/02/20 15:58	B
EPA 6020B	Barium	0.080	mg/L	0.010	04/02/20 15:58	
EPA 6020B	Boron	1.3	mg/L	0.10	04/02/20 15:58	
EPA 6020B	Chromium	0.0010J	mg/L	0.010	04/02/20 15:58	
EPA 6020B	Cobalt	0.00063J	mg/L	0.0050	04/02/20 15:58	
EPA 6020B	Lead	0.00011J	mg/L	0.0050	04/02/20 15:58	
EPA 6020B	Lithium	0.0023J	mg/L	0.030	04/02/20 15:58	
EPA 6020B	Molybdenum	0.0029J	mg/L	0.010	04/02/20 15:58	
SM 2540C	Total Dissolved Solids	552	mg/L	10.0	04/02/20 17:58	
EPA 300.0 Rev 2.1 1993	Chloride	71.2	mg/L	1.0	04/04/20 17:04	
EPA 300.0 Rev 2.1 1993	Sulfate	130	mg/L	3.0	04/05/20 07:23	
2630471018	**HGWC-11**					
	Field pH	5.7	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	124	mg/L	1.0	04/02/20 18:39	M1
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	04/08/20 17:09	B
EPA 6020B	Barium	0.026	mg/L	0.010	04/08/20 17:09	
EPA 6020B	Beryllium	0.00015J	mg/L	0.0030	04/08/20 17:09	
EPA 6020B	Boron	0.17	mg/L	0.10	04/08/20 17:09	
EPA 6020B	Cobalt	0.0014J	mg/L	0.0050	04/08/20 17:09	
EPA 6020B	Lead	0.00030J	mg/L	0.0050	04/08/20 17:09	
EPA 6020B	Molybdenum	0.0074J	mg/L	0.010	04/08/20 17:09	
EPA 6020B	Selenium	0.019	mg/L	0.010	04/08/20 17:09	
SM 2540C	Total Dissolved Solids	565	mg/L	10.0	04/07/20 12:16	
EPA 300.0 Rev 2.1 1993	Chloride	3.2	mg/L	1.0	04/04/20 16:58	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19J	mg/L	0.30	04/04/20 16:58	
EPA 300.0 Rev 2.1 1993	Sulfate	283	mg/L	6.0	04/05/20 07:41	
2630471019	**MW-26D**					
	Field pH	7.20	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	155	mg/L	1.0	04/02/20 18:53	
EPA 6020B	Antimony	0.0013J	mg/L	0.0030	04/08/20 17:32	
EPA 6020B	Barium	0.11	mg/L	0.010	04/08/20 17:32	
EPA 6020B	Boron	1.8	mg/L	0.10	04/08/20 17:32	
EPA 6020B	Chromium	0.0010J	mg/L	0.010	04/08/20 17:32	
EPA 6020B	Cobalt	0.00030J	mg/L	0.0050	04/08/20 17:32	
EPA 6020B	Lead	0.00010J	mg/L	0.0050	04/08/20 17:32	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	04/08/20 17:32	
EPA 6020B	Molybdenum	0.0093J	mg/L	0.010	04/08/20 17:32	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471019	**MW-26D**					
SM 2540C	Total Dissolved Solids	623	mg/L	10.0	04/07/20 12:16	
EPA 300.0 Rev 2.1 1993	Chloride	98.0	mg/L	1.0	04/04/20 17:54	
EPA 300.0 Rev 2.1 1993	Sulfate	129	mg/L	3.0	04/05/20 07:56	
2630471020	**HGWC-9**					
	Field pH	7.07	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	182	mg/L	1.0	04/02/20 18:56	
EPA 6020B	Antimony	0.00042J	mg/L	0.0030	04/08/20 17:37	
EPA 6020B	Barium	0.11	mg/L	0.010	04/08/20 17:37	
EPA 6020B	Boron	2.2	mg/L	0.10	04/08/20 17:37	
EPA 6020B	Chromium	0.00052J	mg/L	0.010	04/08/20 17:37	
EPA 6020B	Cobalt	0.00051J	mg/L	0.0050	04/08/20 17:37	
EPA 6020B	Lead	0.00014J	mg/L	0.0050	04/08/20 17:37	
EPA 6020B	Lithium	0.0043J	mg/L	0.030	04/08/20 17:37	
EPA 6020B	Molybdenum	0.031	mg/L	0.010	04/08/20 17:37	
SM 2540C	Total Dissolved Solids	1010	mg/L	10.0	04/07/20 12:16	
EPA 300.0 Rev 2.1 1993	Chloride	105	mg/L	4.0	04/05/20 08:52	
EPA 300.0 Rev 2.1 1993	Fluoride	0.074J	mg/L	0.30	04/04/20 18:08	
EPA 300.0 Rev 2.1 1993	Sulfate	185	mg/L	4.0	04/05/20 08:52	
2630471021	**MW-30D**					
	Field pH	7.95	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	7.1	mg/L	1.0	04/02/20 19:00	
EPA 6020B	Antimony	0.00032J	mg/L	0.0030	04/08/20 17:43	
EPA 6020B	Barium	0.29	mg/L	0.010	04/08/20 17:43	
EPA 6020B	Boron	0.90	mg/L	0.10	04/08/20 17:43	
EPA 6020B	Chromium	0.00070J	mg/L	0.010	04/08/20 17:43	
EPA 6020B	Lead	0.000067J	mg/L	0.0050	04/08/20 17:43	
EPA 6020B	Lithium	0.25	mg/L	0.030	04/08/20 17:43	
EPA 6020B	Molybdenum	0.015	mg/L	0.010	04/08/20 17:43	
SM 2540C	Total Dissolved Solids	1130	mg/L	10.0	04/07/20 12:17	
EPA 300.0 Rev 2.1 1993	Chloride	111	mg/L	4.0	04/05/20 09:06	
EPA 300.0 Rev 2.1 1993	Fluoride	10.5	mg/L	1.2	04/05/20 09:06	
EPA 300.0 Rev 2.1 1993	Sulfate	139	mg/L	4.0	04/05/20 09:06	
2630471022	**FD-01**					
EPA 6010D	Calcium	7.8	mg/L	1.0	04/02/20 19:04	
EPA 6020B	Barium	0.27	mg/L	0.010	04/08/20 17:49	
EPA 6020B	Boron	0.86	mg/L	0.10	04/08/20 17:49	
EPA 6020B	Chromium	0.0013J	mg/L	0.010	04/08/20 17:49	
EPA 6020B	Lead	0.00021J	mg/L	0.0050	04/08/20 17:49	
EPA 6020B	Lithium	0.24	mg/L	0.030	04/08/20 17:49	
EPA 6020B	Molybdenum	0.014	mg/L	0.010	04/08/20 17:49	
SM 2540C	Total Dissolved Solids	1080	mg/L	10.0	04/07/20 12:17	
EPA 300.0 Rev 2.1 1993	Chloride	104	mg/L	4.0	04/05/20 09:20	
EPA 300.0 Rev 2.1 1993	Fluoride	10.4	mg/L	1.2	04/05/20 09:20	
EPA 300.0 Rev 2.1 1993	Sulfate	166	mg/L	4.0	04/05/20 09:20	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630471023	**HGWC-10**					
	Field pH	6.84	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	96.2	mg/L	1.0	04/06/20 16:34	M1
EPA 6020B	Barium	0.058	mg/L	0.010	04/09/20 11:02	
EPA 6020B	Boron	0.23	mg/L	0.10	04/09/20 11:02	
EPA 6020B	Lead	0.000050J	mg/L	0.0050	04/09/20 11:02	
EPA 6020B	Selenium	0.0020J	mg/L	0.010	04/09/20 11:02	
SM 2540C	Total Dissolved Solids	290	mg/L	10.0	04/07/20 12:20	
EPA 300.0 Rev 2.1 1993	Chloride	5.4	mg/L	1.0	04/04/20 16:02	
EPA 300.0 Rev 2.1 1993	Fluoride	0.12J	mg/L	0.30	04/04/20 16:02	
EPA 300.0 Rev 2.1 1993	Sulfate	59.0	mg/L	1.0	04/04/20 16:02	
2630471024	**MW-27D**					
	Field pH	8.11	Std. Units		04/07/20 14:38	
EPA 6010D	Calcium	28.4	mg/L	1.0	04/07/20 19:35	
EPA 6020B	Antimony	0.00030J	mg/L	0.0030	04/07/20 17:13	
EPA 6020B	Barium	1.0	mg/L	0.010	04/07/20 17:13	
EPA 6020B	Boron	0.13	mg/L	0.10	04/07/20 17:13	
EPA 6020B	Lead	0.00013J	mg/L	0.0050	04/07/20 17:13	
EPA 6020B	Lithium	0.0068J	mg/L	0.030	04/07/20 17:13	
EPA 6020B	Molybdenum	0.0030J	mg/L	0.010	04/07/20 17:13	
SM 2540C	Total Dissolved Solids	224	mg/L	10.0	04/07/20 12:20	
EPA 300.0 Rev 2.1 1993	Chloride	27.9	mg/L	1.0	04/07/20 20:04	
EPA 300.0 Rev 2.1 1993	Fluoride	0.24J	mg/L	0.30	04/07/20 20:04	
EPA 300.0 Rev 2.1 1993	Sulfate	13.3	mg/L	1.0	04/07/20 20:04	

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWA-1 **Lab ID: 2630471001** Collected: 03/25/20 15:56 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.95**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**127**	mg/L	1.0	0.14	1	03/31/20 20:57	04/02/20 13:58	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	03/31/20 21:03	04/02/20 20:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/31/20 21:03	04/02/20 20:39	7440-38-2	
Barium	**0.043**	mg/L	0.010	0.00049	1	03/31/20 21:03	04/02/20 20:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/31/20 21:03	04/02/20 20:39	7440-41-7	
Boron	**0.025J**	mg/L	0.10	0.0049	1	03/31/20 21:03	04/02/20 20:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/31/20 21:03	04/02/20 20:39	7440-43-9	
Chromium	**0.00072J**	mg/L	0.010	0.00039	1	03/31/20 21:03	04/02/20 20:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/31/20 21:03	04/02/20 20:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/31/20 21:03	04/02/20 20:39	7439-92-1	
Lithium	**0.00083J**	mg/L	0.030	0.00078	1	03/31/20 21:03	04/02/20 20:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/31/20 21:03	04/02/20 20:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/31/20 21:03	04/02/20 20:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/31/20 21:03	04/02/20 20:39	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**496**	mg/L	10.0	10.0	1		04/01/20 15:05		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**20.4**	mg/L	1.0	0.60	1		04/03/20 00:17	16887-00-6	
Fluoride	**0.098J**	mg/L	0.30	0.050	1		04/03/20 00:17	16984-48-8	
Sulfate	**85.9**	mg/L	1.0	0.50	1		04/03/20 00:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWA-3 **Lab ID: 2630471002** Collected: 03/25/20 15:17 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.4**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**89.8**	mg/L	1.0	0.14	1	03/31/20 20:57	04/02/20 14:01	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	03/31/20 21:03	04/02/20 20:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/31/20 21:03	04/02/20 20:56	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.00049	1	03/31/20 21:03	04/02/20 20:56	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/31/20 21:03	04/02/20 20:56	7440-41-7	
Boron	**0.0096J**	mg/L	0.10	0.0049	1	03/31/20 21:03	04/02/20 20:56	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/31/20 21:03	04/02/20 20:56	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/31/20 21:03	04/02/20 20:56	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/31/20 21:03	04/02/20 20:56	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/31/20 21:03	04/02/20 20:56	7439-92-1	
Lithium	**0.0035J**	mg/L	0.030	0.00078	1	03/31/20 21:03	04/02/20 20:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/31/20 21:03	04/02/20 20:56	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/31/20 21:03	04/02/20 20:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/31/20 21:03	04/02/20 20:56	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**284**	mg/L	10.0	10.0	1		04/01/20 15:05		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.1**	mg/L	1.0	0.60	1		04/03/20 01:01	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/03/20 01:01	16984-48-8	
Sulfate	**50.5**	mg/L	1.0	0.50	1		04/03/20 01:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWA-2 **Lab ID: 2630471003** Collected: 03/25/20 16:32 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**5.36**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**23.0**	mg/L	1.0	0.14	1	03/31/20 20:57	04/02/20 14:05	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	03/31/20 21:03	04/02/20 21:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/31/20 21:03	04/02/20 21:02	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00049	1	03/31/20 21:03	04/02/20 21:02	7440-39-3	
Beryllium	**0.00016J**	mg/L	0.0030	0.000074	1	03/31/20 21:03	04/02/20 21:02	7440-41-7	
Boron	**0.039J**	mg/L	0.10	0.0049	1	03/31/20 21:03	04/02/20 21:02	7440-42-8	
Cadmium	**0.00014J**	mg/L	0.0025	0.00011	1	03/31/20 21:03	04/02/20 21:02	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/31/20 21:03	04/02/20 21:02	7440-47-3	
Cobalt	**0.020**	mg/L	0.0050	0.00030	1	03/31/20 21:03	04/02/20 21:02	7440-48-4	
Lead	**0.00011J**	mg/L	0.0050	0.000046	1	03/31/20 21:03	04/02/20 21:02	7439-92-1	
Lithium	**0.0017J**	mg/L	0.030	0.00078	1	03/31/20 21:03	04/02/20 21:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/31/20 21:03	04/02/20 21:02	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/31/20 21:03	04/02/20 21:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/31/20 21:03	04/02/20 21:02	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**138**	mg/L	10.0	10.0	1		04/01/20 15:06		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.2**	mg/L	1.0	0.60	1		04/03/20 01:46	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/03/20 01:46	16984-48-8	
Sulfate	**46.3**	mg/L	1.0	0.50	1		04/03/20 01:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-12 **Lab ID: 2630471004** Collected: 03/26/20 08:50 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.99**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**145**	mg/L	1.0	0.14	1	04/01/20 15:36	04/02/20 17:59	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 15:40	04/02/20 22:30	7440-36-0	
Arsenic	**0.0028J**	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:30	7440-38-2	
Barium	**0.089**	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:30	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:30	7440-41-7	
Boron	**1.6**	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:30	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:30	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:30	7440-47-3	
Cobalt	**0.0012J**	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:30	7440-48-4	
Lead	**0.00043J**	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:30	7439-92-1	
Lithium	**0.0063J**	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:30	7439-93-2	
Molybdenum	**0.045**	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:30	7782-49-2	
Thallium	**0.000080J**	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:30	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**533**	mg/L	10.0	10.0	1		04/02/20 15:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**48.0**	mg/L	1.0	0.60	1		04/03/20 03:23	16887-00-6	
Fluoride	**0.17J**	mg/L	0.30	0.050	1		04/03/20 03:23	16984-48-8	
Sulfate	**182**	mg/L	4.0	2.0	4		04/03/20 10:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-25D **Lab ID: 2630471005** Collected: 03/26/20 10:45 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.57**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**27.0**	mg/L	1.0	0.14	1	04/01/20 19:37	04/03/20 21:08	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 15:40	04/02/20 22:47	7440-36-0	
Arsenic	**0.00075J**	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:47	7440-38-2	
Barium	**0.45**	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:47	7440-41-7	
Boron	**0.44**	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:47	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:47	7440-43-9	
Chromium	**0.00061J**	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:47	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:47	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:47	7439-92-1	
Lithium	**0.054**	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:47	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:47	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**385**	mg/L	10.0	10.0	1		04/02/20 15:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**34.6**	mg/L	1.0	0.60	1		04/03/20 03:37	16887-00-6	
Fluoride	**1.6**	mg/L	0.30	0.050	1		04/03/20 03:37	16984-48-8	
Sulfate	**32.3**	mg/L	1.0	0.50	1		04/03/20 03:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-19 **Lab ID: 2630471006** Collected: 03/26/20 12:30 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.28**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**171**	mg/L	1.0	0.14	1	04/01/20 19:37	04/03/20 21:22	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 15:40	04/02/20 22:52	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:52	7440-38-2	
Barium	**0.067**	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:52	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:52	7440-41-7	
Boron	**1.0**	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:52	7440-42-8	
Cadmium	**0.00019J**	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:52	7440-43-9	
Chromium	**0.00047J**	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:52	7440-47-3	
Cobalt	**0.045**	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:52	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:52	7439-92-1	
Lithium	**0.013J**	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:52	7439-93-2	
Molybdenum	**0.033**	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:52	7439-98-7	
Selenium	**0.0053J**	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:52	7782-49-2	
Thallium	**0.00026J**	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:52	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**626**	mg/L	10.0	10.0	1		04/02/20 15:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**64.0**	mg/L	1.0	0.60	1		04/03/20 03:52	16887-00-6	
Fluoride	**0.12J**	mg/L	0.30	0.050	1		04/03/20 03:52	16984-48-8	
Sulfate	**310**	mg/L	6.0	3.0	6		04/03/20 10:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-5 **Lab ID: 2630471007** Collected: 03/26/20 14:10 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.14**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**89.6**	mg/L	1.0	0.14	1	04/01/20 19:37	04/03/20 21:26	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 15:40	04/02/20 22:58	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:58	7440-38-2	
Barium	**0.046**	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:58	7440-41-7	
Boron	**0.041J**	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:58	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:58	7440-43-9	
Chromium	**0.0044J**	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:58	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:58	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:58	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:58	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:58	7439-98-7	
Selenium	**0.0039J**	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:58	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:58	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**385**	mg/L	10.0	10.0	1		04/02/20 15:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**0.73J**	mg/L	1.0	0.60	1		04/03/20 04:07	16887-00-6	M1
Fluoride	**0.082J**	mg/L	0.30	0.050	1		04/03/20 04:07	16984-48-8	
Sulfate	**176**	mg/L	4.0	2.0	4		04/03/20 11:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-7 **Lab ID: 2630471008** Collected: 03/27/20 09:30 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.05**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**119**	mg/L	1.0	0.14	1	04/01/20 19:37	04/03/20 22:40	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:05	7440-38-2	
Barium	**0.059**	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:05	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:05	7440-41-7	
Boron	**1.2**	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:05	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:05	7440-43-9	
Chromium	**0.00040J**	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:05	7440-47-3	
Cobalt	**0.00074J**	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:05	7440-48-4	
Lead	**0.000054J**	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:05	7439-92-1	
Lithium	**0.0020J**	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:05	7439-93-2	
Molybdenum	**0.044**	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:05	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:05	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**413**	mg/L	10.0	10.0	1		04/02/20 17:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**48.3**	mg/L	1.0	0.60	1		04/02/20 18:44	16887-00-6	
Fluoride	**0.059J**	mg/L	0.30	0.050	1		04/02/20 18:44	16984-48-8	
Sulfate	**109**	mg/L	2.0	1.0	2		04/03/20 08:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-28D **Lab ID: 2630471009** Collected: 03/27/20 10:40 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.42**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**53.0**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 19:47	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:22	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:22	7440-38-2	
Barium	**0.64**	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:22	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:22	7440-41-7	
Boron	**0.14**	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:22	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:22	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:22	7440-48-4	
Lead	**0.000062J**	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:22	7439-92-1	
Lithium	**0.014J**	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:22	7439-93-2	
Molybdenum	**0.0068J**	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:22	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**287**	mg/L	10.0	10.0	1		04/02/20 17:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**33.0**	mg/L	1.0	0.60	1		04/02/20 18:59	16887-00-6	
Fluoride	**0.26J**	mg/L	0.30	0.050	1		04/02/20 18:59	16984-48-8	
Sulfate	**36.0**	mg/L	1.0	0.50	1		04/02/20 18:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-20 **Lab ID: 2630471010** Collected: 03/27/20 09:30 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.75**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**126**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 19:50	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:28	7440-38-2	
Barium	**0.093**	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:28	7440-41-7	
Boron	**0.12**	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:28	7440-43-9	
Chromium	**0.00051J**	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:28	7440-48-4	
Lead	**0.00013J**	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:28	7439-92-1	
Lithium	**0.0012J**	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:28	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**429**	mg/L	10.0	10.0	1		04/02/20 17:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**28.8**	mg/L	1.0	0.60	1		04/02/20 19:43	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/02/20 19:43	16984-48-8	
Sulfate	**114**	mg/L	2.0	1.0	2		04/03/20 08:26	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-8 **Lab ID: 2630471011** Collected: 03/27/20 10:40 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.95**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**133**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 19:54	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:33	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:33	7440-38-2	
Barium	**0.059**	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:33	7440-41-7	
Boron	**2.4**	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:33	7440-42-8	
Cadmium	**0.00014J**	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:33	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:33	7440-47-3	
Cobalt	**0.0018J**	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:33	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:33	7439-92-1	
Lithium	**0.0026J**	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:33	7439-93-2	
Molybdenum	**0.42**	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:33	7782-49-2	
Thallium	**0.000077J**	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:33	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**541**	mg/L	10.0	10.0	1		04/02/20 17:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**79.8**	mg/L	1.0	0.60	1		04/02/20 19:58	16887-00-6	
Fluoride	**0.46**	mg/L	0.30	0.050	1		04/02/20 19:58	16984-48-8	
Sulfate	**173**	mg/L	4.0	2.0	4		04/03/20 08:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-6 **Lab ID: 2630471012** Collected: 03/27/20 13:00 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.82**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**186**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 19:57	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:39	7440-38-2	
Barium	**0.086**	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:39	7440-41-7	
Boron	**0.77**	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:39	7440-43-9	
Chromium	**0.00059J**	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:39	7440-47-3	
Cobalt	**0.00059J**	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:39	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:39	7439-93-2	
Molybdenum	**0.0026J**	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:39	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**676**	mg/L	10.0	10.0	1		04/02/20 17:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**48.6**	mg/L	1.0	0.60	1		04/02/20 20:13	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/02/20 20:13	16984-48-8	
Sulfate	**204**	mg/L	4.0	2.0	4		04/03/20 09:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: FB-01 **Lab ID: 2630471013** Collected: 03/27/20 00:00 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	ND	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:01	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:37	04/03/20 17:51	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 17:51	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 17:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 17:51	7440-41-7	
Boron	ND	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 17:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 17:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 17:51	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 17:51	7440-48-4	
Lead	**0.00019J**	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 17:51	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 17:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 17:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 17:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 17:51	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		04/02/20 17:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		04/02/20 20:28	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/02/20 20:28	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/02/20 20:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-7 **Lab ID: 2630471014** Collected: 03/30/20 09:05 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.06**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**31.1**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:04	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:00	04/02/20 15:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 15:28	7440-38-2	
Barium	**0.050**	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 15:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 15:28	7440-41-7	
Boron	**0.051J**	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 15:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 15:28	7440-43-9	
Chromium	**0.0021J**	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 15:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 15:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 15:28	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 15:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 15:28	7439-98-7	
Selenium	**0.0014J**	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 15:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 15:28	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**142**	mg/L	10.0	10.0	1		04/02/20 17:57		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.5**	mg/L	1.0	0.60	1		04/04/20 15:22	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 15:22	16984-48-8	
Sulfate	**46.2**	mg/L	1.0	0.50	1		04/04/20 15:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-24D **Lab ID: 2630471015** Collected: 03/30/20 10:30 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.49**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**84.4**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:08	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:00	04/02/20 15:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 15:34	7440-38-2	
Barium	**0.056**	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 15:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 15:34	7440-41-7	
Boron	**0.51**	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 15:34	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 15:34	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 15:34	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 15:34	7440-48-4	
Lead	**0.000064J**	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 15:34	7439-92-1	
Lithium	**0.0027J**	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 15:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 15:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 15:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 15:34	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**280**	mg/L	10.0	10.0	1		04/02/20 17:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**37.4**	mg/L	1.0	0.60	1		04/04/20 16:35	16887-00-6	
Fluoride	**0.064J**	mg/L	0.30	0.050	1		04/04/20 16:35	16984-48-8	
Sulfate	**84.9**	mg/L	1.0	0.50	1		04/04/20 16:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-13 **Lab ID: 2630471016** Collected: 03/30/20 12:15 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.91**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**234**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:11	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	**0.00036J**	mg/L	0.0030	0.00027	1	04/01/20 18:00	04/02/20 15:52	7440-36-0	
Arsenic	**0.47**	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 15:52	7440-38-2	
Barium	**0.080**	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 15:52	7440-39-3	
Beryllium	**0.000099J**	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 15:52	7440-41-7	
Boron	**1.8**	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 15:52	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 15:52	7440-43-9	
Chromium	**0.00059J**	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 15:52	7440-47-3	
Cobalt	**0.0053**	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 15:52	7440-48-4	
Lead	**0.00010J**	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 15:52	7439-92-1	
Lithium	**0.038**	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 15:52	7439-93-2	
Molybdenum	**0.029**	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 15:52	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 15:52	7782-49-2	
Thallium	**0.00048J**	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 15:52	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**895**	mg/L	10.0	10.0	1		04/02/20 17:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**75.1**	mg/L	1.0	0.60	1		04/04/20 16:49	16887-00-6	
Fluoride	**0.44**	mg/L	0.30	0.050	1		04/04/20 16:49	16984-48-8	
Sulfate	**393**	mg/L	8.0	4.0	8		04/05/20 07:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-29 **Lab ID: 2630471017** Collected: 03/30/20 15:35 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.07**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**148**	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:15	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/01/20 18:00	04/02/20 15:58	7440-36-0	
Arsenic	**0.00037J**	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 15:58	7440-38-2	B
Barium	**0.080**	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 15:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 15:58	7440-41-7	
Boron	**1.3**	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 15:58	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 15:58	7440-43-9	
Chromium	**0.0010J**	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 15:58	7440-47-3	
Cobalt	**0.00063J**	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 15:58	7440-48-4	
Lead	**0.00011J**	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 15:58	7439-92-1	
Lithium	**0.0023J**	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 15:58	7439-93-2	
Molybdenum	**0.0029J**	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 15:58	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 15:58	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 15:58	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**552**	mg/L	10.0	10.0	1		04/02/20 17:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**71.2**	mg/L	1.0	0.60	1		04/04/20 17:04	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 17:04	16984-48-8	
Sulfate	**130**	mg/L	3.0	1.5	3		04/05/20 07:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-11 **Lab ID: 2630471018** Collected: 03/31/20 15:22 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**5.7**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**124**	mg/L	1.0	0.14	1	04/02/20 14:30	04/02/20 18:39	7440-70-2	M1
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/08/20 17:09	7440-36-0	
Arsenic	**0.0022J**	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 17:09	7440-38-2	B
Barium	**0.026**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 17:09	7440-39-3	
Beryllium	**0.00015J**	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 17:09	7440-41-7	
Boron	**0.17**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/08/20 17:09	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 17:09	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 17:09	7440-47-3	
Cobalt	**0.0014J**	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 17:09	7440-48-4	
Lead	**0.00030J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 17:09	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 17:09	7439-93-2	
Molybdenum	**0.0074J**	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 17:09	7439-98-7	
Selenium	**0.019**	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 17:09	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 17:09	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**565**	mg/L	10.0	10.0	1		04/07/20 12:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3.2**	mg/L	1.0	0.60	1		04/04/20 16:58	16887-00-6	
Fluoride	**0.19J**	mg/L	0.30	0.050	1		04/04/20 16:58	16984-48-8	
Sulfate	**283**	mg/L	6.0	3.0	6		04/05/20 07:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-26D **Lab ID: 2630471019** Collected: 03/31/20 09:35 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.20**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**155**	mg/L	1.0	0.14	1	04/02/20 14:30	04/02/20 18:53	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	**0.0013J**	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/08/20 17:32	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 17:32	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 17:32	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 17:32	7440-41-7	
Boron	**1.8**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/08/20 17:32	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 17:32	7440-43-9	
Chromium	**0.0010J**	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 17:32	7440-47-3	
Cobalt	**0.00030J**	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 17:32	7440-48-4	
Lead	**0.00010J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 17:32	7439-92-1	
Lithium	**0.0036J**	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 17:32	7439-93-2	
Molybdenum	**0.0093J**	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 17:32	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 17:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 17:32	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**623**	mg/L	10.0	10.0	1		04/07/20 12:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**98.0**	mg/L	1.0	0.60	1		04/04/20 17:54	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 17:54	16984-48-8	
Sulfate	**129**	mg/L	3.0	1.5	3		04/05/20 07:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-9 **Lab ID: 2630471020** Collected: 03/31/20 12:00 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.07**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**182**	mg/L	1.0	0.14	1	04/02/20 14:30	04/02/20 18:56	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	**0.00042J**	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/08/20 17:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 17:37	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 17:37	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 17:37	7440-41-7	
Boron	**2.2**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/08/20 17:37	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 17:37	7440-43-9	
Chromium	**0.00052J**	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 17:37	7440-47-3	
Cobalt	**0.00051J**	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 17:37	7440-48-4	
Lead	**0.00014J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 17:37	7439-92-1	
Lithium	**0.0043J**	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 17:37	7439-93-2	
Molybdenum	**0.031**	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 17:37	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 17:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 17:37	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**1010**	mg/L	10.0	10.0	1		04/07/20 12:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**105**	mg/L	4.0	2.4	4		04/05/20 08:52	16887-00-6	
Fluoride	**0.074J**	mg/L	0.30	0.050	1		04/04/20 18:08	16984-48-8	
Sulfate	**185**	mg/L	4.0	2.0	4		04/05/20 08:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-30D **Lab ID: 2630471021** Collected: 03/31/20 10:00 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.95**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**7.1**	mg/L	1.0	0.14	1	04/02/20 14:30	04/02/20 19:00	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	**0.00032J**	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/08/20 17:43	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 17:43	7440-38-2	
Barium	**0.29**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 17:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 17:43	7440-41-7	
Boron	**0.90**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/08/20 17:43	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 17:43	7440-43-9	
Chromium	**0.00070J**	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 17:43	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 17:43	7440-48-4	
Lead	**0.000067J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 17:43	7439-92-1	
Lithium	**0.25**	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 17:43	7439-93-2	
Molybdenum	**0.015**	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 17:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 17:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 17:43	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**1130**	mg/L	10.0	10.0	1		04/07/20 12:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**111**	mg/L	4.0	2.4	4		04/05/20 09:06	16887-00-6	
Fluoride	**10.5**	mg/L	1.2	0.20	4		04/05/20 09:06	16984-48-8	
Sulfate	**139**	mg/L	4.0	2.0	4		04/05/20 09:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: FD-01 **Lab ID: 2630471022** Collected: 03/31/20 00:00 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**7.8**	mg/L	1.0	0.14	1	04/02/20 14:30	04/02/20 19:04	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/08/20 17:49	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 17:49	7440-38-2	
Barium	**0.27**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 17:49	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 17:49	7440-41-7	
Boron	**0.86**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/08/20 17:49	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 17:49	7440-43-9	
Chromium	**0.0013J**	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 17:49	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 17:49	7440-48-4	
Lead	**0.00021J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 17:49	7439-92-1	
Lithium	**0.24**	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 17:49	7439-93-2	
Molybdenum	**0.014**	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 17:49	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 17:49	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 17:49	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**1080**	mg/L	10.0	10.0	1		04/07/20 12:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**104**	mg/L	4.0	2.4	4		04/05/20 09:20	16887-00-6	
Fluoride	**10.4**	mg/L	1.2	0.20	4		04/05/20 09:20	16984-48-8	
Sulfate	**166**	mg/L	4.0	2.0	4		04/05/20 09:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: HGWC-10 **Lab ID: 2630471023** Collected: 04/01/20 09:47 Received: 04/02/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**6.84**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**96.2**	mg/L	1.0	0.14	1	04/03/20 15:15	04/06/20 16:34	7440-70-2	M1
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	04/02/20 19:04	04/09/20 11:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/09/20 11:02	7440-38-2	
Barium	**0.058**	mg/L	0.010	0.00049	1	04/02/20 19:04	04/09/20 11:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/09/20 11:02	7440-41-7	
Boron	**0.23**	mg/L	0.10	0.0049	1	04/02/20 19:04	04/09/20 11:02	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/09/20 11:02	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/02/20 19:04	04/09/20 11:02	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/09/20 11:02	7440-48-4	
Lead	**0.000050J**	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/09/20 11:02	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/02/20 19:04	04/09/20 11:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/02/20 19:04	04/09/20 11:02	7439-98-7	
Selenium	**0.0020J**	mg/L	0.010	0.0013	1	04/02/20 19:04	04/09/20 11:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/09/20 11:02	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**290**	mg/L	10.0	10.0	1		04/07/20 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.4**	mg/L	1.0	0.60	1		04/04/20 16:02	16887-00-6	
Fluoride	**0.12J**	mg/L	0.30	0.050	1		04/04/20 16:02	16984-48-8	
Sulfate	**59.0**	mg/L	1.0	0.50	1		04/04/20 16:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Sample: MW-27D **Lab ID: 2630471024** Collected: 04/02/20 10:48 Received: 04/03/20 11:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**8.11**	Std. Units			1		04/07/20 14:38		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**28.4**	mg/L	1.0	0.14	1	04/06/20 13:13	04/07/20 19:35	7440-70-2	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Antimony	**0.00030J**	mg/L	0.0030	0.00027	1	04/06/20 13:09	04/07/20 17:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	04/06/20 13:09	04/07/20 17:13	7440-38-2	
Barium	**1.0**	mg/L	0.010	0.00049	1	04/06/20 13:09	04/07/20 17:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/06/20 13:09	04/07/20 17:13	7440-41-7	
Boron	**0.13**	mg/L	0.10	0.0049	1	04/06/20 13:09	04/07/20 17:13	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/06/20 13:09	04/07/20 17:13	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/06/20 13:09	04/07/20 17:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/06/20 13:09	04/07/20 17:13	7440-48-4	
Lead	**0.00013J**	mg/L	0.0050	0.000046	1	04/06/20 13:09	04/07/20 17:13	7439-92-1	
Lithium	**0.0068J**	mg/L	0.030	0.00078	1	04/06/20 13:09	04/07/20 17:13	7439-93-2	
Molybdenum	**0.0030J**	mg/L	0.010	0.00095	1	04/06/20 13:09	04/07/20 17:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/06/20 13:09	04/07/20 17:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/06/20 13:09	04/07/20 17:13	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**224**	mg/L	10.0	10.0	1		04/07/20 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**27.9**	mg/L	1.0	0.60	1		04/07/20 20:04	16887-00-6	
Fluoride	**0.24J**	mg/L	0.30	0.050	1		04/07/20 20:04	16984-48-8	
Sulfate	**13.3**	mg/L	1.0	0.50	1		04/07/20 20:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45121
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471001, 2630471002, 2630471003

METHOD BLANK: 207982 Matrix: Water
Associated Lab Samples: 2630471001, 2630471002, 2630471003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/02/20 13:05	

LABORATORY CONTROL SAMPLE: 207983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 207984 207985

Parameter	Units	2630449007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	157	1	1	158	157	93	15	75-125	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45172
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471004

METHOD BLANK: 208108 Matrix: Water
Associated Lab Samples: 2630471004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/02/20 16:01	

LABORATORY CONTROL SAMPLE: 208109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208110 208111

Parameter	Units	2630435022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	107	1	1	110	108	372	91	75-125	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45185
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471005, 2630471006, 2630471007, 2630471008

METHOD BLANK: 208195 Matrix: Water
Associated Lab Samples: 2630471005, 2630471006, 2630471007, 2630471008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/03/20 20:54	

LABORATORY CONTROL SAMPLE: 208196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208197 208198

Parameter	Units	2630471005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	27.0	1	1	27.9	28.3	89	125	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45190
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471009, 2630471010, 2630471011, 2630471012, 2630471013, 2630471014, 2630471015, 2630471016, 2630471017

METHOD BLANK: 208222 Matrix: Water
Associated Lab Samples: 2630471009, 2630471010, 2630471011, 2630471012, 2630471013, 2630471014, 2630471015, 2630471016, 2630471017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/03/20 19:19	

LABORATORY CONTROL SAMPLE: 208223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208224 208225

Parameter	Units	2630623001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	7420 ug/L	1	1	8.7	8.6	124	119	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45218
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022

METHOD BLANK: 208341 Matrix: Water
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/02/20 18:14	

LABORATORY CONTROL SAMPLE: 208342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208343 208344

Parameter	Units	2630471018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	124	1	1	128	131	368	710	75-125	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45249
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471023

METHOD BLANK: 208586 Matrix: Water
Associated Lab Samples: 2630471023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/06/20 16:20	

LABORATORY CONTROL SAMPLE: 208587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208588 208589

Parameter	Units	2630471023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	96.2	1	1	97.8	98.3	156	209	75-125	1	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45281
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471024

METHOD BLANK: 208760 Matrix: Water
Associated Lab Samples: 2630471024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/07/20 18:12	

LABORATORY CONTROL SAMPLE: 208761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208762 208763

Parameter	Units	2630683017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	2310 ug/L	1	1	3.4	3.3	113	100	75-125	4	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45112
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471001, 2630471002, 2630471003

METHOD BLANK: 207955 Matrix: Water
Associated Lab Samples: 2630471001, 2630471002, 2630471003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/02/20 18:39	
Arsenic	mg/L	ND	0.0050	0.00035	04/02/20 18:39	
Barium	mg/L	ND	0.010	0.00049	04/02/20 18:39	
Beryllium	mg/L	ND	0.0030	0.000074	04/02/20 18:39	
Boron	mg/L	ND	0.10	0.0049	04/02/20 18:39	
Cadmium	mg/L	ND	0.0025	0.00011	04/02/20 18:39	
Chromium	mg/L	ND	0.010	0.00039	04/02/20 18:39	
Cobalt	mg/L	ND	0.0050	0.00030	04/02/20 18:39	
Lead	mg/L	ND	0.0050	0.000046	04/02/20 18:39	
Lithium	mg/L	ND	0.030	0.00078	04/02/20 18:39	
Molybdenum	mg/L	ND	0.010	0.00095	04/02/20 18:39	
Selenium	mg/L	ND	0.010	0.0013	04/02/20 18:39	
Thallium	mg/L	ND	0.0010	0.000052	04/02/20 18:39	

LABORATORY CONTROL SAMPLE: 207956

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	100	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.1	105	80-120	
Cadmium	mg/L	0.1	0.10	102	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 207957 207958

Parameter	Units	2630435012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00031J	0.1	0.1	0.11	0.11	106	105	75-125	1	20	
Arsenic	mg/L	0.00070J	0.1	0.1	0.10	0.10	99	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 207957 207958

Parameter	Units	2630435012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.033	0.1	0.1	0.14	0.13	102	99	75-125	2	20	
Beryllium	mg/L	0.00034J	0.1	0.1	0.096	0.099	95	99	75-125	4	20	
Boron	mg/L	2.4	1	1	3.4	3.4	97	102	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	102	103	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.11	0.10	107	102	75-125	4	20	
Cobalt	mg/L	0.0016J	0.1	0.1	0.10	0.10	102	101	75-125	1	20	
Lead	mg/L	0.000075J	0.1	0.1	0.10	0.10	100	101	75-125	1	20	
Lithium	mg/L	0.016J	0.1	0.1	0.12	0.12	101	103	75-125	2	20	
Molybdenum	mg/L	0.0015J	0.1	0.1	0.11	0.11	105	104	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.099	0.10	99	100	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45171
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007

METHOD BLANK: 208104 Matrix: Water
Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/02/20 20:29	
Arsenic	mg/L	ND	0.0050	0.00035	04/02/20 20:29	
Barium	mg/L	ND	0.010	0.00049	04/02/20 20:29	
Beryllium	mg/L	ND	0.0030	0.000074	04/02/20 20:29	
Boron	mg/L	ND	0.10	0.0049	04/02/20 20:29	
Cadmium	mg/L	ND	0.0025	0.00011	04/02/20 20:29	
Chromium	mg/L	ND	0.010	0.00039	04/02/20 20:29	
Cobalt	mg/L	ND	0.0050	0.00030	04/02/20 20:29	
Lead	mg/L	ND	0.0050	0.000046	04/02/20 20:29	
Lithium	mg/L	ND	0.030	0.00078	04/02/20 20:29	
Molybdenum	mg/L	ND	0.010	0.00095	04/02/20 20:29	
Selenium	mg/L	ND	0.010	0.0013	04/02/20 20:29	
Thallium	mg/L	ND	0.0010	0.000052	04/02/20 20:29	

LABORATORY CONTROL SAMPLE: 208105

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	0.096	96	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.096	96	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.093	93	80-120	
Thallium	mg/L	0.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208106 208107

Parameter	Units	2630449011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00042J	0.1	0.1	0.10	0.10	104	104	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208106 208107

Parameter	Units	2630449011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.0072J	0.1	0.1	0.11	0.11	101	101	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	
Boron	mg/L	0.24	1	1	1.2	1.2	94	97	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.099	0.10	99	100	75-125	1	20	
Chromium	mg/L	0.0016J	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.10	99	101	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.094	0.094	94	93	75-125	0	20	
Lithium	mg/L	0.0031J	0.1	0.1	0.10	0.10	98	97	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.097	95	96	75-125	2	20	
Thallium	mg/L	0.000085J	0.1	0.1	0.094	0.095	94	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45184
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

METHOD BLANK: 208191 Matrix: Water
Associated Lab Samples: 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/03/20 15:05	
Arsenic	mg/L	ND	0.0050	0.00035	04/03/20 15:05	
Barium	mg/L	ND	0.010	0.00049	04/03/20 15:05	
Beryllium	mg/L	ND	0.0030	0.000074	04/03/20 15:05	
Boron	mg/L	ND	0.10	0.0049	04/03/20 15:05	
Cadmium	mg/L	ND	0.0025	0.00011	04/03/20 15:05	
Chromium	mg/L	ND	0.010	0.00039	04/03/20 15:05	
Cobalt	mg/L	ND	0.0050	0.00030	04/03/20 15:05	
Lead	mg/L	ND	0.0050	0.000046	04/03/20 15:05	
Lithium	mg/L	ND	0.030	0.00078	04/03/20 15:05	
Molybdenum	mg/L	ND	0.010	0.00095	04/03/20 15:05	
Selenium	mg/L	ND	0.010	0.0013	04/03/20 15:05	
Thallium	mg/L	ND	0.0010	0.000052	04/03/20 15:05	

LABORATORY CONTROL SAMPLE: 208192

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	0.098	98	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208193 208194

Parameter	Units	2630325039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	0	20	
Arsenic	mg/L	0.00051J	0.1	0.1	0.10	0.10	99	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208193 208194

Parameter	Units	2630325039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.046	0.1	0.1	0.15	0.14	100	98	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	2	20	
Boron	mg/L	1.9	1	1	2.9	2.9	91	92	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Chromium	mg/L	0.00058J	0.1	0.1	0.10	0.10	101	103	75-125	2	20	
Cobalt	mg/L	0.00056J	0.1	0.1	0.10	0.10	100	101	75-125	1	20	
Lead	mg/L	0.00017J	0.1	0.1	0.092	0.092	91	92	75-125	0	20	
Lithium	mg/L	0.00079J	0.1	0.1	0.099	0.10	98	100	75-125	2	20	
Molybdenum	mg/L	0.0012J	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Selenium	mg/L	0.0039J	0.1	0.1	0.10	0.11	100	104	75-125	4	20	
Thallium	mg/L	0.00014J	0.1	0.1	0.093	0.095	93	95	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45189
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017

METHOD BLANK: 208216 Matrix: Water
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/02/20 14:43	
Arsenic	mg/L	0.00071J	0.0050	0.00035	04/02/20 14:43	
Barium	mg/L	ND	0.010	0.00049	04/02/20 14:43	
Beryllium	mg/L	ND	0.0030	0.000074	04/02/20 14:43	
Boron	mg/L	ND	0.10	0.0049	04/02/20 14:43	
Cadmium	mg/L	ND	0.0025	0.00011	04/02/20 14:43	
Chromium	mg/L	ND	0.010	0.00039	04/02/20 14:43	
Cobalt	mg/L	ND	0.0050	0.00030	04/02/20 14:43	
Lead	mg/L	ND	0.0050	0.000046	04/02/20 14:43	
Lithium	mg/L	ND	0.030	0.00078	04/02/20 14:43	
Molybdenum	mg/L	ND	0.010	0.00095	04/02/20 14:43	
Selenium	mg/L	ND	0.010	0.0013	04/02/20 14:43	
Thallium	mg/L	ND	0.0010	0.000052	04/02/20 14:43	

LABORATORY CONTROL SAMPLE: 208217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.10	104	80-120	
Boron	mg/L	1	1.1	105	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	0.097	97	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208218 208219

Parameter	Units	2630600001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.098	98	96	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208218 208219

Parameter	Units	2630600001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.021	0.1	0.1	0.12	0.12	97	98	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Boron	mg/L	ND	1	1	1.0	1.0	100	98	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.099	99	98	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.097	0.095	97	95	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.098	0.099	97	99	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	99	99	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.096	96	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.094	96	94	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45226
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023

METHOD BLANK: 208424 Matrix: Water
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/08/20 16:57	
Arsenic	mg/L	0.00095J	0.0050	0.00035	04/08/20 16:57	
Barium	mg/L	ND	0.010	0.00049	04/08/20 16:57	
Beryllium	mg/L	ND	0.0030	0.000074	04/08/20 16:57	
Boron	mg/L	ND	0.10	0.0049	04/08/20 16:57	
Cadmium	mg/L	ND	0.0025	0.00011	04/08/20 16:57	
Chromium	mg/L	ND	0.010	0.00039	04/08/20 16:57	
Cobalt	mg/L	ND	0.0050	0.00030	04/08/20 16:57	
Lead	mg/L	ND	0.0050	0.000046	04/08/20 16:57	
Lithium	mg/L	ND	0.030	0.00078	04/08/20 16:57	
Molybdenum	mg/L	ND	0.010	0.00095	04/08/20 16:57	
Selenium	mg/L	ND	0.010	0.0013	04/08/20 16:57	
Thallium	mg/L	ND	0.0010	0.000052	04/08/20 16:57	

LABORATORY CONTROL SAMPLE: 208425

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	0.10	102	80-120	
Barium	mg/L	0.1	0.10	104	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.1	105	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.10	102	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.11	105	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208426 208427

Parameter	Units	2630471018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	0.10	106	103	75-125	2	20	
Arsenic	mg/L	0.0022J	0.1	0.1	0.10	0.10	101	101	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208426 208427

Parameter	Units	2630471018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.026	0.1	0.1	0.13	0.13	107	108	75-125	0	20	
Beryllium	mg/L	0.00015J	0.1	0.1	0.097	0.098	97	97	75-125	0	20	
Boron	mg/L	0.17	1	1	1.2	1.2	102	106	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	2	20	
Cobalt	mg/L	0.0014J	0.1	0.1	0.099	0.10	97	99	75-125	1	20	
Lead	mg/L	0.00030J	0.1	0.1	0.092	0.094	92	93	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.10	100	105	75-125	5	20	
Molybdenum	mg/L	0.0074J	0.1	0.1	0.11	0.11	105	105	75-125	0	20	
Selenium	mg/L	0.019	0.1	0.1	0.12	0.12	102	99	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.093	0.094	93	94	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45280
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471024

METHOD BLANK: 208755 Matrix: Water
Associated Lab Samples: 2630471024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/07/20 14:39	
Arsenic	mg/L	ND	0.0050	0.00035	04/07/20 14:39	
Barium	mg/L	ND	0.010	0.00049	04/07/20 14:39	
Beryllium	mg/L	ND	0.0030	0.000074	04/07/20 14:39	
Boron	mg/L	ND	0.10	0.0049	04/07/20 14:39	
Cadmium	mg/L	ND	0.0025	0.00011	04/07/20 14:39	
Chromium	mg/L	ND	0.010	0.00039	04/07/20 14:39	
Cobalt	mg/L	ND	0.0050	0.00030	04/07/20 14:39	
Lead	mg/L	ND	0.0050	0.000046	04/07/20 14:39	
Lithium	mg/L	ND	0.030	0.00078	04/07/20 14:39	
Molybdenum	mg/L	ND	0.010	0.00095	04/07/20 14:39	
Selenium	mg/L	ND	0.010	0.0013	04/07/20 14:39	
Thallium	mg/L	ND	0.0010	0.000052	04/07/20 14:39	

LABORATORY CONTROL SAMPLE: 208756

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.097	97	80-120	
Arsenic	mg/L	0.1	0.093	93	80-120	
Barium	mg/L	0.1	0.095	95	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	0.1	0.095	95	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.096	96	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	0.093	93	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208757 208758

Parameter	Units	92471969008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.093	0.093	92	93	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 208757 208758

Parameter	Units	92471969008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	59.9 ug/L	0.1	0.1	0.15	0.15	95	92	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.096	94	96	75-125	1	20	
Boron	mg/L	ND	1	1	0.94	0.97	94	96	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.097	0.097	95	96	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.097	0.097	97	97	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.094	0.092	94	92	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45160
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471001, 2630471002, 2630471003

LABORATORY CONTROL SAMPLE: 208030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	371	93	84-108	

SAMPLE DUPLICATE: 208031

Parameter	Units	2630449005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	278	272	2	10	

SAMPLE DUPLICATE: 208032

Parameter	Units	2630472002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	281	277	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45207
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007

LABORATORY CONTROL SAMPLE: 208287

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	341	85	84-108	

SAMPLE DUPLICATE: 208288

Parameter	Units	2630482003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	79.0	57.0	32	10	D6

SAMPLE DUPLICATE: 208289

Parameter	Units	2630472006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	69.0	80.0	15	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45209
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013, 2630471014, 2630471015, 2630471016, 2630471017

LABORATORY CONTROL SAMPLE: 208290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	375	94	84-108	

SAMPLE DUPLICATE: 208291

Parameter	Units	2630525003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	193	188	3	10	

SAMPLE DUPLICATE: 208292

Parameter	Units	2630471008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	413	422	2	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 45302
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023, 2630471024

LABORATORY CONTROL SAMPLE: 208859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	368	92	84-108	

SAMPLE DUPLICATE: 208860

Parameter	Units	2630471018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	565	535	5	10	

SAMPLE DUPLICATE: 208861

Parameter	Units	2630525018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	267	269	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 533983
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

METHOD BLANK: 2849870 Matrix: Water
Associated Lab Samples: 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/02/20 16:46	
Fluoride	mg/L	ND	0.10	0.050	04/02/20 16:46	
Sulfate	mg/L	ND	1.0	0.50	04/02/20 16:46	

LABORATORY CONTROL SAMPLE: 2849871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.8	102	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	50.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849872 2849873

Parameter	Units	2630525010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.2	50	50	56.1	56.3	110	110	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	103	105	90-110	2	10	
Sulfate	mg/L	10.8	50	50	65.8	66.0	110	110	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849874 2849875

Parameter	Units	92471182001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.2	50	50	57.8	59.5	109	113	90-110	3	10	M1
Fluoride	mg/L	0.12	2.5	2.5	2.8	2.9	109	113	90-110	4	10	M1
Sulfate	mg/L	ND	50	50	54.8	56.8	109	112	90-110	3	10	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 533985
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630471001, 2630471002, 2630471003, 2630471004, 2630471005, 2630471006, 2630471007

METHOD BLANK: 2849882 Matrix: Water
Associated Lab Samples: 2630471001, 2630471002, 2630471003, 2630471004, 2630471005, 2630471006, 2630471007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/02/20 23:48	
Fluoride	mg/L	ND	0.10	0.050	04/02/20 23:48	
Sulfate	mg/L	ND	1.0	0.50	04/02/20 23:48	

LABORATORY CONTROL SAMPLE: 2849883

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	2.5	102	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849884 2849885

Parameter	Units	2630472001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	20.4	50	50	75.6	76.0	110	111	90-110	1	10	M1
Fluoride	mg/L	0.098J	2.5	2.5	2.7	2.8	104	106	90-110	2	10	
Sulfate	mg/L	85.9	50	50	138	138	103	104	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849886 2849887

Parameter	Units	2630471007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.73J	50	50	58.0	58.4	114	115	90-110	1	10	M1
Fluoride	mg/L	0.082J	2.5	2.5	2.8	2.8	109	109	90-110	0	10	
Sulfate	mg/L	176	50	50	227	231	102	109	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 534237
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017

METHOD BLANK: 2851088 Matrix: Water
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/04/20 14:53	
Fluoride	mg/L	ND	0.10	0.050	04/04/20 14:53	
Sulfate	mg/L	ND	1.0	0.50	04/04/20 14:53	

LABORATORY CONTROL SAMPLE: 2851089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.6	97	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	48.6	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2851147 2851148

Parameter	Units	2630471014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	50	50	50.2	50.4	97	98	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	104	105	90-110	0	10	
Sulfate	mg/L	46.2	50	50	93.5	93.5	95	95	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2851149 2851150

Parameter	Units	92471612001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	391	50	50	392	404	0	25	90-110	3	10	M6
Fluoride	mg/L	0.27	2.5	2.5	2.6	2.6	93	94	90-110	1	10	
Sulfate	mg/L	119	50	50	161	166	83	93	90-110	3	10	M6

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 534425
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023

METHOD BLANK: 2852105 Matrix: Water
Associated Lab Samples: 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/04/20 14:52	
Fluoride	mg/L	ND	0.10	0.050	04/04/20 14:52	
Sulfate	mg/L	ND	1.0	0.50	04/04/20 14:52	

LABORATORY CONTROL SAMPLE: 2852106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.2	104	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	51.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2852107 2852108

Parameter	Units	2630491001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	124	50	50	177	178	105	109	90-110	1	10	
Fluoride	mg/L	0.59	2.5	2.5	3.2	3.3	106	110	90-110	3	10	
Sulfate	mg/L	118	50	50	170	171	103	107	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2852109 2852110

Parameter	Units	2630472013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	161	50	50	215	216	107	109	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.9	3.0	116	120	90-110	3	10	M1
Sulfate	mg/L	484	50	50	534	536	100	103	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

QC Batch: 534656
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630471024

METHOD BLANK: 2853372 Matrix: Water
Associated Lab Samples: 2630471024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/07/20 19:36	
Fluoride	mg/L	ND	0.10	0.050	04/07/20 19:36	
Sulfate	mg/L	ND	1.0	0.50	04/07/20 19:36	

LABORATORY CONTROL SAMPLE: 2853373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2853374 2853375

Parameter	Units	2630471024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.9	50	50	77.4	78.8	99	102	90-110	2	10	
Fluoride	mg/L	0.24J	2.5	2.5	2.7	2.8	98	103	90-110	4	10	
Sulfate	mg/L	13.3	50	50	62.0	63.5	98	100	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2853376 2853377

Parameter	Units	92472309013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.5	50	50	59.3	59.7	104	104	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	100	102	90-110	1	10	
Sulfate	mg/L	ND	50	50	51.0	51.4	102	102	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630471001	**HGWA-1**				
2630471002	**HGWA-3**				
2630471003	**HGWA-2**				
2630471004	**HGWC-12**				
2630471005	**MW-25D**				
2630471006	**MW-19**				
2630471007	**MW-5**				
2630471008	**HGWC-7**				
2630471009	**MW-28D**				
2630471010	**MW-20**				
2630471011	**HGWC-8**				
2630471012	**MW-6**				
2630471014	**MW-7**				
2630471015	**MW-24D**				
2630471016	**HGWC-13**				
2630471017	**MW-29**				
2630471018	**HGWC-11**				
2630471019	**MW-26D**				
2630471020	**HGWC-9**				
2630471021	**MW-30D**				
2630471023	**HGWC-10**				
2630471024	**MW-27D**				
2630471001	**HGWA-1**	EPA 3010A	45121	EPA 6010D	45135
2630471002	**HGWA-3**	EPA 3010A	45121	EPA 6010D	45135
2630471003	**HGWA-2**	EPA 3010A	45121	EPA 6010D	45135
2630471004	**HGWC-12**	EPA 3010A	45172	EPA 6010D	45193
2630471005	**MW-25D**	EPA 3010A	45185	EPA 6010D	45196
2630471006	**MW-19**	EPA 3010A	45185	EPA 6010D	45196
2630471007	**MW-5**	EPA 3010A	45185	EPA 6010D	45196
2630471008	**HGWC-7**	EPA 3010A	45185	EPA 6010D	45196
2630471009	**MW-28D**	EPA 3010A	45190	EPA 6010D	45194
2630471010	**MW-20**	EPA 3010A	45190	EPA 6010D	45194
2630471011	**HGWC-8**	EPA 3010A	45190	EPA 6010D	45194
2630471012	**MW-6**	EPA 3010A	45190	EPA 6010D	45194
2630471013	**FB-01**	EPA 3010A	45190	EPA 6010D	45194
2630471014	**MW-7**	EPA 3010A	45190	EPA 6010D	45194
2630471015	**MW-24D**	EPA 3010A	45190	EPA 6010D	45194
2630471016	**HGWC-13**	EPA 3010A	45190	EPA 6010D	45194
2630471017	**MW-29**	EPA 3010A	45190	EPA 6010D	45194
2630471018	**HGWC-11**	EPA 3010A	45218	EPA 6010D	45223
2630471019	**MW-26D**	EPA 3010A	45218	EPA 6010D	45223
2630471020	**HGWC-9**	EPA 3010A	45218	EPA 6010D	45223
2630471021	**MW-30D**	EPA 3010A	45218	EPA 6010D	45223
2630471022	**FD-01**	EPA 3010A	45218	EPA 6010D	45223
2630471023	**HGWC-10**	EPA 3010A	45249	EPA 6010D	45263

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630471024	**MW-27D**	EPA 3010A	45281	EPA 6010D	45288
2630471001	**HGWA-1**	EPA 3005A	45112	EPA 6020B	45137
2630471002	**HGWA-3**	EPA 3005A	45112	EPA 6020B	45137
2630471003	**HGWA-2**	EPA 3005A	45112	EPA 6020B	45137
2630471004	**HGWC-12**	EPA 3005A	45171	EPA 6020B	45192
2630471005	**MW-25D**	EPA 3005A	45171	EPA 6020B	45192
2630471006	**MW-19**	EPA 3005A	45171	EPA 6020B	45192
2630471007	**MW-5**	EPA 3005A	45171	EPA 6020B	45192
2630471008	**HGWC-7**	EPA 3005A	45184	EPA 6020B	45197
2630471009	**MW-28D**	EPA 3005A	45184	EPA 6020B	45197
2630471010	**MW-20**	EPA 3005A	45184	EPA 6020B	45197
2630471011	**HGWC-8**	EPA 3005A	45184	EPA 6020B	45197
2630471012	**MW-6**	EPA 3005A	45184	EPA 6020B	45197
2630471013	**FB-01**	EPA 3005A	45184	EPA 6020B	45197
2630471014	**MW-7**	EPA 3005A	45189	EPA 6020B	45195
2630471015	**MW-24D**	EPA 3005A	45189	EPA 6020B	45195
2630471016	**HGWC-13**	EPA 3005A	45189	EPA 6020B	45195
2630471017	**MW-29**	EPA 3005A	45189	EPA 6020B	45195
2630471018	**HGWC-11**	EPA 3005A	45226	EPA 6020B	45233
2630471019	**MW-26D**	EPA 3005A	45226	EPA 6020B	45233
2630471020	**HGWC-9**	EPA 3005A	45226	EPA 6020B	45233
2630471021	**MW-30D**	EPA 3005A	45226	EPA 6020B	45233
2630471022	**FD-01**	EPA 3005A	45226	EPA 6020B	45233
2630471023	**HGWC-10**	EPA 3005A	45226	EPA 6020B	45233
2630471024	**MW-27D**	EPA 3005A	45280	EPA 6020B	45289
2630471001	**HGWA-1**	SM 2540C	45160		
2630471002	**HGWA-3**	SM 2540C	45160		
2630471003	**HGWA-2**	SM 2540C	45160		
2630471004	**HGWC-12**	SM 2540C	45207		
2630471005	**MW-25D**	SM 2540C	45207		
2630471006	**MW-19**	SM 2540C	45207		
2630471007	**MW-5**	SM 2540C	45207		
2630471008	**HGWC-7**	SM 2540C	45209		
2630471009	**MW-28D**	SM 2540C	45209		
2630471010	**MW-20**	SM 2540C	45209		
2630471011	**HGWC-8**	SM 2540C	45209		
2630471012	**MW-6**	SM 2540C	45209		
2630471013	**FB-01**	SM 2540C	45209		
2630471014	**MW-7**	SM 2540C	45209		
2630471015	**MW-24D**	SM 2540C	45209		
2630471016	**HGWC-13**	SM 2540C	45209		
2630471017	**MW-29**	SM 2540C	45209		
2630471018	**HGWC-11**	SM 2540C	45302		
2630471019	**MW-26D**	SM 2540C	45302		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 1ST SEMIANNUAL
Pace Project No.: 2630471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630471020	**HGWC-9**	SM 2540C	45302		
2630471021	**MW-30D**	SM 2540C	45302		
2630471022	**FD-01**	SM 2540C	45302		
2630471023	**HGWC-10**	SM 2540C	45302		
2630471024	**MW-27D**	SM 2540C	45302		
2630471001	**HGWA-1**	EPA 300.0 Rev 2.1 1993	533985		
2630471002	**HGWA-3**	EPA 300.0 Rev 2.1 1993	533985		
2630471003	**HGWA-2**	EPA 300.0 Rev 2.1 1993	533985		
2630471004	**HGWC-12**	EPA 300.0 Rev 2.1 1993	533985		
2630471005	**MW-25D**	EPA 300.0 Rev 2.1 1993	533985		
2630471006	**MW-19**	EPA 300.0 Rev 2.1 1993	533985		
2630471007	**MW-5**	EPA 300.0 Rev 2.1 1993	533985		
2630471008	**HGWC-7**	EPA 300.0 Rev 2.1 1993	533983		
2630471009	**MW-28D**	EPA 300.0 Rev 2.1 1993	533983		
2630471010	**MW-20**	EPA 300.0 Rev 2.1 1993	533983		
2630471011	**HGWC-8**	EPA 300.0 Rev 2.1 1993	533983		
2630471012	**MW-6**	EPA 300.0 Rev 2.1 1993	533983		
2630471013	**FB-01**	EPA 300.0 Rev 2.1 1993	533983		
2630471014	**MW-7**	EPA 300.0 Rev 2.1 1993	534237		
2630471015	**MW-24D**	EPA 300.0 Rev 2.1 1993	534237		
2630471016	**HGWC-13**	EPA 300.0 Rev 2.1 1993	534237		
2630471017	**MW-29**	EPA 300.0 Rev 2.1 1993	534237		
2630471018	**HGWC-11**	EPA 300.0 Rev 2.1 1993	534425		
2630471019	**MW-26D**	EPA 300.0 Rev 2.1 1993	534425		
2630471020	**HGWC-9**	EPA 300.0 Rev 2.1 1993	534425		
2630471021	**MW-30D**	EPA 300.0 Rev 2.1 1993	534425		
2630471022	**FD-01**	EPA 300.0 Rev 2.1 1993	534425		
2630471023	**HGWC-10**	EPA 300.0 Rev 2.1 1993	534425		
2630471024	**MW-27D**	EPA 300.0 Rev 2.1 1993	534656		

Pace Analytical™
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CHAIN-OF-CUSTODY / Analytical Request Document

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

WO# : 2630471

2630471

Section A Required Client Information:		**Section B** Required Project Information:		**Section C** Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	2912-4

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Chloride, Fluoride, Sulfate – N; TDS – N; Metals 6010/6020* – N; RAD 226/228 – N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate	TDS	Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-27D	WT	G	4/2	1048	–	–	18	5	2		3						X	X	X	X	N	pH = 8.11 Last sample
2		WT	G						5	2		3						X	X	X	X	N	pH =
3		WT	G						5	2		3						X	X	X	X	N	pH =
4		WT	G						5	2		3						X	X	X	X	N	pH =
5		WT	G						5	2		3						X	X	X	X	N	pH =
6		WT	G						5	2		3						X	X	X	X	N	pH =
7		WT	G						5	2		3						X	X	X	X	N	pH =
8		WT	G						5	2		3						X	X	X	X	N	pH =
9		WT	G						5	2		3						X	X	X	X	N	pH =
10		WT	G						5	2		3						X	X	X	X	N	pH =
11		WT	G						5	2		3						X	X	X	X	N	pH =
12		WT	G						5	2		3						X	X	X	X	N	pH =

CR 4/2/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / GEO	4/2/20	1415	Marlia Martin / Geosyntec	4/2/20	1415				
	Marlia Martin / Geosyntec	4/3/20	1150	Tamara Hicks / Pace	4/3/20	1150				
*Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Tamara Hicks / Pace	4/3/20	1441	K. Wellington / PACE	4/3/20	1441	2.8	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 4/2/2020

*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.

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

WO#: 2630471

PM: KH Due Date: 04/09/20

CLIENT: 26-GA Power

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

Tracking #: _____

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

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

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

Cooler Temperature 2.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: KRN 4/3/20

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	10 Day TAT
Sufficient Volume:	☑Yes ☐No ☐N/A	8.	
Correct Containers Used:	☑Yes ☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes ☐No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: WT			
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	Initial when completed: 4/3/20 KRN	Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.	
Trip Blank Present:	☐Yes ☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased): _____			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

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

April 24, 2020

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: 2630471
Pace Project No.: 30356790

Dear Mr. Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 27, 2020 and April 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

Jacquelyn Collins
jacquelyn.collins@pacelabs.com
(724)850-5612
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 2630471
Pace Project No.: 30356790

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

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

SAMPLE SUMMARY

Project: 2630471
Pace Project No.: 30356790

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630471001	**HGWA-1**	Water	03/25/20 15:56	03/27/20 10:35
2630471002	**HGWA-3**	Water	03/25/20 15:17	03/27/20 10:35
2630471003	**HGWA-2**	Water	03/25/20 16:32	03/27/20 10:35
2630471004	**HGWC-12**	Water	03/26/20 08:50	03/31/20 09:00
2630471005	**MW-25D**	Water	03/26/20 10:45	03/31/20 09:00
2630471006	**MW-19**	Water	03/26/20 12:30	03/31/20 09:00
2630471007	**MW-5**	Water	03/26/20 14:10	03/31/20 09:00
2630471008	**HGWC-7**	Water	03/27/20 09:30	03/31/20 09:00
2630471009	**MW-28D**	Water	03/27/20 10:40	03/31/20 09:00
2630471010	**MW-20**	Water	03/27/20 09:30	03/31/20 09:00
2630471011	**HGWC-8**	Water	03/27/20 10:40	03/31/20 09:00
2630471012	**MW-6**	Water	03/27/20 13:00	03/31/20 09:00
2630471013	**FB-01**	Water	03/27/20 00:01	03/31/20 09:00
2630471018	**HGWC-11**	Water	03/31/20 15:22	04/02/20 09:20
2630471019	**MW-26D**	Water	03/31/20 09:35	04/02/20 09:20
2630471020	**HGWC-9**	Water	03/31/20 12:00	04/02/20 09:20
2630471021	**MW-30D**	Water	03/31/20 10:00	04/02/20 09:20
2630471022	**FD-01**	Water	03/31/20 00:01	04/02/20 09:20
2630471023	**HGWC-10**	Water	04/01/20 09:47	04/03/20 09:20
2630471014	**MW-7**	Water	03/30/20 09:05	04/03/20 09:20
2630471015	**MW-24D**	Water	03/30/20 10:30	04/03/20 09:20
2630471016	**HGWC-13**	Water	03/30/20 12:15	04/03/20 09:20
2630471017	**MW-29**	Water	03/30/20 15:35	04/03/20 09:20
2630471024	**MW-27D**	Water	04/02/20 10:48	04/04/20 10:00

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 2630471
Pace Project No.: 30356790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630471001	**HGWA-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471002	**HGWA-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471003	**HGWA-2**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471004	**HGWC-12**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471005	**MW-25D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471006	**MW-19**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471007	**MW-5**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471008	**HGWC-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471009	**MW-28D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471010	**MW-20**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471011	**HGWC-8**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471012	**MW-6**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471013	**FB-01**	EPA 9315	LAL	1	PASI-PA

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

SAMPLE ANALYTE COUNT

Project: 2630471
Pace Project No.: 30356790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471018	**HGWC-11**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471019	**MW-26D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471020	**HGWC-9**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471021	**MW-30D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471022	**FD-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471023	**HGWC-10**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471014	**MW-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471015	**MW-24D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471016	**HGWC-13**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471017	**MW-29**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630471024	**MW-27D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: HGWA-1 **Lab ID: 2630471001** Collected: 03/25/20 15:56 Received: 03/27/20 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.221 ± 0.110 (0.164) C:93% T:NA**	pCi/L	04/07/20 19:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**4.14 ± 0.967 (0.705) C:78% T:84%**	pCi/L	04/15/20 14:46	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.36 ± 1.08 (0.869)**	pCi/L	04/22/20 10:22	7440-14-4	

Sample: HGWA-3 **Lab ID: 2630471002** Collected: 03/25/20 15:17 Received: 03/27/20 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.377 ± 0.123 (0.132) C:95% T:NA**	pCi/L	04/07/20 19:26	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.456 ± 0.433 (0.892) C:80% T:80%**	pCi/L	04/16/20 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.833 ± 0.556 (1.02)**	pCi/L	04/22/20 10:22	7440-14-4	

Sample: HGWA-2 **Lab ID: 2630471003** Collected: 03/25/20 16:32 Received: 03/27/20 10:35 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.621 ± 0.163 (0.126) C:95% T:NA**	pCi/L	04/07/20 19:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0793 ± 0.309 (0.742) C:82% T:81%**	pCi/L	04/16/20 14:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.621 ± 0.472 (0.868)**	pCi/L	04/22/20 10:22	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: HGWC-12 **Lab ID: 2630471004** Collected: 03/26/20 08:50 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.209 ± 0.217 (0.413) C:85% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0203 ± 0.317 (0.741) C:81% T:83%**	pCi/L	04/21/20 11:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.209 ± 0.534 (1.15)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: MW-25D **Lab ID: 2630471005** Collected: 03/26/20 10:45 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.522 ± 0.311 (0.451) C:83% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.271 ± 0.347 (0.738) C:82% T:80%**	pCi/L	04/21/20 11:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.793 ± 0.658 (1.19)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: MW-19 **Lab ID: 2630471006** Collected: 03/26/20 12:30 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.243 ± 0.255 (0.494) C:78% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.856 ± 0.415 (0.731) C:81% T:89%**	pCi/L	04/21/20 11:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.10 ± 0.670 (1.23)**	pCi/L	04/23/20 10:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: MW-5 **Lab ID: 2630471007** Collected: 03/26/20 14:10 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.307 ± 0.235 (0.353) C:80% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.790 ± 0.401 (0.714) C:82% T:89%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.10 ± 0.636 (1.07)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: HGWC-7 **Lab ID: 2630471008** Collected: 03/27/20 09:30 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.205 ± 0.240 (0.479) C:74% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.280 ± 0.342 (0.725) C:82% T:83%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.485 ± 0.582 (1.20)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: MW-28D **Lab ID: 2630471009** Collected: 03/27/20 10:40 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.669 ± 0.354 (0.511) C:88% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.923 ± 0.415 (0.697) C:82% T:84%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.59 ± 0.769 (1.21)**	pCi/L	04/23/20 10:00	7440-14-4	

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: MW-20 **Lab ID: 2630471010** Collected: 03/27/20 09:30 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0343 ± 0.173 (0.456) C:80% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0659 ± 0.322 (0.734) C:78% T:85%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.100 ± 0.495 (1.19)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: HGWC-8 **Lab ID: 2630471011** Collected: 03/27/20 10:40 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.360 ± 0.263 (0.406) C:78% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.676 ± 0.408 (0.759) C:73% T:86%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.04 ± 0.671 (1.17)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: MW-6 **Lab ID: 2630471012** Collected: 03/27/20 13:00 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0945 ± 0.223 (0.533) C:68% T:NA**	pCi/L	04/09/20 08:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.663 ± 0.395 (0.732) C:78% T:82%**	pCi/L	04/21/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.758 ± 0.618 (1.27)**	pCi/L	04/23/20 10:00	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: FB-01 **Lab ID: 2630471013** Collected: 03/27/20 00:01 Received: 03/31/20 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0560 ± 0.144 (0.352) C:94% T:NA**	pCi/L	04/09/20 07:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.727 ± 0.451 (0.851) C:75% T:83%**	pCi/L	04/21/20 14:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.783 ± 0.595 (1.20)**	pCi/L	04/23/20 10:00	7440-14-4	

Sample: HGWC-11 **Lab ID: 2630471018** Collected: 03/31/20 15:22 Received: 04/02/20 09:20 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	**0.338 ± 0.276 (0.488) C:87% T:NA**	pCi/L	04/10/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.959 ± 0.508 (0.909) C:75% T:84%**	pCi/L	04/22/20 14:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.30 ± 0.784 (1.40)**	pCi/L	04/23/20 13:56	7440-14-4	

Sample: MW-26D **Lab ID: 2630471019** Collected: 03/31/20 09:35 Received: 04/02/20 09:20 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	**0.551 ± 0.339 (0.536) C:87% T:NA**	pCi/L	04/10/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.10 ± 0.491 (0.816) C:79% T:80%**	pCi/L	04/22/20 14:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.65 ± 0.830 (1.35)**	pCi/L	04/23/20 13:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: HGWC-9 **Lab ID: 2630471020** Collected: 03/31/20 12:00 Received: 04/02/20 09:20 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	**0.464 ± 0.297 (0.452) C:89% T:NA**	pCi/L	04/10/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.735 ± 0.504 (0.977) C:72% T:80%**	pCi/L	04/22/20 14:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.20 ± 0.801 (1.43)**	pCi/L	04/23/20 13:56	7440-14-4	

Sample: MW-30D **Lab ID: 2630471021** Collected: 03/31/20 10:00 Received: 04/02/20 09:20 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	**0.321 ± 0.238 (0.369) C:94% T:NA**	pCi/L	04/10/20 07:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.946 ± 0.507 (0.908) C:77% T:74%**	pCi/L	04/22/20 14:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.27 ± 0.745 (1.28)**	pCi/L	04/23/20 13:56	7440-14-4	

Sample: FD-01 **Lab ID: 2630471022** Collected: 03/31/20 00:01 Received: 04/02/20 09:20 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	**0.659 ± 0.312 (0.272) C:90% T:NA**	pCi/L	04/10/20 07:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.675 ± 0.428 (0.800) C:75% T:80%**	pCi/L	04/22/20 14:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.33 ± 0.740 (1.07)**	pCi/L	04/23/20 13:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: HGWC-10 **Lab ID: 2630471023** Collected: 04/01/20 09:47 Received: 04/03/20 09:20 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	**0.0646 ± 0.210 (0.524) C:88% T:NA**	pCi/L	04/09/20 20:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.170 ± 0.286 (0.622) C:79% T:87%**	pCi/L	04/22/20 11:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.235 ± 0.496 (1.15)**	pCi/L	04/23/20 09:27	7440-14-4	

Sample: MW-7 **Lab ID: 2630471014** Collected: 03/30/20 09:05 Received: 04/03/20 09:20 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	**0.373 ± 0.270 (0.390) C:84% T:NA**	pCi/L	04/09/20 20:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.457 ± 0.358 (0.709) C:80% T:83%**	pCi/L	04/22/20 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.830 ± 0.628 (1.10)**	pCi/L	04/23/20 09:27	7440-14-4	

Sample: MW-24D **Lab ID: 2630471015** Collected: 03/30/20 10:30 Received: 04/03/20 09:20 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	**0.107 ± 0.207 (0.477) C:86% T:NA**	pCi/L	04/09/20 20:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.249 ± 0.287 (0.729) C:78% T:82%**	pCi/L	04/22/20 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.107 ± 0.494 (1.21)**	pCi/L	04/23/20 09:27	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

Sample: HGWC-13 **Lab ID: 2630471016** Collected: 03/30/20 12:15 Received: 04/03/20 09:20 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	**0.490 ± 0.337 (0.566) C:90% T:NA**	pCi/L	04/09/20 20:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.112 ± 0.313 (0.703) C:81% T:82%**	pCi/L	04/22/20 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.602 ± 0.650 (1.27)**	pCi/L	04/23/20 09:27	7440-14-4	

Sample: MW-29 **Lab ID: 2630471017** Collected: 03/30/20 15:35 Received: 04/03/20 09:20 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	**0.323 ± 0.284 (0.503) C:85% T:NA**	pCi/L	04/09/20 20:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.562 ± 0.484 (0.989) C:79% T:83%**	pCi/L	04/22/20 11:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.885 ± 0.768 (1.49)**	pCi/L	04/23/20 09:27	7440-14-4	

Sample: MW-27D **Lab ID: 2630471024** Collected: 04/02/20 10:48 Received: 04/04/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.676 ± 0.331 (0.366) C:91% T:NA**	pCi/L	04/10/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.80 ± 0.650 (1.01) C:77% T:87%**	pCi/L	04/22/20 14:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.48 ± 0.981 (1.38)**	pCi/L	04/23/20 09:34	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 391022 | Analysis Method: EPA 9315
QC Batch Method: EPA 9315 | Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007, 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

METHOD BLANK: 1893294 Matrix: Water

Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007, 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0953 ± 0.154 (0.334) C:90% T:NA	pCi/L	04/09/20 08:10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 390592
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 2630471001, 2630471002, 2630471003

METHOD BLANK: 1891464 Matrix: Water
Associated Lab Samples: 2630471001, 2630471002, 2630471003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.444 ± 0.130 (0.104) C:98% T:NA	pCi/L	04/07/20 18:26	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 390595
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 2630471001, 2630471002, 2630471003

METHOD BLANK: 1891467 Matrix: Water
Associated Lab Samples: 2630471001, 2630471002, 2630471003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.544 ± 0.340 (0.632) C:84% T:88%	pCi/L	04/16/20 14:15	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 391344 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017, 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023, 2630471024

METHOD BLANK: 1894737 Matrix: Water
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017, 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023, 2630471024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.423 ± 0.298 (0.570) C:82% T:90%	pCi/L	04/22/20 11:02	

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REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 391023 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007, 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

METHOD BLANK: 1893295 Matrix: Water
Associated Lab Samples: 2630471004, 2630471005, 2630471006, 2630471007, 2630471008, 2630471009, 2630471010, 2630471011, 2630471012, 2630471013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.258 ± 0.334 (0.711) C:83% T:83%	pCi/L	04/21/20 11:02	

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

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630471
Pace Project No.: 30356790

QC Batch: 391343 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017, 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023, 2630471024

METHOD BLANK: 1894734 Matrix: Water
Associated Lab Samples: 2630471014, 2630471015, 2630471016, 2630471017, 2630471018, 2630471019, 2630471020, 2630471021, 2630471022, 2630471023, 2630471024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.103 ± 0.0985 (0.172) C:82% T:NA	pCi/L	04/09/20 15:48	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 2630471
Pace Project No.: 30356790

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.

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

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No

Pace Analytical
www.pacelabs.com

Workorder: 2630471 **Workorder Name:** AP-1 1ST SEMIANNUAL COMPLIANCE **Owner Received Date:** 3/26/2020 **Results Requested By:** 4/9/2020

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30356790

30356790

Item	Sample ID	Sample Type	Collected Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: RAD 9315	RAD 9320	LAB USE ONLY
1	HGWA-1	PS	3/25/2020 15:56	2630471001	Water	1	1	0				X	X	001
2	HGWA-3	PS	3/25/2020 15:17	2630471002	Water	1	1	0				X	X	002
3	HGWA-2	PS	3/25/2020 16:32	2630471003	Water	1	1	0				X	X	003
4														
5														

Transfers	Released By	Date/Time	Received By	Date/Time
1				3-27-2020 10:15
2				
3				

Comments: Upload results from 2630472-001, 002, 003 for these samples

Cooler Temperature on Receipt N/A °C | Custody Seal Y or N | Received on Ice Y or N | Samples Intact Y or N

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

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA

Cert. Needed: ☐ Yes ☐ No

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21 days

Workorder: 2630471 **Workorder Name:** AP-1 1ST SEMIANNUAL COMPLIANCE **Owner Received Date:** 3/26/2020 **Results Requested By:** ~~4/9/2020~~

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

WO# : 30356790

PM: JAC Due Date: 04/17/20

CLIENT: PACE_26_ATGA

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis RAD 9315	Requested Analysis RAD 9320	LAB USE ONLY
1	HGWA-1	PS	3/25/2020 15:56	2630471001	Water	1						X	X	
2	HGWA-3	PS	[illegible] 15:17	2630471002	Water	1						X	X	
3	HGWA-2	PS	3/25/2020 16:32	2630471003	Water	1						X	X	
4	HGWC-12	PS	3/26/2020 08:50	2630471004	Water	1	2					X	X	COY
5	MW-25D	PS	3/26/2020 10:45	2630471005	Water	1	2					X	X	COS
6	MW-19	PS	3/26/2020 12:30	2630471006	Water	1	2					X	X	COL
7	MW-5	PS	3/26/2020 14:10	2630471007	Water	1	2					X	X	CO7

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	3/30/20 17[illegible]	[illegible]	3-31-20 9:[illegible]
2				
3				

Comments: Add on project

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

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

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No

Pace Analytical
www.pacelabs.com

7 days

Workorder: 2630471 Workorder Name: AP-1 1ST SEMIANNUAL COMPLIANCE Owner Received Date: 3/26/2020 Results Requested By: ~~4/9/2020~~

WO# : 30356790

PM: JAC Due Date: 04/17/20

CLIENT: PACE_26_ATGA

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collected Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: RAD 9315	RAD 9320	LAB USE ONLY
1	HGWA-1	PS	3/25/2020 15:56	2630471001	Water	1						X	X	
2	HGWA-3	PS	3/25/2020 15:17	2630471002	Water	1						X	X	
3	HGWA-2	PS	3/25/2020 16:30	2630471003	Water	1						X	X	
4	HGWC-12	PS	3/26/2020 08:50	2630471004	Water	1						X	X	
5	MW-25D	PS	3/26/2020 10:45	2630471005	Water	1						X	X	
6	MW-19	PS	3/26/2020 12:30	2630471006	Water	1						X	X	
7	MW-5	PS	3/26/2020 14:10	2630471007	Water	1						X	X	
8	HGWC-7	PS	3/27/2020 09:30	2630471008	Water	1	2					X	X	
9	MW-28D	PS	3/27/2020 10:40	2630471009	Water	1	2					X	X	
10	MW-20	PS	3/27/2020 09:30	2630471010	Water	1	2					X	X	
11	HGWC-8	PS	3/27/2020 10:40	2630471011	Water	1	2					X	X	
12	MW-6	PS	3/27/2020 13:00	2630471012	Water	1	2					X	X	
13	FB-01	PS	3/27/2020 00:00	2630471013	Water	1	2					X	X	

Transfers	Released By	Date/Time	Received By	Date/Time
1				
2				
3				

Comments: Add on project

Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

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

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/26/2020
Results Requested By: ~~4/9/2020~~ 21 days

Pace Analytical® www.pacelabs.com

Workorder: 2630471 **Workorder Name: HAMMOND AP-1 1ST SEMIANNUAL**

Report To

Kevin Herring
Pace Analytical Charlotte
9800 Kincey Ave.
Suite 100
Huntersville, NC 28078
Phone (704)875-9092

Subcontract To

Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone (724)850-5600

Requested Analysis

WO# : 30356790

PM: JAC Due Date: 04/17/20
CLIENT: PACE_26_ATGA

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3	RAD 9315	RAD 9320	LAB USE ONLY
1	HGWA-1	PS	3/25/2020 15:56	2630471001	Water		X	X	
2	HGWA-3	PS	3/25/2020 15:17	2630471002	Water	1	X	X	
3	HGWA-2	PS	3/25/2020 16:32	2630471003	Water	1	X	X	
4	HGWC-12	PS	3/26/2020 08:50	2630471004	Water	1	X	X	
5	MW-25D	PS	3/26/2020 10:45	2630471005	Water	1	X	X	
6	MW-19	PS	3/26/2020 12:30	2630471006	Water	1	X	X	
7	MW-5	PS	3/26/2020 14:00	2630471007	Water	1	X	X	
8	HGWC-7	PS	3/27/2020 09:30	2630471008	Water	1	X	X	
9	MW-28D	PS	3/27/2020 10:40	2630471009	Water	1	X	X	
10	MW-20	PS	3/27/2020 09:30	2630471010	Water	1	X	X	
11	HGWC-8	PS	3/27/2020 10:10	2630471011	Water	1	X	X	
12	MW-6	PS	3/27/2020 13:00	2630471012	Water	1	X	X	
13	FB-01	PS	3/27/2020 00:00	2630471013	Water	1	X	X	
14	MW-7	PS	3/30/2020 09:05	2630471014	Water	1	X	X	
15	MW-24D	PS	3/30/2020 10:30	2630471015	Water	1	X	X	
16	HGWC-13	PS	3/30/2020 12:15	2630471016	Water	1	X	X	
17	MW-29	PS	3/30/2020 15:35	2630471017	Water		X	X	
18	HGWC-11	PS	3/31/2020 15:22	2630471018	Water	1 2	X	X	018
19	MW-26D	PS	3/31/2020 09:35	2630471019	Water	1 2	X	X	019

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA

Cert. Needed: ☐ Yes ☐ No

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Workorder: 2630471 **Workorder Name:** HAMMOND AP-1 1ST SEMIANNUAL **Owner Received Date:** 3/26/2020 **Results Requested By:** 4/9/2020

Report To	Subcontract To
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3						Requested Analysis: RAD 9315	RAD 9320											LAB USE ONLY
20	HGWC-9	PS	3/31/2020 12:00	2630471020	Water	X	2					X	X											020
21	MW-30D	PS	3/31/2020 10:00	2630471021	Water	X	2					X	X											021
22	FD-01	PS	3/31/2020 00:00	2630471022	Water	X	2					X	X											022
23																								
24																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	4/1/20 1700	[signature]	4/2/2020
2				
3			mg 4/2/2020	

Comments: 920

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

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*

This chain of custody is considered complete as is since this information is available in the owner laboratory.

30356790

Chain of Custody

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: GA
Cert. Needed: ☐ Yes ☐ No
Owner Received Date: 3/26/2020
Results Requested By: ~~4/9/2020~~ 7 days

Pace Analytical®
www.pacelabs.com

Workorder: 2630471 **Workorder Name: AP-1 1ST SEMIANNUAL COMPLIANCE**

Report To

Kevin Herring
Pace Analytical Charlotte
9800 Kincey Ave.
Suite 100
Huntersville, NC 28078
Phone (704)875-9092

Subcontract To

Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone (724)850-5600

Requested Analysis

WO# : 30356790
PM: JAC Due Date: 04/23/20
CLIENT: PACE_26_ATGA

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: HNO3		RAD 9315	RAD 9320	LAB USE ONLY
1	HGWA-1	PS	3/25/2020 15:56	2630471001	Water	1		X	X	
2	HGWA-3	PS	3/25/2020 15:17	2630471002	Water	1		X	X	
3	HGWA-2	PS	3/25/2020 16:32	2630471003	Water	1		X	X	
4	HGWC-12	PS	3/26/2020 08:50	2630471004	Water	1		X	X	
5	MW-25D	PS	3/26/2020 10:45	2630471005	Water	1		X	X	
6	MW-19	PS	3/26/2020 12:30	2630471006	Water	1		X	X	
7	MW-5	PS	3/26/2020 14:10	2630471007	Water	1		X	X	
8	HGWC-7	PS	3/27/2020 09:30	2630471008	Water	1		X	X	
9	MW-28D	PS	3/27/2020 10:40	2630471009	Water	1		X	X	
10	MW-20	PS	3/27/2020 09:30	2630471010	Water	1		X	X	
11	HGWC-8	PS	3/27/2020 10:40	2630471011	Water	1		X	X	
12	MW-6	PS	3/27/2020 13:00	2630471012	Water	1		X	X	
13	FB-01	PS	3/27/2020 00:00	2630471013	Water			X	X	
14	MW-7	PS	3/30/2020 09:05	2630471014	Water	X	2	X	X	014
15	MW-24D	PS	3/30/2020 10:30	2630471015	Water	X	2	X	X	015
16	HGWC-13	PS	3/30/2020 12:15	2630471016	Water	X	2	X	X	016
17	MW-29	PS	3/30/2020 15:35	2630471017	Water	X	2	X	X	017

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	UPS Pace	4/1/20 7:00	William Pace	4/3/2020 920	Add on project
2					
3					

Cooler Temperature on Receipt NA °C	Custody Seal (Y) or N	Received on Ice Y or (N)	Samples Intact (Y) or N

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

30950790

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace GA

Project # 30356790

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

Label DK

Tracking #: 1657 9507 1789

LIMS Login DK

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

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

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

Temp should be above freezing to 6°C

pH paper Lot# 100219L

Date and Initials of person examining contents: DK 3-30-20

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:		✓		3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: W	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed DK Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: DK Date: 3-30-20

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Pittsburgh Lab Sample Condition Upon Receipt

WO# : 30356790

PM: JAC Due Date: 04/17/20

CLIENT: PACE_26_ATGA

Pace Analytical

Client Name: Pace GA

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

Label DN

Tracking #: 1657 9507 2167

LIMS Login DN

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

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

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

Temp should be above freezing to 6°C

pH paper Lot# 10DZ191 Date and Initials of person examining contents: DN 3-31-20

Comments:	Yes	No	N/A	
Chain of Custody Present:				1.
Chain of Custody Filled Out:				2.
Chain of Custody Relinquished:				3.
Sampler Name & Signature on COC:				4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT				5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: DN Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: DN Date:

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace-Indy Project # #30356790

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

Tracking #: 1651 9507 2936 / 1651 9507 2914

Label / LIMS Login

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

Thermometer Used NA Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

pH paper Lot# 10282191 Date and Initials of person examining contents: MF 4/2/2020

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: WT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH < 2
All containers meet method preservation requirements.	✓			Initial when completed: MF Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):		✓		17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: MF Date: 4/2/2020

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Pace - NC Project # #30356790

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

Tracking #: 1057 9507 2985

Label LIMS Login

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

Thermometer Used NA Type of Ice: Wet Blue None

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

Temp should be above freezing to 6°C

pH paper Lot# 105291 Date and Initials of person examining contents: NG 4/3/2020

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: NT	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓ ✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	✓			16. pH<2
All containers meet method preservation requirements.	✓			Initial when completed: NG Date/time of preservation: ___ Lot # of added preservative: ___
Headspace in VOA Vials (>6mm):		✓		17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present			✓	
Rad Samples Screened < 0.5 mrem/hr	✓			Initial when completed: NG Date: 4/3/2020

Client Notification/ Resolution:

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

Comments/ Resolution: _____

☐ **A check in this box indicates that additional information has been stored in ereports.**

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

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

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

May 11, 2020

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

RE: Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Atlanta, GA

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.

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

CERTIFICATIONS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630907001	**MW-30D**	Water	04/09/20 11:35	04/10/20 11:35

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630907001	**MW-30D**	EPA 6010D	DRB	5	PASI-GA
		EPA 6020B	CSW	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		SM 4500-S2D-2011	MDW	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-GA = Pace Analytical Services - Atlanta, GA

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

SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630907001	**MW-30D**					
	Field pH	8.27	Std. Units		04/10/20 17:02	
EPA 6010D	Calcium	13.4	mg/L	1.0	04/16/20 17:29	
EPA 6010D	Magnesium	4.0	mg/L	0.050	04/16/20 17:29	
EPA 6010D	Manganese	0.0073J	mg/L	0.040	04/16/20 17:29	
EPA 6010D	Potassium	2.1	mg/L	0.20	04/16/20 17:29	
EPA 6010D	Sodium	512	mg/L	100	04/17/20 14:48	
EPA 6020B	Iron	0.10J	mg/L	0.20	04/14/20 15:56	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	544	mg/L	5.0	04/16/20 21:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	544	mg/L	5.0	04/16/20 21:51	
EPA 300.0 Rev 2.1 1993	Chloride	96.0	mg/L	1.0	04/16/20 04:19	
EPA 300.0 Rev 2.1 1993	Sulfate	399	mg/L	8.0	04/16/20 19:47	

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Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Sample: MW-30D **Lab ID: 2630907001** Collected: 04/09/20 11:35 Received: 04/10/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**8.27**	Std. Units			1		04/10/20 17:02		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**13.4**	mg/L	1.0	0.14	1	04/16/20 13:14	04/16/20 17:29	7440-70-2	
Magnesium	**4.0**	mg/L	0.050	0.011	1	04/16/20 13:14	04/16/20 17:29	7439-95-4	
Manganese	**0.0073J**	mg/L	0.040	0.0061	1	04/16/20 13:14	04/16/20 17:29	7439-96-5	
Potassium	**2.1**	mg/L	0.20	0.026	1	04/16/20 13:14	04/16/20 17:29	7440-09-7	
Sodium	**512**	mg/L	100	18.5	100	04/16/20 13:14	04/17/20 14:48	7440-23-5	
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Iron	**0.10J**	mg/L	0.20	0.049	5	04/13/20 13:00	04/14/20 15:56	7439-89-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**544**	mg/L	5.0	5.0	1		04/16/20 21:51		
Alkalinity, Total as CaCO3	**544**	mg/L	5.0	5.0	1		04/16/20 21:51		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		04/15/20 19:40	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**96.0**	mg/L	1.0	0.60	1		04/16/20 04:19	16887-00-6	
Sulfate	**399**	mg/L	8.0	4.0	8		04/16/20 19:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

QC Batch: 45592
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630907001

METHOD BLANK: 210512 Matrix: Water
Associated Lab Samples: 2630907001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/16/20 17:18	
Magnesium	mg/L	ND	0.050	0.011	04/16/20 17:18	
Manganese	mg/L	ND	0.040	0.0061	04/16/20 17:18	
Potassium	mg/L	ND	0.20	0.026	04/16/20 17:18	
Sodium	mg/L	ND	1.0	0.19	04/16/20 17:18	

LABORATORY CONTROL SAMPLE: 210513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	101	80-120	
Magnesium	mg/L	1	1.0	103	80-120	
Manganese	mg/L	1	0.97	97	80-120	
Potassium	mg/L	1	0.97	97	80-120	
Sodium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 210528 210529

Parameter	Units	2630908002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	258	1	1	262	265	333	619	75-125	1	20	M1
Magnesium	mg/L	25.6	1	1	27.0	27.4	138	171	75-125	1	20	M1
Manganese	mg/L	1.1	1	1	2.0	2.1	96	99	75-125	2	20	
Potassium	mg/L	8.1	1	1	9.1	9.2	107	118	75-125	1	20	
Sodium	mg/L	43.7	1	1	45.1	45.6	134	185	75-125	1	20	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

QC Batch: 45464
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2630907001

METHOD BLANK: 209861 Matrix: Water
Associated Lab Samples: 2630907001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.040	0.0097	04/13/20 16:42	

LABORATORY CONTROL SAMPLE: 209862

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	1	1.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 209904 209905

Parameter	Units	2630907001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	mg/L	0.10J	1	1	1.1	1.1	103	99	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

QC Batch: 536610
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630907001

METHOD BLANK: 2862347 Matrix: Water
Associated Lab Samples: 2630907001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/16/20 15:18	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/16/20 15:18	

LABORATORY CONTROL SAMPLE: 2862348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862349 2862350

Parameter	Units	92472992089 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	12.5	50	50	65.0	65.2	105	105	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2862351 2862352

Parameter	Units	92472992093 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	84.2	50	50	137	139	105	109	80-120	1	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

QC Batch: 536450
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630907001

METHOD BLANK: 2861626 Matrix: Water
Associated Lab Samples: 2630907001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	04/15/20 19:34	

LABORATORY CONTROL SAMPLE: 2861627

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861628 2861629

Parameter	Units	92473867001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.53	0.53	106	106	80-120	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

QC Batch: 536461
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2630907001

METHOD BLANK: 2861738 Matrix: Water
Associated Lab Samples: 2630907001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/16/20 02:52	
Sulfate	mg/L	ND	1.0	0.50	04/16/20 02:52	

LABORATORY CONTROL SAMPLE: 2861739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Sulfate	mg/L	50	51.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861740 2861741

Parameter	Units	2630908001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	69.5	50	50	102	101	64	64	90-110	0	10	M6
Sulfate	mg/L	1160	50	50	1200	1200	71	73	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2861742 2861743

Parameter	Units	92473637001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	66.4	50	50	104	106	74	78	90-110	2	10	M1
Sulfate	mg/L	51.7	50	50	91.7	98.3	80	93	90-110	7	10	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2630907

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630907001	**MW-30D**				
2630907001	**MW-30D**	EPA 3010A	45592	EPA 6010D	45599
2630907001	**MW-30D**	EPA 3005A	45464	EPA 6020B	45489
2630907001	**MW-30D**	SM 2320B-2011	536610		
2630907001	**MW-30D**	SM 4500-S2D-2011	536450		
2630907001	**MW-30D**	EPA 300.0 Rev 2.1 1993	536461		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

WO# : 2630907

2630907

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	AP-1 Non-Routine Sampling	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	~~10-Day~~ 5-Day	Project Number:	GW6581B	Pace Profile #:	2928-6

Regulatory Agency: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER ~~CCR~~ [checked: OTHER]

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes

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

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

Requested Analysis Filtered (Y/N): Chloride, Sulfate – N; Metals 6010/6020* – N; Sulfide 4500S2D – N; Total Alkalinity, Bicarbonate 2320B – N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Sulfate	Metals 6010/6020*	Sulfide 4500S2D	Total Alkalinity, Bicarbonate 2320B	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-30D	WT	G	4/9	1135	——	——	21	4	2		1					1		X	X	X	X	N	pH = 8.27 Last sample
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

CR 4/9 Russo

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/Geo	4/9/20	2020	Moelia Murdan/Geosyntec	4/9/20	2020				
	Moelia Murdan/Geosyntec	4/10/20	1135	[illegible]/Pace	4/10/20	1135				
*Metals= Ca, Fe, Mg, Mn, Na, K	[illegible]/Pace	4/10/20	1245	R. Wellington/Pace	4/10/20	1245	1.3	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 4/9/2020

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2630907

PM: KH **Due Date: 04/17/20**

CLIENT: 26-GA Power

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

Tracking #: _____

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

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

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

Cooler Temperature 1.3 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KRW 4/10/20

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: WT			
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No	
Samples checked for dechlorination:	☐Yes	☐No	☑N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blank Present:	☐Yes	☐No	☑N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased): _____			

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.

Initial when completed: 4/10/20 KRW — Lot # of added preservative:

14.
15.
16.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

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

May 14, 2020

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

RE: Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Dear Joju Abraham:

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

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Atlanta, GA

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.

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

CERTIFICATIONS

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2631804001	**MW-40D**	Water	05/11/20 14:05	05/12/20 12:21
2631804002	**MW-40D FILTERED**	Water	05/11/20 14:10	05/12/20 12:21

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

SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2631804001	**MW-40D**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	2	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2631804002	**MW-40D FILTERED**	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	KLH	2	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-GA = Pace Analytical Services - Atlanta, GA

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

SUMMARY OF DETECTION

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2631804001	**MW-40D**					
	Field pH	7.77	Std. Units		05/12/20 14:57	
EPA 6010D	Calcium	62.6	mg/L	1.0	05/13/20 10:57	M1
EPA 6020B	Boron	0.093J	mg/L	0.10	05/12/20 18:03	
EPA 6020B	Molybdenum	0.014	mg/L	0.010	05/12/20 18:03	
SM 2540C	Total Dissolved Solids	350	mg/L	10.0	05/12/20 17:15	
EPA 300.0 Rev 2.1 1993	Chloride	51.2	mg/L	1.0	05/13/20 02:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.88	mg/L	0.30	05/13/20 02:46	
EPA 300.0 Rev 2.1 1993	Sulfate	58.9	mg/L	1.0	05/13/20 02:46	
2631804002	**MW-40D FILTERED**					
	Field pH	7.77	Std. Units		05/12/20 14:59	
EPA 6010D	Calcium	19.3	mg/L	1.0	05/14/20 11:24	M1
EPA 6020B	Boron	0.084J	mg/L	0.10	05/13/20 17:53	
EPA 6020B	Molybdenum	0.015	mg/L	0.010	05/13/20 17:53	
SM 2540C	Total Dissolved Solids	353	mg/L	10.0	05/12/20 17:15	
EPA 300.0 Rev 2.1 1993	Chloride	52.2	mg/L	1.0	05/13/20 03:47	
EPA 300.0 Rev 2.1 1993	Fluoride	0.93	mg/L	0.30	05/13/20 03:47	
EPA 300.0 Rev 2.1 1993	Sulfate	56.8	mg/L	1.0	05/13/20 03:47	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Sample: MW-40D **Lab ID: 2631804001** Collected: 05/11/20 14:05 Received: 05/12/20 12:21 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.77**	Std. Units			1		05/12/20 14:57		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**62.6**	mg/L	1.0	0.14	1	05/12/20 15:12	05/13/20 10:57	7440-70-2	M1
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Boron	**0.093J**	mg/L	0.10	0.0049	1	05/12/20 14:46	05/12/20 18:03	7440-42-8	
Molybdenum	**0.014**	mg/L	0.010	0.00095	1	05/12/20 14:46	05/12/20 18:03	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**350**	mg/L	10.0	10.0	1		05/12/20 17:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**51.2**	mg/L	1.0	0.60	1		05/13/20 02:46	16887-00-6	
Fluoride	**0.88**	mg/L	0.30	0.050	1		05/13/20 02:46	16984-48-8	
Sulfate	**58.9**	mg/L	1.0	0.50	1		05/13/20 02:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Sample: MW-40D FILTERED **Lab ID: 2631804002** Collected: 05/11/20 14:10 Received: 05/12/20 12:21 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
	Analytical Method: Pace Analytical Services - Atlanta, GA								
Field pH	**7.77**	Std. Units			1		05/12/20 14:59		
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA								
Calcium	**19.3**	mg/L	1.0	0.14	1	05/13/20 14:30	05/14/20 11:24	7440-70-2	M1
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Boron	**0.084J**	mg/L	0.10	0.0049	1	05/13/20 14:29	05/13/20 17:53	7440-42-8	
Molybdenum	**0.015**	mg/L	0.010	0.00095	1	05/13/20 14:29	05/13/20 17:53	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**353**	mg/L	10.0	10.0	1		05/12/20 17:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**52.2**	mg/L	1.0	0.60	1		05/13/20 03:47	16887-00-6	
Fluoride	**0.93**	mg/L	0.30	0.050	1		05/13/20 03:47	16984-48-8	
Sulfate	**56.8**	mg/L	1.0	0.50	1		05/13/20 03:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 46303
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2631804001

METHOD BLANK: 214824 Matrix: Water
Associated Lab Samples: 2631804001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	05/13/20 10:49	

LABORATORY CONTROL SAMPLE: 214825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 214826 214827

Parameter	Units	2631804001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	62.6	1	1	62.7	64.5	12	197	75-125	3	20	M1

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 46336
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2631804002

METHOD BLANK: 214977 Matrix: Water
Associated Lab Samples: 2631804002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	05/14/20 11:17	

LABORATORY CONTROL SAMPLE: 214978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 214979 214980

Parameter	Units	2631804002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	19.3	1	1	19.9	20.4	66	116	75-125	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 46300
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2631804001

METHOD BLANK: 214814 Matrix: Water
Associated Lab Samples: 2631804001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	05/12/20 17:51	
Molybdenum	mg/L	ND	0.010	0.00095	05/12/20 17:51	

LABORATORY CONTROL SAMPLE: 214815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.1	105	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 214816 214817

Parameter	Units	2631804001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.093J	1	1	1.0	1.0	95	91	75-125	4	20	
Molybdenum	mg/L	0.014	0.1	0.1	0.11	0.11	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 46335
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2631804002

METHOD BLANK: 214971 Matrix: Water
Associated Lab Samples: 2631804002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	05/13/20 17:42	
Molybdenum	mg/L	ND	0.010	0.00095	05/13/20 17:42	

LABORATORY CONTROL SAMPLE: 214972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.0	100	80-120	
Molybdenum	mg/L	0.1	0.10	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 214973 214974

Parameter	Units	92476873026 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	ND	1	1	1.0	0.97	100	96	75-125	4	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20	

SAMPLE DUPLICATE: 214975

Parameter	Units	92476873026 Result	Dup Result	RPD	Max RPD	Qualifiers
Boron	mg/L	ND	0.010J		20	
Molybdenum	mg/L	ND	ND		20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 46308
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2631804001, 2631804002

LABORATORY CONTROL SAMPLE: 214850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	406	102	84-108	

SAMPLE DUPLICATE: 214851

Parameter	Units	2631761001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	57.0	80.0	34	10	D6

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

QC Batch: 541019
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2631804001, 2631804002

METHOD BLANK: 2883307 Matrix: Water
Associated Lab Samples: 2631804001, 2631804002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	05/13/20 00:46	
Fluoride	mg/L	ND	0.10	0.050	05/13/20 00:46	
Sulfate	mg/L	ND	1.0	0.50	05/13/20 00:46	

LABORATORY CONTROL SAMPLE: 2883308

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.1	102	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	50.9	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2883309 2883310

Parameter	Units	92476997001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	50.7	50	50	92.3	92.8	83	84	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	2.9	2.9	115	117	90-110	2	10	M1
Sulfate	mg/L	9.0	50	50	63.3	63.9	109	110	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND MW-40D
Pace Project No.: 2631804

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2631804001	**MW-40D**				
2631804001	**MW-40D**	EPA 3010A	46303	EPA 6010D	46306
2631804002	**MW-40D FILTERED**	EPA 3010A	46336	EPA 6010D	46345
2631804001	**MW-40D**	EPA 3005A	46300	EPA 6020B	46302
2631804002	**MW-40D FILTERED**	EPA 3005A	46335	EPA 6020B	46344
2631804001	**MW-40D**	SM 2540C	46308		
2631804002	**MW-40D FILTERED**	SM 2540C	46308		
2631804001	**MW-40D**	EPA 300.0 Rev 2.1 1993	541019		
2631804002	**MW-40D FILTERED**	EPA 300.0 Rev 2.1 1993	541019		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A	Section B	Section C
Required Client Information:	Required Project Information:	Invoice Information:
Company: Georgia Power - Coal Combustion Residuals	Report To: Muskus, Noelia	Attention:
Address: 1255 Roberts Blvd, NW	Copy To:	Company Name:
Suite 200, Kennesaw, GA 30144		Address:
Email: nmuskus@geosyntec.com	Purchase Order #:	Pace Quote:
Phone: (770)820-6838 Fax	Project Name: Plant Hammond MW-40D	Pace Project Manager: kevin.herring@pacelabs.com,
Requested Due Date: 24 hr	Project #: GW6581B	Pace Profile #: [illegible]

Regulatory Agency: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Cl, F, SO4	B, Ca, Mo	TDS	Residual Chlorine (Y/N)	
		MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS																N	N	N	N		2631804
1	MW-40D	GW	G	5/11	1405	—	—	17	3	2		1						Y	Y	Y			pH: 7.77 on lab
2	MW-40D Filtered	FW	G	5/11	1410	—	—	19	3	2		1						Y	Y	Y			Filter @ lab
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Filter "MW-40D Filtered" at the lab.	Chad Russo/GPC	5/11/20	1635	Noelia Muskus/Geosyntec	5/11/20	1635				
	Noelia Muskus/Geosyntec	5/12/20	1040	[illegible]	5/12/20	10:40				
				K Wellington/Pace	5/12/20	1221	3.0	Y	N	Y

SAMPLER NAME AND SIGNATURE:

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed: 5/11/2020

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: Georgia Power Project #

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

Optional: Proj. Due Date: Proj. Name:

Tracking #:

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

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

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

Cooler Temperature 3.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: KRW 5/12/08

Temp should be above freezing to 6°C

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☑Yes	☐No	☐N/A	7. 24 hr
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No		Initial when completed 5/12/08 KRW — Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

F-ALLC003rev.3, 11September2006

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

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

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

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

Project #

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

pH Adjustment Log for Preserved Samples

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

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

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

May 27, 2020

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

RE: Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on May 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Atlanta, GA

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.

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

CERTIFICATIONS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2632070001	**MW-40D**	Water	05/19/20 14:15	05/20/20 12:30

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2632070001	**MW-40D**	EPA 6020B	CSW	3	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-GA = Pace Analytical Services - Atlanta, GA

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

SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2632070001	**MW-40D**					
EPA 6020B	Boron	0.13	mg/L	0.10	05/21/20 10:02	
EPA 6020B	Calcium	65.9	mg/L	0.10	05/21/20 10:02	
EPA 6020B	Molybdenum	0.014	mg/L	0.010	05/21/20 10:02	
SM 2540C	Total Dissolved Solids	621	mg/L	10.0	05/20/20 17:49	
EPA 300.0 Rev 2.1 1993	Chloride	47.3	mg/L	1.0	05/22/20 12:56	
EPA 300.0 Rev 2.1 1993	Fluoride	1.3	mg/L	0.30	05/22/20 12:56	
EPA 300.0 Rev 2.1 1993	Sulfate	54.0	mg/L	1.0	05/22/20 12:56	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Sample: MW-40D **Lab ID: 2632070001** Collected: 05/19/20 14:15 Received: 05/20/20 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA								
Boron	**0.13**	mg/L	0.10	0.0049	1	05/20/20 17:35	05/21/20 10:02	7440-42-8	
Calcium	**65.9**	mg/L	0.10	0.011	1	05/20/20 17:35	05/21/20 10:02	7440-70-2	
Molybdenum	**0.014**	mg/L	0.010	0.00095	1	05/20/20 17:35	05/21/20 10:02	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA								
Total Dissolved Solids	**621**	mg/L	10.0	10.0	1		05/20/20 17:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**47.3**	mg/L	1.0	0.60	1		05/22/20 12:56	16887-00-6	
Fluoride	**1.3**	mg/L	0.30	0.050	1		05/22/20 12:56	16984-48-8	
Sulfate	**54.0**	mg/L	1.0	0.50	1		05/22/20 12:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

QC Batch: 46536
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Laboratory: Pace Analytical Services - Atlanta, GA
Associated Lab Samples: 2632070001

METHOD BLANK: 216487 Matrix: Water
Associated Lab Samples: 2632070001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	05/21/20 09:51	
Calcium	mg/L	ND	0.10	0.011	05/21/20 09:51	
Molybdenum	mg/L	ND	0.010	0.00095	05/21/20 09:51	

LABORATORY CONTROL SAMPLE: 216488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.0	101	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Molybdenum	mg/L	0.1	0.10	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 216489 216490

Parameter	Units	2632070001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.13	1	1	1.0	1.1	90	95	75-125	4	20	
Molybdenum	mg/L	0.014	0.1	0.1	0.12	0.12	106	108	75-125	2	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

QC Batch: 46515
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2632070001

LABORATORY CONTROL SAMPLE: 216260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	411	103	84-108	

SAMPLE DUPLICATE: 216261

Parameter	Units	2631951001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	382	389	2	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

QC Batch: 542996
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 2632070001

METHOD BLANK: 2892663 Matrix: Water
Associated Lab Samples: 2632070001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	05/22/20 11:29	
Fluoride	mg/L	ND	0.10	0.050	05/22/20 11:29	
Sulfate	mg/L	ND	1.0	0.50	05/22/20 11:29	

LABORATORY CONTROL SAMPLE: 2892664

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.6	103	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	51.9	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2892665 2892666

Parameter	Units	2632072001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	73.4	50	50	116	116	84	85	90-110	0	10	M1
Fluoride	mg/L	0.40	2.5	2.5	2.8	2.9	96	98	90-110	2	10	
Sulfate	mg/L	118	50	50	167	167	97	98	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2892667 2892668

Parameter	Units	92478700003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11.1	50	50	64.5	65.4	107	109	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	105	105	90-110	0	10	
Sulfate	mg/L	37.4	50	50	90.3	91.2	106	108	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 2632070

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2632070001	**MW-40D**	EPA 3005A	46536	EPA 6020B	46540
2632070001	**MW-40D**	SM 2540C	46515		
2632070001	**MW-40D**	EPA 300.0 Rev 2.1 1993	542996		

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — Required Client Information:

Company: GA Power
Address: Atlanta, GA
Email To: SCS Contacts
Phone: Fax:
Requested Due Date/TAT: ~~5 Day~~ 24 Hr

Section B — Required Project Information:

Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: AP-1 Non-Routine Sampling
Project Number: GW6581B

Section C — Invoice Information:

Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #:

REGULATORY AGENCY

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

Site Location STATE: GA

Section D — Required Client Information

Valid Matrix Codes

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	Metals 6010/6020*	TDS	Residual Chlorine (Y/N)
																		Y/N	N	N		
1	MW-40D	WT	G	5/19/20	1415				3	2		1							X	X	X	N
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Pace Project No./ Lab I.D.: 2632070

Last sample

ADDITIONAL COMMENTS

Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.

*Metals= B, Ca, Mo

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Ben Wimmer	5/19/20	1617	Nadia Morton/Geosyntec	5/19/20	1617
Nadia Morton/Geosyntec	5/20/20	1230	[illegible]	5/20/20	1230
[illegible]	6.20.20	1339	K. Williams/PACE	5/20/20	1339

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ben Wimmer
SIGNATURE of SAMPLER: Ben Wimmer
DATE Signed (MM/DD/YY): 5/19/20

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

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

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

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

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

Project #

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CI-)	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) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CI-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3X-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)
	1																											
	2																											
	3																											
	4																											
	5																											
	6																											
	7																											
	8																											
	9																											
	10																											
	11																											
	12																											

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical

Sample Condition Upon Receipt

Client Name: GA POWER Project #

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

Tracking #:

Optional
Proj. Due Date:
Proj. Name:

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

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☑ Other 2P10C

Thermometer Used THR230 Type of Ice: ☑ Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.0 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: RDW 5/20/20

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date:

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

F-ALLC003rev.3, 11September2006

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

July 01, 2020

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

RE: Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between June 17, 2020 and June 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services

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

CERTIFICATIONS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92482346001	**HGWC-8**	Water	06/16/20 15:15	06/17/20 10:57
92482346002	**MW-1**	Water	06/16/20 14:10	06/17/20 10:57
92482346003	**HGWA-1**	Water	06/16/20 09:48	06/17/20 10:57
92482346004	**HGWA-3**	Water	06/16/20 11:16	06/17/20 10:57
92482346005	**HGWC-7**	Water	06/17/20 13:00	06/18/20 10:37
92482346006	**MW-30D**	Water	06/17/20 13:44	06/18/20 10:37
92482346007	**FB-01**	Water	06/17/20 17:05	06/18/20 10:37
92482346008	**MW-30D FILTERED**	Water	06/17/20 13:49	06/18/20 10:37
92482346009	**MW-40D**	Water	06/19/20 10:25	06/22/20 10:45

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92482346001	**HGWC-8**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	VB	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346002	**MW-1**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	VB	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346003	**HGWA-1**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	VB	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346004	**HGWA-3**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	VB	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346005	**HGWC-7**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346006	**MW-30D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	18
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346007	**FB-01**	EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	2
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346008	**MW-30D FILTERED**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92482346009	**MW-40D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	2
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	CDC	3

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

Pace Analytical Services, LLC
110 Technology Parkway
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482346001	**HGWC-8**					
	pH	6.97	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	120	mg/L	1.0	06/19/20 16:47	
EPA 6010D	Iron	0.057	mg/L	0.040	06/19/20 16:47	
EPA 6010D	Magnesium	16.4	mg/L	0.050	06/19/20 16:47	
EPA 6010D	Manganese	0.23	mg/L	0.040	06/19/20 16:47	
EPA 6010D	Potassium	7.2	mg/L	0.20	06/19/20 16:47	
EPA 6010D	Sodium	9.2	mg/L	1.0	06/19/20 16:47	
EPA 6020B	Boron	2.2	mg/L	0.10	06/19/20 15:21	
EPA 6020B	Molybdenum	0.45	mg/L	0.010	06/19/20 15:21	
SM 2450C-2011	Total Dissolved Solids	573	mg/L	10.0	06/18/20 11:23	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	126	mg/L	5.0	06/29/20 16:48	
SM 2320B-2011	Alkalinity, Total as CaCO3	126	mg/L	5.0	06/29/20 16:48	
EPA 300.0 Rev 2.1 1993	Chloride	67.9	mg/L	1.0	06/24/20 22:13	
EPA 300.0 Rev 2.1 1993	Fluoride	0.45	mg/L	0.10	06/24/20 22:13	
EPA 300.0 Rev 2.1 1993	Sulfate	157	mg/L	3.0	06/25/20 07:57	
92482346002	**MW-1**					
	pH	6.86	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	157	mg/L	1.0	06/19/20 16:51	
EPA 6010D	Iron	0.78	mg/L	0.040	06/19/20 16:51	
EPA 6010D	Magnesium	23.7	mg/L	0.050	06/19/20 16:51	
EPA 6010D	Manganese	0.36	mg/L	0.040	06/19/20 16:51	
EPA 6010D	Potassium	0.39	mg/L	0.20	06/19/20 16:51	
EPA 6010D	Sodium	12.5	mg/L	1.0	06/19/20 16:51	
EPA 6020B	Boron	0.19	mg/L	0.10	06/19/20 15:27	
SM 2450C-2011	Total Dissolved Solids	653	mg/L	10.0	06/18/20 11:24	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	376	mg/L	5.0	06/29/20 19:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	376	mg/L	5.0	06/29/20 19:20	
EPA 300.0 Rev 2.1 1993	Chloride	29.6	mg/L	1.0	06/24/20 22:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.20	mg/L	0.10	06/24/20 22:28	
EPA 300.0 Rev 2.1 1993	Sulfate	114	mg/L	2.0	06/25/20 08:13	
92482346003	**HGWA-1**					
	pH	6.97	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	130	mg/L	1.0	06/19/20 17:07	
EPA 6010D	Magnesium	4.7	mg/L	0.050	06/19/20 17:07	
EPA 6010D	Manganese	0.034J	mg/L	0.040	06/19/20 17:07	
EPA 6010D	Potassium	0.32	mg/L	0.20	06/19/20 17:07	
EPA 6010D	Sodium	58.5	mg/L	1.0	06/19/20 17:07	
EPA 6020B	Boron	0.021J	mg/L	0.10	06/19/20 15:33	
SM 2450C-2011	Total Dissolved Solids	632	mg/L	10.0	06/18/20 11:25	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	345	mg/L	5.0	06/30/20 12:34	
SM 2320B-2011	Alkalinity, Total as CaCO3	345	mg/L	5.0	06/30/20 12:34	
EPA 300.0 Rev 2.1 1993	Chloride	41.1	mg/L	1.0	06/24/20 22:42	
EPA 300.0 Rev 2.1 1993	Fluoride	0.071J	mg/L	0.10	06/24/20 22:42	
EPA 300.0 Rev 2.1 1993	Sulfate	88.2	mg/L	1.0	06/24/20 22:42	
92482346004	**HGWA-3**					
	pH	7.31	Std. Units		06/30/20 17:10	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482346004	**HGWA-3**					
EPA 6010D	Calcium	85.1	mg/L	1.0	06/19/20 17:11	
EPA 6010D	Iron	1.3	mg/L	0.040	06/19/20 17:11	
EPA 6010D	Magnesium	5.2	mg/L	0.050	06/19/20 17:11	
EPA 6010D	Manganese	0.24	mg/L	0.040	06/19/20 17:11	
EPA 6010D	Potassium	0.44	mg/L	0.20	06/19/20 17:11	
EPA 6010D	Sodium	5.9	mg/L	1.0	06/19/20 17:11	
EPA 6020B	Boron	0.010J	mg/L	0.10	06/19/20 15:38	
SM 2450C-2011	Total Dissolved Solids	448	mg/L	10.0	06/18/20 11:25	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	195	mg/L	5.0	06/29/20 17:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	195	mg/L	5.0	06/29/20 17:23	
EPA 300.0 Rev 2.1 1993	Chloride	5.8	mg/L	1.0	06/24/20 22:56	
EPA 300.0 Rev 2.1 1993	Sulfate	49.5	mg/L	1.0	06/24/20 22:56	
92482346005	**HGWC-7**					
	pH	7.2	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	112	mg/L	1.0	06/22/20 15:01	M1
EPA 6010D	Iron	0.56	mg/L	0.040	06/22/20 15:01	
EPA 6010D	Magnesium	10.3	mg/L	0.050	06/22/20 15:01	M1
EPA 6010D	Manganese	0.22	mg/L	0.040	06/22/20 15:01	
EPA 6010D	Potassium	2.7	mg/L	0.20	06/22/20 15:01	
EPA 6010D	Sodium	10.3	mg/L	1.0	06/22/20 15:01	M1
EPA 6020B	Boron	1.0	mg/L	0.10	06/19/20 19:33	
EPA 6020B	Molybdenum	0.048	mg/L	0.010	06/19/20 19:33	
SM 2450C-2011	Total Dissolved Solids	423	mg/L	10.0	06/19/20 18:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	171	mg/L	5.0	06/29/20 18:03	
SM 2320B-2011	Alkalinity, Total as CaCO3	171	mg/L	5.0	06/29/20 18:03	
EPA 300.0 Rev 2.1 1993	Chloride	45.2	mg/L	1.0	06/25/20 04:43	
EPA 300.0 Rev 2.1 1993	Fluoride	0.077J	mg/L	0.10	06/25/20 04:43	
EPA 300.0 Rev 2.1 1993	Sulfate	102	mg/L	2.0	06/25/20 09:31	
92482346006	**MW-30D**					
	pH	8.33	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	8.3	mg/L	1.0	06/22/20 15:53	
EPA 6010D	Iron	0.32	mg/L	0.040	06/22/20 15:53	
EPA 6010D	Magnesium	2.3	mg/L	0.050	06/22/20 15:53	
EPA 6010D	Manganese	0.013J	mg/L	0.040	06/22/20 15:53	
EPA 6010D	Potassium	1.4	mg/L	0.20	06/22/20 15:53	
EPA 6010D	Sodium	376	mg/L	10.0	06/23/20 12:29	
EPA 6020B	Arsenic	0.00054J	mg/L	0.0050	06/19/20 20:07	
EPA 6020B	Barium	0.26	mg/L	0.010	06/19/20 20:07	
EPA 6020B	Boron	0.77	mg/L	0.10	06/19/20 20:07	
EPA 6020B	Chromium	0.0010J	mg/L	0.010	06/19/20 20:07	
EPA 6020B	Copper	0.00051J	mg/L	0.0050	06/19/20 20:07	
EPA 6020B	Lead	0.00034J	mg/L	0.0050	06/19/20 20:07	
EPA 6020B	Lithium	0.21	mg/L	0.030	06/19/20 20:07	
EPA 6020B	Molybdenum	0.0062J	mg/L	0.010	06/19/20 20:07	
EPA 6020B	Nickel	0.00045J	mg/L	0.0050	06/19/20 20:07	
EPA 6020B	Thallium	0.000058J	mg/L	0.0010	06/19/20 20:07	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482346006	**MW-30D**					
EPA 6020B	Zinc	0.0029J	mg/L	0.010	06/19/20 20:07	
92482346007	**FB-01**					
EPA 6010D	Iron	0.20	mg/L	0.040	06/22/20 15:49	
SM 2450C-2011	Total Dissolved Solids	1040	mg/L	10.0	06/19/20 18:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	654	mg/L	5.0	06/30/20 12:45	
SM 2320B-2011	Alkalinity, Total as CaCO3	654	mg/L	5.0	06/30/20 12:45	
SM 4500-S2D-2011	Sulfide	0.051J	mg/L	0.10	06/24/20 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	92.5	mg/L	3.0	06/25/20 09:47	
EPA 300.0 Rev 2.1 1993	Fluoride	10.9	mg/L	0.30	06/25/20 09:47	
EPA 300.0 Rev 2.1 1993	Sulfate	104	mg/L	3.0	06/25/20 09:47	
92482346008	**MW-30D FILTERED**					
	pH	8.33	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	4.2	mg/L	1.0	06/22/20 15:57	
EPA 6010D	Iron	0.043	mg/L	0.040	06/22/20 15:57	
EPA 6010D	Magnesium	1.7	mg/L	0.050	06/22/20 15:57	
EPA 6010D	Potassium	1.2	mg/L	0.20	06/22/20 15:57	
EPA 6010D	Sodium	325	mg/L	10.0	06/23/20 12:33	
EPA 6020B	Boron	0.73	mg/L	0.10	06/19/20 20:13	
EPA 6020B	Molybdenum	0.0093J	mg/L	0.010	06/19/20 20:13	
SM 2450C-2011	Total Dissolved Solids	850	mg/L	10.0	06/19/20 18:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	582	mg/L	5.0	06/30/20 12:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	583	mg/L	5.0	06/30/20 12:57	
EPA 300.0 Rev 2.1 1993	Chloride	85.1	mg/L	1.0	06/25/20 05:27	
EPA 300.0 Rev 2.1 1993	Fluoride	10.3	mg/L	0.30	06/25/20 10:02	
EPA 300.0 Rev 2.1 1993	Sulfate	92.3	mg/L	3.0	06/25/20 10:02	
92482346009	**MW-40D**					
	pH	7.4	Std. Units		06/30/20 17:10	
EPA 6010D	Calcium	109	mg/L	1.0	06/29/20 16:50	
EPA 6010D	Iron	8.8	mg/L	0.040	06/29/20 16:50	
EPA 6010D	Magnesium	14.7	mg/L	0.050	06/29/20 16:50	
EPA 6010D	Manganese	0.31	mg/L	0.040	06/29/20 16:50	
EPA 6010D	Potassium	9.3	mg/L	0.20	06/29/20 16:50	
EPA 6010D	Sodium	464	mg/L	10.0	06/30/20 12:14	
EPA 6020B	Boron	0.19	mg/L	0.10	06/25/20 16:35	
EPA 6020B	Molybdenum	0.015	mg/L	0.010	06/25/20 16:35	
SM 2450C-2011	Total Dissolved Solids	1420	mg/L	10.0	06/22/20 17:40	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	955	mg/L	5.0	06/30/20 16:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	955	mg/L	5.0	06/30/20 16:50	
EPA 300.0 Rev 2.1 1993	Chloride	145	mg/L	9.0	06/26/20 09:14	
EPA 300.0 Rev 2.1 1993	Sulfate	435	mg/L	9.0	06/26/20 09:14	

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: HGWC-8 **Lab ID: 92482346001** Collected: 06/16/20 15:15 Received: 06/17/20 10:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.97**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**120**	mg/L	1.0	0.14	1	06/18/20 16:00	06/19/20 16:47	7440-70-2	
Iron	**0.057**	mg/L	0.040	0.015	1	06/18/20 16:00	06/19/20 16:47	7439-89-6	
Magnesium	**16.4**	mg/L	0.050	0.011	1	06/18/20 16:00	06/19/20 16:47	7439-95-4	
Manganese	**0.23**	mg/L	0.040	0.0061	1	06/18/20 16:00	06/19/20 16:47	7439-96-5	
Potassium	**7.2**	mg/L	0.20	0.026	1	06/18/20 16:00	06/19/20 16:47	7440-09-7	
Sodium	**9.2**	mg/L	1.0	0.19	1	06/18/20 16:00	06/19/20 16:47	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**2.2**	mg/L	0.10	0.0049	1	06/18/20 13:00	06/19/20 15:21	7440-42-8	
Molybdenum	**0.45**	mg/L	0.010	0.00095	1	06/18/20 13:00	06/19/20 15:21	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**573**	mg/L	10.0	10.0	1		06/18/20 11:23		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**126**	mg/L	5.0	5.0	1		06/29/20 16:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 16:48		
Alkalinity, Total as CaCO3	**126**	mg/L	5.0	5.0	1		06/29/20 16:48		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/19/20 18:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**67.9**	mg/L	1.0	0.60	1		06/24/20 22:13	16887-00-6	
Fluoride	**0.45**	mg/L	0.10	0.050	1		06/24/20 22:13	16984-48-8	
Sulfate	**157**	mg/L	3.0	1.5	3		06/25/20 07:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: MW-1 **Lab ID: 92482346002** Collected: 06/16/20 14:10 Received: 06/17/20 10:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.86**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**157**	mg/L	1.0	0.14	1	06/18/20 16:00	06/19/20 16:51	7440-70-2	
Iron	**0.78**	mg/L	0.040	0.015	1	06/18/20 16:00	06/19/20 16:51	7439-89-6	
Magnesium	**23.7**	mg/L	0.050	0.011	1	06/18/20 16:00	06/19/20 16:51	7439-95-4	
Manganese	**0.36**	mg/L	0.040	0.0061	1	06/18/20 16:00	06/19/20 16:51	7439-96-5	
Potassium	**0.39**	mg/L	0.20	0.026	1	06/18/20 16:00	06/19/20 16:51	7440-09-7	
Sodium	**12.5**	mg/L	1.0	0.19	1	06/18/20 16:00	06/19/20 16:51	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**0.19**	mg/L	0.10	0.0049	1	06/18/20 13:00	06/19/20 15:27	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/18/20 13:00	06/19/20 15:27	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**653**	mg/L	10.0	10.0	1		06/18/20 11:24		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**376**	mg/L	5.0	5.0	1		06/29/20 19:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 19:20		
Alkalinity, Total as CaCO3	**376**	mg/L	5.0	5.0	1		06/29/20 19:20		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/19/20 18:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**29.6**	mg/L	1.0	0.60	1		06/24/20 22:28	16887-00-6	
Fluoride	**0.20**	mg/L	0.10	0.050	1		06/24/20 22:28	16984-48-8	
Sulfate	**114**	mg/L	2.0	1.0	2		06/25/20 08:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: HGWA-1 **Lab ID: 92482346003** Collected: 06/16/20 09:48 Received: 06/17/20 10:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.97**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**130**	mg/L	1.0	0.14	1	06/18/20 16:00	06/19/20 17:07	7440-70-2	
Iron	ND	mg/L	0.040	0.015	1	06/18/20 16:00	06/19/20 17:07	7439-89-6	
Magnesium	**4.7**	mg/L	0.050	0.011	1	06/18/20 16:00	06/19/20 17:07	7439-95-4	
Manganese	**0.034J**	mg/L	0.040	0.0061	1	06/18/20 16:00	06/19/20 17:07	7439-96-5	
Potassium	**0.32**	mg/L	0.20	0.026	1	06/18/20 16:00	06/19/20 17:07	7440-09-7	
Sodium	**58.5**	mg/L	1.0	0.19	1	06/18/20 16:00	06/19/20 17:07	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**0.021J**	mg/L	0.10	0.0049	1	06/18/20 13:00	06/19/20 15:33	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/18/20 13:00	06/19/20 15:33	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**632**	mg/L	10.0	10.0	1		06/18/20 11:25		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**345**	mg/L	5.0	5.0	1		06/30/20 12:34		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 12:34		
Alkalinity, Total as CaCO3	**345**	mg/L	5.0	5.0	1		06/30/20 12:34		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/19/20 18:57	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**41.1**	mg/L	1.0	0.60	1		06/24/20 22:42	16887-00-6	
Fluoride	**0.071J**	mg/L	0.10	0.050	1		06/24/20 22:42	16984-48-8	
Sulfate	**88.2**	mg/L	1.0	0.50	1		06/24/20 22:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: HGWA-3 **Lab ID: 92482346004** Collected: 06/16/20 11:16 Received: 06/17/20 10:57 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.31**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**85.1**	mg/L	1.0	0.14	1	06/18/20 16:00	06/19/20 17:11	7440-70-2	
Iron	**1.3**	mg/L	0.040	0.015	1	06/18/20 16:00	06/19/20 17:11	7439-89-6	
Magnesium	**5.2**	mg/L	0.050	0.011	1	06/18/20 16:00	06/19/20 17:11	7439-95-4	
Manganese	**0.24**	mg/L	0.040	0.0061	1	06/18/20 16:00	06/19/20 17:11	7439-96-5	
Potassium	**0.44**	mg/L	0.20	0.026	1	06/18/20 16:00	06/19/20 17:11	7440-09-7	
Sodium	**5.9**	mg/L	1.0	0.19	1	06/18/20 16:00	06/19/20 17:11	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**0.010J**	mg/L	0.10	0.0049	1	06/18/20 13:00	06/19/20 15:38	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/18/20 13:00	06/19/20 15:38	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**448**	mg/L	10.0	10.0	1		06/18/20 11:25		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**195**	mg/L	5.0	5.0	1		06/29/20 17:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 17:23		
Alkalinity, Total as CaCO3	**195**	mg/L	5.0	5.0	1		06/29/20 17:23		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/19/20 18:58	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.8**	mg/L	1.0	0.60	1		06/24/20 22:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/24/20 22:56	16984-48-8	
Sulfate	**49.5**	mg/L	1.0	0.50	1		06/24/20 22:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: HGWC-7 **Lab ID: 92482346005** Collected: 06/17/20 13:00 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.2**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**112**	mg/L	1.0	0.14	1	06/19/20 14:00	06/22/20 15:01	7440-70-2	M1
Iron	**0.56**	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 15:01	7439-89-6	
Magnesium	**10.3**	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 15:01	7439-95-4	M1
Manganese	**0.22**	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 15:01	7439-96-5	
Potassium	**2.7**	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 15:01	7440-09-7	
Sodium	**10.3**	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 15:01	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**1.0**	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 19:33	7440-42-8	
Molybdenum	**0.048**	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 19:33	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**423**	mg/L	10.0	10.0	1		06/19/20 18:06		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**171**	mg/L	5.0	5.0	1		06/29/20 18:03		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 18:03		
Alkalinity, Total as CaCO3	**171**	mg/L	5.0	5.0	1		06/29/20 18:03		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/24/20 18:51	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**45.2**	mg/L	1.0	0.60	1		06/25/20 04:43	16887-00-6	
Fluoride	**0.077J**	mg/L	0.10	0.050	1		06/25/20 04:43	16984-48-8	
Sulfate	**102**	mg/L	2.0	1.0	2		06/25/20 09:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: MW-30D **Lab ID: 92482346006** Collected: 06/17/20 13:44 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**8.33**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**8.3**	mg/L	1.0	0.14	1	06/19/20 14:00	06/22/20 15:53	7440-70-2	
Iron	**0.32**	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 15:53	7439-89-6	
Magnesium	**2.3**	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 15:53	7439-95-4	
Manganese	**0.013J**	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 15:53	7439-96-5	
Potassium	**1.4**	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 15:53	7440-09-7	
Sodium	**376**	mg/L	10.0	1.9	10	06/19/20 14:00	06/23/20 12:29	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00027	1	06/19/20 12:30	06/19/20 20:07	7440-36-0	
Arsenic	**0.00054J**	mg/L	0.0050	0.00035	1	06/19/20 12:30	06/19/20 20:07	7440-38-2	
Barium	**0.26**	mg/L	0.010	0.00049	1	06/19/20 12:30	06/19/20 20:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/19/20 12:30	06/19/20 20:07	7440-41-7	
Boron	**0.77**	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 20:07	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/19/20 12:30	06/19/20 20:07	7440-43-9	
Chromium	**0.0010J**	mg/L	0.010	0.00039	1	06/19/20 12:30	06/19/20 20:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/19/20 12:30	06/19/20 20:07	7440-48-4	
Copper	**0.00051J**	mg/L	0.0050	0.00019	1	06/19/20 12:30	06/19/20 20:07	7440-50-8	
Lead	**0.00034J**	mg/L	0.0050	0.000046	1	06/19/20 12:30	06/19/20 20:07	7439-92-1	
Lithium	**0.21**	mg/L	0.030	0.00078	1	06/19/20 12:30	06/19/20 20:07	7439-93-2	
Molybdenum	**0.0062J**	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:07	7439-98-7	
Nickel	**0.00045J**	mg/L	0.0050	0.00031	1	06/19/20 12:30	06/19/20 20:07	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	06/19/20 12:30	06/19/20 20:07	7782-49-2	
Silver	ND	mg/L	0.0050	0.00028	1	06/19/20 12:30	06/19/20 20:07	7440-22-4	
Thallium	**0.000058J**	mg/L	0.0010	0.000052	1	06/19/20 12:30	06/19/20 20:07	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	06/19/20 12:30	06/19/20 20:07	7440-62-2	
Zinc	**0.0029J**	mg/L	0.010	0.0015	1	06/19/20 12:30	06/19/20 20:07	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		06/19/20 18:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 18:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 18:14		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		06/29/20 18:14		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: MW-30D **Lab ID: 92482346006** Collected: 06/17/20 13:44 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/24/20 18:52	18496-25-8	
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		06/25/20 04:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/25/20 04:58	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		06/25/20 04:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: FB-01 **Lab ID: 92482346007** Collected: 06/17/20 17:05 Received: 06/18/20 10:37 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	0.14	1	06/19/20 14:00	06/22/20 15:49	7440-70-2	
Iron	**0.20**	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 15:49	7439-89-6	
Magnesium	ND	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 15:49	7439-95-4	
Manganese	ND	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 15:49	7439-96-5	
Potassium	ND	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 15:49	7440-09-7	
Sodium	ND	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 15:49	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	ND	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 19:50	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 19:50	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**1040**	mg/L	10.0	10.0	1		06/19/20 18:07		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**654**	mg/L	5.0	5.0	1		06/30/20 12:45		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 12:45		
Alkalinity, Total as CaCO3	**654**	mg/L	5.0	5.0	1		06/30/20 12:45		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.051J**	mg/L	0.10	0.050	1		06/24/20 18:52	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**92.5**	mg/L	3.0	1.8	3		06/25/20 09:47	16887-00-6	
Fluoride	**10.9**	mg/L	0.30	0.15	3		06/25/20 09:47	16984-48-8	
Sulfate	**104**	mg/L	3.0	1.5	3		06/25/20 09:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: MW-30D FILTERED **Lab ID: 92482346008** Collected: 06/17/20 13:49 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**8.33**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**4.2**	mg/L	1.0	0.14	1	06/19/20 14:00	06/22/20 15:57	7440-70-2	
Iron	**0.043**	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 15:57	7439-89-6	
Magnesium	**1.7**	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 15:57	7439-95-4	
Manganese	ND	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 15:57	7439-96-5	
Potassium	**1.2**	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 15:57	7440-09-7	
Sodium	**325**	mg/L	10.0	1.9	10	06/19/20 14:00	06/23/20 12:33	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**0.73**	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 20:13	7440-42-8	
Molybdenum	**0.0093J**	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:13	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**850**	mg/L	10.0	10.0	1		06/19/20 18:08		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**582**	mg/L	5.0	5.0	1		06/30/20 12:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 12:57		
Alkalinity, Total as CaCO3	**583**	mg/L	5.0	5.0	1		06/30/20 12:57		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		06/24/20 18:53	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**85.1**	mg/L	1.0	0.60	1		06/25/20 05:27	16887-00-6	
Fluoride	**10.3**	mg/L	0.30	0.15	3		06/25/20 10:02	16984-48-8	
Sulfate	**92.3**	mg/L	3.0	1.5	3		06/25/20 10:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Sample: MW-40D **Lab ID: 92482346009** Collected: 06/19/20 10:25 Received: 06/22/20 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.4**	Std. Units			1		06/30/20 17:10		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**109**	mg/L	1.0	0.14	1	06/29/20 12:40	06/29/20 16:50	7440-70-2	
Iron	**8.8**	mg/L	0.040	0.015	1	06/29/20 12:40	06/29/20 16:50	7439-89-6	
Magnesium	**14.7**	mg/L	0.050	0.011	1	06/29/20 12:40	06/29/20 16:50	7439-95-4	
Manganese	**0.31**	mg/L	0.040	0.0061	1	06/29/20 12:40	06/29/20 16:50	7439-96-5	
Potassium	**9.3**	mg/L	0.20	0.026	1	06/29/20 12:40	06/29/20 16:50	7440-09-7	
Sodium	**464**	mg/L	10.0	1.9	10	06/29/20 12:40	06/30/20 12:14	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Boron	**0.19**	mg/L	0.10	0.0049	1	06/24/20 13:30	06/25/20 16:35	7440-42-8	
Molybdenum	**0.015**	mg/L	0.010	0.00095	1	06/24/20 13:30	06/25/20 16:35	7439-98-7	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**1420**	mg/L	10.0	10.0	1		06/22/20 17:40		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**955**	mg/L	5.0	5.0	1		06/30/20 16:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 16:50		
Alkalinity, Total as CaCO3	**955**	mg/L	5.0	5.0	1		06/30/20 16:50		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	1.0	0.50	10		06/24/20 19:01	18496-25-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**145**	mg/L	9.0	5.4	9		06/26/20 09:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/26/20 02:27	16984-48-8	
Sulfate	**435**	mg/L	9.0	4.5	9		06/26/20 09:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548325
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

METHOD BLANK: 2917356 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	06/19/20 15:48	
Iron	mg/L	ND	0.040	0.015	06/19/20 15:48	
Magnesium	mg/L	ND	0.050	0.011	06/19/20 15:48	
Manganese	mg/L	ND	0.040	0.0061	06/19/20 15:48	
Potassium	mg/L	ND	0.20	0.026	06/22/20 12:08	
Sodium	mg/L	ND	1.0	0.19	06/22/20 12:08	

LABORATORY CONTROL SAMPLE: 2917357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	
Iron	mg/L	1	1.0	104	80-120	
Magnesium	mg/L	1	1.1	106	80-120	
Manganese	mg/L	1	1.0	101	80-120	
Potassium	mg/L	1	0.98	98	80-120	
Sodium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2917358 2917359

Parameter	Units	92482102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	174	1	1	174	182	-20	757	75-125	4	20	M1
Iron	mg/L	0.20	1	1	1.2	1.3	103	108	75-125	4	20	
Magnesium	mg/L	23.4	1	1	24.3	25.4	94	206	75-125	5	20	M1
Manganese	mg/L	0.88	1	1	1.9	1.9	98	104	75-125	3	20	
Potassium	mg/L	6.5	1	1	7.5	7.8	101	134	75-125	4	20	M1
Sodium	mg/L	9.6	1	1	10.6	11.0	100	140	75-125	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548539
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2918225 Matrix: Water
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	06/22/20 14:53	
Iron	mg/L	ND	0.040	0.015	06/22/20 14:53	
Magnesium	mg/L	ND	0.050	0.011	06/22/20 14:53	
Manganese	mg/L	ND	0.040	0.0061	06/22/20 14:53	
Potassium	mg/L	ND	0.20	0.026	06/22/20 14:53	
Sodium	mg/L	ND	1.0	0.19	06/22/20 14:53	

LABORATORY CONTROL SAMPLE: 2918226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.99J	99	80-120	
Iron	mg/L	1	1.0	102	80-120	
Magnesium	mg/L	1	1.0	104	80-120	
Manganese	mg/L	1	0.99	99	80-120	
Potassium	mg/L	1	0.97	97	80-120	
Sodium	mg/L	1	1.1	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918227 2918228

Parameter	Units	92482346005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	112	1	1	110	114	-256	180	75-125	4	20	M1
Iron	mg/L	0.56	1	1	1.6	1.6	103	108	75-125	3	20	
Magnesium	mg/L	10.3	1	1	11.0	11.4	74	117	75-125	4	20	M1
Manganese	mg/L	0.22	1	1	1.2	1.2	96	100	75-125	3	20	
Potassium	mg/L	2.7	1	1	3.7	3.8	95	107	75-125	3	20	
Sodium	mg/L	10.3	1	1	11.0	11.4	68	109	75-125	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 550184
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346009

METHOD BLANK: 2925536 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	06/29/20 16:20	
Iron	mg/L	ND	0.040	0.015	06/29/20 16:20	
Magnesium	mg/L	ND	0.050	0.011	06/29/20 16:20	
Manganese	mg/L	ND	0.040	0.0061	06/29/20 16:20	
Potassium	mg/L	0.039J	0.20	0.026	06/29/20 16:20	
Sodium	mg/L	ND	1.0	0.19	06/29/20 16:20	

LABORATORY CONTROL SAMPLE: 2925537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.97J	97	80-120	
Iron	mg/L	1	1.0	102	80-120	
Magnesium	mg/L	1	1.0	104	80-120	
Manganese	mg/L	1	0.99	99	80-120	
Potassium	mg/L	1	1.1	105	80-120	
Sodium	mg/L	1	1.1	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2925538 2925539

Parameter	Units	92482800004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	41.3	1	1	41.9	41.8	60	49	75-125	0	20	M1
Iron	mg/L	0.12	1	1	1.1	1.1	102	100	75-125	2	20	
Magnesium	mg/L	10.8	1	1	11.7	11.6	86	78	75-125	1	20	
Manganese	mg/L	0.026J	1	1	0.99	0.99	97	97	75-125	0	20	
Potassium	mg/L	0.53	1	1	1.5	1.5	97	95	75-125	1	20	
Sodium	mg/L	27.0	1	1	27.6	27.6	61	61	75-125	0	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548037
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

METHOD BLANK: 2915983 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	06/19/20 14:13	
Molybdenum	mg/L	ND	0.010	0.00095	06/19/20 14:13	

LABORATORY CONTROL SAMPLE: 2915984

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.1	106	80-120	
Molybdenum	mg/L	0.1	0.11	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2915985 2915986

Parameter	Units	92482102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	1.2	1	1	2.2	2.2	97	98	75-125	1	20	
Molybdenum	mg/L	0.035	0.1	0.1	0.14	0.14	107	102	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548509
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2918043 Matrix: Water
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0050	0.00027	06/19/20 17:32	
Arsenic	mg/L	ND	0.0050	0.00035	06/19/20 17:32	
Barium	mg/L	ND	0.010	0.00049	06/19/20 17:32	
Beryllium	mg/L	ND	0.0030	0.000074	06/19/20 17:32	
Boron	mg/L	ND	0.10	0.0049	06/19/20 17:32	
Cadmium	mg/L	ND	0.0025	0.00011	06/19/20 17:32	
Chromium	mg/L	ND	0.010	0.00039	06/19/20 17:32	
Cobalt	mg/L	ND	0.0050	0.00030	06/19/20 17:32	
Copper	mg/L	ND	0.0050	0.00019	06/19/20 17:32	
Lead	mg/L	ND	0.0050	0.000046	06/19/20 17:32	
Lithium	mg/L	ND	0.030	0.00078	06/19/20 17:32	
Molybdenum	mg/L	ND	0.010	0.00095	06/19/20 17:32	
Nickel	mg/L	ND	0.0050	0.00031	06/19/20 17:32	
Selenium	mg/L	ND	0.010	0.0013	06/19/20 17:32	
Silver	mg/L	ND	0.0050	0.00028	06/19/20 17:32	
Thallium	mg/L	ND	0.0010	0.000052	06/19/20 17:32	
Vanadium	mg/L	ND	0.010	0.00071	06/19/20 17:32	
Zinc	mg/L	ND	0.010	0.0015	06/19/20 17:32	

LABORATORY CONTROL SAMPLE: 2918044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.095	95	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Copper	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Nickel	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.094	94	80-120	
Silver	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	
Vanadium	mg/L	0.1	0.10	101	80-120	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

LABORATORY CONTROL SAMPLE: 2918044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Zinc	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918045 2918046

Parameter	Units	92482427001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.096	0.095	96	95	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.094	0.094	93	93	75-125	0	20	
Barium	mg/L	9.3 ug/L	0.1	0.1	0.10	0.10	95	95	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	0	20	
Boron	mg/L	54.3 ug/L	1	1	1.0	1.0	96	96	75-125	0	20	
Cadmium	mg/L	ND	0.1	0.1	0.093	0.094	93	94	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.097	0.098	96	97	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.096	0.094	96	94	75-125	1	20	
Copper	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Lead	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Lithium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Nickel	mg/L	ND	0.1	0.1	0.094	0.093	93	92	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20	
Silver	mg/L	ND	0.1	0.1	0.097	0.097	97	97	75-125	0	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	
Vanadium	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Zinc	mg/L	ND	0.1	0.1	0.098	0.10	96	100	75-125	4	20	

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

QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549351
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346009

METHOD BLANK: 2921563 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	06/25/20 16:01	
Molybdenum	mg/L	ND	0.010	0.00095	06/25/20 16:01	

LABORATORY CONTROL SAMPLE: 2921564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	0.97	97	80-120	
Molybdenum	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921565 2921566

Parameter	Units	92482800006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.086J	1	1	0.96	0.96	87	87	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.094	0.090	93	90	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548159 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

METHOD BLANK: 2916338 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/18/20 10:55	

LABORATORY CONTROL SAMPLE: 2916339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	418	104	84-108	

SAMPLE DUPLICATE: 2916340

Parameter	Units	92482102004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	665	818	21	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548606 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2918729 Matrix: Water
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/19/20 17:58	

LABORATORY CONTROL SAMPLE: 2918730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	419	105	84-108	

SAMPLE DUPLICATE: 2918731

Parameter	Units	92482647001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	18.0	15.0	18	10	D6

SAMPLE DUPLICATE: 2918732

Parameter	Units	92482647005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	28.0	43.0	42	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548907
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92482346009

METHOD BLANK: 2919762 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/22/20 17:30	

LABORATORY CONTROL SAMPLE: 2919763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	398	100	84-108	

SAMPLE DUPLICATE: 2919764

Parameter	Units	92482662002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	163	182	11	10	D6

SAMPLE DUPLICATE: 2919765

Parameter	Units	92482737002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	97.0	86.0	12	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549851
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004, 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2923886 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004, 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	06/29/20 15:57	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	06/29/20 15:57	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	06/29/20 15:57	

LABORATORY CONTROL SAMPLE: 2923887

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2923888 2923889

Parameter	Units	92482268001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	54.3	54.2	109	108	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2923890 2923891

Parameter	Units	92482880003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	8.3	50	50	63.0	63.9	109	111	80-120	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 550396
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346009

METHOD BLANK: 2926273 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	06/30/20 13:53	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	06/30/20 13:53	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	06/30/20 13:53	

LABORATORY CONTROL SAMPLE: 2926274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	49.6	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2926275 2926276

Parameter	Units	92483174015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	50.7	50.1	101	100	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2926277 2926278

Parameter	Units	92482649003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	57.1	57.5	104	105	80-120	1	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548296
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

METHOD BLANK: 2917145 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	06/19/20 18:51	

LABORATORY CONTROL SAMPLE: 2917146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2917149 2917150

Parameter	Units	92482295001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.51	0.51	99	98	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918737 2918738

Parameter	Units	92482295007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.81	0.81	152	152	80-120	0	10	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549379
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2921729 Matrix: Water
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	06/24/20 18:37	

LABORATORY CONTROL SAMPLE: 2921730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921731 2921732

Parameter	Units	92482441001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.050	0.5	0.5	0.54	0.54	107	107	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921733 2921734

Parameter	Units	92482441002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	<0.050	0.5	0.5	0.25	0.25	49	49	80-120	0	10	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549382
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346009

METHOD BLANK: 2921743 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	06/24/20 18:53	

LABORATORY CONTROL SAMPLE: 2921744

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.55	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921745 2921746

Parameter	Units	92482649001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.55	0.54	110	109	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921747 2921748

Parameter	Units	92482649002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.34	0.34	67	67	80-120	1	10	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 548965
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

METHOD BLANK: 2919910 Matrix: Water
Associated Lab Samples: 92482346001, 92482346002, 92482346003, 92482346004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/24/20 15:56	
Fluoride	mg/L	ND	0.10	0.050	06/24/20 15:56	
Sulfate	mg/L	ND	1.0	0.50	06/24/20 15:56	

LABORATORY CONTROL SAMPLE: 2919911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	50	51.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919912 2919913

Parameter	Units	92482711001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	8.2	50	50	56.6	56.6	97	97	90-110	0	10	
Fluoride	mg/L	0.57	2.5	2.5	2.7	2.8	86	88	90-110	1	10	M1
Sulfate	mg/L	13.6	50	50	62.3	62.3	98	97	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919914 2919915

Parameter	Units	92482268001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14.5	50	50	62.7	63.0	96	97	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	104	107	90-110	3	10	
Sulfate	mg/L	ND	50	50	48.8	49.1	98	98	90-110	1	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549186
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

METHOD BLANK: 2920985 Matrix: Water
Associated Lab Samples: 92482346005, 92482346006, 92482346007, 92482346008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/24/20 23:11	
Fluoride	mg/L	ND	0.10	0.050	06/24/20 23:11	
Sulfate	mg/L	ND	1.0	0.50	06/24/20 23:11	

LABORATORY CONTROL SAMPLE: 2920986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.2	102	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	51.9	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2920987 2920988

Parameter	Units	92482762001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.2	50	50	49.9	49.9	97	97	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.5	97	97	90-110	1	10	
Sulfate	mg/L	ND	50	50	48.9	48.9	97	97	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2920989 2920990

Parameter	Units	92483147008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.7	50	50	55.2	57.4	105	110	90-110	4	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	97	102	90-110	5	10	
Sulfate	mg/L	0.74J	50	50	53.3	55.4	105	109	90-110	4	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

QC Batch: 549586
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92482346009

METHOD BLANK: 2922599 Matrix: Water
Associated Lab Samples: 92482346009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/25/20 23:34	
Fluoride	mg/L	ND	0.10	0.050	06/25/20 23:34	
Sulfate	mg/L	ND	1.0	0.50	06/25/20 23:34	

LABORATORY CONTROL SAMPLE: 2922600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.0	102	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922601 2922602

Parameter	Units	92483177002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.9	50	50	55.0	54.3	102	101	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.7	99	107	90-110	8	10	
Sulfate	mg/L	ND	50	50	52.6	51.6	103	101	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922603 2922604

Parameter	Units	92483187001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.7	50	50	67.7	65.2	104	99	90-110	4	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	104	100	90-110	4	10	
Sulfate	mg/L	88.7	50	50	128	126	78	75	90-110	1	10	M1

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QUALIFIERS

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482346001	**HGWC-8**				
92482346002	**MW-1**				
92482346003	**HGWA-1**				
92482346004	**HGWA-3**				
92482346005	**HGWC-7**				
92482346006	**MW-30D**				
92482346008	**MW-30D FILTERED**				
92482346009	**MW-40D**				
92482346001	**HGWC-8**	EPA 3010A	548325	EPA 6010D	548371
92482346002	**MW-1**	EPA 3010A	548325	EPA 6010D	548371
92482346003	**HGWA-1**	EPA 3010A	548325	EPA 6010D	548371
92482346004	**HGWA-3**	EPA 3010A	548325	EPA 6010D	548371
92482346005	**HGWC-7**	EPA 3010A	548539	EPA 6010D	548601
92482346006	**MW-30D**	EPA 3010A	548539	EPA 6010D	548601
92482346007	**FB-01**	EPA 3010A	548539	EPA 6010D	548601
92482346008	**MW-30D FILTERED**	EPA 3010A	548539	EPA 6010D	548601
92482346009	**MW-40D**	EPA 3010A	550184	EPA 6010D	550253
92482346001	**HGWC-8**	EPA 3005A	548037	EPA 6020B	548275
92482346002	**MW-1**	EPA 3005A	548037	EPA 6020B	548275
92482346003	**HGWA-1**	EPA 3005A	548037	EPA 6020B	548275
92482346004	**HGWA-3**	EPA 3005A	548037	EPA 6020B	548275
92482346005	**HGWC-7**	EPA 3005A	548509	EPA 6020B	548546
92482346006	**MW-30D**	EPA 3005A	548509	EPA 6020B	548546
92482346007	**FB-01**	EPA 3005A	548509	EPA 6020B	548546
92482346008	**MW-30D FILTERED**	EPA 3005A	548509	EPA 6020B	548546
92482346009	**MW-40D**	EPA 3005A	549351	EPA 6020B	549398
92482346001	**HGWC-8**	SM 2450C-2011	548159		
92482346002	**MW-1**	SM 2450C-2011	548159		
92482346003	**HGWA-1**	SM 2450C-2011	548159		
92482346004	**HGWA-3**	SM 2450C-2011	548159		
92482346005	**HGWC-7**	SM 2450C-2011	548606		
92482346006	**MW-30D**	SM 2450C-2011	548606		
92482346007	**FB-01**	SM 2450C-2011	548606		
92482346008	**MW-30D FILTERED**	SM 2450C-2011	548606		
92482346009	**MW-40D**	SM 2450C-2011	548907		
92482346001	**HGWC-8**	SM 2320B-2011	549851		
92482346002	**MW-1**	SM 2320B-2011	549851		
92482346003	**HGWA-1**	SM 2320B-2011	549851		
92482346004	**HGWA-3**	SM 2320B-2011	549851		
92482346005	**HGWC-7**	SM 2320B-2011	549851		
92482346006	**MW-30D**	SM 2320B-2011	549851		
92482346007	**FB-01**	SM 2320B-2011	549851		
92482346008	**MW-30D FILTERED**	SM 2320B-2011	549851		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 NON ROUTINE
Pace Project No.: 92482346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482346009	**MW-40D**	SM 2320B-2011	550396		
92482346001	**HGWC-8**	SM 4500-S2D-2011	548296		
92482346002	**MW-1**	SM 4500-S2D-2011	548296		
92482346003	**HGWA-1**	SM 4500-S2D-2011	548296		
92482346004	**HGWA-3**	SM 4500-S2D-2011	548296		
92482346005	**HGWC-7**	SM 4500-S2D-2011	549379		
92482346006	**MW-30D**	SM 4500-S2D-2011	549379		
92482346007	**FB-01**	SM 4500-S2D-2011	549379		
92482346008	**MW-30D FILTERED**	SM 4500-S2D-2011	549379		
92482346009	**MW-40D**	SM 4500-S2D-2011	549382		
92482346001	**HGWC-8**	EPA 300.0 Rev 2.1 1993	548965		
92482346002	**MW-1**	EPA 300.0 Rev 2.1 1993	548965		
92482346003	**HGWA-1**	EPA 300.0 Rev 2.1 1993	548965		
92482346004	**HGWA-3**	EPA 300.0 Rev 2.1 1993	548965		
92482346005	**HGWC-7**	EPA 300.0 Rev 2.1 1993	549186		
92482346006	**MW-30D**	EPA 300.0 Rev 2.1 1993	549186		
92482346007	**FB-01**	EPA 300.0 Rev 2.1 1993	549186		
92482346008	**MW-30D FILTERED**	EPA 300.0 Rev 2.1 1993	549186		
92482346009	**MW-40D**	EPA 300.0 Rev 2.1 1993	549586		

WO# : 92482346

92482346

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Docu

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

Page: 1 of 2

Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Non-Routine	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	5 Day	Project Number:	GW6581B	Pace Profile #:	

REGULATORY AGENCY

NPDES | GROUND WATE | DRINKING WATER

UST | RCRA | ✓ OTHER CCR

Site Location STATE: GA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Metals*	Alkalinity, Bicarbonate	Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~HGWA-1~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
2	~~HGWA-3~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
3	~~HGWC-7~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
4	HGWC-8	WT	G	6/16/2020	1515			21	5	3		1					1		X	X	X	X	X	N	pH = 6.97
5	MW-1	WT	G	6/16/2020	1410			20	5	3		1					1		X	X	X	X	X	N	pH = 6.86
6	~~MW-30D~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
7	~~MW-40D~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
8																									
9																									
10																									
11																									
12																									

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

6/16/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	Shawn Lin, Geosyntec	6/16/2020	1620	Chad Kuglar / Geo	6/16/20	1620				
	Chad Kuglar / Geo	6/16/20	1755	Nadia Mankou / Geo	6/16/20	1755				
*Metals=B, Ca, Fe, Mg, Mn, Mo, K, Na	Nadia Mankou / Geo	6/17/20	1057	/ Pace	6.17.20	1057				
	/ Pace	6.17.20	1411		6/17/20	1411	3.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Shawn Lin

SIGNATURE of SAMPLER: Shawn Lin — DATE Signed (MM/DD/YY): 6/16/2020

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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WO#: 92482346
PM: KLH1 Due Date: 07/01/20
CLIENT: GA-GA Power

Page: 2 of 2

Section A Required Client Information

Company	GA Power
Address	Atlanta, GA
Email To	SCS Contacts
Phone	Fax
Requested Due Date/TAT:	5 Day

Section B Required Project Information

Report To	SCS Contacts
Copy To	Geosyntec Contacts
Purchase Order No	
Project Name	Plant Hammond AP-1 Non-Routine
Project Number	GW6581B

Section C Invoice Information

Attention	Southern Co
Company Name	
Address	
Pace Quote Reference	
Pace Project Manager	Kevin Herring
Pace Profile #	

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

Items 3–7 are struck through by hand on the form.

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	Metals* (N)	Alkalinity, Bicarbonate (N)	Sulfide (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HGWA-1	WT	G	6/16/20	0945	—	—	17	5	3		1					1		X	X	X	X	X	N	pH = 6.97
2	HGWA-3	WT	G	6/16/20	1116	—	—	18	5	3		1					1		X	X	X	X	X	N	pH = 7.31
3	HGWC-7	WT	G			—	—		5	3		1					1		X	X	X	X	X	N	pH =
4	HGWC-8	WT	G			—	—		5	3		1					1		X	X	X	X	X	N	pH =
5	MW-1	WT	G			—	—		5	3		1					1		X	X	X	X	X	N	pH =
6	MW-30D	WT	G			—	—		5	3		1					1		X	X	X	X	X	N	pH =
7	MW-40D	WT	G			—	—		5	3		1					1		X	X	X	X	X	N	pH =
8																									
9																									
10																									
11																									
12																									

CB 6/16/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken	Chad Russ / Geo	6/16/2020	1755	Nelia Mento / Geo	6/16/20	1755				
	Nelia Mento / Geosyntec	6/17/20	1056	[illegible] / Pace	6-17-20	1057				
*Metals=B, Ca, Fe, Mg, Mn, Mo, K, Na	[illegible] / Pace	6-17-20	1411	K. Willoughby / Pace	6/17/20	1411	3.3	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russ

SIGNATURE of SAMPLER: Chad Russ

DATE Signed (MM/DD/YY): 6/16/2020

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

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

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

WO#: 92482346
PM: KLH1 Due Date: 07/01/20
CLIENT: GA-GA Power

Section A – Required Client Information		Section B – Required Project Information		Section C – Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Non-Routine	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	5 Day	Project Number:	GW6581B	Pace Profile #:	

REGULATORY AGENCY
NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / ✓ OTHER CCR
Site Location STATE: GA

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

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

Requested Analysis Filtered (Y/N): N N N N N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	Metals*	Alkalinity, Bicarbonate	Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HGWA-1	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
2	HGWA-3	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
3	HGWC-7	WT	G	6/17/20	1300	—	—	20	5	3		1					1		X	X	X	X	X	N	pH = 7.2
4	HGWC-8	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
5	MW-1	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
6	MW-30D	WT	G	6/17/20	1347	—	—	21	5	3		1					1		X	X	X	X	X	N	pH = 8.33
7	MW-40D	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
8	(CG) EB-01 FB-01	WT	G	6/17/20	1705	—	—		5	3		1					1		X	X	X	X	X	N	
9	MW-30D Filtered	WT	G	6/17/20	1349	—	—	21	5	3		1					1		X	X	X	X	X	N	pH = 8.33
10																									
11																									
12																									

CG 6/17/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / GTEO	6/17/2020	1845	Nathan Weston / Geosyntec	6/17/20	1845				
	Nathan Weston / Geosyntec	6/18/20	1037	[illegible] / Pace	6/18/20	1037				
*Metals=B, Ca, Fe, Mg, Mn, Mo, K, Na	[illegible] / Pace	6/18/20	1443	R. Williams / Pace	6/18/20	1443	3.2	Y	N	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chad Russo
SIGNATURE of SAMPLER: Chad Russo
DATE Signed (MM/DD/YY): 6/17/2020

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

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

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CHAIN-OF-CUSTODY / Analytical Request Docu

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

WO# : 92482346

PM: KLH1 Due Date: 07/01/20

CLIENT: GA-GA Power

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Plant Hammond AP-1 Non-Routine	Pace Project Manager: Kevin Herring
Requested Due Date/TAT: 5 Day	Project Number: GW6581B	Pace Profile #:

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

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes

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

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Metals*	Alkalinity, Bicarbonate	Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N		92482346
1	~~HGWA-1~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH=
2	HGWA-3	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
3	HGWC-7	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
4	~~HGWC-8~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
5	~~MW-1~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
6	~~MW-30D~~	WT	G						5	3		1					1		X	X	X	X	X	N	pH =
7	MW-40D	WT	G	6/19/20	1525			25°	5	3		1					1		X	X	X	X	X	N	pH = 7.4 / Last sample
8	~~EB-01~~	WT	G						5	3		1					1		X	X	X	X	X	N	
9																									
10																									
11																									
12																									

6/19/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / GEO	6/19/20	1745	Nadia Mostan / Geosyntec	6/19/20	1745	
	Nadia Mostan / Geosyntec	6/22/20	1045	[illegible] / Pace	6/22/20	1045	
*Metals=B, Ca, Fe, Mg, Mn, Mo, K, Na	[illegible] / Pace	6/22/20	1353	[illegible]	6/22/20	1353	3.8 / X / N / X
							Temp in °C / Received on Ice (Y/N) / Custody Sealed Cooler (Y/N) / Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/19/2020

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

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

October 21, 2020

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

RE: Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 29, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,

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

Enclosures

cc: Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

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

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495887001	**HGWA-1**	Water	09/15/20 14:01	09/16/20 11:14
92495887002	**HGWA-2**	Water	09/15/20 10:58	09/16/20 11:14
92495887003	**HGWA-3**	Water	09/15/20 11:45	09/16/20 11:14
92495887004	**HGWC-7**	Water	09/16/20 12:24	09/17/20 09:45
92495887005	**HGWC-7 FILTERED**	Water	09/16/20 12:24	09/17/20 09:45
92495887006	**HGWC-8**	Water	09/16/20 09:32	09/17/20 09:45
92495887007	**HGWC-10**	Water	09/16/20 16:15	09/17/20 09:45
92495887008	**MW-29**	Water	09/16/20 13:15	09/17/20 09:45
92495887009	**HGWA-43D**	Water	09/16/20 11:58	09/17/20 09:45
92495887010	**HGWA-44D**	Water	09/16/20 15:18	09/17/20 09:45
92495887011	**HGWC-9**	Water	09/17/20 11:42	09/18/20 10:20
92495887012	**MW-5**	Water	09/17/20 17:51	09/18/20 10:20
92495887013	**MW-20**	Water	09/17/20 15:54	09/18/20 10:20
92495887014	**MW-26D**	Water	09/17/20 13:02	09/18/20 10:20
92495887015	**FD-01**	Water	09/17/20 00:00	09/18/20 10:20
92495887016	**HGWC-11**	Water	09/18/20 13:30	09/21/20 09:25
92495887017	**HGWC-12**	Water	09/18/20 15:50	09/21/20 09:25
92495887018	**MW-25D**	Water	09/18/20 13:20	09/21/20 09:25
92495887019	**MW-27D**	Water	09/18/20 08:53	09/21/20 09:25
92495887020	**HGWC-13**	Water	09/21/20 16:45	09/22/20 09:25
92495887021	**MW-6**	Water	09/21/20 10:19	09/22/20 09:25
92495887022	**MW-7**	Water	09/21/20 16:41	09/22/20 09:25
92495887023	**MW-24D**	Water	09/21/20 17:55	09/22/20 09:25
92495887024	**MW-19**	Water	09/21/20 15:18	09/22/20 09:25
92495887025	**MW-28D**	Water	09/21/20 19:28	09/22/20 09:25
92495887026	**MW-30D**	Water	09/24/20 11:00	09/25/20 10:45
92495887027	**FB-01**	Water	09/24/20 18:50	09/25/20 10:45
92495887028	**MW-40D**	Water	09/28/20 15:15	09/29/20 08:55

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92495887001	**HGWA-1**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887002	**HGWA-2**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887003	**HGWA-3**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887004	**HGWC-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887005	**HGWC-7 FILTERED**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887006	**HGWC-8**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887007	**HGWC-10**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887008	**MW-29**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495887009	**HGWA-43D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495887010	**HGWA-44D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495887011	**HGWC-9**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887012	**MW-5**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887013	**MW-20**	EPA 9315	LAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887014	**MW-26D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887015	**FD-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887016	**HGWC-11**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887017	**HGWC-12**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887018	**MW-25D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887019	**MW-27D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887020	**HGWC-13**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887021	**MW-6**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887022	**MW-7**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887023	**MW-24D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887024	**MW-19**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887025	**MW-28D**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	JAL	1	PASI-PA
92495887026	**MW-30D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887027	**FB-01**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495887028	**MW-40D**	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887001	**HGWA-1**					
EPA 9315	Radium-226	0.0193 ± 0.226 (0.595) C:83% T:NA	pCi/L		10/07/20 07:29	
EPA 9320	Radium-228	0.729 ± 0.435 (0.807) C:71% T:83%	pCi/L		10/07/20 14:00	
Total Radium Calculation	Total Radium	0.748 ± 0.661 (1.40)	pCi/L		10/09/20 14:09	
92495887002	**HGWA-2**					
EPA 9315	Radium-226	0.124 ± 0.339 (0.807) C:87% T:NA	pCi/L		10/07/20 07:30	
EPA 9320	Radium-228	-0.233 ± 0.417 (1.01) C:66% T:81%	pCi/L		10/07/20 14:00	
Total Radium Calculation	Total Radium	0.124 ± 0.756 (1.82)	pCi/L		10/09/20 14:09	
92495887003	**HGWA-3**					
EPA 9315	Radium-226	0.161 ± 0.215 (0.449) C:89% T:NA	pCi/L		10/07/20 07:30	
EPA 9320	Radium-228	-0.305 ± 0.343 (0.865) C:74% T:83%	pCi/L		10/07/20 14:00	
Total Radium Calculation	Total Radium	0.161 ± 0.558 (1.31)	pCi/L		10/09/20 14:09	
92495887004	**HGWC-7**					
EPA 9315	Radium-226	0.0715 ± 0.193 (0.470) C:90% T:NA	pCi/L		10/07/20 07:46	
EPA 9320	Radium-228	0.0635 ± 0.473 (1.08) C:72% T:73%	pCi/L		10/07/20 14:01	
Total Radium Calculation	Total Radium	0.135 ± 0.666 (1.55)	pCi/L		10/09/20 14:09	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887005	**HGWC-7 FILTERED**					
EPA 9315	Radium-226	0.0498 ± 0.188 (0.477) C:85% T:NA	pCi/L		10/07/20 07:37	
EPA 9320	Radium-228	0.302 ± 0.549 (1.20) C:69% T:73%	pCi/L		10/07/20 14:01	
Total Radium Calculation	Total Radium	0.352 ± 0.737 (1.68)	pCi/L		10/09/20 14:09	
92495887006	**HGWC-8**					
EPA 9315	Radium-226	0.203 ± 0.242 (0.498) C:91% T:NA	pCi/L		10/07/20 07:37	
EPA 9320	Radium-228	0.323 ± 0.678 (1.50) C:68% T:52%	pCi/L		10/07/20 14:02	
Total Radium Calculation	Total Radium	0.526 ± 0.920 (2.00)	pCi/L		10/09/20 14:09	
92495887007	**HGWC-10**					
EPA 9315	Radium-226	-0.0781 ± 0.129 (0.469) C:79% T:NA	pCi/L		10/07/20 07:37	
EPA 9320	Radium-228	-0.245 ± 0.637 (1.51) C:71% T:54%	pCi/L		10/07/20 14:02	
Total Radium Calculation	Total Radium	0.000 ± 0.766 (1.98)	pCi/L		10/09/20 14:09	
92495887008	**MW-29**					
EPA 9315	Radium-226	0.193 ± 0.277 (0.604) C:86% T:NA	pCi/L		10/07/20 07:37	
EPA 9320	Radium-228	-0.196 ± 0.532 (1.26) C:68% T:69%	pCi/L		10/07/20 14:02	
Total Radium Calculation	Total Radium	0.193 ± 0.809 (1.86)	pCi/L		10/09/20 14:09	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887009	**HGWA-43D**					
EPA 9315	Radium-226	0.531 ± 0.341 (0.558) C:83% T:NA	pCi/L		10/07/20 07:38	
EPA 9320	Radium-228	-0.0158 ± 0.401 (0.931) C:73% T:74%	pCi/L		10/08/20 11:52	
Total Radium Calculation	Total Radium	0.531 ± 0.742 (1.49)	pCi/L		10/19/20 11:59	
92495887010	**HGWA-44D**					
EPA 9315	Radium-226	0.129 ± 0.179 (0.380) C:100% T:NA	pCi/L		10/07/20 07:38	
EPA 9320	Radium-228	0.293 ± 0.412 (0.887) C:76% T:83%	pCi/L		10/08/20 11:52	
Total Radium Calculation	Total Radium	0.422 ± 0.591 (1.27)	pCi/L		10/19/20 11:59	
92495887011	**HGWC-9**					
EPA 9315	Radium-226	0.313 ± 0.290 (0.557) C:86% T:NA	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	1.07 ± 0.638 (1.20) C:62% T:76%	pCi/L		10/08/20 12:27	
Total Radium Calculation	Total Radium	1.38 ± 0.928 (1.76)	pCi/L		10/20/20 08:55	
92495887012	**MW-5**					
EPA 9315	Radium-226	0.0116 ± 0.184 (0.501) C:85% T:NA	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	0.606 ± 0.544 (1.11) C:71% T:67%	pCi/L		10/08/20 15:42	
Total Radium Calculation	Total Radium	0.618 ± 0.728 (1.61)	pCi/L		10/20/20 08:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887013	**MW-20**					
EPA 9315	Radium-226	0.321 ± 0.326 (0.654) C:77% T:NA	pCi/L		10/08/20 07:40	
EPA 9320	Radium-228	0.148 ± 0.560 (1.27) C:62% T:63%	pCi/L		10/08/20 15:42	
Total Radium Calculation	Total Radium	0.469 ± 0.886 (1.92)	pCi/L		10/20/20 08:55	
92495887014	**MW-26D**					
EPA 9315	Radium-226	0.153 ± 0.237 (0.522) C:85% T:NA	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	0.267 ± 0.684 (1.53) C:70% T:44%	pCi/L		10/08/20 15:43	
Total Radium Calculation	Total Radium	0.420 ± 0.921 (2.05)	pCi/L		10/20/20 08:55	
92495887015	**FD-01**					
EPA 9315	Radium-226	0.125 ± 0.189 (0.406) C:86% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	0.625 ± 0.711 (1.50) C:69% T:67%	pCi/L		10/08/20 15:49	
Total Radium Calculation	Total Radium	0.750 ± 0.900 (1.91)	pCi/L		10/20/20 08:55	
92495887016	**HGWC-11**					
EPA 9315	Radium-226	-0.0506 ± 0.306 (0.815) C:83% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	1.24 ± 0.942 (1.88) C:68% T:50%	pCi/L		10/08/20 15:49	
Total Radium Calculation	Total Radium	1.24 ± 1.25 (2.70)	pCi/L		10/20/20 08:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887017	**HGWC-12**					
EPA 9315	Radium-226	0.590 ± 0.316 (0.419) C:93% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	0.326 ± 0.701 (1.54) C:73% T:58%	pCi/L		10/08/20 15:49	
Total Radium Calculation	Total Radium	0.916 ± 1.02 (1.96)	pCi/L		10/20/20 08:55	
92495887018	**MW-25D**					
EPA 9315	Radium-226	0.303 ± 0.261 (0.476) C:93% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	0.866 ± 0.437 (0.727) C:58% T:88%	pCi/L		10/09/20 12:28	
Total Radium Calculation	Total Radium	1.17 ± 0.698 (1.20)	pCi/L		10/20/20 08:55	
92495887019	**MW-27D**					
EPA 9315	Radium-226	0.603 ± 0.304 (0.400) C:100% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	0.527 ± 0.467 (0.941) C:57% T:85%	pCi/L		10/09/20 12:28	
Total Radium Calculation	Total Radium	1.13 ± 0.771 (1.34)	pCi/L		10/20/20 08:55	
92495887020	**HGWC-13**					
EPA 9315	Radium-226	0.298 ± 0.266 (0.496) C:86% T:NA	pCi/L		10/08/20 06:54	
EPA 9320	Radium-228	1.23 ± 0.536 (0.823) C:58% T:77%	pCi/L		10/09/20 15:43	
Total Radium Calculation	Total Radium	1.53 ± 0.802 (1.32)	pCi/L		10/20/20 09:06	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887021	**MW-6**					
EPA 9315	Radium-226	0.310 ± 0.248 (0.422) C:88% T:NA	pCi/L		10/08/20 06:54	
EPA 9320	Radium-228	0.486 ± 0.599 (1.27) C:49% T:72%	pCi/L		10/09/20 15:43	
Total Radium Calculation	Total Radium	0.796 ± 0.847 (1.69)	pCi/L		10/20/20 09:06	
92495887022	**MW-7**					
EPA 9315	Radium-226	0.157 ± 0.263 (0.591) C:86% T:NA	pCi/L		10/08/20 06:54	
EPA 9320	Radium-228	1.39 ± 0.641 (1.08) C:65% T:70%	pCi/L		10/09/20 15:43	
Total Radium Calculation	Total Radium	1.55 ± 0.904 (1.67)	pCi/L		10/20/20 09:06	
92495887023	**MW-24D**					
EPA 9315	Radium-226	0.0640 ± 0.226 (0.561) C:82% T:NA	pCi/L		10/08/20 06:54	
EPA 9320	Radium-228	1.17 ± 0.703 (1.30) C:63% T:58%	pCi/L		10/09/20 15:43	
Total Radium Calculation	Total Radium	1.23 ± 0.929 (1.86)	pCi/L		10/20/20 09:06	
92495887024	**MW-19**					
EPA 9315	Radium-226	0.290 ± 0.298 (0.605) C:92% T:NA	pCi/L		10/08/20 06:55	
EPA 9320	Radium-228	1.07 ± 0.565 (1.00) C:59% T:79%	pCi/L		10/09/20 15:43	
Total Radium Calculation	Total Radium	1.36 ± 0.863 (1.61)	pCi/L		10/20/20 09:06	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495887025	**MW-28D**					
EPA 9315	Radium-226	0.286 ± 0.245 (0.423) C:88% T:NA	pCi/L		10/07/20 07:52	
EPA 9320	Radium-228	1.10 ± 0.577 (1.02) C:61% T:74%	pCi/L		10/09/20 15:44	
Total Radium Calculation	Total Radium	1.39 ± 0.822 (1.44)	pCi/L		10/20/20 09:06	
92495887026	**MW-30D**					
EPA 9315	Radium-226	0.374 ± 0.261 (0.378) C:76% T:NA	pCi/L		10/14/20 06:37	
EPA 9320	Radium-228	0.435 ± 0.379 (0.763) C:77% T:80%	pCi/L		10/15/20 11:07	
Total Radium Calculation	Total Radium	0.809 ± 0.640 (1.14)	pCi/L		10/20/20 09:06	
92495887027	**FB-01**					
EPA 9315	Radium-226	-0.0189 ± 0.155 (0.475) C:73% T:NA	pCi/L		10/15/20 07:04	
EPA 9320	Radium-228	-0.0638 ± 0.357 (0.848) C:70% T:82%	pCi/L		10/15/20 11:15	
Total Radium Calculation	Total Radium	0.000 ± 0.512 (1.32)	pCi/L		10/20/20 09:06	
92495887028	**MW-40D**					
EPA 9315	Radium-226	1.95 ± 0.479 (0.439) C:93% T:NA	pCi/L		10/19/20 18:23	
EPA 9320	Radium-228	0.502 ± 0.556 (1.17) C:67% T:65%	pCi/L		10/15/20 11:14	
Total Radium Calculation	Total Radium	2.45 ± 1.04 (1.61)	pCi/L		10/20/20 10:07	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWA-1 **Lab ID: 92495887001** Collected: 09/15/20 14:01 Received: 09/16/20 11:14 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	**0.0193 ± 0.226 (0.595) C:83% T:NA**	pCi/L	10/07/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.729 ± 0.435 (0.807) C:71% T:83%**	pCi/L	10/07/20 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.748 ± 0.661 (1.40)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWA-2 **Lab ID: 92495887002** Collected: 09/15/20 10:58 Received: 09/16/20 11:14 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	**0.124 ± 0.339 (0.807) C:87% T:NA**	pCi/L	10/07/20 07:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.233 ± 0.417 (1.01) C:66% T:81%**	pCi/L	10/07/20 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.124 ± 0.756 (1.82)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWA-3 **Lab ID: 92495887003** Collected: 09/15/20 11:45 Received: 09/16/20 11:14 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	**0.161 ± 0.215 (0.449) C:89% T:NA**	pCi/L	10/07/20 07:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.305 ± 0.343 (0.865) C:74% T:83%**	pCi/L	10/07/20 14:00	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.161 ± 0.558 (1.31)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-7 **Lab ID: 92495887004** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0715 ± 0.193 (0.470) C:90% T:NA**	pCi/L	10/07/20 07:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0635 ± 0.473 (1.08) C:72% T:73%**	pCi/L	10/07/20 14:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.135 ± 0.666 (1.55)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-7 FILTERED **Lab ID: 92495887005** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0498 ± 0.188 (0.477) C:85% T:NA**	pCi/L	10/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.302 ± 0.549 (1.20) C:69% T:73%**	pCi/L	10/07/20 14:01	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.352 ± 0.737 (1.68)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-8 **Lab ID: 92495887006** Collected: 09/16/20 09:32 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.203 ± 0.242 (0.498) C:91% T:NA**	pCi/L	10/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.323 ± 0.678 (1.50) C:68% T:52%**	pCi/L	10/07/20 14:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.526 ± 0.920 (2.00)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-10 **Lab ID: 92495887007** Collected: 09/16/20 16:15 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0781 ± 0.129 (0.469) C:79% T:NA**	pCi/L	10/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.245 ± 0.637 (1.51) C:71% T:54%**	pCi/L	10/07/20 14:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.766 (1.98)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-29 **Lab ID: 92495887008** Collected: 09/16/20 13:15 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.193 ± 0.277 (0.604) C:86% T:NA**	pCi/L	10/07/20 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.196 ± 0.532 (1.26) C:68% T:69%**	pCi/L	10/07/20 14:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.193 ± 0.809 (1.86)**	pCi/L	10/09/20 14:09	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWA-43D **Lab ID: 92495887009** Collected: 09/16/20 11:58 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.531 ± 0.341 (0.558) C:83% T:NA**	pCi/L	10/07/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0158 ± 0.401 (0.931) C:73% T:74%**	pCi/L	10/08/20 11:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.531 ± 0.742 (1.49)**	pCi/L	10/19/20 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWA-44D **Lab ID: 92495887010** Collected: 09/16/20 15:18 Received: 09/17/20 09:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.129 ± 0.179 (0.380) C:100% T:NA**	pCi/L	10/07/20 07:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.293 ± 0.412 (0.887) C:76% T:83%**	pCi/L	10/08/20 11:52	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.422 ± 0.591 (1.27)**	pCi/L	10/19/20 11:59	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-9 **Lab ID: 92495887011** Collected: 09/17/20 11:42 Received: 09/18/20 10:20 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	**0.313 ± 0.290 (0.557) C:86% T:NA**	pCi/L	10/08/20 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.07 ± 0.638 (1.20) C:62% T:76%**	pCi/L	10/08/20 12:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.38 ± 0.928 (1.76)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-5 **Lab ID: 92495887012** Collected: 09/17/20 17:51 Received: 09/18/20 10:20 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	**0.0116 ± 0.184 (0.501) C:85% T:NA**	pCi/L	10/08/20 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.606 ± 0.544 (1.11) C:71% T:67%**	pCi/L	10/08/20 15:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.618 ± 0.728 (1.61)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-20 **Lab ID: 92495887013** Collected: 09/17/20 15:54 Received: 09/18/20 10:20 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	**0.321 ± 0.326 (0.654) C:77% T:NA**	pCi/L	10/08/20 07:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.148 ± 0.560 (1.27) C:62% T:63%**	pCi/L	10/08/20 15:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.469 ± 0.886 (1.92)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-26D **Lab ID: 92495887014** Collected: 09/17/20 13:02 Received: 09/18/20 10:20 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	**0.153 ± 0.237 (0.522) C:85% T:NA**	pCi/L	10/08/20 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.267 ± 0.684 (1.53) C:70% T:44%**	pCi/L	10/08/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.420 ± 0.921 (2.05)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: FD-01 **Lab ID: 92495887015** Collected: 09/17/20 00:00 Received: 09/18/20 10:20 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	**0.125 ± 0.189 (0.406) C:86% T:NA**	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.625 ± 0.711 (1.50) C:69% T:67%**	pCi/L	10/08/20 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.750 ± 0.900 (1.91)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-11 **Lab ID: 92495887016** Collected: 09/18/20 13:30 Received: 09/21/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0506 ± 0.306 (0.815) C:83% T:NA**	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.24 ± 0.942 (1.88) C:68% T:50%**	pCi/L	10/08/20 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.24 ± 1.25 (2.70)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-12 **Lab ID: 92495887017** Collected: 09/18/20 15:50 Received: 09/21/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.590 ± 0.316 (0.419) C:93% T:NA**	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.326 ± 0.701 (1.54) C:73% T:58%**	pCi/L	10/08/20 15:49	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.916 ± 1.02 (1.96)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-25D **Lab ID: 92495887018** Collected: 09/18/20 13:20 Received: 09/21/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.303 ± 0.261 (0.476) C:93% T:NA**	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.866 ± 0.437 (0.727) C:58% T:88%**	pCi/L	10/09/20 12:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.17 ± 0.698 (1.20)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-27D **Lab ID: 92495887019** Collected: 09/18/20 08:53 Received: 09/21/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.603 ± 0.304 (0.400) C:100% T:NA**	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.527 ± 0.467 (0.941) C:57% T:85%**	pCi/L	10/09/20 12:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.13 ± 0.771 (1.34)**	pCi/L	10/20/20 08:55	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: HGWC-13 **Lab ID: 92495887020** Collected: 09/21/20 16:45 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.298 ± 0.266 (0.496) C:86% T:NA**	pCi/L	10/08/20 06:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.23 ± 0.536 (0.823) C:58% T:77%**	pCi/L	10/09/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.53 ± 0.802 (1.32)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-6 **Lab ID: 92495887021** Collected: 09/21/20 10:19 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.310 ± 0.248 (0.422) C:88% T:NA**	pCi/L	10/08/20 06:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.486 ± 0.599 (1.27) C:49% T:72%**	pCi/L	10/09/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.796 ± 0.847 (1.69)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-7 **Lab ID: 92495887022** Collected: 09/21/20 16:41 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.157 ± 0.263 (0.591) C:86% T:NA**	pCi/L	10/08/20 06:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.39 ± 0.641 (1.08) C:65% T:70%**	pCi/L	10/09/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.55 ± 0.904 (1.67)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-24D **Lab ID: 92495887023** Collected: 09/21/20 17:55 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0640 ± 0.226 (0.561) C:82% T:NA**	pCi/L	10/08/20 06:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.17 ± 0.703 (1.30) C:63% T:58%**	pCi/L	10/09/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.23 ± 0.929 (1.86)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-19 **Lab ID: 92495887024** Collected: 09/21/20 15:18 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.290 ± 0.298 (0.605) C:92% T:NA**	pCi/L	10/08/20 06:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.07 ± 0.565 (1.00) C:59% T:79%**	pCi/L	10/09/20 15:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.36 ± 0.863 (1.61)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-28D **Lab ID: 92495887025** Collected: 09/21/20 19:28 Received: 09/22/20 09:25 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.286 ± 0.245 (0.423) C:88% T:NA**	pCi/L	10/07/20 07:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.10 ± 0.577 (1.02) C:61% T:74%**	pCi/L	10/09/20 15:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.39 ± 0.822 (1.44)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-30D **Lab ID: 92495887026** Collected: 09/24/20 11:00 Received: 09/25/20 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.374 ± 0.261 (0.378) C:76% T:NA**	pCi/L	10/14/20 06:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.435 ± 0.379 (0.763) C:77% T:80%**	pCi/L	10/15/20 11:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.809 ± 0.640 (1.14)**	pCi/L	10/20/20 09:06	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: FB-01 **Lab ID: 92495887027** Collected: 09/24/20 18:50 Received: 09/25/20 10:45 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0189 ± 0.155 (0.475) C:73% T:NA**	pCi/L	10/15/20 07:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0638 ± 0.357 (0.848) C:70% T:82%**	pCi/L	10/15/20 11:15	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.000 ± 0.512 (1.32)**	pCi/L	10/20/20 09:06	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Sample: MW-40D **Lab ID: 92495887028** Collected: 09/28/20 15:15 Received: 09/29/20 08:55 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.95 ± 0.479 (0.439) C:93% T:NA**	pCi/L	10/19/20 18:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.502 ± 0.556 (1.17) C:67% T:65%**	pCi/L	10/15/20 11:14	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.45 ± 1.04 (1.61)**	pCi/L	10/20/20 10:07	7440-14-4	

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415616 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887002, 92495887003, 92495887004, 92495887005, 92495887006, 92495887007, 92495887008, 92495887009, 92495887010

METHOD BLANK: 2009756 Matrix: Water
Associated Lab Samples: 92495887002, 92495887003, 92495887004, 92495887005, 92495887006, 92495887007, 92495887008, 92495887009, 92495887010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0920 ± 0.177 (0.408) C:91% T:NA	pCi/L	10/07/20 07:30	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 417134
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887026

METHOD BLANK: 2016817 Matrix: Water
Associated Lab Samples: 92495887026

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.280 ± 0.239 (0.418) C:85% T:NA	pCi/L	10/14/20 06:41	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 418550
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887028

METHOD BLANK: 2023109
Matrix: Water
Associated Lab Samples: 92495887028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0638 ± 0.107 (0.209) C:94% T:NA	pCi/L	10/19/20 18:23	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 416276
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887025

METHOD BLANK: 2012761
Matrix: Water
Associated Lab Samples: 92495887025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.169 ± 0.216 (0.447) C:97% T:NA	pCi/L	10/07/20 07:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415620 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887018, 92495887019, 92495887020, 92495887021, 92495887022, 92495887023, 92495887024, 92495887025

METHOD BLANK: 2009760 Matrix: Water
Associated Lab Samples: 92495887018, 92495887019, 92495887020, 92495887021, 92495887022, 92495887023, 92495887024, 92495887025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.796 ± 0.463 (0.837) C:62% T:83%	pCi/L	10/09/20 12:28	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415615
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887001

METHOD BLANK: 2009755 Matrix: Water
Associated Lab Samples: 92495887001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.119 ± 0.160 (0.326) C:94% T:NA	pCi/L	10/06/20 17:26	

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

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415617 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887011, 92495887012, 92495887013, 92495887014, 92495887015, 92495887016, 92495887017, 92495887018, 92495887019, 92495887020, 92495887021, 92495887022, 92495887023, 92495887024

METHOD BLANK: 2009757 Matrix: Water
Associated Lab Samples: 92495887011, 92495887012, 92495887013, 92495887014, 92495887015, 92495887016, 92495887017, 92495887018, 92495887019, 92495887020, 92495887021, 92495887022, 92495887023, 92495887024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	1.55 ± 0.513 (0.438) C:92% T:NA	pCi/L	10/08/20 06:52	1g

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415618 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887001, 92495887002, 92495887003, 92495887004, 92495887005, 92495887006, 92495887007, 92495887008

METHOD BLANK: 2009758 Matrix: Water
Associated Lab Samples: 92495887001, 92495887002, 92495887003, 92495887004, 92495887005, 92495887006, 92495887007, 92495887008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.318 ± 0.350 (0.730) C:76% T:82%	pCi/L	10/07/20 10:48	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 417135
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887026

METHOD BLANK: 2016818
Matrix: Water
Associated Lab Samples: 92495887026

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.274 ± 0.291 (0.602) C:84% T:86%	pCi/L	10/15/20 11:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 415619 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887009, 92495887010, 92495887011, 92495887012, 92495887013, 92495887014, 92495887015, 92495887016, 92495887017

METHOD BLANK: 2009759 Matrix: Water
Associated Lab Samples: 92495887009, 92495887010, 92495887011, 92495887012, 92495887013, 92495887014, 92495887015, 92495887016, 92495887017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.390 ± 0.341 (0.687) C:75% T:83%	pCi/L	10/08/20 11:51	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 417136
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887027

METHOD BLANK: 2016820
Matrix: Water
Associated Lab Samples: 92495887027

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0209 ± 0.127 (0.392) C:91% T:NA	pCi/L	10/15/20 07:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

QC Batch: 417137
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92495887027, 92495887028

METHOD BLANK: 2016821
Matrix: Water
Associated Lab Samples: 92495887027, 92495887028

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.369 ± 0.373 (0.768) C:73% T:75%	pCi/L	10/15/20 11:15	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1g	Analyte detected in MB at concentration above MDC and RL of 1.0 pCi/L. Samples results are reportable without qualification if they are less than their associated MDC or RL of 1.0 pCi/L.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495887001	**HGWA-1**	EPA 9315	415615		
92495887002	**HGWA-2**	EPA 9315	415616		
92495887003	**HGWA-3**	EPA 9315	415616		
92495887004	**HGWC-7**	EPA 9315	415616		
92495887005	**HGWC-7 FILTERED**	EPA 9315	415616		
92495887006	**HGWC-8**	EPA 9315	415616		
92495887007	**HGWC-10**	EPA 9315	415616		
92495887008	**MW-29**	EPA 9315	415616		
92495887009	**HGWA-43D**	EPA 9315	415616		
92495887010	**HGWA-44D**	EPA 9315	415616		
92495887011	**HGWC-9**	EPA 9315	415617		
92495887012	**MW-5**	EPA 9315	415617		
92495887013	**MW-20**	EPA 9315	415617		
92495887014	**MW-26D**	EPA 9315	415617		
92495887015	**FD-01**	EPA 9315	415617		
92495887016	**HGWC-11**	EPA 9315	415617		
92495887017	**HGWC-12**	EPA 9315	415617		
92495887018	**MW-25D**	EPA 9315	415617		
92495887019	**MW-27D**	EPA 9315	415617		
92495887020	**HGWC-13**	EPA 9315	415617		
92495887021	**MW-6**	EPA 9315	415617		
92495887022	**MW-7**	EPA 9315	415617		
92495887023	**MW-24D**	EPA 9315	415617		
92495887024	**MW-19**	EPA 9315	415617		
92495887025	**MW-28D**	EPA 9315	416276		
92495887026	**MW-30D**	EPA 9315	417134		
92495887027	**FB-01**	EPA 9315	417136		
92495887028	**MW-40D**	EPA 9315	418550		
92495887001	**HGWA-1**	EPA 9320	415618		
92495887002	**HGWA-2**	EPA 9320	415618		
92495887003	**HGWA-3**	EPA 9320	415618		
92495887004	**HGWC-7**	EPA 9320	415618		
92495887005	**HGWC-7 FILTERED**	EPA 9320	415618		
92495887006	**HGWC-8**	EPA 9320	415618		
92495887007	**HGWC-10**	EPA 9320	415618		
92495887008	**MW-29**	EPA 9320	415618		
92495887009	**HGWA-43D**	EPA 9320	415619		
92495887010	**HGWA-44D**	EPA 9320	415619		
92495887011	**HGWC-9**	EPA 9320	415619		
92495887012	**MW-5**	EPA 9320	415619		
92495887013	**MW-20**	EPA 9320	415619		
92495887014	**MW-26D**	EPA 9320	415619		
92495887015	**FD-01**	EPA 9320	415619		
92495887016	**HGWC-11**	EPA 9320	415619		
92495887017	**HGWC-12**	EPA 9320	415619		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL RADS
Pace Project No.: 92495887

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495887018	**MW-25D**	EPA 9320	415620		
92495887019	**MW-27D**	EPA 9320	415620		
92495887020	**HGWC-13**	EPA 9320	415620		
92495887021	**MW-6**	EPA 9320	415620		
92495887022	**MW-7**	EPA 9320	415620		
92495887023	**MW-24D**	EPA 9320	415620		
92495887024	**MW-19**	EPA 9320	415620		
92495887025	**MW-28D**	EPA 9320	415620		
92495887026	**MW-30D**	EPA 9320	417135		
92495887027	**FB-01**	EPA 9320	417137		
92495887028	**MW-40D**	EPA 9320	417137		
92495887001	**HGWA-1**	Total Radium Calculation	417873		
92495887002	**HGWA-2**	Total Radium Calculation	417873		
92495887003	**HGWA-3**	Total Radium Calculation	417873		
92495887004	**HGWC-7**	Total Radium Calculation	417873		
92495887005	**HGWC-7 FILTERED**	Total Radium Calculation	417873		
92495887006	**HGWC-8**	Total Radium Calculation	417873		
92495887007	**HGWC-10**	Total Radium Calculation	417873		
92495887008	**MW-29**	Total Radium Calculation	417873		
92495887009	**HGWA-43D**	Total Radium Calculation	419145		
92495887010	**HGWA-44D**	Total Radium Calculation	419145		
92495887011	**HGWC-9**	Total Radium Calculation	419262		
92495887012	**MW-5**	Total Radium Calculation	419262		
92495887013	**MW-20**	Total Radium Calculation	419262		
92495887014	**MW-26D**	Total Radium Calculation	419262		
92495887015	**FD-01**	Total Radium Calculation	419262		
92495887016	**HGWC-11**	Total Radium Calculation	419262		
92495887017	**HGWC-12**	Total Radium Calculation	419262		
92495887018	**MW-25D**	Total Radium Calculation	419262		
92495887019	**MW-27D**	Total Radium Calculation	419262		
92495887020	**HGWC-13**	Total Radium Calculation	419263		
92495887021	**MW-6**	Total Radium Calculation	419263		
92495887022	**MW-7**	Total Radium Calculation	419263		
92495887023	**MW-24D**	Total Radium Calculation	419263		
92495887024	**MW-19**	Total Radium Calculation	419263		
92495887025	**MW-28D**	Total Radium Calculation	419263		
92495887026	**MW-30D**	Total Radium Calculation	419263		
92495887027	**FB-01**	Total Radium Calculation	419263		
92495887028	**MW-40D**	Total Radium Calculation	419264		

Pace Analytical

Sample Condition Upon Rec

WO# : 92495887

92495887

Client Name: GA Power

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

Tracking #: _____

Proj. Due Date:
Proj. Name:

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

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

Thermometer Used 214 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.8 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 9/16/2009

Temp should be above freezing to 6°C

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

F-ALLC003rev.3, 11September2008

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

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

Site Location STATE: GA

Section D — Required Client Information

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

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

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 92495867

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HGWA-1	WT	G	9-15-20	1401	–	–	22	7	3		3					1	X	X	X	X	X	N	pH = 7.15
2	HGWA-2	WT	G	9-15-20	1058	–	–	20	7	3		3					1	X	X	X	X	X	N	pH = 5.22
3	HGWA-3	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
4	HGWC-7	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
5	HGWC-8	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
6	HGWC-9	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
7	HGWC-10	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
8	HGWC-11	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
9	HGWC-12	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
10	HGWC-13	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
11	MW-5	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
12	MW-6	WT	G						7	3		3					1	X	X	X	X	X	N	pH =

(Items 3–12 struck through.)

ADDITIONAL COMMENTS

Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.

*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl

Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide

One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Vashish Taukur / GEO	9-15-20	1705	[signature] / GEO	9/15/20	1705	
[signature] / GEO	9/15/20	1820	Molia [signature] / GEO	9/15/20	1820	
Molia [signature] / Geo	9/16/20	1113	[signature] / Pace	9/16/20	1114	
Kyra Williams / Pace	9/16/20	1460	[signature]	9/16/20	1450	

SAMPLER NAME AND SIGNATURE: Vashish Taukur [signature]

PRINT Name of SAMPLER: Vashish Taukur

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-15-20

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

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

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

Section A Required Client Information

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

Section B Required Project Information

Report To	SCS Contacts
Copy To	Geosyntec Contacts
Purchase Order No.:	
Project Name	Plant Hammond AP-1 Semiannual
Project Number	GW6581B

Section C Invoice Information:

Attention	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): N N N N N

Pace Project No./ Lab I.D.: 92495887

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	
1	HGWA-1	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
2	HGWA-2	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
3	HGWA-3	WT	G	9/15	1145	-	-	20	7	3		3					1	X	X	X	X	X	N	pH = 7.29
4	HGWC-7	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
5	HGWC-8	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
6	HGWC-9	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
7	HGWC-10	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
8	HGWC-11	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
9	HGWC-12	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
10	HGWC-13	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
11	MW-5	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
12	MW-6	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / GEO	9/15/20	1826	Marlia Marlin / GEO	9/15/20	1820	
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Marlia Marlin / GEO	9/16/20	1113	Ryan Willims / Pace	9/16/20	1114	
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Ryan Williams / Pace	9/16/20	1450	[illegible]	9/16/20	1450	
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo — DATE Signed (MM/DD/YY): 9/15/2020

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.

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Page: 3 (1) of 3 (4)

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

Section B — Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Plant Hammond AP-1 Semiannual
- Project Number: GW6581B

Section C — Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Kevin Herring
- Pace Profile #: 10839-10/10839-2

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

Site Location STATE: GA

Section D — Required Client Information

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

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

Requested Analysis Filtered (Y/N): N N N N N

Pace Project No./ Lab I.D.: G249546 7

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Collected Composite Start DATE	TIME	Composite End/Grab DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
~~1~~	~~HGWA-1~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~2~~	~~HGWA-2~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
4	HGWC-7	WT	G	9-16-20	1224	-	-	21	7	3		3					1	X	X	X	X	X	N	pH = 7.30 004
5	~~HGWC-8~~ HGWC-7 FILTERED	WT	G	9-16-20	1224	-	-	21	7	3		3					1	X	X	X	X	X	N	pH = 7.30 005
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~8~~	~~HGWC-11~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~9~~	~~HGWC-12~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~10~~	~~HGWC-13~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~11~~	~~MW-5~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~12~~	~~MW-6~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~

ADDITIONAL COMMENTS

Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.

*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl

Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide

One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
V. Thakor / GED	9-16-20	1830	Rad Russo / GED	9/16	1830
Rad Russo / GED	9/16	1955	Nelia Muhm / GEO	9/16/20	1955
Nelia Muhm / GEO	9/17/20	0945	[illegible] / Pace	9/17/20	0945
[illegible] / Pace	9/17/20	1306	Charles Hawk	9/17/20	1305

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Vishal Thakor
- SIGNATURE of SAMPLER: [signature]
- DATE Signed (MM/DD/YY): 9-16-20

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3 (4)

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Chloride, Fluoride, Sulfate N; TDS N; App. III & IV Metals 6010/6020* N; RAD 226/228 N; Major ions N

Pace Project No./ Lab I.D.: 4249 5867

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~HGWA-1~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
2	~~HGWA-2~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
3	~~HGWA-3~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
4	~~HGWC-7~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	HGWC-8	WT	G	9/16	0932	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 6.92 006
6	~~HGWC-9~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
7	HGWC-10	WT	G	9/16	1615	-	-	26	7	3		3					1		X	X	X	X	X	N	pH = 6.66 007
8	~~HGWC-11~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
9	~~HGWC-12~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
10	~~HGWC-13~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	~~MW-5~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	~~MW-6~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	D/Geosyntec	9/16	1835	[illegible] / geo	9/16	1835				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / geo	9/16	1955	Malia Mordan / geo	9/16/20	1955				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Mordan / geo	9/17/20	0945	[illegible] / Pace	9/17/20	0945				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/17/20	1305	[illegible]	9/17/20	1305	4.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J. Kress Jr.

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/16/20

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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3 (4)

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D — Required Client Information

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

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

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 92495887

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-7~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
2	~~MW-19~~	WT	G			-			7	3		3					1		X	X	X	X	X	N	pH =
3	MW-20	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
4	~~MW-24D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	~~MW-25D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	~~MW-26D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
7	~~MW-27D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
8	~~MW-28D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
9	MW-29	WT	G	9/16	1315	-	-	20	7	3		3					1		X	X	X	X	X	N	pH = 6.88 — 006
10	~~MW-30D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	~~MW-40D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	~~FD-01~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS

Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
TJ / Geosyntec	9/16	1835	Chad Russo / geo	9/16	1835				
Chad Russo / geo	9/16	1955	Nadia Mahmoud / geo	9/16/20	1955				
Nadia Mahmoud / geo	9/17/20	0945	[illegible] / Pace	9/17/20	0946				
[illegible] / Pace	9/17/20	1305	Charles Heale	9/17/20	1305	4.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Thomas J Kessler			
SIGNATURE of SAMPLER:	[signature]	DATE Signed (MM/DD/YY): 9/16		

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 4 of 4

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-4/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D — Required Client Information

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

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App. III&IV Metals 6010/6020*	RAD 226/228	Major Ions**	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N		92463487
1	MW-43D	WT	G	9/16	1158	–	–	20	7	3		3					1		X	X	X	X	X	N	pH = 7.52 004
2	MW-44D	WT	G	9/16	1518	–	–	19	7	3		3					1		X	X	X	X	X	N	pH = 7.93 010
3	FB-01	WT	G						7	3		3					1		X	X	X	X	X	N	
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

9/16/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/geo	9/16	1755	Nalia Murbun/geo	9/16/20	1955
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Nalia Murbun/geo	9/17/20	0945	[illegible]/Pace	9/17/20	0945
Major Ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible]/Pace	9/17/20	1305	Charles Hardee	9/17/20	1305
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs						

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/16/2020

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

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

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Page: 1 of 2

Section A Required Client Information:

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

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Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495887
1	HGWA-1	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
2	HGWA-2	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
3	HGWA-3	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
4	HGWC-7	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
5	HGWC-8	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
6	HGWC-9	WT	G	9/17	1142	–	–	20	7	3		3					1	N	X	X	X	X	X	N	pH = 6.99 OK
7	HGWC-10	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
8	HGWC-11	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
9	HGWC-12	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
10	HGWC-13	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =
11	MW-5	WT	G	9/17	1751	–	–	22	7	3		3					1	N	X	X	X	X	X	N	pH = 6.48 OK
12	MW-6	WT	G			–	–		7	3		3					1	N	X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, stinke thorugh any wells not sampled, and note when the last sample for the event has been taken.	[illegible]/Geosyntec	9/17	1840	[illegible] Geo	9/17	1840
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] GEO	9/17	2000	Nadia Mufum/geo	9/17/20	2000
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nadia Mufum/geo	9/18/20	1017	[illegible]/Pace	9/18/20	1028
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible]/Pace	9/18/20	1345	[illegible]	9/18/20	1345

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J. Hressler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/19/20

*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.

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2 of 2

Page: 1 of 1 (WM)

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D — Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-7~~	~~WT~~	~~G~~			-	-		7	3		3					1		N	N	N	N	N	N	92445887
2	~~MW-19~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
3	MW-20	WT	G	9/17	1554	-	-	21	7	3		3					1		X	X	X	X	X	N	pH =
4	~~MW-24D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH = 6.78 013
5	~~MW-25D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	MW-26D	WT	G	9/17	1302	-	-	22	7	3		3					1		X	X	X	X	X	N	pH =
7	~~MW-27D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH = 7.08 014
8	~~MW-28D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
9	~~MW-29~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
10	~~MW-30D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	~~MW-40D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	FD-01	WT	G	9/17	-	-	-	22	7	3		3					1		X	X	X	X	X	N	015

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Thomas Kessler / Geosyntec	9/17	1840	Chad Kuhn / geo	9/17	1840
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / Geo	9/17	2000	Malia Mushrush / geo	9/18/20	2000
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Mushrush / geo	9/18/20	1017	[illegible] / Pace	9/18/20	1028
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/18/20	1345	[illegible]	9/18/20	1345

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J Kessler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/17/20

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Plant Hammond AP-1 Semiannual	Pace Project Manager: Kevin Herring
Requested Due Date/TAT: 10 Day	Project Number: GW6581B	Pace Profile #: 10839-10/10839-2

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

Site Location STATE: GA

Section D Required Client Information

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

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N		
~~1~~	~~HGWA-1~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~2~~	~~HGWA-2~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~4~~	~~HGWC-7~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~5~~	~~HGWC-8~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
8	HGWC-11	WT	G	09-18-20	1330	-	-	23	7	3		3					1		X	X	X	X	X	N	pH = 6.42 016
9	HGWC-12	WT	G	09-18-20	1550	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 7.15 017
~~10~~	~~HGWC-13~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~11~~	~~MW-5~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
~~12~~	~~MW-6~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~

G24G5667 Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	VAISHALI THAKER / GEOSYNTEC	09-19-20	1645	[illegible] / GEO	9/18	1645
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / GEO	9/18	1920	Madison Madsen / GEO	9/18/20	1920
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Madison Madsen / GEO	9/21/20	0925	[illegible] / Pace	9/21/20	925
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/22/20	1208	[illegible]	9/22/20	1208

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: VAISHALI THAKER

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-18-20

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

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Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	Sample ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N														
1	MW-7	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
2	MW-19	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
3	MW-20	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
4	MW-24D	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
5	MW-25D	WT	G	9/18	1320	–	–	25	7	3		3					1	X	X	X	X	X														N	pH = 7.64
6	MW-26D	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
7	MW-27D	WT	G	9/18	0853	–	–	20	7	3		3					1	X	X	X	X	X														N	pH = 7.51
8	MW-28D	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
9	MW-29	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
10	MW-30D	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
11	MW-40D	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	pH =
12	FD-01	WT	G			–	–		7	3		3					1	X	X	X	X	X														N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/GPC	9/18	1920	Nadia Mufleh/GPC	9/18/20	1920	
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Nadia Mufleh/GPC	9/21/20	0925	/Pace	9/21/20	926	
Major Ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	/Pace	9/21/20	1208	Charles Hendrix	9/21/20	1208	5.6 Y N
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/18/2020

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

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

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

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Page: 1 of 5

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): N N N N N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495867
~~1~~	~~HGWA-1~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~2~~	~~HGWA-2~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~4~~	~~HGWC-7~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~5~~	~~HGWC-8~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~8~~	~~HGWC-11~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~9~~	~~HGWC-12~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
10	HGWC-13	WT	G	9-21-20	1645	–	–	20	7	3		3					1		X	X	X	X	X	N	pH = 7.36 020
~~11~~	~~MW-5~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~12~~	~~MW-6~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Vashish Thakur / Geosyntec	9-21-20	1850	[signature] / GEO	9/21	1850				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[signature] / GEO	9/21	2110	[signature] / GEO	9/21/20	2110				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[signature] / GEO	9/22/20	0925	[signature] / Pace	9/22/20	925				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[signature] / Pace	9/22/20	1215	[signature]	9/22/20	1215	4.1	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: VASHISH THAKUR

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-21-20

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: 4 (4n) of 5

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

NPDES | GROUND WATER | DRINKING WATER | UST | RCRA | OTHER CCR (checked)

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major Ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495887
1	HGWA-1	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
2	HGWA-2	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
3	HGWA-3	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
4	HGWC-7	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	HGWC-8	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	HGWC-9	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
7	HGWC-10	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
8	HGWC-11	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
9	HGWC-12	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
10	HGWC-13	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	MW-5	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	MW-6	WT	G	9/21	1019	-	-	4	7	3		3					1		X	X	X	X	X	N	pH = 6.88 021

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo	9/21	2110	Malia Munfun / geo	9/21/20	2110				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Malia Munfun / geo	9/22/20	0925	[illegible] / Pace	9/22/20	925				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible] / Pace	9/22/20	1216	Charles Hentz	9/23/20	1215	4.1	Y	N	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 9/21/2020

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 5

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No:	Pace Quote Reference:
Phone: Fax:	Project Name: Plant Hammond AP-1 Semiannual	Pace Project Manager: Kevin Herring
Requested Due Date/TAT: 10 Day	Project Number: GW6581B	Pace Profile #: 10839-10/10839-2

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

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9245667
1	MW-7	WT	G	9/21	1641	-	-	21	7	3		3					1		X	X	X	X	X	N	pH=6.50 022
2	~~MW-19~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
3	MW-20	WT	G				-		7	3		3					1		X	X	X	X	X	N	pH=
4	~~MW-24D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	~~pH=~~
5	~~MW-25D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	~~pH=~~
6	~~MW-26D~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
7	~~MW-27D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	~~pH=~~
8	MW-28D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
9	~~MW-29~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	~~pH=~~
10	MW-30D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
11	~~MW-40D~~	~~WT~~	~~G~~			-	-		7	3		3					1		X	X	X	X	X	N	~~pH=~~
12	FD-01	WT	G		-	-	-		7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/GEO	9/21	2110	Melia Murphy/GEO	9/21/20	2110				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Melia Murphy/GEO	9/22/20	0925	K Mi/Pace	9/22/20	925				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	K Mi/Pace	9/22/20	1215	Rhonda Hunter	9/22/20	1245	4.1	X	N	X
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad RUSSO

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/21/2021

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 4 of 5

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER GQA

Site Location STATE: GA

Section D Required Client Information

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

Valid Matrix Codes

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9245887
																		Y/N	N	N	N	N	N		
~~1~~	~~MW-7~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
~~2~~	~~MW-19~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
~~3~~	~~MW-26~~	~~WT~~	~~G~~						7	0		0					1		X	X	X	X	X	N	~~pH=~~
4	MW-24D	WT	G	9-21-20	1755	–	–	30	7	3		3					1		X	X	X	X	X	N	pH = 7.65 OCT
~~5~~	~~MW-25D~~	~~WT~~	~~G~~						7	0		3					1		X	X	X	X	X	N	~~pH=~~
~~6~~	~~MW-26D~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
~~7~~	~~MW-27D~~	~~WT~~	~~G~~						7	0		3					1		X	X	X	X	X	N	~~pH=~~
~~8~~	~~MW-28D~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
~~9~~	~~MW-29~~	~~WT~~	~~G~~						7	0		3					1		X	X	X	X	X	N	~~pH=~~
~~10~~	~~MW-30D~~	~~WT~~	~~G~~						7	0		0					1		X	X	X	X	X	N	~~pH=~~
~~11~~	~~MW-40D~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	~~pH=~~
~~12~~	~~FD-01~~	~~WT~~	~~G~~						7	0		0					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	UTKARSH TAYLOR / GEOSYNTEC	9-21-20	1850	[illegible] / GEO	9/21	1850
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / GEO	9/21	1850	Melissa Murphy / GEO	9/21/20	2110
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Melissa Murphy / GEO	9/22/20	0925	[illegible] / Pace	9/22/20	926
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/22/20	1210	Charles Hardy	9/22/20	1245

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: UTKARSH TAYLOR

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-21-20

*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.

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Page: 5 of 5

Section A Required Client Information

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

Section B Required Project Information

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): Chloride, Fluoride, Sulfate N; TDS N; App. III & IV Metals 6010/6020* N; RAD 226/228 N; Major Ions N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-7~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
2	MW-19	WT	G	9/21	1516	-	-	22	7	3		3					1		X	X	X	X	X	N	pH = 6.41 024
3	~~MW-20~~	WT	G				-		7	3		3					1		X	X	X	X	X	N	pH =
4	~~MW-24D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	~~MW-25D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	~~MW-26D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
7	~~MW-27D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
8	MW-28D	WT	G	9/21	1928	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 7.16 025
9	~~MW-29~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
10	~~MW-30D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
11	~~MW-40D~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	~~FD-01~~	WT	G						7	3		3					1		X	X	X	X	X	N	

Pace Project No./Lab I.D.: 92495867

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Thomas Kessler / Geosyntec	09/21	2000	Chad Russell / GCO	9/21	2030				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Chad Russell / GCO	9/21	2110	Nalia Murphy / GCO	9/21/20	2110				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nalia Murphy / GCO	9/22/20	0925	[illegible] / Pace	9/22/20	925				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/22/20	1215	Charles Hardy	9/22/20	1215	4.1	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J Kessler

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 09/21/20

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

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

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

Pace Project No./ Lab I.D.: 92W6888

Requested Analysis Filtered (Y/N): N N N N N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	
1	MW-7	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
2	MW-19	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
3	MW-20	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
4	MW-24D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	MW-25D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	MW-26D	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
7	MW-27D	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
8	MW-28D	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
9	MW-29	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
10	MW-30D	WT	G	9-24-20	1100	-	-	19	7	3		3					1		X	X	X	X	X	N	pH = 8.72 026
11	MW-40D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	FD-01	WT	G						7	3		0					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Vashish Thakur / Geosyntec	9-24-20	1936	Chad [illegible] / Geo	9/24	1930				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Chad [illegible] / Geo	9/24	2030	Malia Mulvey / Geo	9/24/20	2030				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Mulvey / Geo	9/25/20	1045	[illegible] / Pace	9/25/20	1046				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/25/20	1233	K. [illegible] / Pace	9/25/20	1233	1.7	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Vashish Thakur

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-24-20

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 2

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

Section B Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Plant Hammond AP-1 Semiannual
- Project Number: GW6581B

Section C Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Kevin Herring
- Pace Profile #: 10839-4/10839-2

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	Full App. III&IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions** (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495807
1	~~MW-43D~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
2	~~MW-44D~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
3	FB-01	WT	G	9/24	1850	–	–		7	3		3					1		X	X	X	X	X	N	003
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

(Rows 4–12 struck through with "9/24/2020" initials)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / GEO	9/24	2030	Julia Whitaker / geo	9/24/20	2030				
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Julia Whitaker / geo	9/25/20	1045	[illegible] / Pace	9/25/20	1045				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible] / Pace	9/25/20	1233	K. Wellington / PACE	9/25/20	1233	1.7	Y	N	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs										

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: Chad Russo
- SIGNATURE of SAMPLER: [signature]
- DATE Signed (MM/DD/YY): 9/24/2020

*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.

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Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-10/10839-2

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

Site Location STATE: GA

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495887
1	MW-7	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
2	MW-19	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
3	MW-20	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
4	MW-24D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
5	MW-25D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
6	MW-26D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
7	MW-27D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
8	MW-28D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
9	MW-29	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
10	MW-30D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
11	MW-40D	WT	G	9/28	1515	-	-	27	7	3		3					1		X	X	X	X	X	N	pH= 7.69 Last sample 028
12	FD-01	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	[signature] / SCS	9/28	1845	[signature]	9-28	1845				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[signature]	9-29	0752	Morlia Mosley / Pace	9/29/20	0752				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Morlia Mosley / Pace	9/29/20	0855	[signature] / Pace	9/29/20	855				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[signature] / Pace	9/29/20	1130	[signature]	9/29/20	1130	5.6	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/28/2020

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

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

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

Quality Control Sample Performance Assessment

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Test:	Ra-226
Analyst:	LAL
Date:	10/6/2020
Worklist:	56393
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009755
MB concentration:	0.119
M/B Counting Uncertainty:	0.159
MB MDC:	0.326
MB Numerical Performance Indicator:	1.46
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56393	LCSD56393
Count Date:	10/7/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.505	
Target Conc. (pCi/L, g, F):	4.763	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.553	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.770	
Numerical Performance Indicator:	-0.53	
Percent Recovery:	95.58%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92495649004	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92495649004DUP	
Sample Result (pCi/L, g, F):	0.205	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.210	
Sample Duplicate Result (pCi/L, g, F):	0.239	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.276	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.193	92495649004
Duplicate RPD:	15.40%	92495649004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

LAM 10/7/2020

AM 10.7.20

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/6/2020
Worklist:	56393
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009755
MB concentration:	0.119
M/B Counting Uncertainty:	0.159
MB MDC:	0.326
MB Numerical Performance Indicator:	1.46
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56393	LCSD56393
Count Date:	10/7/2020	10/7/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.510
Target Conc. (pCi/L, g, F):	4.763	4.718
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	4.553	4.593
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.770	0.790
Numerical Performance Indicator:	-0.53	-0.31
Percent Recovery:	95.58%	97.35%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56393	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56393	
Sample Result (pCi/L, g, F):	4.553	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.770	
Sample Duplicate Result (pCi/L, g, F):	4.593	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.790	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.071	92495649004
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	1.83%	92495649004DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

LAM 10/7/2020

DW 10/7/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-226
Analyst:	LAL
Date:	10/6/2020
Worklist:	56394
Matrix:	DW

Method Blank Assessment	
MB Sample ID	2009756
MB concentration:	0.092
M/B Counting Uncertainty:	0.177
MB MDC:	0.408
MB Numerical Performance Indicator:	1.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56394	LCSD56394
Count Date:	10/7/2020	10/6/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.514	0.512
Target Conc. (pCi/L, g, F):	4.675	4.692
Uncertainty (Calculated):	0.056	0.056
Result (pCi/L, g, F):	3.980	4.462
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.760	0.322
Numerical Performance Indicator:	-1.79	-1.38
Percent Recovery:	85.14%	95.08%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicete Result Counting Uncertainty (pCi/L, g, F):		
MS Numericel 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.:	LCS56394	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56394	
Sample Result (pCi/L, g, F):	3.980	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.760	
Sample Duplicate Result (pCi/L, g, F):	4.462	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.322	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.143	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.03%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

LAM 10/7/2020

DW 10.7.20

Quality Control Sample Performance Assessment

Pace Analytical
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Test:	Ra-226
Analyst:	LAL
Date:	10/6/2020
Worklist:	56394
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009756
MB concentration:	0.092
M/B Counting Uncertainty:	0.177
MB MDC:	0.408
MB Numerical Performance Indicator:	1.02
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56394	LCSD56394
Count Date:	10/7/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.514	
Target Conc. (pCi/L, g, F):	4.675	
Uncertainty (Calculated):	0.056	
Result (pCi/L, g, F):	3.980	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.760	
Numerical Performance Indicator:	-1.79	
Percent Recovery:	85.14%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92495887002	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92495887002DUP	
Sample Result (pCi/L, g, F):	0.124	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.339	
Sample Duplicate Result (pCi/L, g, F):	0.304	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.234	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.859	92495887002
Duplicate RPD:	84.36%	92495887002DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	25%	

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

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

Comments:

~~***Batch must be re-prepped due to unacceptable precision.~~ N/A VAM 10/7/2020

VAM 10/7/2020

10.7.20

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/7/2020
Worklist:	56395
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009757
MB concentration:	1.555
M/B Counting Uncertainty:	0.461
MB MDC:	0.438
MB Numerical Performance Indicator:	6.61
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Fail*

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56395	LCSD56395
Count Date:	10/8/2020	10/8/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.500	0.502
Target Conc. (pCi/L, g, F):	4.804	4.788
Uncertainty (Calculated):	0.058	0.057
Result (pCi/L, g, F):	5.210	5.326
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.817	0.804
Numerical Performance Indicator:	0.97	1.31
Percent Recovery:	108.45%	111.23%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56395	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56395	
Sample Result (pCi/L, g, F):	5.210	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.817	
Sample Duplicate Result (pCi/L, g, F):	5.326	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.804	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.197	92495890015
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.53%	92495890015DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:
*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.

LAM 10/9/2020

AMZ 10/9/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/7/2020
Worklist: 56395
Matrix: DW

Method Blank Assessment	
MB Sample ID	2009757
MB concentration:	1.555
MB Counting Uncertainty:	0.461
MB MDC:	0.438
MB Numerical Performance Indicator:	6.61
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Fail*

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56395	LCSD56395
Count Date:	10/8/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.500	
Target Conc. (pCi/L, g, F):	4.804	
Uncertainty (Calculated):	0.058	
Result (pCi/L, g, F):	5.210	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.817	
Numerical Performance Indicator:	0.97	
Percent Recovery:	108.45%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92495890015	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92495890015DUP	
Sample Result (pCi/L, g, F):	0.026	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.298	
Sample Duplicate Result (pCi/L, g, F):	0.062	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.162	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.206	92495890015
Duplicate RPD:	80.49%	92495890015DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	25%	

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

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

Comments:
*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.

~~***Batch must be re-prepped due to unacceptable precision.~~ N/A LAM 10/9/2020

LAM 10/9/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Test: Ra-226
Analyst: JJY
Date: 10/6/2020
Worklist: 56467
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2012760
MB concentration:	0.169
M/B Counting Uncertainty:	0.215
MB MDC:	0.447
MB Numerical Performance Indicator:	1.54
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56467	LCSD56467
Count Date:	10/7/2020	10/7/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	0.512
Target Conc. (pCi/L, g, F):	4.730	4.694
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	4.261	5.199
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.778	0.803
Numerical Performance Indicator:	-1.18	1.23
Percent Recovery:	90.09%	110.74%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:	9/22/2020	
Sample I.D.	30384536001	
Sample MS I.D.	30384536001MS	
Sample MSD I.D.		
Spike I.D.:	19-033	
MS/MSD Decay Corrected Spike Concentration (pCi/mL):	24.044	
Spike Volume Used in MS (mL):	0.20	
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):	0.494	
MS Target Conc.(pCi/L, g, F):	9.739	
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):	0.117	
MSD Spike Uncertainty (calculated):		
Sample Result:	0.047	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.218	
Sample Matrix Spike Result:	8.672	
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	1.154	
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:	-1.850	
MSD Numerical Performance Indicator:		
MS Percent Recovery:	88.56%	
MSD Percent Recovery:		
MS Status vs Numerical Indicator:	N/A	
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:	Pass	
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:	125%	
MS/MSD Lower % Recovery Limits:	75%	

Duplicate Sample Assessment		
Sample I.D.:	LCS56467	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56467	
Sample Result (pCi/L, g, F):	4.261	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.778	
Sample Duplicate Result (pCi/L, g, F):	5.199	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.803	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.644	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	20.57%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

JJY 10-8-20

CNS 10/8/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226
Analyst: LAL
Date: 10/13/2020
Worklist: 56591
Matrix: DW

Method Blank Assessment	
MB Sample ID	2016817
MB concantration:	0.280
M/B Counting Uncertainty:	0.235
MB MDC:	0.418
MB Numerical Performance Indicator:	2.33
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56591	LCSD56591
Count Date:	10/14/2020	10/14/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044	24.044
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.512	0.510
Target Conc. (pCi/L, g, F):	4.697	4.711
Uncertainty (Calculated):	0.056	0.057
Result (pCi/L, g, F):	4.666	4.350
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.761	0.758
Numerical Performance Indicator:	-0.08	-0.93
Percent Recovery:	99.33%	92.35%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56591	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56591	
Sample Result (pCi/L, g, F):	4.666	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.761	
Sample Duplicate Result (pCi/L, g, F):	4.350	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.758	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.577	92496904020
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.29%	92496904020DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

LAM 10/14/2020

10/14/2020

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/13/2020
Worklist:	56591
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016817
MB concentration:	0.280
M/B Counting Uncertainty:	0.235
MB MDC:	0.418
MB Numerical Performance Indicator:	2.33
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56591	LCSD56591
Count Date:	10/14/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.512	
Target Conc. (pCi/L, g, F):	4.697	
Uncertainty (Calculated):	0.056	
Result (pCi/L, g, F):	4.666	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.761	
Numerical Performance Indicator:	-0.08	
Percent Recovery:	99.33%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92496904020	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92496904020DUP	
Sample Result (pCi/L, g, F):	0.317	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.241	
Sample Duplicate Result (pCi/L, g, F):	0.374	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.240	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.331	92496904020
Duplicate RPD:	16.61%	92496904020DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

QAM 10/14/2020

QAM 10/14/2020

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/14/2020
Worklist:	56593
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016820
MB concentration:	-0.021
M/B Counting Uncertainty:	0.127
MB MDC:	0.392
MB Numerical Performance Indicator:	-0.32
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56593	LCSD56593
Count Date:	10/15/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	
Target Conc. (pCi/L, g, F):	4.737	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.134	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.806	
Numerical Performance Indicator:	-1.46	
Percent Recovery:	87.27%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92495887027	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92495887027DUP	
Sample Result (pCi/L, g, F):	-0.019	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.155	
Sample Duplicate Result (pCi/L, g, F):	-0.014	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.204	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.035	92495887027
Duplicate RPD:	-27.96%	92495887027DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

10/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/14/2020
Worklist:	56593
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016820
MB concentration:	-0.021
M/B Counting Uncertainty:	0.127
MB MDC:	0.392
MB Numerical Performance Indicator:	-0.32
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56593	LCSD56593
Count Date:	10/15/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.508	
Target Conc. (pCi/L, g, F):	4.737	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.134	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.806	
Numerical Performance Indicator:	-1.46	
Percent Recovery:	87.27%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92495887027	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92495887027DUP	
Sample Result (pCi/L, g, F):	-0.019	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.155	
Sample Duplicate Result (pCi/L, g, F):	-0.014	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.204	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-0.035	92495887027
Duplicate RPD:	-27.96%	92495887027DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

10/21

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test:	Ra-226
Analyst:	LAL
Date:	10/19/2020
Worklist:	56785
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2023109
MB concentration:	0.064
M/B Counting Uncertainty:	0.107
MB MDC:	0.209
MB Numerical Performance Indicator:	1.17
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56785	LCSD56785
Count Date:	10/19/2020	10/19/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.043	24.043
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.501
Target Conc. (pCi/L, g, F):	4.778	4.800
Uncertainty (Calculated):	0.057	0.058
Result (pCi/L, g, F):	4.258	4.127
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.347	0.379
Numerical Performance Indicator:	-2.90	-3.44
Percent Recovery:	89.12%	85.99%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56785	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56785	
Sample Result (pCi/L, g, F):	4.258	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.347	
Sample Duplicate Result (pCi/L, g, F):	4.127	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.379	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.500	92499068016
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	3.58%	92499068016DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

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

Comments:

QA 10/20/2020

LAM 10/20/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Test: Ra-226
Analyst: LAL
Date: 10/19/2020
Worklist: 56785
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2023109
MB concentration:	0.064
M/B Counting Uncertainty:	0.107
MB MDC:	0.209
MB Numerical Performance Indicator:	1.17
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS56785	LCSD56785
Count Date:	10/19/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.043	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.503	
Target Conc. (pCi/L, g, F):	4.778	
Uncertainty (Calculated):	0.057	
Result (pCi/L, g, F):	4.258	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.347	
Numerical Performance Indicator:	-2.90	
Percent Recovery:	89.12%	
Status vs Numericel Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

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

Duplicate Sample Assessment		
Sample I.D.:	92499068016	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92499068016DUP	
Sample Result (pCi/L, g, F):	0.374	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.138	
Sample Duplicate Result (pCi/L, g, F):	0.488	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.176	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.000	92499068016
Duplicate RPD:	26.54%	92499068016DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	25%	

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

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

Comments:

~~***Batch must be re-prepped due to unacceptable precision.~~ N/A
LAM 10/20/2020

10/20/2020
LAM 10/20/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Test: Ra-228
Analyst: VAL
Date: 10/5/2020
Worklist: 56396
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009758
MB concentration:	0.318
M/B 2 Sigma CSU:	0.350
MB MDC:	0.730
MB Numerical Performance Indicator:	1.79
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56396	LCSD56396
Count Date:	10/7/2020	10/7/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.119	38.119
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.811	0.808
Target Conc. (pCi/L, g, F):	4.699	4.716
Uncertainty (Calculated):	0.230	0.231
Result (pCi/L, g, F):	3.815	3.363
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.942	0.842
Numerical Performance Indicator:	-1.79	-3.04
Percent Recovery:	81.20%	71.31%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment		
Sample I.D.:	LCS56396	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56396	
Sample Result (pCi/L, g, F):	3.815	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.942	
Sample Duplicate Result (pCi/L, g, F):	3.363	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.842	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.702	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	12.97%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

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

Comments:

CMC
10/8/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	10/5/2020
Worklist:	56398
Matrix:	WT

Method Blank Assessment	
MB Sample ID	2009760
MB concentration:	0.796
M/B 2 Sigma CSU:	0.463
MB MDC:	0.837
MB Numerical Performance Indicator:	3.37
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56398	LCSD56398
Count Date:	10/9/2020	10/9/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.093	38.093
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.805	0.828
Target Conc. (pCi/L, g, F):	4.734	4.602
Uncertainty (Calculated):	0.232	0.225
Result (pCi/L, g, F):	5.032	5.803
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.133	1.279
Numerical Performance Indicator:	0.51	1.81
Percent Recovery:	106.30%	126.11%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56398	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56398	
Sample Result (pCi/L, g, F):	5.032	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.133	
Sample Duplicate Result (pCi/L, g, F):	5.803	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.279	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.864	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	17.04%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

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

10.12.20

10/12/2020

Quality Control Sample Performance Assessment

Pace Analytical
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Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test:	Ra-228
Analyst:	VAL
Date:	10/5/2020
Worklist:	56397
Matrix:	WT

Method Blank Assessment	
MB Sample ID	2009759
MB concentration:	0.390
M/B 2 Sigma CSU:	0.341
MB MDC:	0.687
MB Numerical Performance Indicator:	2.24
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56397	LCSD56397
Count Date:	10/8/2020	10/8/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.106	38.106
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.812	0.821
Target Conc. (pCi/L, g, F):	4.692	4.644
Uncertainty (Calculated):	0.230	0.228
Result (pCi/L, g, F):	4.692	4.266
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.073	0.974
Numerical Performance Indicator:	0.00	-0.74
Percent Recovery:	99.99%	91.86%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56397	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56397	
Sample Result (pCi/L, g, F):	4.692	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.073	
Sample Duplicate Result (pCi/L, g, F):	4.266	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.974	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.575	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	8.47%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

JJ 10-9-20

Chm 10/10/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228
Analyst: VAL
Date: 10/16/2020
Worklist: 56592
Matrix: WT

Method Blank Assessment	
MB Sample ID	
MB concentration:	
M/B 2 Sigma CSU:	
MB MDC:	
MB Numerical Performance Indicator:	
MB Status vs Numerical Indicator:	
MB Status vs. MDC:	

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56592	LCSD56592
Count Date:	10/19/2020	10/19/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	37.968	37.968
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.813	0.836
Target Conc. (pCi/L, g, F):	4.670	4.542
Uncertainty (Calculated):	0.229	0.223
Result (pCi/L, g, F):	4.645	4.409
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.050	1.018
Numerical Performance Indicator:	-0.04	-0.25
Percent Recovery:	99.48%	97.06%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56592	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56592	
Sample Result (pCi/L, g, F):	4.645	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.050	
Sample Duplicate Result (pCi/L, g, F):	4.409	
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:	0.317	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.46%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

10/20/2020

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test: Ra-228
Analyst: VAL
Date: 10/13/2020
Worklist: 56594
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016821
MB concentration:	0.369
M/B 2 Sigma CSU:	0.373
MB MDC:	0.768
MB Numerical Performance Indicator:	1.94
MB Status vs Numericel Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56594	LCSD56594
Count Date:	10/15/2020	10/15/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.018	38.018
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.813	0.815
Target Conc. (pCi/L, g, F):	4.674	4.667
Uncertainty (Calculated):	0.229	0.229
Result (pCi/L, g, F):	3.952	4.892
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.918	1.152
Numerical Performance Indicator:	-1.49	0.38
Percent Recovery:	84.57%	104.82%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicete 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.:	LCS56594	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56594	
Sample Result (pCi/L, g, F):	3.952	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.918	
Sample Duplicate Result (pCi/L, g, F):	4.892	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.152	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.250	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	21.38%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

10/16/20

AK 10/16/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test: Ra-228
Analyst: VAL
Date: 10/13/2020
Worklist: 56592
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2016818
MB concentration:	0.274
M/B 2 Sigma CSU:	0.291
MB MDC:	0.602
MB Numerical Performance Indicator:	1.85
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56592	LCSD56592
Count Date:	10/15/2020	10/15/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.018	38.018
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.813	0.836
Target Conc. (pCi/L, g, F):	4.676	4.548
Uncertainty (Calculated):	0.229	0.223
Result (pCi/L, g, F):	2.226	2.963
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.629	0.764
Numerical Performance Indicator:	-7.18	-3.91
Percent Recovery:	47.60%	65.14%
Status vs Numerical Indicator:	Fail**	N/A
Status vs Recovery:	Fail Low**	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56592	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56592	
Sample Result (pCi/L, g, F):	2.226	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.629	
Sample Duplicate Result (pCi/L, g, F):	2.963	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.764	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.460	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	31.10%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

**Batch must be re-prepped due to LCS failure.

10/20/2020

Quality Control Sample Performance Assessment

Pace Analytical
www.pacelabs.com

Test: Ra-228
Analyst: VAL
Date: 10/5/2020
Worklist: 56398
Matrix: WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2009760
MB concentration:	0.796
M/B 2 Sigma CSU:	0.463
MB MDC:	0.837
MB Numerical Performance Indicator:	3.37
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS56398	LCSD56398
Count Date:	10/9/2020	10/9/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.093	38.093
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.805	0.828
Target Conc. (pCi/L, g, F):	4.734	4.602
Uncertainty (Calculated):	0.232	0.225
Result (pCi/L, g, F):	5.032	5.803
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.133	1.279
Numerical Performance Indicator:	0.51	1.81
Percent Recovery:	106.30%	126.11%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS56398	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD56398	
Sample Result (pCi/L, g, F):	5.032	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.133	
Sample Duplicate Result (pCi/L, g, F):	5.803	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.279	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.864	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	17.04%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

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

10.12.20

10/12/2020

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

October 20, 2020

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

RE: Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 29, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,

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

Enclosures

cc: Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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

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

SAMPLE SUMMARY

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495894001	**HGWA-1**	Water	09/15/20 14:01	09/16/20 11:14
92495894002	**HGWA-2**	Water	09/15/20 10:58	09/16/20 11:14
92495894003	**HGWA-3**	Water	09/15/20 11:45	09/16/20 11:14
92495894004	**HGWC-7**	Water	09/16/20 12:24	09/17/20 09:45
92495894005	**HGWC-7 FILTERED**	Water	09/16/20 12:24	09/17/20 09:45
92495894006	**HGWC-8**	Water	09/16/20 09:32	09/17/20 09:45
92495894007	**HGWC-10**	Water	09/16/20 16:15	09/17/20 09:45
92495894008	**MW-29**	Water	09/16/20 13:15	09/17/20 09:45
92495894009	**HGWA-43D**	Water	09/16/20 11:58	09/17/20 09:45
92495894010	**HGWA-44D**	Water	09/16/20 15:18	09/17/20 09:45
92495894011	**HGWC-9**	Water	09/17/20 11:42	09/18/20 10:20
92495894012	**MW-5**	Water	09/17/20 17:51	09/18/20 10:20
92495894013	**MW-20**	Water	09/17/20 15:54	09/18/20 10:20
92495894014	**MW-26D**	Water	09/17/20 13:02	09/18/20 10:20
92495894015	**FD-01**	Water	09/17/20 00:00	09/18/20 10:20
92495894016	**HGWC-11**	Water	09/18/20 13:30	09/21/20 09:25
92495894017	**HGWC-12**	Water	09/18/20 15:50	09/21/20 09:25
92495894018	**MW-25D**	Water	09/18/20 13:20	09/21/20 09:25
92495894019	**MW-27D**	Water	09/18/20 08:53	09/21/20 09:25
92495894020	**HGWC-13**	Water	09/21/20 16:45	09/22/20 09:25
92495894021	**MW-6**	Water	09/21/20 10:19	09/22/20 09:25
92495894022	**MW-7**	Water	09/21/20 16:41	09/22/20 09:25
92495894023	**MW-24D**	Water	09/21/20 17:55	09/22/20 09:25
92495894024	**MW-19**	Water	09/21/20 15:18	09/22/20 09:25
92495894025	**MW-28D**	Water	09/21/20 19:28	09/22/20 09:25
92495894026	**MW-30D**	Water	09/24/20 11:00	09/25/20 10:45
92495894027	**FB-01**	Water	09/24/20 18:50	09/25/20 10:45
92495894028	**MW-40D**	Water	09/28/20 15:15	09/29/20 08:55

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

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495894001	**HGWA-1**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894002	**HGWA-2**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894003	**HGWA-3**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894004	**HGWC-7**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894005	**HGWC-7 FILTERED**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894006	**HGWC-8**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894007	**HGWC-10**	EPA 6010D	DRB	6

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894008	**MW-29**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894009	**HGWA-43D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894010	**HGWA-44D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894011	**HGWC-9**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894012	**MW-5**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495894013	**MW-20**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894014	**MW-26D**	EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894015	**FD-01**	EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894016	**HGWC-11**	EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894017	**HGWC-12**	EPA 6010D	DRB	6
		EPA 6020B	KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894018	**MW-25D**	EPA 6010D	DRB	6
		EPA 6020B	KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894019	**MW-27D**	EPA 6010D	DRB	6

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	KH	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894020	**HGWC-13**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894021	**MW-6**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894022	**MW-7**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894023	**MW-24D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894024	**MW-19**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894025	**MW-28D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92495894026	**MW-30D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894027	**FB-01**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
92495894028	**MW-40D**	EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

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

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894001	**HGWA-1**					
	pH	7.15	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	103	mg/L	1.0	09/23/20 17:49	
EPA 6010D	Iron	0.087	mg/L	0.040	09/23/20 17:49	
EPA 6010D	Magnesium	4.3	mg/L	0.050	09/23/20 17:49	
EPA 6010D	Manganese	0.18	mg/L	0.040	09/23/20 17:49	
EPA 6010D	Potassium	0.34	mg/L	0.20	09/23/20 17:49	B
EPA 6010D	Sodium	21.1	mg/L	1.0	09/23/20 17:49	
EPA 6020B	Barium	0.035	mg/L	0.010	09/23/20 17:15	
EPA 6020B	Boron	0.017J	mg/L	0.10	09/23/20 17:15	
EPA 6020B	Lithium	0.00087J	mg/L	0.030	09/23/20 17:15	
SM 2450C-2011	Total Dissolved Solids	265	mg/L	10.0	09/17/20 15:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	307	mg/L	5.0	09/24/20 19:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	307	mg/L	5.0	09/24/20 19:36	
EPA 300.0 Rev 2.1 1993	Chloride	13.4	mg/L	1.0	09/18/20 21:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.10	09/18/20 21:31	
EPA 300.0 Rev 2.1 1993	Sulfate	47.3	mg/L	1.0	09/18/20 21:31	
92495894002	**HGWA-2**					
	pH	5.22	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	21.1	mg/L	1.0	09/23/20 17:53	
EPA 6010D	Iron	0.78	mg/L	0.040	09/23/20 17:53	
EPA 6010D	Magnesium	2.5	mg/L	0.050	09/23/20 17:53	
EPA 6010D	Manganese	0.61	mg/L	0.040	09/23/20 17:53	
EPA 6010D	Potassium	0.89	mg/L	0.20	09/23/20 17:53	B
EPA 6010D	Sodium	7.4	mg/L	1.0	09/23/20 17:53	
EPA 6020B	Barium	0.12	mg/L	0.010	09/23/20 17:21	
EPA 6020B	Beryllium	0.00013J	mg/L	0.0030	09/23/20 17:21	
EPA 6020B	Boron	0.044J	mg/L	0.10	09/23/20 17:21	
EPA 6020B	Cadmium	0.00012J	mg/L	0.0025	09/23/20 17:21	
EPA 6020B	Cobalt	0.021	mg/L	0.0050	09/23/20 17:21	
EPA 6020B	Lead	0.000080J	mg/L	0.0050	09/23/20 17:21	
EPA 6020B	Lithium	0.0015J	mg/L	0.030	09/23/20 17:21	
SM 2450C-2011	Total Dissolved Solids	124	mg/L	10.0	09/17/20 15:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	26.1	mg/L	5.0	09/24/20 13:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	26.1	mg/L	5.0	09/24/20 13:36	
EPA 300.0 Rev 2.1 1993	Chloride	5.0	mg/L	1.0	09/18/20 21:46	
EPA 300.0 Rev 2.1 1993	Sulfate	51.5	mg/L	1.0	09/18/20 21:46	
92495894003	**HGWA-3**					
	pH	7.29	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	73.1	mg/L	1.0	09/23/20 17:57	
EPA 6010D	Iron	0.26	mg/L	0.040	09/23/20 17:57	
EPA 6010D	Magnesium	4.6	mg/L	0.050	09/23/20 17:57	
EPA 6010D	Manganese	0.22	mg/L	0.040	09/23/20 17:57	
EPA 6010D	Potassium	0.46	mg/L	0.20	09/23/20 17:57	B
EPA 6010D	Sodium	4.9	mg/L	1.0	09/23/20 17:57	
EPA 6020B	Barium	0.12	mg/L	0.010	09/23/20 17:27	
EPA 6020B	Boron	0.0071J	mg/L	0.10	09/23/20 17:27	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894003	**HGWA-3**					
EPA 6020B	Lead	0.000042J	mg/L	0.0050	09/23/20 17:27	
EPA 6020B	Lithium	0.0026J	mg/L	0.030	09/23/20 17:27	
SM 2450C-2011	Total Dissolved Solids	258	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	187	mg/L	5.0	09/24/20 13:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	187	mg/L	5.0	09/24/20 13:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.0	mg/L	1.0	09/18/20 22:01	
EPA 300.0 Rev 2.1 1993	Sulfate	44.7	mg/L	1.0	09/18/20 22:01	
92495894004	**HGWC-7**					
	pH	7.30	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	98.0	mg/L	1.0	09/24/20 20:39	M1
EPA 6010D	Iron	0.30	mg/L	0.040	09/24/20 20:39	
EPA 6010D	Magnesium	8.9	mg/L	0.050	09/24/20 20:39	M1
EPA 6010D	Manganese	0.15	mg/L	0.040	09/24/20 20:39	
EPA 6010D	Potassium	2.3	mg/L	0.20	09/24/20 20:39	
EPA 6010D	Sodium	8.7	mg/L	1.0	09/24/20 20:39	M1
EPA 6020B	Antimony	0.00034J	mg/L	0.0030	09/23/20 19:13	
EPA 6020B	Barium	0.068	mg/L	0.010	09/23/20 19:13	
EPA 6020B	Boron	1.1	mg/L	0.10	09/23/20 19:13	
EPA 6020B	Chromium	0.00074J	mg/L	0.010	09/23/20 19:13	
EPA 6020B	Cobalt	0.00065J	mg/L	0.0050	09/23/20 19:13	
EPA 6020B	Lead	0.00020J	mg/L	0.0050	09/23/20 19:13	
EPA 6020B	Lithium	0.0026J	mg/L	0.030	09/23/20 19:13	
EPA 6020B	Molybdenum	0.046	mg/L	0.010	09/23/20 19:13	
SM 2450C-2011	Total Dissolved Solids	392	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	177	mg/L	5.0	09/24/20 16:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	177	mg/L	5.0	09/24/20 16:19	
EPA 300.0 Rev 2.1 1993	Chloride	46.4	mg/L	1.0	09/19/20 22:06	
EPA 300.0 Rev 2.1 1993	Fluoride	0.081J	mg/L	0.10	09/19/20 22:06	
EPA 300.0 Rev 2.1 1993	Sulfate	109	mg/L	2.0	09/20/20 07:28	
92495894005	**HGWC-7 FILTERED**					
	pH	7.30	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	105	mg/L	1.0	09/24/20 20:57	M1
EPA 6010D	Iron	0.019J	mg/L	0.040	09/24/20 20:57	
EPA 6010D	Magnesium	9.5	mg/L	0.050	09/24/20 20:57	M1
EPA 6010D	Manganese	0.16	mg/L	0.040	09/24/20 20:57	
EPA 6010D	Potassium	2.4	mg/L	0.20	09/24/20 20:57	M1
EPA 6010D	Sodium	9.4	mg/L	1.0	09/24/20 20:57	M1
EPA 6020B	Barium	0.069	mg/L	0.010	09/23/20 19:19	
EPA 6020B	Boron	1.1	mg/L	0.10	09/23/20 19:19	
EPA 6020B	Cobalt	0.00051J	mg/L	0.0050	09/23/20 19:19	
EPA 6020B	Lithium	0.0020J	mg/L	0.030	09/23/20 19:19	
EPA 6020B	Molybdenum	0.048	mg/L	0.010	09/23/20 19:19	
SM 2450C-2011	Total Dissolved Solids	399	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	177	mg/L	5.0	09/24/20 16:31	
SM 2320B-2011	Alkalinity, Total as CaCO3	177	mg/L	5.0	09/24/20 16:31	
EPA 300.0 Rev 2.1 1993	Chloride	46.4	mg/L	1.0	09/19/20 22:21	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894005	**HGWC-7 FILTERED**					
EPA 300.0 Rev 2.1 1993	Fluoride	0.085J	mg/L	0.10	09/19/20 22:21	
EPA 300.0 Rev 2.1 1993	Sulfate	109	mg/L	2.0	09/20/20 07:43	
92495894006	**HGWC-8**					
	pH	6.92	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	119	mg/L	1.0	09/24/20 21:01	
EPA 6010D	Iron	0.30	mg/L	0.040	09/24/20 21:01	
EPA 6010D	Magnesium	16.4	mg/L	0.050	09/24/20 21:01	
EPA 6010D	Manganese	0.22	mg/L	0.040	09/24/20 21:01	
EPA 6010D	Potassium	7.1	mg/L	0.20	09/24/20 21:01	
EPA 6010D	Sodium	8.5	mg/L	1.0	09/24/20 21:01	
EPA 6020B	Barium	0.060	mg/L	0.010	09/23/20 19:25	
EPA 6020B	Beryllium	0.00010J	mg/L	0.0030	09/23/20 19:25	
EPA 6020B	Boron	1.9	mg/L	0.10	09/23/20 19:25	
EPA 6020B	Cadmium	0.00023J	mg/L	0.0025	09/23/20 19:25	
EPA 6020B	Chromium	0.0015J	mg/L	0.010	09/23/20 19:25	
EPA 6020B	Cobalt	0.0019J	mg/L	0.0050	09/23/20 19:25	
EPA 6020B	Lead	0.00020J	mg/L	0.0050	09/23/20 19:25	
EPA 6020B	Lithium	0.0033J	mg/L	0.030	09/23/20 19:25	
EPA 6020B	Molybdenum	0.43	mg/L	0.010	09/23/20 19:25	
SM 2450C-2011	Total Dissolved Solids	552	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	133	mg/L	5.0	09/24/20 16:42	
SM 2320B-2011	Alkalinity, Total as CaCO3	133	mg/L	5.0	09/24/20 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	74.6	mg/L	1.0	09/19/20 22:36	
EPA 300.0 Rev 2.1 1993	Fluoride	0.53	mg/L	0.10	09/19/20 22:36	
EPA 300.0 Rev 2.1 1993	Sulfate	194	mg/L	4.0	09/20/20 07:58	
92495894007	**HGWC-10**					
	pH	6.66	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	139	mg/L	1.0	09/24/20 21:06	
EPA 6010D	Magnesium	10.8	mg/L	0.050	09/24/20 21:06	
EPA 6010D	Manganese	1.3	mg/L	0.040	09/24/20 21:06	
EPA 6010D	Potassium	1.3	mg/L	0.20	09/24/20 21:06	
EPA 6010D	Sodium	8.9	mg/L	1.0	09/24/20 21:06	
EPA 6020B	Barium	0.068	mg/L	0.010	09/23/20 19:42	
EPA 6020B	Boron	1.1	mg/L	1.0	09/24/20 13:51	
EPA 6020B	Molybdenum	0.0014J	mg/L	0.010	09/23/20 19:42	
SM 2450C-2011	Total Dissolved Solids	490	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	247	mg/L	5.0	09/28/20 15:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	247	mg/L	5.0	09/28/20 15:50	
EPA 300.0 Rev 2.1 1993	Chloride	39.7	mg/L	1.0	09/20/20 01:05	
EPA 300.0 Rev 2.1 1993	Sulfate	169	mg/L	4.0	09/20/20 08:12	
92495894008	**MW-29**					
	pH	6.88	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	126	mg/L	1.0	09/24/20 21:10	
EPA 6010D	Iron	0.035J	mg/L	0.040	09/24/20 21:10	
EPA 6010D	Magnesium	11.4	mg/L	0.050	09/24/20 21:10	
EPA 6010D	Manganese	1.2	mg/L	0.040	09/24/20 21:10	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894008	**MW-29**					
EPA 6010D	Potassium	0.94	mg/L	0.20	09/24/20 21:10	
EPA 6010D	Sodium	10.9	mg/L	1.0	09/24/20 21:10	
EPA 6020B	Barium	0.076	mg/L	0.010	09/23/20 19:47	
EPA 6020B	Boron	1.7	mg/L	1.0	09/24/20 13:57	
EPA 6020B	Cobalt	0.0013J	mg/L	0.0050	09/23/20 19:47	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	09/23/20 19:47	
EPA 6020B	Molybdenum	0.0021J	mg/L	0.010	09/23/20 19:47	
SM 2450C-2011	Total Dissolved Solids	547	mg/L	10.0	09/18/20 10:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	194	mg/L	5.0	09/24/20 17:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	194	mg/L	5.0	09/24/20 17:02	
EPA 300.0 Rev 2.1 1993	Chloride	75.3	mg/L	1.0	09/20/20 01:20	
EPA 300.0 Rev 2.1 1993	Sulfate	143	mg/L	3.0	09/20/20 08:27	
92495894009	**HGWA-43D**					
	pH	7.52	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	56.0	mg/L	1.0	09/23/20 18:49	
EPA 6010D	Iron	0.020J	mg/L	0.040	09/23/20 18:49	
EPA 6010D	Magnesium	18.3	mg/L	0.050	09/23/20 18:49	
EPA 6010D	Manganese	0.010J	mg/L	0.040	09/23/20 18:49	
EPA 6010D	Potassium	0.97	mg/L	0.20	09/23/20 18:49	B
EPA 6010D	Sodium	14.0	mg/L	1.0	09/23/20 18:49	
EPA 6020B	Antimony	0.00051J	mg/L	0.0030	09/23/20 18:54	
EPA 6020B	Barium	0.26	mg/L	0.010	09/23/20 18:54	
EPA 6020B	Boron	0.061J	mg/L	0.10	09/23/20 18:54	
EPA 6020B	Lead	0.000050J	mg/L	0.0050	09/23/20 18:54	
EPA 6020B	Lithium	0.0018J	mg/L	0.030	09/23/20 18:54	
EPA 6020B	Molybdenum	0.0044J	mg/L	0.010	09/23/20 18:54	
SM 2450C-2011	Total Dissolved Solids	272	mg/L	10.0	09/17/20 15:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	251	mg/L	5.0	09/28/20 15:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	251	mg/L	5.0	09/28/20 15:11	
EPA 300.0 Rev 2.1 1993	Chloride	4.1	mg/L	1.0	09/19/20 21:36	
EPA 300.0 Rev 2.1 1993	Fluoride	0.22	mg/L	0.10	09/19/20 21:36	
EPA 300.0 Rev 2.1 1993	Sulfate	43.0	mg/L	1.0	09/19/20 21:36	
92495894010	**HGWA-44D**					
	pH	7.83	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	30.0	mg/L	1.0	09/23/20 18:53	
EPA 6010D	Iron	0.42	mg/L	0.040	09/23/20 18:53	
EPA 6010D	Magnesium	15.1	mg/L	0.050	09/23/20 18:53	
EPA 6010D	Manganese	0.020J	mg/L	0.040	09/23/20 18:53	
EPA 6010D	Potassium	3.2	mg/L	0.20	09/23/20 18:53	
EPA 6010D	Sodium	50.3	mg/L	1.0	09/23/20 18:53	
EPA 6020B	Antimony	0.00049J	mg/L	0.0030	09/23/20 19:00	
EPA 6020B	Barium	0.24	mg/L	0.010	09/23/20 19:00	
EPA 6020B	Boron	0.23	mg/L	0.10	09/23/20 19:00	
EPA 6020B	Chromium	0.0012J	mg/L	0.010	09/23/20 19:00	
EPA 6020B	Lead	0.00021J	mg/L	0.0050	09/23/20 19:00	
EPA 6020B	Lithium	0.014J	mg/L	0.030	09/23/20 19:00	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894010	**HGWA-44D**					
EPA 6020B	Molybdenum	0.0019J	mg/L	0.010	09/23/20 19:00	
SM 2450C-2011	Total Dissolved Solids	270	mg/L	10.0	09/17/20 15:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	294	mg/L	5.0	09/28/20 15:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	294	mg/L	5.0	09/28/20 15:19	
SM 4500-S2D-2011	Sulfide	0.11	mg/L	0.10	09/22/20 14:17	
EPA 300.0 Rev 2.1 1993	Chloride	7.2	mg/L	1.0	09/19/20 21:51	
EPA 300.0 Rev 2.1 1993	Fluoride	0.52	mg/L	0.10	09/19/20 21:51	
EPA 300.0 Rev 2.1 1993	Sulfate	6.9	mg/L	1.0	09/19/20 21:51	
92495894011	**HGWC-9**					
	pH	6.99	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	164	mg/L	1.0	09/24/20 21:23	
EPA 6010D	Iron	0.19	mg/L	0.040	09/24/20 21:23	
EPA 6010D	Magnesium	16.6	mg/L	0.050	09/24/20 21:23	
EPA 6010D	Manganese	0.42	mg/L	0.040	09/24/20 21:23	
EPA 6010D	Potassium	3.0	mg/L	0.20	09/24/20 21:23	
EPA 6010D	Sodium	11.3	mg/L	1.0	09/24/20 21:23	
EPA 6020B	Barium	0.11	mg/L	0.010	09/28/20 18:26	
EPA 6020B	Boron	2.0	mg/L	1.0	09/30/20 11:07	
EPA 6020B	Cobalt	0.00070J	mg/L	0.0050	09/28/20 18:26	
EPA 6020B	Lead	0.00022J	mg/L	0.0050	09/28/20 18:26	
EPA 6020B	Lithium	0.0040J	mg/L	0.030	09/28/20 18:26	
EPA 6020B	Molybdenum	0.030	mg/L	0.010	09/28/20 18:26	
SM 2450C-2011	Total Dissolved Solids	680	mg/L	20.0	09/22/20 14:23	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	194	mg/L	5.0	09/24/20 19:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	194	mg/L	5.0	09/24/20 19:13	
EPA 300.0 Rev 2.1 1993	Chloride	105	mg/L	4.0	09/22/20 15:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	09/22/20 08:02	
EPA 300.0 Rev 2.1 1993	Sulfate	209	mg/L	4.0	09/22/20 15:28	
92495894012	**MW-5**					
	pH	6.48	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	103	mg/L	1.0	09/24/20 21:28	
EPA 6010D	Magnesium	11.6	mg/L	0.050	09/24/20 21:28	
EPA 6010D	Manganese	0.0019J	mg/L	0.040	09/24/20 21:28	
EPA 6010D	Potassium	0.85	mg/L	0.20	09/24/20 21:28	
EPA 6010D	Sodium	18.1	mg/L	1.0	09/24/20 21:28	
EPA 6020B	Barium	0.043	mg/L	0.010	09/28/20 18:32	
EPA 6020B	Boron	0.067J	mg/L	0.10	09/28/20 18:32	
EPA 6020B	Chromium	0.0021J	mg/L	0.010	09/28/20 18:32	
EPA 6020B	Selenium	0.0028J	mg/L	0.010	09/28/20 18:32	
SM 2450C-2011	Total Dissolved Solids	486	mg/L	10.0	09/22/20 14:23	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	179	mg/L	5.0	09/24/20 19:25	
SM 2320B-2011	Alkalinity, Total as CaCO3	179	mg/L	5.0	09/24/20 19:25	
EPA 300.0 Rev 2.1 1993	Chloride	28.7	mg/L	1.0	09/22/20 08:47	
EPA 300.0 Rev 2.1 1993	Fluoride	0.094J	mg/L	0.10	09/22/20 08:47	
EPA 300.0 Rev 2.1 1993	Sulfate	153	mg/L	3.0	09/22/20 16:12	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894013	**MW-20**					
	pH	6.78	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	110	mg/L	1.0	09/24/20 21:32	
EPA 6010D	Iron	2.8	mg/L	0.040	09/24/20 21:32	
EPA 6010D	Magnesium	8.5	mg/L	0.050	09/24/20 21:32	
EPA 6010D	Manganese	0.24	mg/L	0.040	09/24/20 21:32	
EPA 6010D	Potassium	0.22	mg/L	0.20	09/24/20 21:32	
EPA 6010D	Sodium	10.3	mg/L	1.0	09/24/20 21:32	
EPA 6020B	Barium	0.096	mg/L	0.010	09/28/20 18:38	
EPA 6020B	Boron	0.11	mg/L	0.10	09/28/20 18:38	
SM 2450C-2011	Total Dissolved Solids	460	mg/L	10.0	09/22/20 14:23	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	231	mg/L	5.0	09/30/20 11:48	
SM 2320B-2011	Alkalinity, Total as CaCO3	231	mg/L	5.0	09/30/20 11:48	
EPA 300.0 Rev 2.1 1993	Chloride	29.7	mg/L	1.0	09/22/20 09:02	
EPA 300.0 Rev 2.1 1993	Sulfate	110	mg/L	2.0	09/22/20 16:57	
92495894014	**MW-26D**					
	pH	7.08	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	150	mg/L	1.0	09/24/20 21:36	
EPA 6010D	Iron	0.29	mg/L	0.040	09/24/20 21:36	
EPA 6010D	Magnesium	16.9	mg/L	0.050	09/24/20 21:36	
EPA 6010D	Manganese	0.16	mg/L	0.040	09/24/20 21:36	
EPA 6010D	Potassium	1.8	mg/L	0.20	09/24/20 21:36	
EPA 6010D	Sodium	11.9	mg/L	1.0	09/24/20 21:36	
EPA 6020B	Barium	0.099	mg/L	0.010	09/25/20 18:36	
EPA 6020B	Boron	2.0	mg/L	0.10	09/29/20 16:39	
EPA 6020B	Lithium	0.0032J	mg/L	0.030	09/25/20 18:36	
EPA 6020B	Molybdenum	0.014	mg/L	0.010	09/25/20 18:36	
SM 2450C-2011	Total Dissolved Solids	732	mg/L	20.0	09/22/20 14:23	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	187	mg/L	5.0	09/30/20 12:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	187	mg/L	5.0	09/30/20 12:19	
EPA 300.0 Rev 2.1 1993	Chloride	103	mg/L	4.0	09/22/20 17:12	
EPA 300.0 Rev 2.1 1993	Fluoride	0.069J	mg/L	0.10	09/22/20 09:17	
EPA 300.0 Rev 2.1 1993	Sulfate	174	mg/L	4.0	09/22/20 17:12	
92495894015	**FD-01**					
EPA 6010D	Calcium	148	mg/L	1.0	09/24/20 21:41	
EPA 6010D	Iron	0.22	mg/L	0.040	09/24/20 21:41	
EPA 6010D	Magnesium	15.6	mg/L	0.050	09/24/20 21:41	
EPA 6010D	Manganese	0.16	mg/L	0.040	09/24/20 21:41	
EPA 6010D	Potassium	1.8	mg/L	0.20	09/24/20 21:41	
EPA 6010D	Sodium	11.5	mg/L	1.0	09/24/20 21:41	
EPA 6020B	Antimony	0.0013J	mg/L	0.0030	09/25/20 18:59	
EPA 6020B	Barium	0.099	mg/L	0.010	09/25/20 18:59	
EPA 6020B	Boron	2.1	mg/L	0.10	09/29/20 16:56	
EPA 6020B	Lithium	0.0035J	mg/L	0.030	09/25/20 18:59	
EPA 6020B	Molybdenum	0.016	mg/L	0.010	09/25/20 18:59	
SM 2450C-2011	Total Dissolved Solids	702	mg/L	20.0	09/22/20 14:23	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	185	mg/L	5.0	09/30/20 12:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894015	**FD-01**					
SM 2320B-2011	Alkalinity, Total as CaCO3	185	mg/L	5.0	09/30/20 12:30	
EPA 300.0 Rev 2.1 1993	Chloride	104	mg/L	4.0	09/22/20 17:26	
EPA 300.0 Rev 2.1 1993	Fluoride	0.064J	mg/L	0.10	09/22/20 09:32	
EPA 300.0 Rev 2.1 1993	Sulfate	181	mg/L	4.0	09/22/20 17:26	
92495894016	**HGWC-11**					
	pH	6.42	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	122	mg/L	1.0	09/24/20 21:45	
EPA 6010D	Magnesium	16.2	mg/L	0.050	09/24/20 21:45	
EPA 6010D	Manganese	0.017J	mg/L	0.040	09/24/20 21:45	
EPA 6010D	Potassium	3.7	mg/L	0.20	09/24/20 21:45	
EPA 6010D	Sodium	5.5	mg/L	1.0	09/24/20 21:45	
EPA 6020B	Antimony	0.00038J	mg/L	0.0030	09/25/20 19:04	
EPA 6020B	Arsenic	0.00081J	mg/L	0.0050	09/25/20 19:04	
EPA 6020B	Barium	0.043	mg/L	0.010	09/25/20 19:04	
EPA 6020B	Boron	0.91	mg/L	0.10	09/29/20 17:02	
EPA 6020B	Lead	0.000060J	mg/L	0.0050	09/25/20 19:04	
EPA 6020B	Molybdenum	0.032	mg/L	0.010	09/25/20 19:04	
EPA 6020B	Selenium	0.0042J	mg/L	0.010	09/25/20 19:04	
SM 2450C-2011	Total Dissolved Solids	626	mg/L	10.0	09/22/20 14:23	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	91.6	mg/L	5.0	09/30/20 13:28	
SM 2320B-2011	Alkalinity, Total as CaCO3	91.6	mg/L	5.0	09/30/20 13:28	
EPA 300.0 Rev 2.1 1993	Chloride	34.9	mg/L	1.0	09/24/20 08:39	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	09/24/20 08:39	
EPA 300.0 Rev 2.1 1993	Sulfate	272	mg/L	4.0	09/24/20 21:54	
92495894017	**HGWC-12**					
	pH	7.15	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	163	mg/L	1.0	09/24/20 21:58	
EPA 6010D	Iron	0.083	mg/L	0.040	09/24/20 21:58	
EPA 6010D	Magnesium	17.3	mg/L	0.050	09/24/20 21:58	
EPA 6010D	Manganese	2.0	mg/L	0.040	09/24/20 21:58	
EPA 6010D	Potassium	7.2	mg/L	0.20	09/24/20 21:58	
EPA 6010D	Sodium	9.4	mg/L	1.0	09/24/20 21:58	
EPA 6020B	Arsenic	0.0031J	mg/L	0.0050	09/25/20 19:10	
EPA 6020B	Barium	0.086	mg/L	0.010	09/25/20 19:10	
EPA 6020B	Boron	1.6	mg/L	0.10	09/25/20 19:10	
EPA 6020B	Chromium	0.00091J	mg/L	0.010	09/25/20 19:10	
EPA 6020B	Cobalt	0.0014J	mg/L	0.0050	09/25/20 19:10	
EPA 6020B	Lead	0.000096J	mg/L	0.0050	09/25/20 19:10	
EPA 6020B	Lithium	0.010J	mg/L	0.030	09/25/20 19:10	
EPA 6020B	Molybdenum	0.046	mg/L	0.010	09/25/20 19:10	
SM 2450C-2011	Total Dissolved Solids	704	mg/L	20.0	09/22/20 14:23	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	172	mg/L	5.0	09/30/20 13:37	
SM 2320B-2011	Alkalinity, Total as CaCO3	172	mg/L	5.0	09/30/20 13:37	
EPA 300.0 Rev 2.1 1993	Chloride	74.6	mg/L	1.0	09/24/20 08:53	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	09/24/20 08:53	
EPA 300.0 Rev 2.1 1993	Sulfate	266	mg/L	4.0	09/25/20 10:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894018	**MW-25D**					
	pH	7.64	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	25.1	mg/L	1.0	09/24/20 22:03	
EPA 6010D	Iron	0.088	mg/L	0.040	09/24/20 22:03	
EPA 6010D	Magnesium	8.3	mg/L	0.050	09/24/20 22:03	
EPA 6010D	Manganese	0.040J	mg/L	0.040	09/24/20 22:03	
EPA 6010D	Potassium	0.42	mg/L	0.20	09/24/20 22:03	
EPA 6010D	Sodium	103	mg/L	1.0	09/24/20 22:03	
EPA 6020B	Barium	0.44	mg/L	0.010	09/25/20 19:27	
EPA 6020B	Boron	0.36	mg/L	0.10	09/25/20 19:27	
EPA 6020B	Lithium	0.046	mg/L	0.030	09/25/20 19:27	
EPA 6020B	Molybdenum	0.00094J	mg/L	0.010	09/25/20 19:27	
SM 2450C-2011	Total Dissolved Solids	382	mg/L	10.0	09/23/20 13:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	288	mg/L	5.0	09/30/20 20:37	
SM 2320B-2011	Alkalinity, Total as CaCO3	288	mg/L	5.0	09/30/20 20:37	
SM 4500-S2D-2011	Sulfide	2.9	mg/L	1.0	09/22/20 15:14	
EPA 300.0 Rev 2.1 1993	Chloride	33.4	mg/L	1.0	09/24/20 09:08	
EPA 300.0 Rev 2.1 1993	Fluoride	1.6	mg/L	0.10	09/24/20 09:08	
EPA 300.0 Rev 2.1 1993	Sulfate	27.4	mg/L	1.0	09/24/20 09:08	
92495894019	**MW-27D**					
	pH	7.51	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	24.8	mg/L	1.0	09/25/20 20:10	
EPA 6010D	Iron	0.15	mg/L	0.040	09/25/20 20:10	
EPA 6010D	Magnesium	17.0	mg/L	0.050	09/25/20 20:10	
EPA 6010D	Manganese	0.13	mg/L	0.040	09/25/20 20:10	
EPA 6010D	Potassium	0.95	mg/L	0.20	09/25/20 20:10	
EPA 6010D	Sodium	27.3	mg/L	1.0	09/25/20 20:10	
EPA 6020B	Antimony	0.00031J	mg/L	0.0030	09/25/20 19:33	
EPA 6020B	Barium	1.0	mg/L	0.010	09/25/20 19:33	
EPA 6020B	Boron	0.12	mg/L	0.10	09/25/20 19:33	
EPA 6020B	Chromium	0.00070J	mg/L	0.010	09/25/20 19:33	
EPA 6020B	Lithium	0.0084J	mg/L	0.030	09/25/20 19:33	
EPA 6020B	Molybdenum	0.0018J	mg/L	0.010	09/25/20 19:33	
SM 2450C-2011	Total Dissolved Solids	211	mg/L	10.0	09/23/20 13:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	169	mg/L	5.0	09/30/20 14:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	169	mg/L	5.0	09/30/20 14:16	
EPA 300.0 Rev 2.1 1993	Chloride	30.4	mg/L	1.0	09/24/20 09:51	
EPA 300.0 Rev 2.1 1993	Fluoride	0.22	mg/L	0.10	09/24/20 09:51	
EPA 300.0 Rev 2.1 1993	Sulfate	7.5	mg/L	1.0	09/24/20 09:51	
92495894020	**HGWC-13**					
	pH	7.34	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	173	mg/L	1.0	09/25/20 20:27	
EPA 6010D	Iron	0.87	mg/L	0.040	09/25/20 20:27	
EPA 6010D	Magnesium	15.6	mg/L	0.050	09/25/20 20:27	
EPA 6010D	Manganese	2.1	mg/L	0.040	09/25/20 20:27	
EPA 6010D	Potassium	4.6	mg/L	0.20	09/25/20 20:27	
EPA 6010D	Sodium	6.4	mg/L	1.0	09/25/20 20:27	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894020	**HGWC-13**					
EPA 6020B	Antimony	0.00029J	mg/L	0.0030	09/30/20 17:37	
EPA 6020B	Arsenic	0.39	mg/L	0.0050	09/30/20 17:37	
EPA 6020B	Barium	0.052	mg/L	0.010	09/30/20 17:37	
EPA 6020B	Beryllium	0.00011J	mg/L	0.0030	09/30/20 17:37	
EPA 6020B	Boron	1.6	mg/L	0.10	09/30/20 17:37	
EPA 6020B	Chromium	0.00056J	mg/L	0.010	09/30/20 17:37	
EPA 6020B	Cobalt	0.0032J	mg/L	0.0050	09/30/20 17:37	
EPA 6020B	Lead	0.00015J	mg/L	0.0050	09/30/20 17:37	
EPA 6020B	Lithium	0.028J	mg/L	0.030	09/30/20 17:37	
EPA 6020B	Molybdenum	0.032	mg/L	0.010	09/30/20 17:37	
EPA 6020B	Selenium	0.0016J	mg/L	0.010	09/30/20 17:37	
EPA 6020B	Thallium	0.00036J	mg/L	0.0010	09/30/20 17:37	
SM 2450C-2011	Total Dissolved Solids	732	mg/L	20.0	09/23/20 13:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	09/30/20 14:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	09/30/20 14:57	
EPA 300.0 Rev 2.1 1993	Chloride	41.2	mg/L	1.0	09/24/20 16:36	
EPA 300.0 Rev 2.1 1993	Fluoride	0.44	mg/L	0.10	09/24/20 16:36	
EPA 300.0 Rev 2.1 1993	Sulfate	359	mg/L	5.0	09/25/20 10:45	
92495894021	**MW-6**					
	pH	6.88	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	173	mg/L	1.0	09/25/20 20:31	
EPA 6010D	Iron	0.49	mg/L	0.040	09/25/20 20:31	
EPA 6010D	Magnesium	13.5	mg/L	0.050	09/25/20 20:31	
EPA 6010D	Manganese	0.50	mg/L	0.040	09/25/20 20:31	
EPA 6010D	Potassium	1.4	mg/L	0.20	09/25/20 20:31	
EPA 6010D	Sodium	12.6	mg/L	1.0	09/25/20 20:31	
EPA 6020B	Antimony	0.0014J	mg/L	0.0030	09/30/20 18:00	
EPA 6020B	Barium	0.083	mg/L	0.010	09/30/20 18:00	
EPA 6020B	Boron	0.82	mg/L	0.10	09/30/20 18:00	
EPA 6020B	Cobalt	0.00041J	mg/L	0.0050	09/30/20 18:00	
EPA 6020B	Lead	0.00026J	mg/L	0.0050	09/30/20 18:00	
EPA 6020B	Molybdenum	0.0025J	mg/L	0.010	09/30/20 18:00	
SM 2450C-2011	Total Dissolved Solids	656	mg/L	20.0	09/23/20 13:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	273	mg/L	5.0	09/30/20 20:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	273	mg/L	5.0	09/30/20 20:54	
EPA 300.0 Rev 2.1 1993	Chloride	58.1	mg/L	1.0	09/24/20 16:50	
EPA 300.0 Rev 2.1 1993	Sulfate	221	mg/L	3.0	09/25/20 10:59	
92495894022	**MW-7**					
	pH	6.50	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	75.3	mg/L	1.0	09/25/20 20:58	M1
EPA 6010D	Magnesium	8.6	mg/L	0.050	09/25/20 20:58	M1
EPA 6010D	Manganese	0.0077J	mg/L	0.040	09/25/20 20:58	
EPA 6010D	Potassium	0.91	mg/L	0.20	09/25/20 20:58	B
EPA 6010D	Sodium	8.4	mg/L	1.0	09/25/20 20:58	M1
EPA 6020B	Antimony	0.00051J	mg/L	0.0030	09/30/20 18:06	
EPA 6020B	Barium	0.065	mg/L	0.010	09/30/20 18:06	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894022	**MW-7**					
EPA 6020B	Boron	0.20	mg/L	0.10	09/30/20 18:06	
EPA 6020B	Chromium	0.0017J	mg/L	0.010	09/30/20 18:06	
EPA 6020B	Molybdenum	0.0015J	mg/L	0.010	09/30/20 18:06	
EPA 6020B	Selenium	0.0026J	mg/L	0.010	09/30/20 18:06	
SM 2450C-2011	Total Dissolved Solids	326	mg/L	10.0	09/24/20 10:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	128	mg/L	5.0	09/30/20 15:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	128	mg/L	5.0	09/30/20 15:16	
EPA 300.0 Rev 2.1 1993	Chloride	11.1	mg/L	1.0	09/24/20 17:05	
EPA 300.0 Rev 2.1 1993	Sulfate	114	mg/L	2.0	09/25/20 11:14	
92495894023	**MW-24D**					
	pH	7.65	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	87.6	mg/L	1.0	09/25/20 21:15	
EPA 6010D	Iron	0.076	mg/L	0.040	09/25/20 21:15	
EPA 6010D	Magnesium	4.9	mg/L	0.050	09/25/20 21:15	
EPA 6010D	Manganese	0.13	mg/L	0.040	09/25/20 21:15	
EPA 6010D	Potassium	0.50	mg/L	0.20	09/25/20 21:15	B
EPA 6010D	Sodium	12.0	mg/L	1.0	09/25/20 21:15	
EPA 6020B	Barium	0.053	mg/L	0.010	09/30/20 18:12	
EPA 6020B	Boron	0.45	mg/L	0.10	09/30/20 18:12	
EPA 6020B	Lead	0.000042J	mg/L	0.0050	09/30/20 18:12	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	09/30/20 18:12	
EPA 6020B	Molybdenum	0.00099J	mg/L	0.010	09/30/20 18:12	
SM 2450C-2011	Total Dissolved Solids	391	mg/L	10.0	09/24/20 10:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	09/30/20 15:25	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	09/30/20 15:25	
EPA 300.0 Rev 2.1 1993	Chloride	45.2	mg/L	1.0	09/24/20 17:19	
EPA 300.0 Rev 2.1 1993	Sulfate	114	mg/L	2.0	09/25/20 11:29	
92495894024	**MW-19**					
	pH	6.41	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	135	mg/L	1.0	09/25/20 21:28	
EPA 6010D	Iron	0.16	mg/L	0.040	09/25/20 21:28	
EPA 6010D	Magnesium	15.5	mg/L	0.050	09/25/20 21:28	
EPA 6010D	Manganese	3.3	mg/L	0.040	09/25/20 21:28	
EPA 6010D	Potassium	4.2	mg/L	0.20	09/25/20 21:28	
EPA 6010D	Sodium	6.7	mg/L	1.0	09/25/20 21:28	
EPA 6020B	Barium	0.056	mg/L	0.010	09/30/20 18:17	
EPA 6020B	Boron	0.89	mg/L	0.10	09/30/20 18:17	
EPA 6020B	Cadmium	0.00018J	mg/L	0.0025	09/30/20 18:17	
EPA 6020B	Chromium	0.0014J	mg/L	0.010	09/30/20 18:17	
EPA 6020B	Cobalt	0.032	mg/L	0.0050	09/30/20 18:17	
EPA 6020B	Lead	0.000085J	mg/L	0.0050	09/30/20 18:17	
EPA 6020B	Lithium	0.013J	mg/L	0.030	09/30/20 18:17	
EPA 6020B	Molybdenum	0.064	mg/L	0.010	09/30/20 18:17	
EPA 6020B	Selenium	0.0033J	mg/L	0.010	09/30/20 18:17	
EPA 6020B	Thallium	0.00030J	mg/L	0.0010	09/30/20 18:17	
SM 2450C-2011	Total Dissolved Solids	608	mg/L	20.0	09/24/20 10:27	

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894024	**MW-19**					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	89.9	mg/L	5.0	10/01/20 16:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	89.9	mg/L	5.0	10/01/20 16:02	
EPA 300.0 Rev 2.1 1993	Chloride	35.0	mg/L	1.0	09/24/20 17:33	
EPA 300.0 Rev 2.1 1993	Fluoride	0.17	mg/L	0.10	09/24/20 17:33	
EPA 300.0 Rev 2.1 1993	Sulfate	305	mg/L	4.0	09/25/20 11:43	
92495894025	**MW-28D**					
	pH	7.46	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	76.8	mg/L	1.0	09/25/20 21:32	
EPA 6010D	Iron	0.30	mg/L	0.040	09/25/20 21:32	
EPA 6010D	Magnesium	22.9	mg/L	0.050	09/25/20 21:32	
EPA 6010D	Manganese	0.034J	mg/L	0.040	09/25/20 21:32	
EPA 6010D	Potassium	1.0	mg/L	0.20	09/25/20 21:32	B
EPA 6010D	Sodium	9.8	mg/L	1.0	09/25/20 21:32	
EPA 6020B	Barium	0.18	mg/L	0.010	09/30/20 18:34	
EPA 6020B	Boron	0.45	mg/L	0.10	09/30/20 18:34	
EPA 6020B	Chromium	0.00085J	mg/L	0.010	09/30/20 18:34	
EPA 6020B	Lead	0.00018J	mg/L	0.0050	09/30/20 18:34	
EPA 6020B	Lithium	0.0053J	mg/L	0.030	09/30/20 18:34	
EPA 6020B	Molybdenum	0.018	mg/L	0.010	09/30/20 18:34	
SM 2450C-2011	Total Dissolved Solids	393	mg/L	10.0	09/24/20 10:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	184	mg/L	5.0	10/01/20 16:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	184	mg/L	5.0	10/01/20 16:10	
SM 4500-S2D-2011	Sulfide	0.30	mg/L	0.10	09/24/20 11:45	
EPA 300.0 Rev 2.1 1993	Chloride	42.9	mg/L	1.0	09/24/20 17:48	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	09/24/20 17:48	
EPA 300.0 Rev 2.1 1993	Sulfate	84.2	mg/L	1.0	09/24/20 17:48	
92495894026	**MW-30D**					
	Performed by	CUSTOMER			09/29/20 12:27	
	pH	8.72	Std. Units		09/29/20 12:27	
EPA 6010D	Calcium	6.3	mg/L	1.0	10/05/20 20:25	
EPA 6010D	Iron	0.092	mg/L	0.040	10/05/20 20:25	
EPA 6010D	Magnesium	1.5	mg/L	0.050	10/05/20 20:25	
EPA 6010D	Manganese	0.0040J	mg/L	0.040	10/05/20 20:25	
EPA 6010D	Potassium	1.5	mg/L	0.20	10/05/20 20:25	
EPA 6010D	Sodium	296	mg/L	1.0	10/05/20 20:25	
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	10/05/20 20:23	
EPA 6020B	Barium	0.11	mg/L	0.010	10/05/20 20:23	
EPA 6020B	Boron	0.62	mg/L	0.50	10/07/20 11:52	
EPA 6020B	Chromium	0.00065J	mg/L	0.010	10/05/20 20:23	
EPA 6020B	Lead	0.000068J	mg/L	0.0050	10/05/20 20:23	
EPA 6020B	Lithium	0.13	mg/L	0.030	10/05/20 20:23	
EPA 6020B	Molybdenum	0.011	mg/L	0.010	10/05/20 20:23	
SM 2450C-2011	Total Dissolved Solids	790	mg/L	20.0	09/30/20 09:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	437	mg/L	5.0	10/08/20 15:01	
SM 2320B-2011	Alkalinity,Carbonate (CaCO3)	5.8	mg/L	5.0	10/08/20 15:01	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495894026	**MW-30D**					
SM 2320B-2011	Alkalinity, Total as CaCO3	442	mg/L	5.0	10/08/20 15:01	
SM 4500-S2D-2011	Sulfide	0.58	mg/L	0.10	09/29/20 13:40	
EPA 300.0 Rev 2.1 1993	Chloride	45.4	mg/L	1.0	09/29/20 13:56	
EPA 300.0 Rev 2.1 1993	Fluoride	8.2	mg/L	0.40	09/29/20 19:15	
EPA 300.0 Rev 2.1 1993	Sulfate	205	mg/L	4.0	09/29/20 19:15	
92495894027	**FB-01**					
EPA 6020B	Boron	0.0064J	mg/L	0.10	10/05/20 20:29	
92495894028	**MW-40D**					
	Performed by	CUSTOMER			09/29/20 13:37	
	pH	7.69	Std. Units		09/29/20 13:37	
EPA 6010D	Calcium	289	mg/L	10.0	10/06/20 16:28	
EPA 6010D	Iron	9.6	mg/L	0.040	10/05/20 20:43	
EPA 6010D	Magnesium	58.2	mg/L	0.050	10/05/20 20:43	
EPA 6010D	Manganese	0.36	mg/L	0.040	10/05/20 20:43	
EPA 6010D	Potassium	19.6	mg/L	0.20	10/05/20 20:43	
EPA 6010D	Sodium	1960	mg/L	10.0	10/06/20 16:28	
EPA 6020B	Antimony	0.0015J	mg/L	0.015	10/07/20 11:58	D3
EPA 6020B	Arsenic	0.0063J	mg/L	0.025	10/07/20 11:58	D3
EPA 6020B	Barium	0.35	mg/L	0.050	10/07/20 11:58	
EPA 6020B	Beryllium	0.00049J	mg/L	0.015	10/07/20 11:58	D3
EPA 6020B	Boron	0.57	mg/L	0.50	10/07/20 11:58	
EPA 6020B	Chromium	0.0080J	mg/L	0.050	10/07/20 11:58	D3
EPA 6020B	Cobalt	0.0037J	mg/L	0.025	10/07/20 11:58	D3
EPA 6020B	Lead	0.0075J	mg/L	0.025	10/07/20 11:58	D3
EPA 6020B	Lithium	0.095J	mg/L	0.15	10/07/20 11:58	D3
EPA 6020B	Molybdenum	0.016J	mg/L	0.050	10/07/20 11:58	D3
SM 2450C-2011	Total Dissolved Solids	6470	mg/L	50.0	10/01/20 15:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	1010	mg/L	5.0	10/08/20 19:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	1010	mg/L	5.0	10/08/20 19:04	
SM 4500-S2D-2011	Sulfide	0.20	mg/L	0.10	10/01/20 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	542	mg/L	50.0	10/01/20 17:23	M6
EPA 300.0 Rev 2.1 1993	Fluoride	0.41	mg/L	0.10	10/01/20 08:56	
EPA 300.0 Rev 2.1 1993	Sulfate	3480	mg/L	50.0	10/01/20 17:23	M6

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-1 **Lab ID: 92495894001** Collected: 09/15/20 14:01 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.15**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**103**	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 17:49	7440-70-2	
Iron	**0.087**	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 17:49	7439-89-6	
Magnesium	**4.3**	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 17:49	7439-95-4	
Manganese	**0.18**	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 17:49	7439-96-5	
Potassium	**0.34**	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 17:49	7440-09-7	B
Sodium	**21.1**	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 17:49	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/22/20 20:07	09/23/20 17:15	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 17:15	7440-38-2	
Barium	**0.035**	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 17:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 17:15	7440-41-7	
Boron	**0.017J**	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 17:15	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 17:15	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 17:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 17:15	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 17:15	7439-92-1	
Lithium	**0.00087J**	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 17:15	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 17:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 17:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 17:15	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**265**	mg/L	10.0	10.0	1		09/17/20 15:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**307**	mg/L	5.0	5.0	1		09/24/20 19:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:36		
Alkalinity, Total as CaCO3	**307**	mg/L	5.0	5.0	1		09/24/20 19:36		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:10	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**13.4**	mg/L	1.0	0.60	1		09/18/20 21:31	16887-00-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-1 **Lab ID: 92495894001** Collected: 09/15/20 14:01 Received: 09/16/20 11:14 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	**0.082J**	mg/L	0.10	0.050	1		09/18/20 21:31	16984-48-8	
Sulfate	**47.3**	mg/L	1.0	0.50	1		09/18/20 21:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-2 **Lab ID: 92495894002** Collected: 09/15/20 10:58 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**5.22**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**21.1**	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 17:53	7440-70-2	
Iron	**0.78**	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 17:53	7439-89-6	
Magnesium	**2.5**	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 17:53	7439-95-4	
Manganese	**0.61**	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 17:53	7439-96-5	
Potassium	**0.89**	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 17:53	7440-09-7	B
Sodium	**7.4**	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 17:53	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/22/20 20:07	09/23/20 17:21	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 17:21	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 17:21	7440-39-3	
Beryllium	**0.00013J**	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 17:21	7440-41-7	
Boron	**0.044J**	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 17:21	7440-42-8	
Cadmium	**0.00012J**	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 17:21	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 17:21	7440-47-3	
Cobalt	**0.021**	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 17:21	7440-48-4	
Lead	**0.000080J**	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 17:21	7439-92-1	
Lithium	**0.0015J**	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 17:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 17:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 17:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 17:21	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**124**	mg/L	10.0	10.0	1		09/17/20 15:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**26.1**	mg/L	5.0	5.0	1		09/24/20 13:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 13:36		
Alkalinity, Total as CaCO3	**26.1**	mg/L	5.0	5.0	1		09/24/20 13:36		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:11	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5.0**	mg/L	1.0	0.60	1		09/18/20 21:46	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-2 **Lab ID: 92495894002** Collected: 09/15/20 10:58 Received: 09/16/20 11:14 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		09/18/20 21:46	16984-48-8	
Sulfate	**51.5**	mg/L	1.0	0.50	1		09/18/20 21:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-3 **Lab ID: 92495894003** Collected: 09/15/20 11:45 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.29**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**73.1**	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 17:57	7440-70-2	
Iron	**0.26**	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 17:57	7439-89-6	
Magnesium	**4.6**	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 17:57	7439-95-4	
Manganese	**0.22**	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 17:57	7439-96-5	
Potassium	**0.46**	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 17:57	7440-09-7	B
Sodium	**4.9**	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 17:57	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/22/20 20:07	09/23/20 17:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 17:27	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 17:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 17:27	7440-41-7	
Boron	**0.0071J**	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 17:27	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 17:27	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 17:27	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 17:27	7440-48-4	
Lead	**0.000042J**	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 17:27	7439-92-1	
Lithium	**0.0026J**	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 17:27	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 17:27	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 17:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 17:27	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**258**	mg/L	10.0	10.0	1		09/17/20 15:19		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**187**	mg/L	5.0	5.0	1		09/24/20 13:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 13:43		
Alkalinity, Total as CaCO3	**187**	mg/L	5.0	5.0	1		09/24/20 13:43		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.0**	mg/L	1.0	0.60	1		09/18/20 22:01	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-3 **Lab ID: 92495894003** Collected: 09/15/20 11:45 Received: 09/16/20 11:14 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		09/18/20 22:01	16984-48-8	
Sulfate	**44.7**	mg/L	1.0	0.50	1		09/18/20 22:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-7 **Lab ID: 92495894004** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.30**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**98.0**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 20:39	7440-70-2	M1
Iron	**0.30**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 20:39	7439-89-6	
Magnesium	**8.9**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 20:39	7439-95-4	M1
Manganese	**0.15**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 20:39	7439-96-5	
Potassium	**2.3**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 20:39	7440-09-7	
Sodium	**8.7**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 20:39	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00034J**	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:13	7440-38-2	
Barium	**0.068**	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/23/20 19:13	7440-41-7	
Boron	**1.1**	mg/L	0.10	0.0052	1	09/23/20 13:53	09/23/20 19:13	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:13	7440-43-9	
Chromium	**0.00074J**	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:13	7440-47-3	
Cobalt	**0.00065J**	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:13	7440-48-4	
Lead	**0.00020J**	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:13	7439-92-1	
Lithium	**0.0026J**	mg/L	0.030	0.00081	1	09/23/20 13:53	09/23/20 19:13	7439-93-2	
Molybdenum	**0.046**	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:13	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**392**	mg/L	10.0	10.0	1		09/18/20 10:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**177**	mg/L	5.0	5.0	1		09/24/20 16:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 16:19		
Alkalinity, Total as CaCO3	**177**	mg/L	5.0	5.0	1		09/24/20 16:19		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:18	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**46.4**	mg/L	1.0	0.60	1		09/19/20 22:06	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-7 **Lab ID: 92495894004** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 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	**0.081J**	mg/L	0.10	0.050	1		09/19/20 22:06	16984-48-8	
Sulfate	**109**	mg/L	2.0	1.0	2		09/20/20 07:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-7 FILTERED **Lab ID: 92495894005** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.30**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**105**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 20:57	7440-70-2	M1
Iron	**0.019J**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 20:57	7439-89-6	
Magnesium	**9.5**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 20:57	7439-95-4	M1
Manganese	**0.16**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 20:57	7439-96-5	
Potassium	**2.4**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 20:57	7440-09-7	M1
Sodium	**9.4**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 20:57	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:19	7440-38-2	
Barium	**0.069**	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/23/20 19:19	7440-41-7	
Boron	**1.1**	mg/L	0.10	0.0052	1	09/23/20 13:53	09/23/20 19:19	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:19	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:19	7440-47-3	
Cobalt	**0.00051J**	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:19	7439-92-1	
Lithium	**0.0020J**	mg/L	0.030	0.00081	1	09/23/20 13:53	09/23/20 19:19	7439-93-2	
Molybdenum	**0.048**	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:19	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**399**	mg/L	10.0	10.0	1		09/18/20 10:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**177**	mg/L	5.0	5.0	1		09/24/20 16:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 16:31		
Alkalinity, Total as CaCO3	**177**	mg/L	5.0	5.0	1		09/24/20 16:31		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**46.4**	mg/L	1.0	0.60	1		09/19/20 22:21	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-7 FILTERED **Lab ID: 92495894005** Collected: 09/16/20 12:24 Received: 09/17/20 09:45 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	**0.085J**	mg/L	0.10	0.050	1		09/19/20 22:21	16984-48-8	
Sulfate	**109**	mg/L	2.0	1.0	2		09/20/20 07:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-8 **Lab ID: 92495894006** Collected: 09/16/20 09:32 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.92**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**119**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:01	7440-70-2	
Iron	**0.30**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:01	7439-89-6	
Magnesium	**16.4**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:01	7439-95-4	
Manganese	**0.22**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:01	7439-96-5	
Potassium	**7.1**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:01	7440-09-7	
Sodium	**8.5**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:01	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:25	7440-38-2	
Barium	**0.060**	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:25	7440-39-3	
Beryllium	**0.00010J**	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/23/20 19:25	7440-41-7	
Boron	**1.9**	mg/L	0.10	0.0052	1	09/23/20 13:53	09/23/20 19:25	7440-42-8	
Cadmium	**0.00023J**	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:25	7440-43-9	
Chromium	**0.0015J**	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:25	7440-47-3	
Cobalt	**0.0019J**	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:25	7440-48-4	
Lead	**0.00020J**	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:25	7439-92-1	
Lithium	**0.0033J**	mg/L	0.030	0.00081	1	09/23/20 13:53	09/23/20 19:25	7439-93-2	
Molybdenum	**0.43**	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:25	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**552**	mg/L	10.0	10.0	1		09/18/20 10:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**133**	mg/L	5.0	5.0	1		09/24/20 16:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 16:42		
Alkalinity, Total as CaCO3	**133**	mg/L	5.0	5.0	1		09/24/20 16:42		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:20	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**74.6**	mg/L	1.0	0.60	1		09/19/20 22:36	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-8 **Lab ID: 92495894006** Collected: 09/16/20 09:32 Received: 09/17/20 09:45 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	**0.53**	mg/L	0.10	0.050	1		09/19/20 22:36	16984-48-8	
Sulfate	**194**	mg/L	4.0	2.0	4		09/20/20 07:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-10 **Lab ID: 92495894007** Collected: 09/16/20 16:15 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.66**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**139**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:06	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:06	7439-89-6	
Magnesium	**10.8**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:06	7439-95-4	
Manganese	**1.3**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:06	7439-96-5	
Potassium	**1.3**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:06	7440-09-7	
Sodium	**8.9**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:06	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:42	7440-38-2	
Barium	**0.068**	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/23/20 19:42	7440-41-7	
Boron	**1.1**	mg/L	1.0	0.052	10	09/23/20 13:53	09/24/20 13:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:42	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:42	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:42	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:42	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/23/20 13:53	09/23/20 19:42	7439-93-2	
Molybdenum	**0.0014J**	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:42	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**490**	mg/L	10.0	10.0	1		09/18/20 10:00		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**247**	mg/L	5.0	5.0	1		09/28/20 15:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/28/20 15:50		
Alkalinity, Total as CaCO3	**247**	mg/L	5.0	5.0	1		09/28/20 15:50		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:20	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**39.7**	mg/L	1.0	0.60	1		09/20/20 01:05	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-10 **Lab ID: 92495894007** Collected: 09/16/20 16:15 Received: 09/17/20 09:45 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		09/20/20 01:05	16984-48-8	
Sulfate	**169**	mg/L	4.0	2.0	4		09/20/20 08:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-29 **Lab ID: 92495894008** Collected: 09/16/20 13:15 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.88**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**126**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:10	7440-70-2	
Iron	**0.035J**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:10	7439-89-6	
Magnesium	**11.4**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:10	7439-95-4	
Manganese	**1.2**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:10	7439-96-5	
Potassium	**0.94**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:10	7440-09-7	
Sodium	**10.9**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/23/20 13:53	09/23/20 19:47	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/23/20 13:53	09/23/20 19:47	7440-38-2	
Barium	**0.076**	mg/L	0.010	0.00071	1	09/23/20 13:53	09/23/20 19:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/23/20 13:53	09/23/20 19:47	7440-41-7	
Boron	**1.7**	mg/L	1.0	0.052	10	09/23/20 13:53	09/24/20 13:57	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/23/20 13:53	09/23/20 19:47	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/23/20 13:53	09/23/20 19:47	7440-47-3	
Cobalt	**0.0013J**	mg/L	0.0050	0.00038	1	09/23/20 13:53	09/23/20 19:47	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/23/20 13:53	09/23/20 19:47	7439-92-1	
Lithium	**0.0021J**	mg/L	0.030	0.00081	1	09/23/20 13:53	09/23/20 19:47	7439-93-2	
Molybdenum	**0.0021J**	mg/L	0.010	0.00069	1	09/23/20 13:53	09/23/20 19:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/23/20 13:53	09/23/20 19:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/23/20 13:53	09/23/20 19:47	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**547**	mg/L	10.0	10.0	1		09/18/20 10:01		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**194**	mg/L	5.0	5.0	1		09/24/20 17:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 17:02		
Alkalinity, Total as CaCO3	**194**	mg/L	5.0	5.0	1		09/24/20 17:02		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:21	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**75.3**	mg/L	1.0	0.60	1		09/20/20 01:20	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-29 **Lab ID: 92495894008** Collected: 09/16/20 13:15 Received: 09/17/20 09:45 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		09/20/20 01:20	16984-48-8	
Sulfate	**143**	mg/L	3.0	1.5	3		09/20/20 08:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-43D **Lab ID: 92495894009** Collected: 09/16/20 11:58 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.52**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**56.0**	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:49	7440-70-2	
Iron	**0.020J**	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:49	7439-89-6	
Magnesium	**18.3**	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:49	7439-95-4	
Manganese	**0.010J**	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:49	7439-96-5	
Potassium	**0.97**	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:49	7440-09-7	B
Sodium	**14.0**	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:49	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00051J**	mg/L	0.0030	0.00028	1	09/22/20 20:07	09/23/20 18:54	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:54	7440-38-2	
Barium	**0.26**	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:54	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:54	7440-41-7	
Boron	**0.061J**	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 18:54	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:54	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:54	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:54	7440-48-4	
Lead	**0.000050J**	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:54	7439-92-1	
Lithium	**0.0018J**	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:54	7439-93-2	
Molybdenum	**0.0044J**	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:54	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	10/13/20 08:00	10/13/20 12:52	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**272**	mg/L	10.0	10.0	1		09/17/20 15:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**251**	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity, Total as CaCO3	**251**	mg/L	5.0	5.0	1		09/28/20 15:11		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:17	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-43D **Lab ID: 92495894009** Collected: 09/16/20 11:58 Received: 09/17/20 09:45 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								
Chloride	**4.1**	mg/L	1.0	0.60	1		09/19/20 21:36	16887-00-6	
Fluoride	**0.22**	mg/L	0.10	0.050	1		09/19/20 21:36	16984-48-8	
Sulfate	**43.0**	mg/L	1.0	0.50	1		09/19/20 21:36	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-44D **Lab ID: 92495894010** Collected: 09/16/20 15:18 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.83**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**30.0**	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:53	7440-70-2	
Iron	**0.42**	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:53	7439-89-6	
Magnesium	**15.1**	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:53	7439-95-4	
Manganese	**0.020J**	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:53	7439-96-5	
Potassium	**3.2**	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:53	7440-09-7	
Sodium	**50.3**	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:53	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00049J**	mg/L	0.0030	0.00028	1	09/22/20 20:07	09/23/20 19:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 19:00	7440-38-2	
Barium	**0.24**	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 19:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 19:00	7440-41-7	
Boron	**0.23**	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 19:00	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 19:00	7440-43-9	
Chromium	**0.0012J**	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 19:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 19:00	7440-48-4	
Lead	**0.00021J**	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 19:00	7439-92-1	
Lithium	**0.014J**	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 19:00	7439-93-2	
Molybdenum	**0.0019J**	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 19:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 19:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 19:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	10/13/20 08:00	10/13/20 12:55	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**270**	mg/L	10.0	10.0	1		09/17/20 15:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**294**	mg/L	5.0	5.0	1		09/28/20 15:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/28/20 15:19		
Alkalinity, Total as CaCO3	**294**	mg/L	5.0	5.0	1		09/28/20 15:19		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.11**	mg/L	0.10	0.050	1		09/22/20 14:17	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWA-44D **Lab ID: 92495894010** Collected: 09/16/20 15:18 Received: 09/17/20 09:45 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								
Chloride	**7.2**	mg/L	1.0	0.60	1		09/19/20 21:51	16887-00-6	
Fluoride	**0.52**	mg/L	0.10	0.050	1		09/19/20 21:51	16984-48-8	
Sulfate	**6.9**	mg/L	1.0	0.50	1		09/19/20 21:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-9 **Lab ID: 92495894011** Collected: 09/17/20 11:42 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.99**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**164**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:23	7440-70-2	
Iron	**0.19**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:23	7439-89-6	
Magnesium	**16.6**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:23	7439-95-4	
Manganese	**0.42**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:23	7439-96-5	
Potassium	**3.0**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:23	7440-09-7	
Sodium	**11.3**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:23	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 08:45	09/28/20 18:26	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:26	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:26	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:26	7440-41-7	
Boron	**2.0**	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 11:07	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:26	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:26	7440-47-3	
Cobalt	**0.00070J**	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:26	7440-48-4	
Lead	**0.00022J**	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:26	7439-92-1	
Lithium	**0.0040J**	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:26	7439-93-2	
Molybdenum	**0.030**	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:26	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:26	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**680**	mg/L	20.0	20.0	1		09/22/20 14:23		MW
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**194**	mg/L	5.0	5.0	1		09/24/20 19:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:13		
Alkalinity, Total as CaCO3	**194**	mg/L	5.0	5.0	1		09/24/20 19:13		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:38	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**105**	mg/L	4.0	2.4	4		09/22/20 15:28	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-9 **Lab ID: 92495894011** Collected: 09/17/20 11:42 Received: 09/18/20 10:20 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	**0.10**	mg/L	0.10	0.050	1		09/22/20 08:02	16984-48-8	
Sulfate	**209**	mg/L	4.0	2.0	4		09/22/20 15:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-5 **Lab ID: 92495894012** Collected: 09/17/20 17:51 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.48**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**103**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:28	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:28	7439-89-6	
Magnesium	**11.6**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:28	7439-95-4	
Manganese	**0.0019J**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:28	7439-96-5	
Potassium	**0.85**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:28	7440-09-7	
Sodium	**18.1**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:28	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 08:45	09/28/20 18:32	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:32	7440-38-2	
Barium	**0.043**	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:32	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:32	7440-41-7	
Boron	**0.067J**	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 18:32	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:32	7440-43-9	
Chromium	**0.0021J**	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:32	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:32	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:32	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:32	7439-98-7	
Selenium	**0.0028J**	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:32	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**486**	mg/L	10.0	10.0	1		09/22/20 14:23		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**179**	mg/L	5.0	5.0	1		09/24/20 19:25		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:25		
Alkalinity, Total as CaCO3	**179**	mg/L	5.0	5.0	1		09/24/20 19:25		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:38	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**28.7**	mg/L	1.0	0.60	1		09/22/20 08:47	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-5 **Lab ID: 92495894012** Collected: 09/17/20 17:51 Received: 09/18/20 10:20 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	**0.094J**	mg/L	0.10	0.050	1		09/22/20 08:47	16984-48-8	
Sulfate	**153**	mg/L	3.0	1.5	3		09/22/20 16:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-20 **Lab ID: 92495894013** Collected: 09/17/20 15:54 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.78**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**110**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:32	7440-70-2	
Iron	**2.8**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:32	7439-89-6	
Magnesium	**8.5**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:32	7439-95-4	
Manganese	**0.24**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:32	7439-96-5	
Potassium	**0.22**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:32	7440-09-7	
Sodium	**10.3**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 08:45	09/28/20 18:38	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:38	7440-38-2	
Barium	**0.096**	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:38	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:38	7440-41-7	
Boron	**0.11**	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 18:38	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:38	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:38	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:38	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:38	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:38	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:38	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:38	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**460**	mg/L	10.0	10.0	1		09/22/20 14:23		MW
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**231**	mg/L	5.0	5.0	1		09/30/20 11:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 11:48		
Alkalinity, Total as CaCO3	**231**	mg/L	5.0	5.0	1		09/30/20 11:48		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:41	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**29.7**	mg/L	1.0	0.60	1		09/22/20 09:02	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-20 **Lab ID: 92495894013** Collected: 09/17/20 15:54 Received: 09/18/20 10:20 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		09/22/20 09:02	16984-48-8	
Sulfate	**110**	mg/L	2.0	1.0	2		09/22/20 16:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-26D **Lab ID: 92495894014** Collected: 09/17/20 13:02 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.08**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**150**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:36	7440-70-2	
Iron	**0.29**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:36	7439-89-6	
Magnesium	**16.9**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:36	7439-95-4	
Manganese	**0.16**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:36	7439-96-5	
Potassium	**1.8**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:36	7440-09-7	
Sodium	**11.9**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:36	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 18:36	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 18:36	7440-38-2	
Barium	**0.099**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 18:36	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/29/20 16:39	7440-41-7	
Boron	**2.0**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/29/20 16:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 18:36	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 18:36	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 18:36	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 18:36	7439-92-1	
Lithium	**0.0032J**	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 18:36	7439-93-2	
Molybdenum	**0.014**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 18:36	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 18:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 18:36	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**732**	mg/L	20.0	20.0	1		09/22/20 14:23		MW
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**187**	mg/L	5.0	5.0	1		09/30/20 12:19		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 12:19		
Alkalinity, Total as CaCO3	**187**	mg/L	5.0	5.0	1		09/30/20 12:19		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:42	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**103**	mg/L	4.0	2.4	4		09/22/20 17:12	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-26D **Lab ID: 92495894014** Collected: 09/17/20 13:02 Received: 09/18/20 10:20 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	**0.069J**	mg/L	0.10	0.050	1		09/22/20 09:17	16984-48-8	
Sulfate	**174**	mg/L	4.0	2.0	4		09/22/20 17:12	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: FD-01 **Lab ID: 92495894015** Collected: 09/17/20 00:00 Received: 09/18/20 10:20 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	**148**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:41	7440-70-2	
Iron	**0.22**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:41	7439-89-6	
Magnesium	**15.6**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:41	7439-95-4	
Manganese	**0.16**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:41	7439-96-5	
Potassium	**1.8**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:41	7440-09-7	
Sodium	**11.5**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:41	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0013J**	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 18:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 18:59	7440-38-2	
Barium	**0.099**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 18:59	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/29/20 16:56	7440-41-7	
Boron	**2.1**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/29/20 16:56	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 18:59	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 18:59	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 18:59	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 18:59	7439-92-1	
Lithium	**0.0035J**	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 18:59	7439-93-2	
Molybdenum	**0.016**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 18:59	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 18:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 18:59	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**702**	mg/L	20.0	20.0	1		09/22/20 14:23		MW
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**185**	mg/L	5.0	5.0	1		09/30/20 12:30		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 12:30		
Alkalinity, Total as CaCO3	**185**	mg/L	5.0	5.0	1		09/30/20 12:30		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**104**	mg/L	4.0	2.4	4		09/22/20 17:26	16887-00-6	
Fluoride	**0.064J**	mg/L	0.10	0.050	1		09/22/20 09:32	16984-48-8	
Sulfate	**181**	mg/L	4.0	2.0	4		09/22/20 17:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-11 **Lab ID: 92495894016** Collected: 09/18/20 13:30 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.42**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**122**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:45	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:45	7439-89-6	
Magnesium	**16.2**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:45	7439-95-4	
Manganese	**0.017J**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:45	7439-96-5	
Potassium	**3.7**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:45	7440-09-7	
Sodium	**5.5**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:45	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00038J**	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 19:04	7440-36-0	
Arsenic	**0.00081J**	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:04	7440-38-2	
Barium	**0.043**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/29/20 17:02	7440-41-7	
Boron	**0.91**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/29/20 17:02	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:04	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:04	7440-48-4	
Lead	**0.000060J**	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:04	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:04	7439-93-2	
Molybdenum	**0.032**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:04	7439-98-7	
Selenium	**0.0042J**	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:04	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**626**	mg/L	10.0	10.0	1		09/22/20 14:23		MW
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**91.6**	mg/L	5.0	5.0	1		09/30/20 13:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 13:28		
Alkalinity, Total as CaCO3	**91.6**	mg/L	5.0	5.0	1		09/30/20 13:28		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**34.9**	mg/L	1.0	0.60	1		09/24/20 08:39	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-11 **Lab ID: 92495894016** Collected: 09/18/20 13:30 Received: 09/21/20 09:25 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		09/24/20 08:39	16984-48-8	
Sulfate	**272**	mg/L	4.0	2.0	4		09/24/20 21:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-12 **Lab ID: 92495894017** Collected: 09/18/20 15:50 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.15**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**163**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 21:58	7440-70-2	
Iron	**0.083**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 21:58	7439-89-6	
Magnesium	**17.3**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 21:58	7439-95-4	
Manganese	**2.0**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 21:58	7439-96-5	
Potassium	**7.2**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 21:58	7440-09-7	
Sodium	**9.4**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 21:58	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 19:10	7440-36-0	
Arsenic	**0.0031J**	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:10	7440-38-2	
Barium	**0.086**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/25/20 19:10	7440-41-7	
Boron	**1.6**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/25/20 19:10	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:10	7440-43-9	
Chromium	**0.00091J**	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:10	7440-47-3	
Cobalt	**0.0014J**	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:10	7440-48-4	
Lead	**0.000096J**	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:10	7439-92-1	
Lithium	**0.010J**	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:10	7439-93-2	
Molybdenum	**0.046**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:10	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:10	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**704**	mg/L	20.0	20.0	1		09/22/20 14:23		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**172**	mg/L	5.0	5.0	1		09/30/20 13:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 13:37		
Alkalinity, Total as CaCO3	**172**	mg/L	5.0	5.0	1		09/30/20 13:37		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**74.6**	mg/L	1.0	0.60	1		09/24/20 08:53	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-12 **Lab ID: 92495894017** Collected: 09/18/20 15:50 Received: 09/21/20 09:25 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		09/24/20 08:53	16984-48-8	
Sulfate	**266**	mg/L	4.0	2.0	4		09/25/20 10:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-25D **Lab ID: 92495894018** Collected: 09/18/20 13:20 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.64**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**25.1**	mg/L	1.0	0.070	1	09/24/20 08:45	09/24/20 22:03	7440-70-2	
Iron	**0.088**	mg/L	0.040	0.016	1	09/24/20 08:45	09/24/20 22:03	7439-89-6	
Magnesium	**8.3**	mg/L	0.050	0.0076	1	09/24/20 08:45	09/24/20 22:03	7439-95-4	
Manganese	**0.040J**	mg/L	0.040	0.0017	1	09/24/20 08:45	09/24/20 22:03	7439-96-5	
Potassium	**0.42**	mg/L	0.20	0.056	1	09/24/20 08:45	09/24/20 22:03	7440-09-7	
Sodium	**103**	mg/L	1.0	0.26	1	09/24/20 08:45	09/24/20 22:03	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 19:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:27	7440-38-2	
Barium	**0.44**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/25/20 19:27	7440-41-7	
Boron	**0.36**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/25/20 19:27	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:27	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:27	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:27	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:27	7439-92-1	
Lithium	**0.046**	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:27	7439-93-2	
Molybdenum	**0.00094J**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:27	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:27	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**382**	mg/L	10.0	10.0	1		09/23/20 13:15		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**288**	mg/L	5.0	5.0	1		09/30/20 20:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 20:37		
Alkalinity, Total as CaCO3	**288**	mg/L	5.0	5.0	1		09/30/20 20:37		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**2.9**	mg/L	1.0	0.50	10		09/22/20 15:14	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**33.4**	mg/L	1.0	0.60	1		09/24/20 09:08	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-25D **Lab ID: 92495894018** Collected: 09/18/20 13:20 Received: 09/21/20 09:25 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	**1.6**	mg/L	0.10	0.050	1		09/24/20 09:08	16984-48-8	
Sulfate	**27.4**	mg/L	1.0	0.50	1		09/24/20 09:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-27D **Lab ID: 92495894019** Collected: 09/18/20 08:53 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.51**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**24.8**	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 20:10	7440-70-2	
Iron	**0.15**	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:10	7439-89-6	
Magnesium	**17.0**	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:10	7439-95-4	
Manganese	**0.13**	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 20:10	7439-96-5	
Potassium	**0.95**	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:10	7440-09-7	
Sodium	**27.3**	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00031J**	mg/L	0.0030	0.00028	1	09/24/20 14:23	09/25/20 19:33	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:33	7440-38-2	
Barium	**1.0**	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/25/20 19:33	7440-41-7	
Boron	**0.12**	mg/L	0.10	0.0052	1	09/24/20 14:23	09/25/20 19:33	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:33	7440-43-9	
Chromium	**0.00070J**	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:33	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:33	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:33	7439-92-1	
Lithium	**0.0084J**	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:33	7439-93-2	
Molybdenum	**0.0018J**	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:33	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**211**	mg/L	10.0	10.0	1		09/23/20 13:16		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**169**	mg/L	5.0	5.0	1		09/30/20 14:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 14:16		
Alkalinity, Total as CaCO3	**169**	mg/L	5.0	5.0	1		09/30/20 14:16		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:47	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**30.4**	mg/L	1.0	0.60	1		09/24/20 09:51	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-27D **Lab ID: 92495894019** Collected: 09/18/20 08:53 Received: 09/21/20 09:25 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	**0.22**	mg/L	0.10	0.050	1		09/24/20 09:51	16984-48-8	
Sulfate	**7.5**	mg/L	1.0	0.50	1		09/24/20 09:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-13 **Lab ID: 92495894020** Collected: 09/21/20 16:45 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.34**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**173**	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 20:27	7440-70-2	
Iron	**0.87**	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:27	7439-89-6	
Magnesium	**15.6**	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:27	7439-95-4	
Manganese	**2.1**	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 20:27	7439-96-5	
Potassium	**4.6**	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:27	7440-09-7	
Sodium	**6.4**	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:27	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00029J**	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 17:37	7440-36-0	
Arsenic	**0.39**	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 17:37	7440-38-2	
Barium	**0.052**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 17:37	7440-39-3	
Beryllium	**0.00011J**	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 17:37	7440-41-7	
Boron	**1.6**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 17:37	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 17:37	7440-43-9	
Chromium	**0.00056J**	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 17:37	7440-47-3	
Cobalt	**0.0032J**	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 17:37	7440-48-4	
Lead	**0.00015J**	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 17:37	7439-92-1	
Lithium	**0.028J**	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 17:37	7439-93-2	
Molybdenum	**0.032**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 17:37	7439-98-7	
Selenium	**0.0016J**	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 17:37	7782-49-2	
Thallium	**0.00036J**	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 17:37	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**732**	mg/L	20.0	20.0	1		09/23/20 13:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**114**	mg/L	5.0	5.0	1		09/30/20 14:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 14:57		
Alkalinity, Total as CaCO3	**114**	mg/L	5.0	5.0	1		09/30/20 14:57		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/24/20 11:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**41.2**	mg/L	1.0	0.60	1		09/24/20 16:36	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: HGWC-13 **Lab ID: 92495894020** Collected: 09/21/20 16:45 Received: 09/22/20 09:25 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	**0.44**	mg/L	0.10	0.050	1		09/24/20 16:36	16984-48-8	
Sulfate	**359**	mg/L	5.0	2.5	5		09/25/20 10:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-6 **Lab ID: 92495894021** Collected: 09/21/20 10:19 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.88**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**173**	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 20:31	7440-70-2	
Iron	**0.49**	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:31	7439-89-6	
Magnesium	**13.5**	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:31	7439-95-4	
Manganese	**0.50**	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 20:31	7439-96-5	
Potassium	**1.4**	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:31	7440-09-7	
Sodium	**12.6**	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:31	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0014J**	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 18:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:00	7440-38-2	
Barium	**0.083**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:00	7440-41-7	
Boron	**0.82**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:00	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:00	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:00	7440-47-3	
Cobalt	**0.00041J**	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:00	7440-48-4	
Lead	**0.00026J**	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:00	7439-93-2	
Molybdenum	**0.0025J**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:00	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**656**	mg/L	20.0	20.0	1		09/23/20 13:18		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**273**	mg/L	5.0	5.0	1		09/30/20 20:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 20:54		
Alkalinity, Total as CaCO3	**273**	mg/L	5.0	5.0	1		09/30/20 20:54		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/24/20 11:43	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**58.1**	mg/L	1.0	0.60	1		09/24/20 16:50	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-6 **Lab ID: 92495894021** Collected: 09/21/20 10:19 Received: 09/22/20 09:25 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		09/24/20 16:50	16984-48-8	
Sulfate	**221**	mg/L	3.0	1.5	3		09/25/20 10:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-7 **Lab ID: 92495894022** Collected: 09/21/20 16:41 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.50**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**75.3**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 20:58	7440-70-2	M1
Iron	ND	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 20:58	7439-89-6	
Magnesium	**8.6**	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 20:58	7439-95-4	M1
Manganese	**0.0077J**	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 20:58	7439-96-5	
Potassium	**0.91**	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 20:58	7440-09-7	B
Sodium	**8.4**	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 20:58	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00051J**	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 18:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:06	7440-38-2	
Barium	**0.065**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:06	7440-41-7	
Boron	**0.20**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:06	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:06	7440-43-9	
Chromium	**0.0017J**	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:06	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:06	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:06	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:06	7439-93-2	
Molybdenum	**0.0015J**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:06	7439-98-7	
Selenium	**0.0026J**	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:06	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**326**	mg/L	10.0	10.0	1		09/24/20 10:27		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**128**	mg/L	5.0	5.0	1		09/30/20 15:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 15:16		
Alkalinity, Total as CaCO3	**128**	mg/L	5.0	5.0	1		09/30/20 15:16		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/24/20 11:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11.1**	mg/L	1.0	0.60	1		09/24/20 17:05	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-7 **Lab ID: 92495894022** Collected: 09/21/20 16:41 Received: 09/22/20 09:25 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		09/24/20 17:05	16984-48-8	
Sulfate	**114**	mg/L	2.0	1.0	2		09/25/20 11:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-24D **Lab ID: 92495894023** Collected: 09/21/20 17:55 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.65**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**87.6**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 21:15	7440-70-2	
Iron	**0.076**	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:15	7439-89-6	
Magnesium	**4.9**	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:15	7439-95-4	
Manganese	**0.13**	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:15	7439-96-5	
Potassium	**0.50**	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:15	7440-09-7	B
Sodium	**12.0**	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:15	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 18:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:12	7440-38-2	
Barium	**0.053**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:12	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:12	7440-41-7	
Boron	**0.45**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:12	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:12	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:12	7440-48-4	
Lead	**0.000042J**	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:12	7439-92-1	
Lithium	**0.0024J**	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:12	7439-93-2	
Molybdenum	**0.00099J**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:12	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**391**	mg/L	10.0	10.0	1		09/24/20 10:27		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**105**	mg/L	5.0	5.0	1		09/30/20 15:25		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 15:25		
Alkalinity, Total as CaCO3	**105**	mg/L	5.0	5.0	1		09/30/20 15:25		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/24/20 11:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**45.2**	mg/L	1.0	0.60	1		09/24/20 17:19	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-24D **Lab ID: 92495894023** Collected: 09/21/20 17:55 Received: 09/22/20 09:25 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		09/24/20 17:19	16984-48-8	
Sulfate	**114**	mg/L	2.0	1.0	2		09/25/20 11:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-19 **Lab ID: 92495894024** Collected: 09/21/20 15:18 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**6.41**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**135**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 21:28	7440-70-2	
Iron	**0.16**	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:28	7439-89-6	
Magnesium	**15.5**	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:28	7439-95-4	
Manganese	**3.3**	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:28	7439-96-5	
Potassium	**4.2**	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:28	7440-09-7	
Sodium	**6.7**	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:28	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 18:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:17	7440-38-2	
Barium	**0.056**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:17	7440-41-7	
Boron	**0.89**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:17	7440-42-8	
Cadmium	**0.00018J**	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:17	7440-43-9	
Chromium	**0.0014J**	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:17	7440-47-3	
Cobalt	**0.032**	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:17	7440-48-4	
Lead	**0.000085J**	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:17	7439-92-1	
Lithium	**0.013J**	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:17	7439-93-2	
Molybdenum	**0.064**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:17	7439-98-7	
Selenium	**0.0033J**	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:17	7782-49-2	
Thallium	**0.00030J**	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:17	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**608**	mg/L	20.0	20.0	1		09/24/20 10:27		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**89.9**	mg/L	5.0	5.0	1		10/01/20 16:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/01/20 16:02		
Alkalinity, Total as CaCO3	**89.9**	mg/L	5.0	5.0	1		10/01/20 16:02		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/24/20 11:44	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**35.0**	mg/L	1.0	0.60	1		09/24/20 17:33	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-19 **Lab ID: 92495894024** Collected: 09/21/20 15:18 Received: 09/22/20 09:25 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	**0.17**	mg/L	0.10	0.050	1		09/24/20 17:33	16984-48-8	
Sulfate	**305**	mg/L	4.0	2.0	4		09/25/20 11:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-28D **Lab ID: 92495894025** Collected: 09/21/20 19:28 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
pH	**7.46**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**76.8**	mg/L	1.0	0.070	1	09/24/20 14:20	09/25/20 21:32	7440-70-2	
Iron	**0.30**	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:32	7439-89-6	
Magnesium	**22.9**	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:32	7439-95-4	
Manganese	**0.034J**	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:32	7439-96-5	
Potassium	**1.0**	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:32	7440-09-7	B
Sodium	**9.8**	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	09/29/20 14:13	09/30/20 18:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:34	7440-38-2	
Barium	**0.18**	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:34	7440-41-7	
Boron	**0.45**	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:34	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:34	7440-43-9	
Chromium	**0.00085J**	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:34	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:34	7440-48-4	
Lead	**0.00018J**	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:34	7439-92-1	
Lithium	**0.0053J**	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:34	7439-93-2	
Molybdenum	**0.018**	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:34	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**393**	mg/L	10.0	10.0	1		09/24/20 10:27		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**184**	mg/L	5.0	5.0	1		10/01/20 16:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/01/20 16:10		
Alkalinity, Total as CaCO3	**184**	mg/L	5.0	5.0	1		10/01/20 16:10		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.30**	mg/L	0.10	0.050	1		09/24/20 11:45	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**42.9**	mg/L	1.0	0.60	1		09/24/20 17:48	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-28D **Lab ID: 92495894025** Collected: 09/21/20 19:28 Received: 09/22/20 09:25 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	**0.10**	mg/L	0.10	0.050	1		09/24/20 17:48	16984-48-8	
Sulfate	**84.2**	mg/L	1.0	0.50	1		09/24/20 17:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-30D **Lab ID: 92495894026** Collected: 09/24/20 11:00 Received: 09/25/20 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 12:27		
pH	**8.72**	Std. Units			1		09/29/20 12:27		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**6.3**	mg/L	1.0	0.070	1	10/01/20 18:49	10/05/20 20:25	7440-70-2	
Iron	**0.092**	mg/L	0.040	0.016	1	10/01/20 18:49	10/05/20 20:25	7439-89-6	
Magnesium	**1.5**	mg/L	0.050	0.0076	1	10/01/20 18:49	10/05/20 20:25	7439-95-4	
Manganese	**0.0040J**	mg/L	0.040	0.0017	1	10/01/20 18:49	10/05/20 20:25	7439-96-5	
Potassium	**1.5**	mg/L	0.20	0.056	1	10/01/20 18:49	10/05/20 20:25	7440-09-7	
Sodium	**296**	mg/L	1.0	0.26	1	10/01/20 18:49	10/05/20 20:25	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 20:23	7440-36-0	
Arsenic	**0.0017J**	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 20:23	7440-38-2	
Barium	**0.11**	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 20:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 20:23	7440-41-7	
Boron	**0.62**	mg/L	0.50	0.026	5	10/02/20 15:00	10/07/20 11:52	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 20:23	7440-43-9	
Chromium	**0.00065J**	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 20:23	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 20:23	7440-48-4	
Lead	**0.000068J**	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 20:23	7439-92-1	
Lithium	**0.13**	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 20:23	7439-93-2	
Molybdenum	**0.011**	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 20:23	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 20:23	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 20:23	7440-28-0	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**790**	mg/L	20.0	20.0	1		09/30/20 09:28		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**437**	mg/L	5.0	5.0	1		10/08/20 15:01		
Alkalinity,Carbonate (CaCO3)	**5.8**	mg/L	5.0	5.0	1		10/08/20 15:01		
Alkalinity, Total as CaCO3	**442**	mg/L	5.0	5.0	1		10/08/20 15:01		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.58**	mg/L	0.10	0.050	1		09/29/20 13:40	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-30D **Lab ID: 92495894026** Collected: 09/24/20 11:00 Received: 09/25/20 10:45 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								
Chloride	**45.4**	mg/L	1.0	0.60	1		09/29/20 13:56	16887-00-6	
Fluoride	**8.2**	mg/L	0.40	0.20	4		09/29/20 19:15	16984-48-8	
Sulfate	**205**	mg/L	4.0	2.0	4		09/29/20 19:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: FB-01 **Lab ID: 92495894027** Collected: 09/24/20 18:50 Received: 09/25/20 10:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	10/01/20 18:49	10/05/20 20:38	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	10/01/20 18:49	10/05/20 20:38	7439-89-6	
Magnesium	ND	mg/L	0.050	0.0076	1	10/01/20 18:49	10/05/20 20:38	7439-95-4	
Manganese	ND	mg/L	0.040	0.0017	1	10/01/20 18:49	10/05/20 20:38	7439-96-5	
Potassium	ND	mg/L	0.20	0.056	1	10/01/20 18:49	10/05/20 20:38	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	10/01/20 18:49	10/05/20 20:38	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 20:29	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 20:29	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 20:29	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 20:29	7440-41-7	
Boron	**0.0064J**	mg/L	0.10	0.0052	1	10/02/20 15:00	10/05/20 20:29	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 20:29	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 20:29	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 20:29	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 20:29	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 20:29	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 20:29	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 20:29	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 20:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	10/19/20 11:30	10/19/20 16:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		09/30/20 09:28		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/08/20 15:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/08/20 15:10		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		10/08/20 15:10		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		09/29/20 13:41	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/29/20 14:11	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: FB-01 **Lab ID: 92495894027** Collected: 09/24/20 18:50 Received: 09/25/20 10:45 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		09/29/20 14:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/29/20 14:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-40D **Lab ID: 92495894028** Collected: 09/28/20 15:15 Received: 09/29/20 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/29/20 13:37		
pH	**7.69**	Std. Units			1		09/29/20 13:37		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**289**	mg/L	10.0	0.70	10	10/01/20 18:49	10/06/20 16:28	7440-70-2	
Iron	**9.6**	mg/L	0.040	0.016	1	10/01/20 18:49	10/05/20 20:43	7439-89-6	
Magnesium	**58.2**	mg/L	0.050	0.0076	1	10/01/20 18:49	10/05/20 20:43	7439-95-4	
Manganese	**0.36**	mg/L	0.040	0.0017	1	10/01/20 18:49	10/05/20 20:43	7439-96-5	
Potassium	**19.6**	mg/L	0.20	0.056	1	10/01/20 18:49	10/05/20 20:43	7440-09-7	
Sodium	**1960**	mg/L	10.0	2.6	10	10/01/20 18:49	10/06/20 16:28	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.0015J**	mg/L	0.015	0.0014	5	10/02/20 15:00	10/07/20 11:58	7440-36-0	D3
Arsenic	**0.0063J**	mg/L	0.025	0.0039	5	10/02/20 15:00	10/07/20 11:58	7440-38-2	D3
Barium	**0.35**	mg/L	0.050	0.0036	5	10/02/20 15:00	10/07/20 11:58	7440-39-3	
Beryllium	**0.00049J**	mg/L	0.015	0.00023	5	10/02/20 15:00	10/07/20 11:58	7440-41-7	D3
Boron	**0.57**	mg/L	0.50	0.026	5	10/02/20 15:00	10/07/20 11:58	7440-42-8	
Cadmium	ND	mg/L	0.012	0.00059	5	10/02/20 15:00	10/07/20 11:58	7440-43-9	D3
Chromium	**0.0080J**	mg/L	0.050	0.0028	5	10/02/20 15:00	10/07/20 11:58	7440-47-3	D3
Cobalt	**0.0037J**	mg/L	0.025	0.0019	5	10/02/20 15:00	10/07/20 11:58	7440-48-4	D3
Lead	**0.0075J**	mg/L	0.025	0.00018	5	10/02/20 15:00	10/07/20 11:58	7439-92-1	D3
Lithium	**0.095J**	mg/L	0.15	0.0040	5	10/02/20 15:00	10/07/20 11:58	7439-93-2	D3
Molybdenum	**0.016J**	mg/L	0.050	0.0034	5	10/02/20 15:00	10/07/20 11:58	7439-98-7	D3
Selenium	ND	mg/L	0.050	0.0078	5	10/02/20 15:00	10/07/20 11:58	7782-49-2	D3
Thallium	ND	mg/L	0.0050	0.00072	5	10/02/20 15:00	10/07/20 11:58	7440-28-0	D3
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**6470**	mg/L	50.0	50.0	1		10/01/20 15:27		
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**1010**	mg/L	5.0	5.0	1		10/08/20 19:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/08/20 19:04		
Alkalinity, Total as CaCO3	**1010**	mg/L	5.0	5.0	1		10/08/20 19:04		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.20**	mg/L	0.10	0.050	1		10/01/20 12:53	18496-25-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Sample: MW-40D **Lab ID: 92495894028** Collected: 09/28/20 15:15 Received: 09/29/20 08:55 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								
Chloride	**542**	mg/L	50.0	30.0	50		10/01/20 17:23	16887-00-6	M6
Fluoride	**0.41**	mg/L	0.10	0.050	1		10/01/20 08:56	16984-48-8	
Sulfate	**3480**	mg/L	50.0	25.0	50		10/01/20 17:23	14808-79-8	M6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568201
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

METHOD BLANK: 3010803 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/23/20 17:40	
Iron	mg/L	ND	0.040	0.016	09/23/20 17:40	
Magnesium	mg/L	ND	0.050	0.0076	09/23/20 17:40	
Manganese	mg/L	ND	0.040	0.0017	09/23/20 17:40	
Potassium	mg/L	0.14J	0.20	0.056	09/23/20 17:40	
Sodium	mg/L	ND	1.0	0.26	09/23/20 17:40	

LABORATORY CONTROL SAMPLE: 3010804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.96J	96	80-120	
Iron	mg/L	1	0.97	97	80-120	
Magnesium	mg/L	1	0.99	99	80-120	
Manganese	mg/L	1	0.98	98	80-120	
Potassium	mg/L	1	1.1	105	80-120	
Sodium	mg/L	1	1.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3010805 3010806

Parameter	Units	92495900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	20.4	1	1	21.1	21.9	69	147	75-125	4	20	M1
Iron	mg/L	0.028J	1	1	0.96	0.97	93	95	75-125	2	20	
Magnesium	mg/L	0.88	1	1	1.8	1.8	94	97	75-125	2	20	
Manganese	mg/L	0.0083J	1	1	0.95	0.96	94	95	75-125	1	20	
Potassium	mg/L	0.28	1	1	1.2	1.2	92	94	75-125	2	20	
Sodium	mg/L	7.7	1	1	8.5	8.9	83	118	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568471
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894011, 92495894012, 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018

METHOD BLANK: 3011975 Matrix: Water
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894011, 92495894012, 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/24/20 20:30	
Iron	mg/L	ND	0.040	0.016	09/24/20 20:30	
Magnesium	mg/L	ND	0.050	0.0076	09/24/20 20:30	
Manganese	mg/L	ND	0.040	0.0017	09/24/20 20:30	
Potassium	mg/L	ND	0.20	0.056	09/24/20 20:30	
Sodium	mg/L	ND	1.0	0.26	09/24/20 20:30	

LABORATORY CONTROL SAMPLE: 3011976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.92J	92	80-120	
Iron	mg/L	1	0.96	96	80-120	
Magnesium	mg/L	1	0.96	96	80-120	
Manganese	mg/L	1	0.97	97	80-120	
Potassium	mg/L	1	0.85	85	80-120	
Sodium	mg/L	1	0.97J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011977 3011978

Parameter	Units	92495894004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	98.0	1	1	103	99.8	522	175	75-125	3	20	M1
Iron	mg/L	0.30	1	1	1.3	1.4	97	107	75-125	7	20	
Magnesium	mg/L	8.9	1	1	10.3	10.1	139	122	75-125	2	20	M1
Manganese	mg/L	0.15	1	1	1.1	1.2	96	109	75-125	11	20	
Potassium	mg/L	2.3	1	1	3.4	3.4	108	107	75-125	0	20	
Sodium	mg/L	8.7	1	1	10.0	9.8	133	107	75-125	3	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011979 3011980

Parameter	Units	92495894005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	105	1	1	124	132	1930	2680	75-125	6	20	M1
Iron	mg/L	0.019J	1	1	0.96	0.94	94	92	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011979 3011980

Parameter	Units	92495894005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Magnesium	mg/L	9.5	1	1	17.3	18.3	782	883	75-125	6	20	M1
Manganese	mg/L	0.16	1	1	0.96	0.95	80	79	75-125	1	20	
Potassium	mg/L	2.4	1	1	4.7	4.8	227	242	75-125	3	20	M1
Sodium	mg/L	9.4	1	1	6.6	6.9	-281	-247	75-125	5	20	M1

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568747
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894019, 92495894020, 92495894021

METHOD BLANK: 3013294 Matrix: Water
Associated Lab Samples: 92495894019, 92495894020, 92495894021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/25/20 18:16	
Iron	mg/L	ND	0.040	0.016	09/25/20 18:16	
Magnesium	mg/L	ND	0.050	0.0076	09/25/20 18:16	
Manganese	mg/L	ND	0.040	0.0017	09/25/20 18:16	
Potassium	mg/L	ND	0.20	0.056	09/25/20 18:16	
Sodium	mg/L	ND	1.0	0.26	09/25/20 18:16	

LABORATORY CONTROL SAMPLE: 3013295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.98J	98	80-120	
Iron	mg/L	1	0.97	97	80-120	
Magnesium	mg/L	1	1.0	100	80-120	
Manganese	mg/L	1	1.0	101	80-120	
Potassium	mg/L	1	1.0	105	80-120	
Sodium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3013296 3013297

Parameter	Units	92495904004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	75.8	1	1	74.9	75.7	-84	-9	75-125	1	20	M1
Iron	mg/L	0.031J	1	1	0.94	0.96	91	93	75-125	2	20	
Magnesium	mg/L	5.6	1	1	6.4	6.4	81	89	75-125	1	20	
Manganese	mg/L	0.0055J	1	1	0.95	0.97	94	97	75-125	3	20	
Potassium	mg/L	0.90	1	1	1.8	1.9	93	99	75-125	3	20	
Sodium	mg/L	7.1	1	1	8.0	8.0	82	87	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568748
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894022, 92495894023, 92495894024, 92495894025

METHOD BLANK: 3013298 Matrix: Water
Associated Lab Samples: 92495894022, 92495894023, 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/25/20 20:40	
Iron	mg/L	ND	0.040	0.016	09/25/20 20:40	
Magnesium	mg/L	ND	0.050	0.0076	09/25/20 20:40	
Manganese	mg/L	ND	0.040	0.0017	09/25/20 20:40	
Potassium	mg/L	0.12J	0.20	0.056	09/25/20 20:40	
Sodium	mg/L	ND	1.0	0.26	09/25/20 20:40	

LABORATORY CONTROL SAMPLE: 3013299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.95J	95	80-120	
Iron	mg/L	1	0.93	93	80-120	
Magnesium	mg/L	1	0.95	95	80-120	
Manganese	mg/L	1	0.96	96	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3013300 3013301

Parameter	Units	92495894022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	75.3	1	1	79.7	76.2	438	83	75-125	5	20	M1
Iron	mg/L	ND	1	1	0.96	0.93	95	92	75-125	3	20	
Magnesium	mg/L	8.6	1	1	10	9.5	138	94	75-125	4	20	M1
Manganese	mg/L	0.0077J	1	1	0.99	0.96	98	95	75-125	3	20	
Potassium	mg/L	0.91	1	1	2.0	2.0	110	110	75-125	0	20	
Sodium	mg/L	8.4	1	1	9.8	9.4	137	92	75-125	5	20	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570395
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894026, 92495894027, 92495894028

METHOD BLANK: 3021771 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027, 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/05/20 18:52	
Iron	mg/L	ND	0.040	0.016	10/05/20 18:52	
Magnesium	mg/L	ND	0.050	0.0076	10/05/20 18:52	
Manganese	mg/L	ND	0.040	0.0017	10/05/20 18:52	
Potassium	mg/L	ND	0.20	0.056	10/05/20 18:52	
Sodium	mg/L	ND	1.0	0.26	10/05/20 18:52	

LABORATORY CONTROL SAMPLE: 3021772

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	102	80-120	
Iron	mg/L	1	0.99	99	80-120	
Magnesium	mg/L	1	1.0	101	80-120	
Manganese	mg/L	1	0.99	99	80-120	
Potassium	mg/L	1	1.0	104	80-120	
Sodium	mg/L	1	1.1	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021773 3021774

Parameter	Units	92496524015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	72.8	1	1	73.5	75.1	70	232	75-125	2	20	M1
Iron	mg/L	0.39	1	1	1.4	1.5	103	107	75-125	3	20	
Magnesium	mg/L	12.8	1	1	13.8	14.1	96	132	75-125	3	20	M1
Manganese	mg/L	8.6	1	1	9.5	9.7	86	110	75-125	2	20	
Potassium	mg/L	0.72	1	1	1.8	1.8	110	108	75-125	1	20	
Sodium	mg/L	8.1	1	1	9.1	9.3	95	124	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568198
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

METHOD BLANK: 3010799 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/23/20 17:04	
Arsenic	mg/L	ND	0.0050	0.00078	09/23/20 17:04	
Barium	mg/L	ND	0.010	0.00071	09/23/20 17:04	
Beryllium	mg/L	ND	0.0030	0.000046	09/23/20 17:04	
Boron	mg/L	ND	0.10	0.0052	09/23/20 17:04	
Cadmium	mg/L	ND	0.0025	0.00012	09/23/20 17:04	
Chromium	mg/L	ND	0.010	0.00055	09/23/20 17:04	
Cobalt	mg/L	ND	0.0050	0.00038	09/23/20 17:04	
Lead	mg/L	ND	0.0050	0.000036	09/23/20 17:04	
Lithium	mg/L	ND	0.030	0.00081	09/23/20 17:04	
Molybdenum	mg/L	ND	0.010	0.00069	09/23/20 17:04	
Selenium	mg/L	ND	0.010	0.0016	09/23/20 17:04	
Thallium	mg/L	ND	0.0010	0.00014	09/23/20 17:04	

LABORATORY CONTROL SAMPLE: 3010800

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.095	95	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.090	90	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3010801 3010802

Parameter	Units	92495900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L				0.10	0.10				1	20	
Arsenic	mg/L	ND	0.1	0.1	0.098	0.097	97	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3010801 3010802

Parameter	Units	92495900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.024	0.1	0.1	0.12	0.12	100	100	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.093	94	93	75-125	1	20	
Boron	mg/L	0.013J	1	1	0.97	0.98	96	96	75-125	0	20	
Cadmium	mg/L	ND	0.1	0.1	0.096	0.095	96	95	75-125	0	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.098	98	97	75-125	0	20	
Lead	mg/L	0.000049J	0.1	0.1	0.095	0.097	95	97	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.092	0.092	91	92	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.093	0.094	93	94	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568417
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008

METHOD BLANK: 3011604 Matrix: Water
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/23/20 18:33	
Arsenic	mg/L	ND	0.0050	0.00078	09/23/20 18:33	
Barium	mg/L	ND	0.010	0.00071	09/23/20 18:33	
Beryllium	mg/L	ND	0.0030	0.000046	09/23/20 18:33	
Boron	mg/L	ND	0.10	0.0052	09/23/20 18:33	
Cadmium	mg/L	ND	0.0025	0.00012	09/23/20 18:33	
Chromium	mg/L	ND	0.010	0.00055	09/23/20 18:33	
Cobalt	mg/L	ND	0.0050	0.00038	09/23/20 18:33	
Lead	mg/L	ND	0.0050	0.000036	09/23/20 18:33	
Lithium	mg/L	ND	0.030	0.00081	09/23/20 18:33	
Molybdenum	mg/L	ND	0.010	0.00069	09/23/20 18:33	
Selenium	mg/L	ND	0.010	0.0016	09/23/20 18:33	
Thallium	mg/L	ND	0.0010	0.00014	09/23/20 18:33	

LABORATORY CONTROL SAMPLE: 3011605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	105	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	105	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.11	106	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011606 3011607

Parameter	Units	92495876001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.099	101	99	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.097	0.095	97	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011606 3011607

Parameter	Units	92495876001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.030	0.1	0.1	0.13	0.13	96	95	75-125	1	20	
Beryllium	mg/L	0.00012J	0.1	0.1	0.098	0.095	98	95	75-125	2	20	
Boron	mg/L	0.0065J	1	1	1.0	0.98	100	97	75-125	3	20	
Cadmium	mg/L	0.00016J	0.1	0.1	0.10	0.098	100	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	1	20	
Lead	mg/L	0.00065J	0.1	0.1	0.098	0.099	97	99	75-125	2	20	
Lithium	mg/L	0.0014J	0.1	0.1	0.10	0.10	101	100	75-125	0	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.096	96	95	75-125	1	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568430
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894011, 92495894012, 92495894013

METHOD BLANK: 3011696 Matrix: Water
Associated Lab Samples: 92495894011, 92495894012, 92495894013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/28/20 15:48	
Arsenic	mg/L	ND	0.0050	0.00078	09/28/20 15:48	
Barium	mg/L	ND	0.010	0.00071	09/28/20 15:48	
Beryllium	mg/L	ND	0.0030	0.000046	09/28/20 15:48	
Boron	mg/L	ND	0.10	0.0052	09/28/20 15:48	
Cadmium	mg/L	ND	0.0025	0.00012	09/28/20 15:48	
Chromium	mg/L	ND	0.010	0.00055	09/28/20 15:48	
Cobalt	mg/L	ND	0.0050	0.00038	09/28/20 15:48	
Lead	mg/L	ND	0.0050	0.000036	09/28/20 15:48	
Lithium	mg/L	ND	0.030	0.00081	09/28/20 15:48	
Molybdenum	mg/L	ND	0.010	0.00069	09/28/20 15:48	
Selenium	mg/L	ND	0.010	0.0016	09/28/20 15:48	
Thallium	mg/L	ND	0.0010	0.00014	09/28/20 15:48	

LABORATORY CONTROL SAMPLE: 3011697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	101	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	1.1	115	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	0.098	98	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012194 3012195

Parameter	Units	92495870011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.098	0.10	98	102	75-125	4	20	
Arsenic	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012194 3012195

Parameter	Units	92495870011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.0079J	0.1	0.1	0.10	0.11	96	103	75-125	6	20	
Beryllium	mg/L	ND	0.1	0.1	0.099	0.10	99	102	75-125	3	20	
Boron	mg/L	0.0079J	1	1	1.1	1.2	112	116	75-125	4	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	102	75-125	5	20	
Chromium	mg/L	ND	0.1	0.1	0.098	0.10	98	104	75-125	7	20	
Cobalt	mg/L	ND	0.1	0.1	0.096	0.10	96	101	75-125	6	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.10	97	103	75-125	6	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.11	101	106	75-125	5	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.10	98	103	75-125	5	20	
Selenium	mg/L	ND	0.1	0.1	0.091	0.097	90	96	75-125	6	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.10	97	102	75-125	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568749
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019

METHOD BLANK: 3013302 Matrix: Water
Associated Lab Samples: 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/25/20 18:19	
Arsenic	mg/L	ND	0.0050	0.00078	09/25/20 18:19	
Barium	mg/L	ND	0.010	0.00071	09/25/20 18:19	
Beryllium	mg/L	ND	0.0030	0.000046	09/25/20 18:19	
Boron	mg/L	ND	0.10	0.0052	09/25/20 18:19	
Cadmium	mg/L	ND	0.0025	0.00012	09/25/20 18:19	
Chromium	mg/L	ND	0.010	0.00055	09/25/20 18:19	
Cobalt	mg/L	ND	0.0050	0.00038	09/25/20 18:19	
Lead	mg/L	ND	0.0050	0.000036	09/25/20 18:19	
Lithium	mg/L	ND	0.030	0.00081	09/25/20 18:19	
Molybdenum	mg/L	ND	0.010	0.00069	09/25/20 18:19	
Selenium	mg/L	ND	0.010	0.0016	09/25/20 18:19	
Thallium	mg/L	ND	0.0010	0.00014	09/25/20 18:19	

LABORATORY CONTROL SAMPLE: 3013303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	105	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3013304 3013305

Parameter	Units	92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.11	104	108	75-125	4	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.11	101	106	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3013304 3013305

Parameter	Units	92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.099	0.1	0.1	0.18	0.19	85	89	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.096	0.099	96	99	75-125	4	20	
Boron	mg/L	2.0	1	1	3.0	3.1	102	106	75-125	2	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	104	75-125	7	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.11	101	108	75-125	7	20	
Cobalt	mg/L	ND	0.1	0.1	0.098	0.10	98	101	75-125	4	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.10	97	101	75-125	4	20	
Lithium	mg/L	0.0032J	0.1	0.1	0.095	0.099	92	96	75-125	4	20	
Molybdenum	mg/L	0.014	0.1	0.1	0.12	0.12	105	109	75-125	4	20	
Selenium	mg/L	ND	0.1	0.1	0.097	0.10	97	103	75-125	7	20	
Thallium	mg/L	ND	0.1	0.1	0.094	0.099	94	99	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 569670
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

METHOD BLANK: 3017842 Matrix: Water
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	09/30/20 17:26	
Arsenic	mg/L	ND	0.0050	0.00078	09/30/20 17:26	
Barium	mg/L	ND	0.010	0.00071	09/30/20 17:26	
Beryllium	mg/L	ND	0.0030	0.000046	09/30/20 17:26	
Boron	mg/L	ND	0.10	0.0052	09/30/20 17:26	
Cadmium	mg/L	ND	0.0025	0.00012	09/30/20 17:26	
Chromium	mg/L	ND	0.010	0.00055	09/30/20 17:26	
Cobalt	mg/L	ND	0.0050	0.00038	09/30/20 17:26	
Lead	mg/L	ND	0.0050	0.000036	09/30/20 17:26	
Lithium	mg/L	ND	0.030	0.00081	09/30/20 17:26	
Molybdenum	mg/L	ND	0.010	0.00069	09/30/20 17:26	
Selenium	mg/L	ND	0.010	0.0016	09/30/20 17:26	
Thallium	mg/L	ND	0.0010	0.00014	09/30/20 17:26	

LABORATORY CONTROL SAMPLE: 3017843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	102	80-120	
Arsenic	mg/L	0.1	0.095	95	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.095	95	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.093	93	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017844 3017845

Parameter	Units	92495894020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	0.00029J	0.1	0.1	0.099	0.10	99	102	75-125	3	20	
Arsenic	mg/L	0.39	0.1	0.1	0.48	0.48	88	90	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017844 3017845

Parameter	Units	92495894020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.052	0.1	0.1	0.15	0.15	98	101	75-125	2	20	
Beryllium	mg/L	0.00011J	0.1	0.1	0.087	0.090	87	90	75-125	4	20	
Boron	mg/L	1.6	1	1	2.4	2.5	79	89	75-125	4	20	
Cadmium	mg/L	ND	0.1	0.1	0.094	0.094	94	94	75-125	0	20	
Chromium	mg/L	0.00056J	0.1	0.1	0.093	0.094	93	93	75-125	1	20	
Cobalt	mg/L	0.0032J	0.1	0.1	0.094	0.096	91	92	75-125	2	20	
Lead	mg/L	0.00015J	0.1	0.1	0.093	0.093	93	92	75-125	0	20	
Lithium	mg/L	0.028J	0.1	0.1	0.12	0.12	87	89	75-125	2	20	
Molybdenum	mg/L	0.032	0.1	0.1	0.13	0.13	95	99	75-125	3	20	
Selenium	mg/L	0.0016J	0.1	0.1	0.094	0.10	92	98	75-125	6	20	
Thallium	mg/L	0.00036J	0.1	0.1	0.095	0.096	94	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570627
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894026, 92495894027, 92495894028

METHOD BLANK: 3022878 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027, 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/05/20 18:29	
Arsenic	mg/L	ND	0.0050	0.00078	10/05/20 18:29	
Barium	mg/L	ND	0.010	0.00071	10/05/20 18:29	
Beryllium	mg/L	ND	0.0030	0.000046	10/05/20 18:29	
Boron	mg/L	ND	0.10	0.0052	10/05/20 18:29	
Cadmium	mg/L	ND	0.0025	0.00012	10/05/20 18:29	
Chromium	mg/L	ND	0.010	0.00055	10/05/20 18:29	
Cobalt	mg/L	ND	0.0050	0.00038	10/05/20 18:29	
Lead	mg/L	ND	0.0050	0.000036	10/05/20 18:29	
Lithium	mg/L	ND	0.030	0.00081	10/05/20 18:29	
Molybdenum	mg/L	ND	0.010	0.00069	10/05/20 18:29	
Selenium	mg/L	ND	0.010	0.0016	10/05/20 18:29	
Thallium	mg/L	ND	0.0010	0.00014	10/05/20 18:29	

LABORATORY CONTROL SAMPLE: 3022879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.10	100	80-120	
Boron	mg/L	1	1.0	101	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	0.097	97	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022880 3022881

Parameter	Units	92498084008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.095	102	95	75-125	7	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.095	100	95	75-125	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022880 3022881

Parameter	Units	92498084008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.026	0.1	0.1	0.13	0.12	101	91	75-125	9	20	
Beryllium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	4	20	
Boron	mg/L	0.053	1	1	1.1	1.1	105	103	75-125	2	20	
Cadmium	mg/L	0.00012J	0.1	0.1	0.10	0.094	99	94	75-125	6	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.096	103	95	75-125	8	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.093	100	93	75-125	7	20	
Lead	mg/L	ND	0.1	0.1	0.099	0.094	99	94	75-125	5	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.096	100	96	75-125	4	20	
Molybdenum	mg/L	0.0089J	0.1	0.1	0.11	0.10	100	93	75-125	7	20	
Selenium	mg/L	0.0051J	0.1	0.1	0.11	0.099	101	94	75-125	6	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.094	100	93	75-125	6	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 572608
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894009, 92495894010

METHOD BLANK: 3032633 Matrix: Water
Associated Lab Samples: 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	10/13/20 12:38	

LABORATORY CONTROL SAMPLE: 3032634

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: 3032635 3032636

Parameter	Units	92499821002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0025	0.0026	97	102	75-125	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 574037
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894027

METHOD BLANK: 3039024 Matrix: Water
Associated Lab Samples: 92495894027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	10/19/20 15:26	

LABORATORY CONTROL SAMPLE: 3039025

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: 3039026 3039027

Parameter	Units	92500270001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.090J ug/L	0.0025	0.0025	0.0024	0.0024	92	93	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567372 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008

METHOD BLANK: 3006601 Matrix: Water
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/18/20 09:58	

LABORATORY CONTROL SAMPLE: 3006602

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	387	97	84-108	

SAMPLE DUPLICATE: 3006603

Parameter	Units	92495653011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	622	654	5	10	

SAMPLE DUPLICATE: 3006604

Parameter	Units	92495900008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1220	1250	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567872
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

METHOD BLANK: 3009209 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/17/20 15:18	

LABORATORY CONTROL SAMPLE: 3009210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	384	96	84-108	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568080 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894011, 92495894012, 92495894013, 92495894014, 92495894015, 92495894016, 92495894017

METHOD BLANK: 3010068 Matrix: Water
Associated Lab Samples: 92495894011, 92495894012, 92495894013, 92495894014, 92495894015, 92495894016, 92495894017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/22/20 14:20	

LABORATORY CONTROL SAMPLE: 3010069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	384	96	84-108	

SAMPLE DUPLICATE: 3010070

Parameter	Units	92495870014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	111	110	1	10	

SAMPLE DUPLICATE: 3010071

Parameter	Units	92495900015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	188	187	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568395 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894018, 92495894019, 92495894020, 92495894021

METHOD BLANK: 3011476 Matrix: Water
Associated Lab Samples: 92495894018, 92495894019, 92495894020, 92495894021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/23/20 13:15	

LABORATORY CONTROL SAMPLE: 3011477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	375	94	84-108	

SAMPLE DUPLICATE: 3011478

Parameter	Units	92495894018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	382	404	6	10	

SAMPLE DUPLICATE: 3011479

Parameter	Units	92495870020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	93.0	91.0	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568648 | Analysis Method: SM 2450C-2011
QC Batch Method: SM 2450C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894022, 92495894023, 92495894024, 92495894025

METHOD BLANK: 3012738 Matrix: Water
Associated Lab Samples: 92495894022, 92495894023, 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/24/20 10:26	

LABORATORY CONTROL SAMPLE: 3012739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	390	98	84-108	

SAMPLE DUPLICATE: 3012740

Parameter	Units	92497007001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	207	204	1	10	

SAMPLE DUPLICATE: 3012944

Parameter	Units	92496771001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	158	157	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 569874
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894026, 92495894027

METHOD BLANK: 3018862 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/30/20 09:26	

LABORATORY CONTROL SAMPLE: 3018863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	389	97	84-108	

SAMPLE DUPLICATE: 3018864

Parameter	Units	92497404001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	130	150	14	10	D6

SAMPLE DUPLICATE: 3018865

Parameter	Units	92495894026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	790	774	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570220
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92495894028

METHOD BLANK: 3020462 Matrix: Water
Associated Lab Samples: 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/01/20 15:26	

LABORATORY CONTROL SAMPLE: 3020463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	411	103	84-108	

SAMPLE DUPLICATE: 3020464

Parameter	Units	92496524014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	188	205	9	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568673
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

METHOD BLANK: 3012830 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/24/20 13:03	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/20 13:03	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/20 13:03	

LABORATORY CONTROL SAMPLE: 3012831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012832 3012833

Parameter	Units	92495900001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	307	50	50	358	359	102	104	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012834 3012835

Parameter	Units	92495900007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	42.7	42.2	85	84	80-120	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568674
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894011, 92495894012

METHOD BLANK: 3012844 Matrix: Water
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894011, 92495894012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/24/20 15:38	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/20 15:38	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/20 15:38	

LABORATORY CONTROL SAMPLE: 3012845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.2	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012846 3012847

Parameter	Units	92495900010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	294	50	50	329	322	69	57	80-120	2	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012848 3012849

Parameter	Units	92496584005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	15.8	50	50	68.4	68.9	105	106	80-120	1	25	

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REPORT OF LABORATORY ANALYSIS

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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568970
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019, 92495894020, 92495894021, 92495894022, 92495894023

METHOD BLANK: 3014490 Matrix: Water
Associated Lab Samples: 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019, 92495894020, 92495894021, 92495894022, 92495894023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/30/20 11:38	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 11:38	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 11:38	

LABORATORY CONTROL SAMPLE: 3014491

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.5	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014492 3014493

Parameter	Units	92495894013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	231	50	50	274	281	86	100	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014494 3014495

Parameter	Units	92495894018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	288	50	50	343	338	111	100	80-120	2	25	

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REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570242
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894024, 92495894025

METHOD BLANK: 3020557 Matrix: Water
Associated Lab Samples: 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/01/20 14:25	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/01/20 14:25	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/01/20 14:25	

LABORATORY CONTROL SAMPLE: 3020558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.2	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020559 3020560

Parameter	Units	92496574010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	20.2	50	50	70.4	71.4	100	102	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020561 3020562

Parameter	Units	92496574018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	51.4	51.5	103	103	80-120	0	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 571506
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894026, 92495894027

METHOD BLANK: 3026929 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/08/20 14:21	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/08/20 14:21	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/08/20 14:21	

LABORATORY CONTROL SAMPLE: 3026930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3026931 3026932

Parameter	Units	92497532022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	231	50	50	288	286	114	110	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3026933 3026934

Parameter	Units	92497532028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	90.3	50	50	141	143	101	104	80-120	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 571655
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894028

METHOD BLANK: 3027877 Matrix: Water
Associated Lab Samples: 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/08/20 18:28	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/08/20 18:28	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/08/20 18:28	

LABORATORY CONTROL SAMPLE: 3027878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3027879 3027880

Parameter	Units	92497913003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	57.8	50	50	108	109	100	103	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3029635 3029636

Parameter	Units	92495904018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	313	50	50	353	358	79	90	80-120	2	25	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568020
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894009, 92495894010

METHOD BLANK: 3009676 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003, 92495894004, 92495894005, 92495894006, 92495894007, 92495894008, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/22/20 14:09	

LABORATORY CONTROL SAMPLE: 3009677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009678 3009679

Parameter	Units	92495900001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.52	0.52	98	98	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009680 3009681

Parameter	Units	92495900002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.39	0.39	77	77	80-120	0	10	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568021
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894011, 92495894012

METHOD BLANK: 3009682 Matrix: Water
Associated Lab Samples: 92495894011, 92495894012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/22/20 14:24	

LABORATORY CONTROL SAMPLE: 3009683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.54	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009684 3009685

Parameter	Units	92496157004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.47	90	91	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009686 3009687

Parameter	Units	92496157005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.38	0.38	72	72	80-120	0	10	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568022
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019

METHOD BLANK: 3009689 Matrix: Water
Associated Lab Samples: 92495894013, 92495894014, 92495894015, 92495894016, 92495894017, 92495894018, 92495894019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/22/20 14:40	

LABORATORY CONTROL SAMPLE: 3009690

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009691 3009692

Parameter	Units	92495894013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.50	94	94	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009693 3009694

Parameter	Units	92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.51	0.51	98	98	80-120	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568633
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

METHOD BLANK: 3012716 Matrix: Water
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/24/20 11:36	

LABORATORY CONTROL SAMPLE: 3012717

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012718 3012719

Parameter	Units	92496675001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.49	96	96	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012720 3012721

Parameter	Units	92496675002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.45	0.45	83	83	80-120	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 569578
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894026, 92495894027

METHOD BLANK: 3017573 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/29/20 13:31	

LABORATORY CONTROL SAMPLE: 3017574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.53	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017575 3017576

Parameter	Units	92497532005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.55	0.54	108	108	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017577 3017578

Parameter	Units	92497358003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.54	0.55	107	108	80-120	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570214
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894028

METHOD BLANK: 3020426 Matrix: Water
Associated Lab Samples: 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	10/01/20 12:47	

LABORATORY CONTROL SAMPLE: 3020427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.55	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020428 3020429

Parameter	Units	92497738004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.55	0.55	108	108	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020430 3020431

Parameter	Units	92497738003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.56	0.56	109	109	80-120	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567529
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894001, 92495894002, 92495894003

METHOD BLANK: 3007534 Matrix: Water
Associated Lab Samples: 92495894001, 92495894002, 92495894003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/18/20 16:46	
Fluoride	mg/L	ND	0.10	0.050	09/18/20 16:46	
Sulfate	mg/L	ND	1.0	0.50	09/18/20 16:46	

LABORATORY CONTROL SAMPLE: 3007535

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.2	104	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	50	52.4	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3007536 3007537

Parameter	Units	92496029001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.6	50	50	68.1	69.2	109	111	90-110	2	10	M1
Fluoride	mg/L	0.10	2.5	2.5	2.8	2.9	109	112	90-110	3	10	M1
Sulfate	mg/L	7.4	50	50	62.2	63.3	110	112	90-110	2	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3007538 3007539

Parameter	Units	92495653005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.5	50	50	58.5	62.8	106	115	90-110	7	10	M1
Fluoride	mg/L	0.057J	2.5	2.5	2.8	3.0	108	116	90-110	7	10	M1
Sulfate	mg/L	241	50	50	287	291	91	100	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567607
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894009, 92495894010

METHOD BLANK: 3008004 Matrix: Water
Associated Lab Samples: 92495894004, 92495894005, 92495894006, 92495894009, 92495894010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/19/20 15:23	
Fluoride	mg/L	ND	0.10	0.050	09/19/20 15:23	
Sulfate	mg/L	ND	1.0	0.50	09/19/20 15:23	

LABORATORY CONTROL SAMPLE: 3008005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.3	105	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	50	52.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3008008 3008009

Parameter	Units	92495964005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.9	50	50	61.3	62.0	107	108	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	107	108	90-110	1	10	
Sulfate	mg/L	256	50	50	298	299	85	87	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3008006 3008007

Parameter	Units	92495653007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.4	50	50	57.4	58.2	106	108	90-110	1	10	
Fluoride	mg/L	0.13	2.5	2.5	2.8	2.8	107	109	90-110	1	10	
Sulfate	mg/L	334	50	50	389	385	111	103	90-110	1	10	M6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567633
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894007, 92495894008

METHOD BLANK: 3008109 Matrix: Water
Associated Lab Samples: 92495894007, 92495894008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/19/20 22:51	
Fluoride	mg/L	ND	0.10	0.050	09/19/20 22:51	
Sulfate	mg/L	ND	1.0	0.50	09/19/20 22:51	

LABORATORY CONTROL SAMPLE: 3008110

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.0	106	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	53.1	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3008111 3008112

Parameter	Units	92496222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.6	53.5	105	107	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	105	107	90-110	2	10	
Sulfate	mg/L	ND	50	50	52.3	53.3	105	106	90-110	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 567943
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894011, 92495894012, 92495894013, 92495894014, 92495894015

METHOD BLANK: 3009484 Matrix: Water
Associated Lab Samples: 92495894011, 92495894012, 92495894013, 92495894014, 92495894015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/22/20 07:03	
Fluoride	mg/L	ND	0.10	0.050	09/22/20 07:03	
Sulfate	mg/L	ND	1.0	0.50	09/22/20 07:03	

LABORATORY CONTROL SAMPLE: 3009485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.8	110	90-110	
Fluoride	mg/L	2.5	2.7	110	90-110	
Sulfate	mg/L	50	54.9	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009486 3009487

Parameter	Units	92495894011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	105	50	50	152	155	94	101	90-110	2	10	
Fluoride	mg/L	0.10	2.5	2.5	2.7	2.7	103	104	90-110	1	10	
Sulfate	mg/L	209	50	50	255	261	92	103	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009488 3009489

Parameter	Units	92495900016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.8	52.5	106	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	105	104	90-110	1	10	
Sulfate	mg/L	ND	50	50	52.6	52.2	105	104	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568377
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894016, 92495894017, 92495894018, 92495894019

METHOD BLANK: 3011350 Matrix: Water
Associated Lab Samples: 92495894016, 92495894017, 92495894018, 92495894019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/24/20 06:58	
Fluoride	mg/L	ND	0.10	0.050	09/24/20 06:58	
Sulfate	mg/L	ND	1.0	0.50	09/24/20 06:58	

LABORATORY CONTROL SAMPLE: 3011351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	50	50.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011352 3011353

Parameter	Units	92495656005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.9	50	50	55.8	56.2	108	109	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.8	2.8	109	110	90-110	1	10	
Sulfate	mg/L	5.9	50	50	59.3	59.6	107	108	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011354 3011355

Parameter	Units	92496524001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.6	50	50	56.8	57.6	108	110	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.8	108	110	90-110	2	10	
Sulfate	mg/L	1.0	50	50	54.0	54.8	106	108	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 568379
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

METHOD BLANK: 3011360 Matrix: Water
Associated Lab Samples: 92495894020, 92495894021, 92495894022, 92495894023, 92495894024, 92495894025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/24/20 14:11	
Fluoride	mg/L	ND	0.10	0.050	09/24/20 14:11	
Sulfate	mg/L	ND	1.0	0.50	09/24/20 14:11	

LABORATORY CONTROL SAMPLE: 3011361

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.6	103	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	50.7	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011362 3011363

Parameter	Units	92495870024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.64J	50	50	54.6	55.2	108	109	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.8	2.8	110	110	90-110	0	10	
Sulfate	mg/L	0.90J	50	50	53.7	54.3	106	107	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3011364 3011365

Parameter	Units	92495900019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	236	50	50	284	284	96	95	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.5	96	100	90-110	4	10	
Sulfate	mg/L	1010	50	50	1040	1040	78	68	90-110	1	10	M6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 569516
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894026, 92495894027

METHOD BLANK: 3017410 Matrix: Water
Associated Lab Samples: 92495894026, 92495894027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 08:53	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 08:53	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 08:53	

LABORATORY CONTROL SAMPLE: 3017411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.8	110	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	54.9	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017412 3017413

Parameter	Units	92497532015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.8	52.1	106	104	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	106	104	90-110	1	10	
Sulfate	mg/L	ND	50	50	52.5	52.0	105	104	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017414 3017415

Parameter	Units	92495894027 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.5	52.9	105	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	105	104	90-110	1	10	
Sulfate	mg/L	ND	50	50	52.1	52.0	104	104	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

QC Batch: 570137
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92495894028

METHOD BLANK: 3020267 Matrix: Water
Associated Lab Samples: 92495894028

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/20 07:56	
Fluoride	mg/L	ND	0.10	0.050	10/01/20 07:56	
Sulfate	mg/L	ND	1.0	0.50	10/01/20 07:56	

LABORATORY CONTROL SAMPLE: 3020268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.3	107	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	53.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020269 3020270

Parameter	Units	92495894028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	542	50	50	583	587	82	89	90-110	1	10	M6
Fluoride	mg/L	0.41	2.5	2.5	3.2	3.1	110	109	90-110	1	10	
Sulfate	mg/L	3480	50	50	3520	3530	86	111	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020271 3020272

Parameter	Units	92496914018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.6	50	50	56.0	56.5	109	110	90-110	1	10	
Fluoride	mg/L	0.063J	2.5	2.5	2.8	2.8	109	111	90-110	2	10	M1
Sulfate	mg/L	110	50	50	160	161	101	103	90-110	1	10	

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QUALIFIERS

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
MW	Due to matrix interference, achieving a constant weight is not possible.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495894001	**HGWA-1**				
92495894002	**HGWA-2**				
92495894003	**HGWA-3**				
92495894004	**HGWC-7**				
92495894005	**HGWC-7 FILTERED**				
92495894006	**HGWC-8**				
92495894007	**HGWC-10**				
92495894008	**MW-29**				
92495894009	**HGWA-43D**				
92495894010	**HGWA-44D**				
92495894011	**HGWC-9**				
92495894012	**MW-5**				
92495894013	**MW-20**				
92495894014	**MW-26D**				
92495894016	**HGWC-11**				
92495894017	**HGWC-12**				
92495894018	**MW-25D**				
92495894019	**MW-27D**				
92495894020	**HGWC-13**				
92495894021	**MW-6**				
92495894022	**MW-7**				
92495894023	**MW-24D**				
92495894024	**MW-19**				
92495894025	**MW-28D**				
92495894026	**MW-30D**				
92495894028	**MW-40D**				
92495894001	**HGWA-1**	EPA 3010A	568201	EPA 6010D	568230
92495894002	**HGWA-2**	EPA 3010A	568201	EPA 6010D	568230
92495894003	**HGWA-3**	EPA 3010A	568201	EPA 6010D	568230
92495894004	**HGWC-7**	EPA 3010A	568471	EPA 6010D	568669
92495894005	**HGWC-7 FILTERED**	EPA 3010A	568471	EPA 6010D	568669
92495894006	**HGWC-8**	EPA 3010A	568471	EPA 6010D	568669
92495894007	**HGWC-10**	EPA 3010A	568471	EPA 6010D	568669
92495894008	**MW-29**	EPA 3010A	568471	EPA 6010D	568669
92495894009	**HGWA-43D**	EPA 3010A	568201	EPA 6010D	568230
92495894010	**HGWA-44D**	EPA 3010A	568201	EPA 6010D	568230
92495894011	**HGWC-9**	EPA 3010A	568471	EPA 6010D	568669
92495894012	**MW-5**	EPA 3010A	568471	EPA 6010D	568669
92495894013	**MW-20**	EPA 3010A	568471	EPA 6010D	568669
92495894014	**MW-26D**	EPA 3010A	568471	EPA 6010D	568669
92495894015	**FD-01**	EPA 3010A	568471	EPA 6010D	568669
92495894016	**HGWC-11**	EPA 3010A	568471	EPA 6010D	568669
92495894017	**HGWC-12**	EPA 3010A	568471	EPA 6010D	568669
92495894018	**MW-25D**	EPA 3010A	568471	EPA 6010D	568669
92495894019	**MW-27D**	EPA 3010A	568747	EPA 6010D	568813
92495894020	**HGWC-13**	EPA 3010A	568747	EPA 6010D	568813

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495894021	**MW-6**	EPA 3010A	568747	EPA 6010D	568813
92495894022	**MW-7**	EPA 3010A	568748	EPA 6010D	568812
92495894023	**MW-24D**	EPA 3010A	568748	EPA 6010D	568812
92495894024	**MW-19**	EPA 3010A	568748	EPA 6010D	568812
92495894025	**MW-28D**	EPA 3010A	568748	EPA 6010D	568812
92495894026	**MW-30D**	EPA 3010A	570395	EPA 6010D	570414
92495894027	**FB-01**	EPA 3010A	570395	EPA 6010D	570414
92495894028	**MW-40D**	EPA 3010A	570395	EPA 6010D	570414
92495894001	**HGWA-1**	EPA 3005A	568198	EPA 6020B	568229
92495894002	**HGWA-2**	EPA 3005A	568198	EPA 6020B	568229
92495894003	**HGWA-3**	EPA 3005A	568198	EPA 6020B	568229
92495894004	**HGWC-7**	EPA 3005A	568417	EPA 6020B	568454
92495894005	**HGWC-7 FILTERED**	EPA 3005A	568417	EPA 6020B	568454
92495894006	**HGWC-8**	EPA 3005A	568417	EPA 6020B	568454
92495894007	**HGWC-10**	EPA 3005A	568417	EPA 6020B	568454
92495894008	**MW-29**	EPA 3005A	568417	EPA 6020B	568454
92495894009	**HGWA-43D**	EPA 3005A	568198	EPA 6020B	568229
92495894010	**HGWA-44D**	EPA 3005A	568198	EPA 6020B	568229
92495894011	**HGWC-9**	EPA 3005A	568430	EPA 6020B	568663
92495894012	**MW-5**	EPA 3005A	568430	EPA 6020B	568663
92495894013	**MW-20**	EPA 3005A	568430	EPA 6020B	568663
92495894014	**MW-26D**	EPA 3005A	568749	EPA 6020B	568811
92495894015	**FD-01**	EPA 3005A	568749	EPA 6020B	568811
92495894016	**HGWC-11**	EPA 3005A	568749	EPA 6020B	568811
92495894017	**HGWC-12**	EPA 3005A	568749	EPA 6020B	568811
92495894018	**MW-25D**	EPA 3005A	568749	EPA 6020B	568811
92495894019	**MW-27D**	EPA 3005A	568749	EPA 6020B	568811
92495894020	**HGWC-13**	EPA 3005A	569670	EPA 6020B	569718
92495894021	**MW-6**	EPA 3005A	569670	EPA 6020B	569718
92495894022	**MW-7**	EPA 3005A	569670	EPA 6020B	569718
92495894023	**MW-24D**	EPA 3005A	569670	EPA 6020B	569718
92495894024	**MW-19**	EPA 3005A	569670	EPA 6020B	569718
92495894025	**MW-28D**	EPA 3005A	569670	EPA 6020B	569718
92495894026	**MW-30D**	EPA 3005A	570627	EPA 6020B	570682
92495894027	**FB-01**	EPA 3005A	570627	EPA 6020B	570682
92495894028	**MW-40D**	EPA 3005A	570627	EPA 6020B	570682
92495894009	**HGWA-43D**	EPA 7470A	572608	EPA 7470A	572822
92495894010	**HGWA-44D**	EPA 7470A	572608	EPA 7470A	572822
92495894027	**FB-01**	EPA 7470A	574037	EPA 7470A	574115
92495894001	**HGWA-1**	SM 2450C-2011	567872		
92495894002	**HGWA-2**	SM 2450C-2011	567872		
92495894003	**HGWA-3**	SM 2450C-2011	567872		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495894004	**HGWC-7**	SM 2450C-2011	567372		
92495894005	**HGWC-7 FILTERED**	SM 2450C-2011	567372		
92495894006	**HGWC-8**	SM 2450C-2011	567372		
92495894007	**HGWC-10**	SM 2450C-2011	567372		
92495894008	**MW-29**	SM 2450C-2011	567372		
92495894009	**HGWA-43D**	SM 2450C-2011	567872		
92495894010	**HGWA-44D**	SM 2450C-2011	567872		
92495894011	**HGWC-9**	SM 2450C-2011	568080		
92495894012	**MW-5**	SM 2450C-2011	568080		
92495894013	**MW-20**	SM 2450C-2011	568080		
92495894014	**MW-26D**	SM 2450C-2011	568080		
92495894015	**FD-01**	SM 2450C-2011	568080		
92495894016	**HGWC-11**	SM 2450C-2011	568080		
92495894017	**HGWC-12**	SM 2450C-2011	568080		
92495894018	**MW-25D**	SM 2450C-2011	568395		
92495894019	**MW-27D**	SM 2450C-2011	568395		
92495894020	**HGWC-13**	SM 2450C-2011	568395		
92495894021	**MW-6**	SM 2450C-2011	568395		
92495894022	**MW-7**	SM 2450C-2011	568648		
92495894023	**MW-24D**	SM 2450C-2011	568648		
92495894024	**MW-19**	SM 2450C-2011	568648		
92495894025	**MW-28D**	SM 2450C-2011	568648		
92495894026	**MW-30D**	SM 2450C-2011	569874		
92495894027	**FB-01**	SM 2450C-2011	569874		
92495894028	**MW-40D**	SM 2450C-2011	570220		
92495894001	**HGWA-1**	SM 2320B-2011	568673		
92495894002	**HGWA-2**	SM 2320B-2011	568673		
92495894003	**HGWA-3**	SM 2320B-2011	568673		
92495894004	**HGWC-7**	SM 2320B-2011	568674		
92495894005	**HGWC-7 FILTERED**	SM 2320B-2011	568674		
92495894006	**HGWC-8**	SM 2320B-2011	568674		
92495894007	**HGWC-10**	SM 2320B-2011	568674		
92495894008	**MW-29**	SM 2320B-2011	568674		
92495894009	**HGWA-43D**	SM 2320B-2011	568673		
92495894010	**HGWA-44D**	SM 2320B-2011	568673		
92495894011	**HGWC-9**	SM 2320B-2011	568674		
92495894012	**MW-5**	SM 2320B-2011	568674		
92495894013	**MW-20**	SM 2320B-2011	568970		
92495894014	**MW-26D**	SM 2320B-2011	568970		
92495894015	**FD-01**	SM 2320B-2011	568970		
92495894016	**HGWC-11**	SM 2320B-2011	568970		
92495894017	**HGWC-12**	SM 2320B-2011	568970		
92495894018	**MW-25D**	SM 2320B-2011	568970		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495894019	**MW-27D**	SM 2320B-2011	568970		
92495894020	**HGWC-13**	SM 2320B-2011	568970		
92495894021	**MW-6**	SM 2320B-2011	568970		
92495894022	**MW-7**	SM 2320B-2011	568970		
92495894023	**MW-24D**	SM 2320B-2011	568970		
92495894024	**MW-19**	SM 2320B-2011	570242		
92495894025	**MW-28D**	SM 2320B-2011	570242		
92495894026	**MW-30D**	SM 2320B-2011	571506		
92495894027	**FB-01**	SM 2320B-2011	571506		
92495894028	**MW-40D**	SM 2320B-2011	571655		
92495894001	**HGWA-1**	SM 4500-S2D-2011	568020		
92495894002	**HGWA-2**	SM 4500-S2D-2011	568020		
92495894003	**HGWA-3**	SM 4500-S2D-2011	568020		
92495894004	**HGWC-7**	SM 4500-S2D-2011	568020		
92495894005	**HGWC-7 FILTERED**	SM 4500-S2D-2011	568020		
92495894006	**HGWC-8**	SM 4500-S2D-2011	568020		
92495894007	**HGWC-10**	SM 4500-S2D-2011	568020		
92495894008	**MW-29**	SM 4500-S2D-2011	568020		
92495894009	**HGWA-43D**	SM 4500-S2D-2011	568020		
92495894010	**HGWA-44D**	SM 4500-S2D-2011	568020		
92495894011	**HGWC-9**	SM 4500-S2D-2011	568021		
92495894012	**MW-5**	SM 4500-S2D-2011	568021		
92495894013	**MW-20**	SM 4500-S2D-2011	568022		
92495894014	**MW-26D**	SM 4500-S2D-2011	568022		
92495894015	**FD-01**	SM 4500-S2D-2011	568022		
92495894016	**HGWC-11**	SM 4500-S2D-2011	568022		
92495894017	**HGWC-12**	SM 4500-S2D-2011	568022		
92495894018	**MW-25D**	SM 4500-S2D-2011	568022		
92495894019	**MW-27D**	SM 4500-S2D-2011	568022		
92495894020	**HGWC-13**	SM 4500-S2D-2011	568633		
92495894021	**MW-6**	SM 4500-S2D-2011	568633		
92495894022	**MW-7**	SM 4500-S2D-2011	568633		
92495894023	**MW-24D**	SM 4500-S2D-2011	568633		
92495894024	**MW-19**	SM 4500-S2D-2011	568633		
92495894025	**MW-28D**	SM 4500-S2D-2011	568633		
92495894026	**MW-30D**	SM 4500-S2D-2011	569578		
92495894027	**FB-01**	SM 4500-S2D-2011	569578		
92495894028	**MW-40D**	SM 4500-S2D-2011	570214		
92495894001	**HGWA-1**	EPA 300.0 Rev 2.1 1993	567529		
92495894002	**HGWA-2**	EPA 300.0 Rev 2.1 1993	567529		
92495894003	**HGWA-3**	EPA 300.0 Rev 2.1 1993	567529		
92495894004	**HGWC-7**	EPA 300.0 Rev 2.1 1993	567607		
92495894005	**HGWC-7 FILTERED**	EPA 300.0 Rev 2.1 1993	567607		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 SEMIANNUAL
Pace Project No.: 92495894

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495894006	**HGWC-8**	EPA 300.0 Rev 2.1 1993	567607		
92495894007	**HGWC-10**	EPA 300.0 Rev 2.1 1993	567633		
92495894008	**MW-29**	EPA 300.0 Rev 2.1 1993	567633		
92495894009	**HGWA-43D**	EPA 300.0 Rev 2.1 1993	567607		
92495894010	**HGWA-44D**	EPA 300.0 Rev 2.1 1993	567607		
92495894011	**HGWC-9**	EPA 300.0 Rev 2.1 1993	567943		
92495894012	**MW-5**	EPA 300.0 Rev 2.1 1993	567943		
92495894013	**MW-20**	EPA 300.0 Rev 2.1 1993	567943		
92495894014	**MW-26D**	EPA 300.0 Rev 2.1 1993	567943		
92495894015	**FD-01**	EPA 300.0 Rev 2.1 1993	567943		
92495894016	**HGWC-11**	EPA 300.0 Rev 2.1 1993	568377		
92495894017	**HGWC-12**	EPA 300.0 Rev 2.1 1993	568377		
92495894018	**MW-25D**	EPA 300.0 Rev 2.1 1993	568377		
92495894019	**MW-27D**	EPA 300.0 Rev 2.1 1993	568377		
92495894020	**HGWC-13**	EPA 300.0 Rev 2.1 1993	568379		
92495894021	**MW-6**	EPA 300.0 Rev 2.1 1993	568379		
92495894022	**MW-7**	EPA 300.0 Rev 2.1 1993	568379		
92495894023	**MW-24D**	EPA 300.0 Rev 2.1 1993	568379		
92495894024	**MW-19**	EPA 300.0 Rev 2.1 1993	568379		
92495894025	**MW-28D**	EPA 300.0 Rev 2.1 1993	568379		
92495894026	**MW-30D**	EPA 300.0 Rev 2.1 1993	569516		
92495894027	**FB-01**	EPA 300.0 Rev 2.1 1993	569516		
92495894028	**MW-40D**	EPA 300.0 Rev 2.1 1993	570137		

Sample Condition Upon Receipt

PaceAnalytical

Client Name: GA Power

WO# : 92495894

92495894

Proj. Name:

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Tracking #: ____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other ____

Thermometer Used 214 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 9/16/2004

				Comments:
Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
~~All containers needing preservation have been checked.~~	~~☑Yes~~	~~☐No~~	~~☐N/A~~	~~13.~~
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) WH 9/16/04	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): ____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: ____ **Date:** ____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003rev.3, 11September2006

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N		
1	HGWA-1	WT	G	9-15-20	1401	--	--	22	7	3		3					1		X	X	X	X	X	N	pH = 7.15
2	HGWA-2	WT	G	9-15-20	1058	--	--	20	7	3		3					1		X	X	X	X	X	N	pH = 5.22
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	pH =
~~4~~	~~HGWC-7~~	~~WT~~	~~G~~			--	--		7	3		3					1		X	X	X	X	X	N	pH =
~~5~~	~~HGWC-8~~	~~WT~~	~~G~~			--	--		7	3		3					1		X	X	X	X	X	N	pH =
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~			--	--		7	3		3					1		X	X	X	X	X	N	pH =
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~			--	--		7	3		3					1		X	X	X	X	X	N	pH =
~~8~~	~~HGWC-11~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	pH =
~~9~~	~~HGWC-12~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	pH =
~~10~~	~~HGWC-13~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	pH =
~~11~~	~~-MW-5~~	~~WT~~	~~G~~						7	3		3					1		X	X	X	X	X	N	pH =
~~12~~	~~-MW-6~~	~~WT~~	~~G~~			--	--		7	3		3					1		X	X	X	X	X	N	pH =

G249584

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	VISHISH THAKOR / GEO	9-15-20	1705	[illegible] GEO	9/15/20	1705	
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / GEO	9/15/20	1820	Malia Mynhardt / GEO	9/15/20	1820	
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Mynhardt / GEO	9/16/20	1113	[illegible] / PACE	9/16/20	1114	
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	Kyra Williams / PACE	9/16/20	1460	[illegible]	9/16/20	1450	

SAMPLER NAME AND SIGNATURE: VISHISH THAKOR

PRINT Name of SAMPLER: VISHISH THAKOR

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9-15-20

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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 2

Section A Required Client Information:

Company: GA Power
Address: Atlanta, GA
Email To: SCS Contacts
Phone: Fax:
Requested Due Date/TAT: 10 Day

Section B Required Project Information:

Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond AP-1 Semiannual
Project Number: GW6581B

Section C Invoice Information:

Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 10839-10/10839-2

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	HGWA-1	WT	G						7	3		3					1		X	X	X	X	X	N	92495494
2	HGWA-2	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
3	HGWA-3	WT	G	9/15	1145			20	7	3		3					1		X	X	X	X	X	N	pH = 7.29
4	HGWC-7	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
5	HGWC-8	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
6	HGWC-9	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
7	HGWC-10	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
8	HGWC-11	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
9	HGWC-12	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
10	HGWC-13	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
11	MW-5	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
12	MW-6	WT	G						7	3		3					1		X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/GPC	9/15/20	1820	Marlia Mullen/GPC	9/15/20	1820	
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Marlia Mullen/GPC	9/16/20	1113	Ryan Williams/Pace	9/16/20	1114	
Major Ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Ryan Williams/Pace	9/16/20	1450	Chad Russo	9/16/20	1450	
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 9/15/2020

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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Page: 3 (1) of 3 (4)

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes — MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Pace Project No./ Lab I.D.: 92495894

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	TIME	Composite End/Grab DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)		Pace Project No./ Lab I.D.
~~1~~	~~HGWA-1~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~2~~	~~HGWA-2~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
4	HGWC-7	WT	G	9-16-20	1224	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 7.30	004
5	~~HGWC-8~~ HGWC-7 FILTERED	WT	G	9-16-20	1224	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 7.30	005
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~8~~	~~HGWC-11~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~9~~	~~HGWC-12~~	~~WT~~	~~G~~			~~-~~	~~-~~		~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~10~~	~~HGWC-13~~	~~WT~~	~~G~~			~~-~~			~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~11~~	~~MW-5~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	
~~12~~	~~MW-6~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	V. Thakoor / GEO	9-8-20	1830	[illegible] / GEO	9/16	1830				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / GEO	9/16	1955	Nadia Mahmood / Geo	9/16/20	1955				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nadia Mahmood / geo	9/17/20	0045	[illegible] / Pace	9/17/20	0045				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/17/20	1306	Charles [illegible]	9/17/20	1305	4.1	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Vikash Thakoor

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9-16-20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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Section C Invoice Information:

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Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): N N N N N

Pace Project No./ Lab I.D.: 92495844

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)		Pace Project No./ Lab I.D.
1	~~HGWA-1~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
2	~~HGWA-2~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
3	~~HGWA-3~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
4	~~HGWC-7~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
5	HGWC-8	WT	G	9/16	0932	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 6.92	006
6	~~HGWC-9~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
7	HGWC-10	WT	G	9/16	1615	-	-	26	7	3		3					1		X	X	X	X	X	N	pH = 6.66	007
8	~~HGWC-11~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
9	~~HGWC-12~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
10	~~HGWC-13~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
11	~~MW-5~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	
12	~~MW-6~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	[signature]	9/16	1835	[signature] / GEO	9/16	1835				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[signature] / GEO	9/16	1955	[signature] / GEO	9/16/20	1955				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[signature] / GEO	9/17/20	0945	[signature] / Pace	9/17/20	0945				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[signature] / Pace	9/17/20	1305	[signature]	9/17/20	1305	4.1	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J. Kessler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/16/20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 30 4

Section A
Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B
Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C
Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER CCR

Site Location STATE: GA

Section D
Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes — MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 92495894

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-7	WT	G						7	3		3					1	X	X	X	X	X	N	pH =
2	MW-19	WT	G			-			7	3		3					1	X	X	X	X	X	N	pH =
3	MW-20	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
4	MW-24D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
5	MW-25D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
6	MW-26D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
7	MW-27D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
8	MW-28D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
9	MW-29	WT	G	9/16	1315	-	-	20	7	3		3					1	X	X	X	X	X	N	pH = 6.88 008
10	MW-30D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
11	MW-40D	WT	G			-	-		7	3		3					1	X	X	X	X	X	N	pH =
12	FD-01	WT	G		-	-	-		7	3		3					1	X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	D / Geosyntec	9/16	1835	Chad Russell / geo	9/16	1835				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Chad Russell / geo	9/16	1955	Nadia Mulgrew / geo	9/16/20	1955				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nadia Mulgrew / geo	9/17/20	0945	[illegible] / Pace	9/17/20	0946				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/17/20	1305	Charles Hurley	9/17/20	1305	4.1	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J Kessler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/16

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 4 of 4

Section A Required Client Information:
Company: GA Power
Address: Atlanta, GA
Email To: SCS Contacts
Phone: Fax:
Requested Due Date/TAT: 10 Day

Section B Required Project Information:
Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond AP-1 Semiannual
Project Number: GW6581B

Section C Invoice Information:
Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 10839-4/10839-2

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App. III&IV Metals 6010/6020*	RAD 226/228	Major ions**	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N	N	N	N		92495894
1	MW-43D	WT	G	9/16	1159	–	–	16	7	3		3					1		X	X	X	X	X	N	pH = 7.52 006
2	MW-44D	WT	G	9/16	1518	–	–	19	7	3		3					1		X	X	X	X	X	N	pH = 7.93 010
3	FB-01	WT	G			–	–		7	3		0					1		X	X	X	X	X	N	
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

CR 9/16/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/geo	9/16	1755	Malia Mufson/geo	9/16/20	1955				
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Malia Mufson/geo	9/17/20	0945	[illegible]/Pace	9/17/20	0945				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible]/Pace	9/17/20	1306	Charles Aaron	9/17/20	1305	4.1	Y	Y	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs										

SAMPLER NAME AND SIGNATURE	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Chad Russo				
SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/16/2020				

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Section A — Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B — Required Project Information

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D — Required Client Information

SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N)	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9249589 94
1	HGWA-1	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
2	HGWA-2	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
3	HGWA-3	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
4	HGWC-7	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
5	HGWC-8	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
6	HGWC-9	WT	G	9/17	1142	–	–	2C	7	3		3					1		N	X	X	X	X	X	N	pH = 6.99 OH
7	HGWC-10	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
8	HGWC-11	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
9	HGWC-12	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
10	HGWC-13	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH =
11	MW-5	WT	G	9/17	1751	–	–	2C	7	3		3					1		N	X	X	X	X	X	N	pH =
12	MW-6	WT	G			–	–		7	3		3					1		N	X	X	X	X	X	N	pH = 6.48 OH2

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.		9/17	1840		9/17	1840
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl		9/17	2000	Nadia Mufton/geo	9/17/20	2000
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nadia Mufton/geo	9/18/20	1017	/Pace	9/18/20	1026
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	/Pace	9/18/20	1345		9/18/20	1345

SAMPLE CONDITIONS			
Temp in °C: 5.1	Received on Ice (Y/N): Y	Custody Sealed Cooler (Y/N): Y	Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J. Hressley

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY): 09/17/20

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1 (WA)

Section A — Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B — Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C — Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D — Required Client Information

SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N		92495894
1	~~MW-7~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
2	~~MW-19~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
3	MW-20	WT	G	9/17	1554	–	–	21	7	3		3					1	X	X	X	X	X	N	pH = 6.78 DCH
4	~~MW-24D~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
5	~~MW-25D~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
6	MW-26D	WT	G	9/17	1302	–	–	22	7	3		3					1	X	X	X	X	X	N	pH = 7.08 DCH
7	~~MW-27D~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
8	~~MW-28D~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
9	MW-29	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
10	MW-30D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
11	~~MW-40D~~	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
12	FD-01	WT	G	9/17	–	–	–	22	7	3		3					1	X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Thomas Kessler / Geosyntec	9/17	1840	[illegible] / geo	9/17	1840
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / geo	9/17	2000	Nadia Mufleh / geo	9/18/20	2000
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Nadia Mufleh / geo	9/18/20	1017	[illegible] / Pace	9/18/20	1028
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/18/20	1345	[illegible]	9/18/20	1345

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
5.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J Kessler

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/17/20

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 (2nd) of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analysis Test: Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major Ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92458444
~~1~~	~~HGWA-1~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~2~~	~~HGWA-2~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~3~~	~~HGWA-3~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~4~~	~~HGWC-7~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~5~~	~~HGWC-8~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~6~~	~~HGWC-9~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~7~~	~~HGWC-10~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
8	HGWC-11	WT	G	09-18-20	1330	9 -	-	23	7	3		3					1		X	X	X	X	X	N	pH = 6.42 016
9	HGWC-12	WT	G	09-18-20	1550	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 7.15 017
~~10~~	~~HGWC-13~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~11~~	~~MW-5~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~12~~	~~MW-6~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	VAKISH THAKER / GEOSYNTEC	09-19-20	1645	[signature] / GEO	9/18	1645
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[signature] / GEO	9/18	1920	Madhu Mudum / GEO	9/19/20	1920
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Madhu Mudum / GEO	9/21/20	0925	[signature] / Pace	9/21/20	925
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[signature] / Pace	9/22/20	1208	[signature]	9/22/20	1208

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
3.6	X	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: VAKISH THAKER

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-18-20

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 2

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☒ OTHER GA

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Chloride, Fluoride, Sulfate	N		92455894
																		TDS	N		
																		App. III & IV Metals 6010/6020*	N		
																		RAD 226/228	N		
																		Major Ions	N		
1	MW-7	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
2	MW-19	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
3	MW-20	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
4	MW-24D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
5	MW-25D	WT	G	9/18	1320	–	–	25	7	3		3					1	X	X	X	X	X	N	pH = 7.64 014
6	MW-26D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
7	MW-27D	WT	G	9/18	0853	–	–	20	7	3		3					1	X	X	X	X	X	N	pH = 7.51 014
8	MW-28D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
9	MW-29	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
10	MW-30D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
11	MW-40D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
12	FD-01	WT	G	–	–	–	–		7	3		3					1	X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike through any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo/GPC	9/18	1920	Nadia Mushtaq/GPC	9/18/20	1920				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Nadia Mushtaq/GPC	9/21/20	0925	/Pace	9/21/20	925				
Major Ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	/Pace	9/21/20	1208	Charles Hinds	9/21/20	1208	3.6	Y	N	
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/19/2020

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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 5

Section A
Required Client Information:
- Company: GA Power
- Address: Atlanta, GA
- Email To: SCS Contacts
- Phone:
- Fax:
- Requested Due Date/TAT: 10 Day

Section B
Required Project Information:
- Report To: SCS Contacts
- Copy To: Geosyntec Contacts
- Purchase Order No.:
- Project Name: Plant Hammond AP-1 Semiannual
- Project Number: GW6581B

Section C
Invoice Information:
- Attention: Southern Co.
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager: Kevin Herring
- Pace Profile #: 10839-10/10839-2

REGULATORY AGENCY
NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR
Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): N N N N N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495894
~~1~~	~~HGWA-1~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~2~~	~~HGWA-2~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~3~~	~~HGWA-3~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~4~~	~~HGWC-7~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~5~~	~~HGWC-8~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~6~~	~~HGWC-9~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~7~~	~~HGWC-10~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~8~~	~~HGWC-11~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~9~~	~~HGWC-12~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
10	HGWC-13	WT	G	9-21-20	1645	-	-	20	7	3		3					1		X	X	X	X	X	N	pH = 7.34 OTL
~~11~~	~~MW-5~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
~~12~~	~~MW-6~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~

ADDITIONAL COMMENTS

Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.

*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl

Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide

One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
VASHISH THAKUR / GEOSYNTEC	9-21-20	1850	[illegible signature] / GEO	9/21	1850
[illegible signature] / GEO	9/21	2110	Malia Muldun / GEO	9/21/20	2110
Malia Muldun / GEO	9/22/20	0925	[illegible signature] / Pace	9/22/20	925
[illegible signature] / Pace	9/22/20	1015	[illegible signature]	9/22/20	1215

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.1	Y	N	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: VASHISH THAKUR
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 9-21-20

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: ~~4~~ (2) of 5

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes: DRINKING WATER DW, WATER WT, WASTE WATER WW, PRODUCT P, SOIL/SOLID SL, OIL OL, WIPE WP, AIR AR, OTHER OT, TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major Ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92K58541
1	~~HGWA-1~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
2	~~HGWA-2~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
3	~~HGWA-3~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
4	~~HGWC-7~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	~~HGWC-8~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	~~HGWC-9~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
7	~~HGWC-10~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
8	~~HGWC-11~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
9	~~HGWC-12~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
10	~~HGWC-13~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	~~MW-5~~	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
12	MW-6	WT	G	9/21	1019	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 6.88 021

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo	9/21	2110	Malia Murphy / geo	9/21/20	2110				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Malia Murphy / geo	9/22/20	0925	[illegible] / Pace	9/22/20	925				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible] / Pace	9/22/20	1216	Charles Hertz	9/23/20	1215	4.1	Y	N	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed (MM/DD/YY): 9/21/2020

*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.

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Page: 3 of 5

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Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

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Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes — MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92455494
1	MW-7	WT	G	9/21	1641	-	-	21	7	3		3					1		X	X	X	X	X	N	pH = 6.50 022
2	MW-19	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
3	MW-20	WT	G				-		7	3		3					1		X	X	X	X	X	N	pH =
4	MW-24D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
5	MW-25D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
6	MW-26D	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
7	MW-27D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
8	MW-28D	WT	G				-		7	3		3					1		X	X	X	X	X	N	pH =
9	[illegible]	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
10	MW-30D	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH =
11	MW-40D	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
12	FD-01	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / Geo	9/21	2110	Nelia Munger / Geo	9/21/20	2110				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Nelia Munger / Geo	9/22/20	0925	[illegible] / Pace	9/22/20	925				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[signature] / Pace	9/22/20	1216	[signature]	9/22/20	1245	4.1	X	N	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/21/2020

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

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Page: 2 of 5

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 Semiannual	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes — MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): N N N N N

Pace Project No./ Lab I.D.: 92495844

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
~~1~~	~~MW-7~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~2~~	~~MW-19~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~3~~	~~MW-20~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
4	MW-24D	WT	G	9-21-20	1755	-	-	20	7	3		3					1		X	X	X	X	X	N	pH = 7.65	023
~~5~~	~~MW-25D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~6~~	~~MW-26D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~7~~	~~MW-27D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~8~~	~~MW-28D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~9~~	~~MW-29~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~10~~	~~MW-30D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~11~~	~~MW-40D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
~~12~~	~~FD-01~~	WT	G						7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Vatsh Taylor / Geosyntec	9-21-20	1850	[illegible] / GEL	9/21	1850				
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	[illegible] / GEL	9/21	1950	Malia Markham / GEL	9/21/20	2110				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Markham / GEL	9/22/20	0925	[illegible] / Pace	9/22/20	926				
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	[illegible] / Pace	9/22/20	1215	Charles Healy	9/23/20	1245	4.1	Y	N	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Vatsh Taylor

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9-21-20

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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 5 of 5

Section A Required Client Information

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N)

Pace Project No./Lab ID: 92495894

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Chloride, Fluoride, Sulfate (N)	TDS (N)	App. III & IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-7	WT	G			–			7	3		3					1	X	X	X	X	X	N	pH =
2	MW-19	WT	G	9/21	1516	–	–	22	7	3		3					1	X	X	X	X	X	N	pH = 6.41 024
3	MW-20	WT	G				–		7	3		3					1	X	X	X	X	X	N	pH =
4	MW-24D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
5	MW-25D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
6	MW-26D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
7	MW-27D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
8	MW-28D	WT	G	9/21	1928	–	–	21	7	3		3					1	X	X	X	X	X	N	pH = 7.16 025
9	MW-29	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
10	MW-30D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
11	MW-40D	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =
12	FD-01	WT	G			–	–		7	3		3					1	X	X	X	X	X	N	pH =

ADDITIONAL COMMENTS

Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.

*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl

Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide

One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Thomas Kessler / Geosyntec	09/21	2000	Chad Ruppe / GEO	9/21	2000				
Chad Ruppe / GEO	9/21	2118	Malia Munbar / GEO	9/21/20	2110				
Malia Munbar / GEO	9/22/20	0925	[illegible] / Pace	9/22/20	925				
[illegible] / Pace	9/22/20	1215	Charles Hardy	9/22/20	1215	4.1	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Thomas J Kessler

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 09/21/20

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-10/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (use valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
	Requested Analysis Filtered (Y/N)																		N	N	N	N	N		92454414
1	~~MW-7~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
2	~~MW-19~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
3	~~MW-20~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
4	~~MW-24D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
5	~~MW-25D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
6	~~MW-26D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
7	~~MW-27D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
8	~~MW-28D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
9	~~MW-29~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
10	MW-30D	WT	G	9-24-20	1100	–	–	19	7	3		3					1		X	X	X	X	X	N	pH = 8.72 026
11	~~MW-40D~~	WT	G						7	3		3					1		X	X	X	X	X	N	pH =
12	FD-01	WT	G						7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	VASHISH THAKAR / GEOSYNTEC	9-24-20	1936	Chad Rose / SCS	9/24	1730
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl	Chad Rose / SCS	9/24	2030	Malia Mayberry / SCS	9/24/20	2030
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	Malia Mayberry / SCS	9/25/20	1045	/ Pace	9/25/20	1045
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs	/ Pace	9/25/20	1233	K. Williston / Pace	9/25/20	1233

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: VASHISH THAKAR

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-24-20

SAMPLE CONDITIONS			
Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.7	Y	N	Y

*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.

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Page: 2 of 2

Section A Required Client Information:

Company:	GA Power
Address:	Atlanta, GA
Email To:	SCS Contacts
Phone:	Fax:
Requested Due Date/TAT:	10 Day

Section B Required Project Information:

Report To:	SCS Contacts
Copy To:	Geosyntec Contacts
Purchase Order No.:	
Project Name:	Plant Hammond AP-1 Semiannual
Project Number:	GW6581B

Section C Invoice Information:

Attention:	Southern Co.
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	10839-4/10839-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate (N)	TDS (N)	Full App. III&IV Metals 6010/6020* (N)	RAD 226/228 (N)	Major ions** (N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92495894
1	~~MW-43D~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
2	~~MW-44D~~	~~WT~~	~~G~~						~~7~~	~~3~~		~~3~~					~~1~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH=~~
3	FB-01	WT	G	9/24	1850	–	–		7	3		3					1		X	X	X	X	X	N	027
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

(Rows 4–12 struck through, initialed "CR 9/24/2020")

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Chad Russo / geo	9/24	2030	Julia Mathur / geo	9/24/20	2030				
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Julia Mathur / geo	9/25/20	1045	[illegible] / Pace	9/25/20	1045				
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide	[illegible] / Pace	9/25/20	1233	K. Wellington / Pace	9/25/20	1233	1.7	Y	N	Y
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed (MM/DD/YY): 9/24/2020

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical (www.pacelabs.com)

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:
Company: GA Power
Address: Atlanta, GA
Email To: SCS Contacts
Phone: Fax:
Requested Due Date/TAT: 10 Day

Section B Required Project Information:
Report To: SCS Contacts
Copy To: Geosyntec Contacts
Purchase Order No.:
Project Name: Plant Hammond AP-1 Semiannual
Project Number: GW6581B

Section C Invoice Information:
Attention: Southern Co.
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Kevin Herring
Pace Profile #: 10839-10/10839-2

Page: 1 of 1

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER ☑ CCR
Site Location STATE: GA

Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes — MATRIX / CODE: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Requested Analysis Filtered (Y/N): N N N N N

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Collected Composite Start DATE	TIME	Composite End/Grab DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	App. III & IV Metals 6010/6020*	RAD 226/228	Major ions	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-7 (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
2	MW-19 (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
3	MW-20 (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
4	MW-24D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
5	MW-25D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
6	MW-26D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
7	MW-27D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
8	MW-28D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
9	MW-29 (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
10	MW-30D (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	pH=
11	MW-40D	WT	G	9/28	1515	-	-	27	7	3		3					1		X	X	X	X	X	N	pH= 7.59 Last sample 026
12	FD-01 (struck through)	WT	G			-	-		7	3		3					1		X	X	X	X	X	N	

ADDITIONAL COMMENTS

Please note dry wells, strike thorough any wells not sampled, and note when the last sample for the event has been taken.
*App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Mo, Se, Tl
Major ions**= Alk, Bicarb Alk, Fe, Mg, Mn, K, Na, Sulfide
One sample set submitted for HGWA-1, HGWA-2, HGWA-3, MW-43D, MW-44D but they will be reported for AP-1/2/3 SDGs

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible] / SCS	9/28	1845	[illegible]	9-28	1845
[illegible]	9-29	0752	Marlia Marling / GEO	9/29/20	0752
Marlia Marling / GEO	9/29/20	0855	[illegible] / Pace	9/29/20	855
[illegible] / Pace	9/29/20	1130	[illegible]	9/29/20	1130

SAMPLE CONDITIONS: Temp in °C: 5.6 | Received on Ice (Y/N): Y | Custody Sealed Cooler (Y/N): N | Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chad Russo
SIGNATURE of SAMPLER: [illegible]
DATE Signed (MM/DD/YY): 9/28/2020

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

November 25, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte
- Pace Analytical Services - Peachtree Corners, GA

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners
110 Technology Pkwy, Peachtree Corners, GA 30092
Florida DOH Certification #: E87315
Georgia DW Inorganics Certification #: 812
Georgia DW Microbiology Certification #: 812
North Carolina Certification #: 381
South Carolina Certification #: 98011001
Virginia Certification #: 460204

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92505474001	**HGWA-43D**	Water	11/10/20 10:21	11/11/20 12:12
92505474002	**EB-01**	Water	11/10/20 16:10	11/11/20 12:12
92505474003	**HGWA-44D**	Water	11/10/20 15:55	11/11/20 12:12
92505474004	**HGWA-44D FILTERED**	Water	11/10/20 16:30	11/11/20 12:12

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92505474001	**HGWA-43D**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92505474002	**EB-01**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92505474003	**HGWA-44D**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92505474004	**HGWA-44D FILTERED**	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-GA = Pace Analytical Services - Peachtree Corners, GA

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92505474001	**HGWA-43D**					
	Performed by	CUSTOMER			11/11/20 17:39	
	pH	7.27	Std. Units		11/11/20 17:39	
EPA 6010D	Calcium	63.3	mg/L	1.0	11/19/20 09:40	
EPA 6020B	Antimony	0.00043J	mg/L	0.0030	11/19/20 18:47	B
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	11/19/20 18:47	
EPA 6020B	Barium	0.25	mg/L	0.010	11/19/20 18:47	
EPA 6020B	Boron	0.057J	mg/L	0.10	11/19/20 18:47	
EPA 6020B	Lead	0.000069J	mg/L	0.0050	11/19/20 18:47	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	11/19/20 18:47	
EPA 6020B	Molybdenum	0.0072J	mg/L	0.010	11/19/20 18:47	
SM 2450C-2011	Total Dissolved Solids	307	mg/L	10.0	11/13/20 14:21	
EPA 300.0 Rev 2.1 1993	Chloride	4.4	mg/L	1.0	11/14/20 16:04	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	11/14/20 16:04	
EPA 300.0 Rev 2.1 1993	Sulfate	39.0	mg/L	1.0	11/14/20 16:04	
92505474002	**EB-01**					
SM 2450C-2011	Total Dissolved Solids	13.0	mg/L	10.0	11/13/20 14:21	
92505474003	**HGWA-44D**					
	Performed by	CUSTOMER			11/11/20 17:39	
	pH	7.84	Std. Units		11/11/20 17:39	
EPA 6010D	Calcium	33.6	mg/L	1.0	11/19/20 10:28	
EPA 6020B	Barium	0.38	mg/L	0.010	11/19/20 18:58	
EPA 6020B	Boron	0.29	mg/L	0.10	11/19/20 18:58	
EPA 6020B	Chromium	0.00089J	mg/L	0.010	11/19/20 18:58	
EPA 6020B	Lead	0.00020J	mg/L	0.0050	11/19/20 18:58	
EPA 6020B	Lithium	0.025J	mg/L	0.030	11/19/20 18:58	
EPA 6020B	Molybdenum	0.0018J	mg/L	0.010	11/19/20 18:58	
SM 2450C-2011	Total Dissolved Solids	287	mg/L	10.0	11/13/20 14:21	
EPA 300.0 Rev 2.1 1993	Chloride	7.8	mg/L	1.0	11/14/20 16:33	
EPA 300.0 Rev 2.1 1993	Fluoride	0.59	mg/L	0.10	11/14/20 16:33	
EPA 300.0 Rev 2.1 1993	Sulfate	6.3	mg/L	1.0	11/14/20 16:33	
92505474004	**HGWA-44D FILTERED**					
	Performed by	CUSTOMER			11/11/20 17:39	
	pH	7.84	Std. Units		11/11/20 17:39	
EPA 6010D	Calcium	27.0	mg/L	1.0	11/19/20 10:34	
EPA 6020B	Barium	0.39	mg/L	0.010	11/19/20 19:04	
EPA 6020B	Boron	0.27	mg/L	0.10	11/19/20 19:04	
EPA 6020B	Lithium	0.027J	mg/L	0.030	11/19/20 19:04	
EPA 6020B	Molybdenum	0.0015J	mg/L	0.010	11/19/20 19:04	
SM 2450C-2011	Total Dissolved Solids	301	mg/L	10.0	11/13/20 14:22	
EPA 300.0 Rev 2.1 1993	Chloride	7.6	mg/L	1.0	11/14/20 16:47	
EPA 300.0 Rev 2.1 1993	Fluoride	0.58	mg/L	0.10	11/14/20 16:47	
EPA 300.0 Rev 2.1 1993	Sulfate	5.9	mg/L	1.0	11/14/20 16:47	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Sample: HGWA-43D **Lab ID: 92505474001** Collected: 11/10/20 10:21 Received: 11/11/20 12:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		11/11/20 17:39		
pH	**7.27**	Std. Units			1		11/11/20 17:39		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**63.3**	mg/L	1.0	0.070	1	11/16/20 11:00	11/19/20 09:40	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	**0.00043J**	mg/L	0.0030	0.00028	1	11/19/20 08:40	11/19/20 18:47	7440-36-0	B
Arsenic	**0.0021J**	mg/L	0.0050	0.00078	1	11/19/20 08:40	11/19/20 18:47	7440-38-2	
Barium	**0.25**	mg/L	0.010	0.00071	1	11/19/20 08:40	11/19/20 18:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	11/19/20 08:40	11/19/20 18:47	7440-41-7	
Boron	**0.057J**	mg/L	0.10	0.0052	1	11/19/20 08:40	11/19/20 18:47	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	11/19/20 08:40	11/19/20 18:47	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	11/19/20 08:40	11/19/20 18:47	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	11/19/20 08:40	11/19/20 18:47	7440-48-4	
Lead	**0.000069J**	mg/L	0.0050	0.000036	1	11/19/20 08:40	11/19/20 18:47	7439-92-1	
Lithium	**0.0013J**	mg/L	0.030	0.00081	1	11/19/20 08:40	11/19/20 18:47	7439-93-2	
Molybdenum	**0.0072J**	mg/L	0.010	0.00069	1	11/19/20 08:40	11/19/20 18:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	11/19/20 08:40	11/19/20 18:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	11/19/20 08:40	11/19/20 18:47	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	11/16/20 08:00	11/18/20 13:55	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**307**	mg/L	10.0	10.0	1		11/13/20 14:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4.4**	mg/L	1.0	0.60	1		11/14/20 16:04	16887-00-6	
Fluoride	**0.19**	mg/L	0.10	0.050	1		11/14/20 16:04	16984-48-8	
Sulfate	**39.0**	mg/L	1.0	0.50	1		11/14/20 16:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Sample: EB-01 **Lab ID: 92505474002** Collected: 11/10/20 16:10 Received: 11/11/20 12:12 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	0.070	1	11/16/20 11:00	11/19/20 09:45	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	11/19/20 08:40	11/19/20 18:52	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	11/19/20 08:40	11/19/20 18:52	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	11/19/20 08:40	11/19/20 18:52	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	11/19/20 08:40	11/19/20 18:52	7440-41-7	
Boron	ND	mg/L	0.10	0.0052	1	11/19/20 08:40	11/19/20 18:52	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	11/19/20 08:40	11/19/20 18:52	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	11/19/20 08:40	11/19/20 18:52	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	11/19/20 08:40	11/19/20 18:52	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	11/19/20 08:40	11/19/20 18:52	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	11/19/20 08:40	11/19/20 18:52	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	11/19/20 08:40	11/19/20 18:52	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	11/19/20 08:40	11/19/20 18:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	11/19/20 08:40	11/19/20 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	0.00050	0.000078	1	11/16/20 08:00	11/18/20 13:57	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**13.0**	mg/L	10.0	10.0	1		11/13/20 14:21		
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		11/14/20 16:18	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/14/20 16:18	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/14/20 16:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Sample: HGWA-44D **Lab ID: 92505474003** Collected: 11/10/20 15:55 Received: 11/11/20 12:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		11/11/20 17:39		
pH	**7.84**	Std. Units			1		11/11/20 17:39		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**33.6**	mg/L	1.0	0.070	1	11/16/20 11:00	11/19/20 10:28	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	11/19/20 08:40	11/19/20 18:58	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	11/19/20 08:40	11/19/20 18:58	7440-38-2	
Barium	**0.38**	mg/L	0.010	0.00071	1	11/19/20 08:40	11/19/20 18:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	11/19/20 08:40	11/19/20 18:58	7440-41-7	
Boron	**0.29**	mg/L	0.10	0.0052	1	11/19/20 08:40	11/19/20 18:58	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	11/19/20 08:40	11/19/20 18:58	7440-43-9	
Chromium	**0.00089J**	mg/L	0.010	0.00055	1	11/19/20 08:40	11/19/20 18:58	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	11/19/20 08:40	11/19/20 18:58	7440-48-4	
Lead	**0.00020J**	mg/L	0.0050	0.000036	1	11/19/20 08:40	11/19/20 18:58	7439-92-1	
Lithium	**0.025J**	mg/L	0.030	0.00081	1	11/19/20 08:40	11/19/20 18:58	7439-93-2	
Molybdenum	**0.0018J**	mg/L	0.010	0.00069	1	11/19/20 08:40	11/19/20 18:58	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	11/19/20 08:40	11/19/20 18:58	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	11/19/20 08:40	11/19/20 18:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	11/16/20 08:00	11/18/20 14:00	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**287**	mg/L	10.0	10.0	1		11/13/20 14:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.8**	mg/L	1.0	0.60	1		11/14/20 16:33	16887-00-6	
Fluoride	**0.59**	mg/L	0.10	0.050	1		11/14/20 16:33	16984-48-8	
Sulfate	**6.3**	mg/L	1.0	0.50	1		11/14/20 16:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Sample: HGWA-44D FILTERED **Lab ID: 92505474004** Collected: 11/10/20 16:30 Received: 11/11/20 12:12 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		11/11/20 17:39		
pH	**7.84**	Std. Units			1		11/11/20 17:39		
6010D ATL ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	**27.0**	mg/L	1.0	0.070	1	11/16/20 11:00	11/19/20 10:34	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	11/19/20 08:40	11/19/20 19:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	11/19/20 08:40	11/19/20 19:04	7440-38-2	
Barium	**0.39**	mg/L	0.010	0.00071	1	11/19/20 08:40	11/19/20 19:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	11/19/20 08:40	11/19/20 19:04	7440-41-7	
Boron	**0.27**	mg/L	0.10	0.0052	1	11/19/20 08:40	11/19/20 19:04	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	11/19/20 08:40	11/19/20 19:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	11/19/20 08:40	11/19/20 19:04	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	11/19/20 08:40	11/19/20 19:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	11/19/20 08:40	11/19/20 19:04	7439-92-1	
Lithium	**0.027J**	mg/L	0.030	0.00081	1	11/19/20 08:40	11/19/20 19:04	7439-93-2	
Molybdenum	**0.0015J**	mg/L	0.010	0.00069	1	11/19/20 08:40	11/19/20 19:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	11/19/20 08:40	11/19/20 19:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	11/19/20 08:40	11/19/20 19:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00050	0.000078	1	11/16/20 08:00	11/18/20 14:02	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	**301**	mg/L	10.0	10.0	1		11/13/20 14:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7.6**	mg/L	1.0	0.60	1		11/14/20 16:47	16887-00-6	
Fluoride	**0.58**	mg/L	0.10	0.050	1		11/14/20 16:47	16984-48-8	
Sulfate	**5.9**	mg/L	1.0	0.50	1		11/14/20 16:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

QC Batch: 580529 | Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A | Analysis Description: 6010D ATL
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

METHOD BLANK: 3070802 Matrix: Water
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	11/19/20 06:54	

LABORATORY CONTROL SAMPLE: 3070803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3070804 3070805

Parameter	Units	92505541005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	9170 ug/L	1	1	173	169	16300	16000	75-125	2	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

QC Batch: 581474
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

METHOD BLANK: 3075459 Matrix: Water
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00037J	0.0030	0.00028	11/19/20 17:21	
Arsenic	mg/L	ND	0.0050	0.00078	11/19/20 17:21	
Barium	mg/L	ND	0.010	0.00071	11/19/20 17:21	
Beryllium	mg/L	ND	0.0030	0.000046	11/19/20 17:21	
Boron	mg/L	ND	0.10	0.0052	11/19/20 17:21	
Cadmium	mg/L	ND	0.0025	0.00012	11/19/20 17:21	
Chromium	mg/L	ND	0.010	0.00055	11/19/20 17:21	
Cobalt	mg/L	ND	0.0050	0.00038	11/19/20 17:21	
Lead	mg/L	ND	0.0050	0.000036	11/19/20 17:21	
Lithium	mg/L	ND	0.030	0.00081	11/19/20 17:21	
Molybdenum	mg/L	ND	0.010	0.00069	11/19/20 17:21	
Selenium	mg/L	ND	0.010	0.0016	11/19/20 17:21	
Thallium	mg/L	ND	0.0010	0.00014	11/19/20 17:21	

LABORATORY CONTROL SAMPLE: 3075460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Boron	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	0.1	0.10	103	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075461 3075462

Parameter	Units	92505482033 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	4	20	
Arsenic	mg/L	ND	0.1	0.1	0.095	0.096	95	96	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3075461 3075462

Parameter	Units	92505482033 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	ND	0.1	0.1	0.11	0.11	92	95	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	1	20	
Boron	mg/L	46.1 ug/L	1	1	0.96	0.98	91	94	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.096	0.098	96	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	4	20	
Cobalt	mg/L	ND	0.1	0.1	0.095	0.096	94	96	75-125	1	20	
Lead	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.095	0.093	95	92	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.096	0.099	96	99	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.094	0.095	93	95	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.095	0.096	95	96	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

QC Batch: 580637
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

METHOD BLANK: 3071454 Matrix: Water
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	11/17/20 13:51	

LABORATORY CONTROL SAMPLE: 3071455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3071456 3071457

Parameter	Units	92505989001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	0.45 ug/L	0.0025	0.0025	0.0030	0.0029	101	97	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

QC Batch: 580276
QC Batch Method: SM 2450C-2011
Analysis Method: SM 2450C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

METHOD BLANK: 3069492 Matrix: Water
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	11/13/20 14:19	

LABORATORY CONTROL SAMPLE: 3069493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	403	101	84-108	

SAMPLE DUPLICATE: 3069494

Parameter	Units	92505565001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	385	388	1	10	

SAMPLE DUPLICATE: 3069495

Parameter	Units	92505474003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	287	293	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

QC Batch: 580375
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

METHOD BLANK: 3070250 Matrix: Water
Associated Lab Samples: 92505474001, 92505474002, 92505474003, 92505474004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/14/20 12:56	
Fluoride	mg/L	ND	0.10	0.050	11/14/20 12:56	
Sulfate	mg/L	ND	1.0	0.50	11/14/20 12:56	

LABORATORY CONTROL SAMPLE: 3070251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.0	100	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	49.9	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3070252 3070253

Parameter	Units	92505439001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.5	50	50	65.1	67.1	99	103	90-110	3	10	
Fluoride	mg/L	9.9	2.5	2.5	1.5	11.3	-333	58	90-110	152	10	M6,R1
Sulfate	mg/L	635	50	50	275	677	-721	83	90-110	85	10	M6,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3070254 3070255

Parameter	Units	92505478001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.7	50	50	53.8	54.8	102	104	90-110	2	10	
Fluoride	mg/L	0.065J	2.5	2.5	2.7	2.8	105	108	90-110	3	10	
Sulfate	mg/L	2.3	50	50	52.6	53.9	101	103	90-110	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1	RPD value was outside control limits.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 BKG 02
Pace Project No.: 92505474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92505474001	**HGWA-43D**				
92505474003	**HGWA-44D**				
92505474004	**HGWA-44D FILTERED**				
92505474001	**HGWA-43D**	EPA 3010A	580529	EPA 6010D	580567
92505474002	**EB-01**	EPA 3010A	580529	EPA 6010D	580567
92505474003	**HGWA-44D**	EPA 3010A	580529	EPA 6010D	580567
92505474004	**HGWA-44D FILTERED**	EPA 3010A	580529	EPA 6010D	580567
92505474001	**HGWA-43D**	EPA 3005A	581474	EPA 6020B	581563
92505474002	**EB-01**	EPA 3005A	581474	EPA 6020B	581563
92505474003	**HGWA-44D**	EPA 3005A	581474	EPA 6020B	581563
92505474004	**HGWA-44D FILTERED**	EPA 3005A	581474	EPA 6020B	581563
92505474001	**HGWA-43D**	EPA 7470A	580637	EPA 7470A	580829
92505474002	**EB-01**	EPA 7470A	580637	EPA 7470A	580829
92505474003	**HGWA-44D**	EPA 7470A	580637	EPA 7470A	580829
92505474004	**HGWA-44D FILTERED**	EPA 7470A	580637	EPA 7470A	580829
92505474001	**HGWA-43D**	SM 2450C-2011	580276		
92505474002	**EB-01**	SM 2450C-2011	580276		
92505474003	**HGWA-44D**	SM 2450C-2011	580276		
92505474004	**HGWA-44D FILTERED**	SM 2450C-2011	580276		
92505474001	**HGWA-43D**	EPA 300.0 Rev 2.1 1993	580375		
92505474002	**EB-01**	EPA 300.0 Rev 2.1 1993	580375		
92505474003	**HGWA-44D**	EPA 300.0 Rev 2.1 1993	580375		
92505474004	**HGWA-44D FILTERED**	EPA 300.0 Rev 2.1 1993	580375		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: G A Power

Project #: WO# : 92505474

92505474

Courier: ☐ Commercial ☐ Fed Ex ☑ Pace ☐ UPS ☐ USPS ☐ Other:____ ☐ Client

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 11/11/20

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230 ☐ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.6 °C Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 3.6

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☐ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☐ Yes	☑ No	☐ N/A	9. FB-01 is Labeled EB-01 11/10/20 @1810
-Includes Date/Time/ID/Analysis Matrix: W				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # **WO# : 92505474**

PM: KLH1 Due Date: 11/25/20

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BPIN	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		—	—		—																							
2		—	—		—																							
3		—	—		—																							
4		—	—		—																							
5		—	—		—																							
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

Section A Required Client Information:	Section B Required Project Information	Section C Invoice Information
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No:	Pace Quote Reference:
Phone: Fax:	Project Name: Plant Hammond AP-1 BKG 02	Pace Project Manager: Kevin Herring
Requested Due Date/TAT: 10 Day	Project Number: GW6581B	Pace Profile #: 10839-4

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App. III&IV Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92505474
1	HGWA-43D	WT	G	11/10	1021	-	-	18	5	2		3							X	X	X	X	N	pH = 7.28 @ 7.27
2	~~HGWA-44D~~	~~WT~~	~~G~~			-	-		~~5~~	~~2~~		~~3~~							~~X~~	~~X~~	~~X~~	~~X~~	~~N~~	~~pH =~~
3	FB-01	WT	G	11/10	1610	-	-	21	5	2		3							X	X	X	X	N	
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, stnke thorugh any wells not sampled, and note when the last sample for the event has been taken.	Thomas Hessler / Geosyn	11/11	1212	Ryan Williams / Pace	11/11/12	1212	
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Ryan Williams / Pace	11/11/12	1427				
One sample set submitted for HGWA-43D and HGWA-44D but they will be reported for AP-1/2/3 SDGs							
One sample set submitted for FB-01 but it will be reported for AP-1/2/3/4 SDGs							

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER: Thomas Hessler			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY): 11/10/12					

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 BKG 02	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-4

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information — SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App. III&IV Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	42605474 Pace Project No./ Lab I.D.
																				N	N	N	N	N		
1	~~HGWA-43D~~		WT	G			-	-		5	2	3								X	X	X	X	N	pH =	
2	HGWA-44D		WT	G	11/10/2020	1555	-	-	19	5	2	3								X	X	X	X	N	pH = 7.84	ED 11/10/2020
3	~~FB-01~~		~~WT~~	~~G~~						~~5~~	~~2~~	~~3~~								X	X	X	X	~~N~~		
4	HGWA-44D, Filtered		WT	G	11/10/2020	1630	-	-	19	5	2	3								X	X	X	X		pH=7.84	
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ED 11/10/2020

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Shawn Litt / Geosyntec	11/10/2020	17:35	Thomas Kessler / Geo	11/10	1735	
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Thomas Kessler / Geo	11/11	1212	Ryan Williams / Pace	11/11/20	1212	
One sample set submitted for HGWA-43D and HGWA-44D but they will be reported for AP-1/2/3 SDGs	Ryan Williams / Pace	11/11/20	1427				
One sample set submitted for FB-01 but it will be reported for AP-1/2/3/4 SDGs							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Shawn Litt

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/10/2020

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

December 07, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on November 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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(770)734-4200

SAMPLE SUMMARY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92505462001	**HGWA-43D**	Water	11/10/20 10:21	11/11/20 12:12
92505462002	**EB-01**	Water	11/10/20 16:10	11/11/20 12:12
92505462003	**HGWA-44D**	Water	11/10/20 15:55	11/11/20 12:12
92505462004	**HGWA-44D FILTERED**	Water	11/10/20 16:30	11/11/20 12:12

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92505462001	**HGWA-43D**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92505462002	**EB-01**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92505462003	**HGWA-44D**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92505462004	**HGWA-44D FILTERED**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92505462001	**HGWA-43D**					
EPA 9315	Radium-226	0.150 ± 0.247 (0.551) C:76% T:NA	pCi/L		12/01/20 07:46	
EPA 9320	Radium-228	0.638 ± 0.432 (0.836) C:78% T:81%	pCi/L		12/03/20 11:11	
Total Radium Calculation	Total Radium	0.788 ± 0.679 (1.39)	pCi/L		12/04/20 15:46	
92505462002	**EB-01**					
EPA 9315	Radium-226	0.0159 ± 0.209 (0.560) C:78% T:NA	pCi/L		12/01/20 07:46	
EPA 9320	Radium-228	-0.184 ± 0.389 (0.935) C:74% T:80%	pCi/L		12/03/20 11:11	
Total Radium Calculation	Total Radium	0.0159 ± 0.598 (1.50)	pCi/L		12/04/20 15:46	
92505462003	**HGWA-44D**					
EPA 9315	Radium-226	0.244 ± 0.219 (0.389) C:95% T:NA	pCi/L		12/01/20 07:46	
EPA 9320	Radium-228	0.0487 ± 0.339 (0.777) C:78% T:90%	pCi/L		12/03/20 11:12	
Total Radium Calculation	Total Radium	0.293 ± 0.558 (1.17)	pCi/L		12/04/20 15:46	
92505462004	**HGWA-44D FILTERED**					
EPA 9315	Radium-226	0.0162 ± 0.234 (0.615) C:84% T:NA	pCi/L		12/01/20 08:45	
EPA 9320	Radium-228	0.0824 ± 0.364 (0.826) C:76% T:81%	pCi/L		12/03/20 11:12	
Total Radium Calculation	Total Radium	0.0986 ± 0.598 (1.44)	pCi/L		12/04/20 15:46	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Sample: HGWA-43D **Lab ID: 92505462001** Collected: 11/10/20 10:21 Received: 11/11/20 12:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.150 ± 0.247 (0.551) C:76% T:NA**	pCi/L	12/01/20 07:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.638 ± 0.432 (0.836) C:78% T:81%**	pCi/L	12/03/20 11:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.788 ± 0.679 (1.39)**	pCi/L	12/04/20 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Sample: EB-01 **Lab ID: 92505462002** Collected: 11/10/20 16:10 Received: 11/11/20 12:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0159 ± 0.209 (0.560) C:78% T:NA**	pCi/L	12/01/20 07:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.184 ± 0.389 (0.935) C:74% T:80%**	pCi/L	12/03/20 11:11	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0159 ± 0.598 (1.50)**	pCi/L	12/04/20 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Sample: HGWA-44D **Lab ID: 92505462003** Collected: 11/10/20 15:55 Received: 11/11/20 12:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.244 ± 0.219 (0.389) C:95% T:NA**	pCi/L	12/01/20 07:46	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0487 ± 0.339 (0.777) C:78% T:90%**	pCi/L	12/03/20 11:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.293 ± 0.558 (1.17)**	pCi/L	12/04/20 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Sample: HGWA-44D FILTERED **Lab ID: 92505462004** Collected: 11/10/20 16:30 Received: 11/11/20 12:12 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0162 ± 0.234 (0.615) C:84% T:NA**	pCi/L	12/01/20 08:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0824 ± 0.364 (0.826) C:76% T:81%**	pCi/L	12/03/20 11:12	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.0986 ± 0.598 (1.44)**	pCi/L	12/04/20 15:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

QC Batch: 423681
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92505462001, 92505462002, 92505462003, 92505462004

METHOD BLANK: 2048181 Matrix: Water
Associated Lab Samples: 92505462001, 92505462002, 92505462003, 92505462004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.309 ± 0.317 (0.625) C:74% T:NA	pCi/L	12/01/20 07:24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

QC Batch: 423745
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92505462001, 92505462002, 92505462003, 92505462004

METHOD BLANK: 2048526 Matrix: Water
Associated Lab Samples: 92505462001, 92505462002, 92505462003, 92505462004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.623 ± 0.506 (1.00) C:63% T:69%	pCi/L	12/03/20 11:13	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-1 BKG 02 RADS
Pace Project No.: 92505462

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92505462001	**HGWA-43D**	EPA 9315	423681		
92505462002	**EB-01**	EPA 9315	423681		
92505462003	**HGWA-44D**	EPA 9315	423681		
92505462004	**HGWA-44D FILTERED**	EPA 9315	423681		
92505462001	**HGWA-43D**	EPA 9320	423745		
92505462002	**EB-01**	EPA 9320	423745		
92505462003	**HGWA-44D**	EPA 9320	423745		
92505462004	**HGWA-44D FILTERED**	EPA 9320	423745		
92505462001	**HGWA-43D**	Total Radium Calculation	425856		
92505462002	**EB-01**	Total Radium Calculation	425856		
92505462003	**HGWA-44D**	Total Radium Calculation	425856		
92505462004	**HGWA-44D FILTERED**	Total Radium Calculation	425856		

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☑ Kernersville ☐

Sample Condition Upon Receipt

Client Name: GA Power

Project #: WO# : 92505462

92505462

Courier: ☐ Commercial ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☐ No

Date/Initials Person Examining Contents: 11/11/20

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other

Biological Tissue Frozen? ☐ Yes ☑ No ☐ N/A

Thermometer: ☑ IR Gun ID: 230 ☐ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 3.6 °C **Correction Factor:** Add/Subtract (°C) 0

Temp should be above freezing to 6°C
☐ Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 3.6

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: W	☑ Yes	☐ No	☐ N/A	9. FB-01 is Labeled EB-01 11/10/20 @ 1810
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☐ No	☑ N/A	10.
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ **Date:** _____

Project Manager SRF Review: _____ **Date:** _____

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

****Bottom half of box is to list number of bottles**

Project # WO#: 92505462

PM: KLH1 Due Date: 12/04/20

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1		1																				1				
2		1	1		1																				1				
3		1	1		1																				1				
4		1	1		1																				1				
5		1	1		1																				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 DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: GA Power	Report To: SCS Contacts	Attention: Southern Co.
Address: Atlanta, GA	Copy To: Geosyntec Contacts	Company Name:
		Address:
Email To: SCS Contacts	Purchase Order No:	Pace Quote Reference:
Phone: Fax:	Project Name: Plant Hammond AP-1 BKG 02	Pace Project Manager: Kevin Herring
Requested Due Date/TAT: 10 Day	Project Number: GW6581B	Pace Profile #: 10839-4

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER CCR

Site Location STATE: GA

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	Valid Matrix Codes: MATRIX / CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App III&IV Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																				N	N	N	N	N	
1	HGWA-43D	WT	G	11/10	1021	-	-	21	5	2		3						X	X	X	X	N	pH = 7.25 7.27
2	~~HGWA-44D~~	~~WT~~	~~G~~			-	-		~~5~~	~~2~~		~~3~~						~~X~~	~~X~~	~~X~~	~~X~~	N	~~pH =~~
3	FB-01	WT	G	11/10	1610	-	-	21	5	2		3						X	X	X	X	N	
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Thomas Hessler / Geosyntec	11/11	1212	Ryan Williams / Pace	11/11/22	1212	
*Full App. II & IV Metals=Sb As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Ryan Williams / Pace	11/11/22	1427				
One sample set submitted for HGWA-43D and HGWA-44D but they will be reported for AP-1/2/3 SDGs							
One sample set submitted for FB-01 but it will be reported for AP-1/2/3/4 SDGs							

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Thomas Hessler					
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): 11/10/22				

*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.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

Section A Required Client Information		Section B Required Project Information		Section C Invoice Information	
Company:	GA Power	Report To:	SCS Contacts	Attention:	Southern Co.
Address:	Atlanta, GA	Copy To:	Geosyntec Contacts	Company Name:	
				Address:	
Email To:	SCS Contacts	Purchase Order No.:		Pace Quote Reference:	
Phone:	Fax:	Project Name:	Plant Hammond AP-1 BKG 02	Pace Project Manager:	Kevin Herring
Requested Due Date/TAT:	10 Day	Project Number:	GW6581B	Pace Profile #:	10839-4

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☒ OTHER ~~OGR~~

Site Location STATE: GA

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE DATE	COMPOSITE TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride, Fluoride, Sulfate	TDS	Full App. III&IV Metals 6010/6020*	RAD 226/228	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 62505462
																		Requested Analysis Filtered (Y/N)	N	N	N	N		
1	~~HGWA-43D~~	WT	G			-	-		5	2		3							X	X	X	X	N	pH =
2	HGWA-44D	WT	G	11/10/2020	1555	-	-	19	5	2		3							X	X	X	X	N	pH = 7.84 (10) 11/10/2020
3	~~FB-01~~	WT	G			-	-		5	2		3							X	X	X	X	N	
4	HGWA-44D, filtered	WT	G	11/10/2020	1630	-	-	19	5	2		3							X	X	X	X		pH = 7.84
5																								
6																								
7																								
8																								
9																					(10)			11/10/2020
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please note dry wells, strike thorugh any wells not sampled, and note when the last sample for the event has been taken.	Shawn Litz / Geosyntec	11/10/2020	17:35	Thomas Kessler / Geosyntec	11/10	1735	
*Full App. III & IV Metals=Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Pb, Li, Hg, Mo, Se, Tl	Thomas Kessler / Geosyntec	11/11	1212	Ryan Williams / Pace	11/11/20	1212	
One sample set submitted for HGWA-43D and HGWA-44D but they will be reported for AP-1/2/3 SDGs	Ryan Williams / Pace	11/11/20	1427				
One sample set submitted for FB-01 but it will be reported for AP-1/2/3/4 SDGs							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Shawn Litz

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11/10/2020

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.

Quality Control Sample Performance Assessment

Test: Ra-226
Analyst: JJY
Date: 11/30/2020
Worklist: 57449
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2048181
MB concentration:	0.309
M/B Counting Uncertainty:	0.314
MB MDC:	0.625
MB Numerical Performance Indicator:	1.93
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS57449	LCSD57449
Count Date:	12/1/2020	12/1/2020
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.042	24.042
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.516	0.515
Target Conc. (pCi/L, g, F):	4.655	4.672
Uncertainty (Calculated):	0.056	0.056
Result (pCi/L, g, F):	5.057	4.315
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.815	0.759
Numerical Performance Indicator:	0.96	-0.92
Percent Recovery:	108.63%	92.35%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS57449	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD57449	
Sample Result (pCi/L, g, F):	5.057	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.815	
Sample Duplicate Result (pCi/L, g, F):	4.315	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.759	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	1.306	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	16.19%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

12/1/20

Quality Control Sample Performance Assessment

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Test:	Ra-226
Analyst:	JJY
Date:	11/30/2020
Worklist:	57449
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2048181
MB concentration:	0.309
M/B Counting Uncertainty:	0.314
MB MDC:	0.625
MB Numerical Performance Indicator:	1.93
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCS57449	LCSD57449
Count Date:	12/1/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.042	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.516	
Target Conc. (pCi/L, g, F):	4.655	
Uncertainty (Calculated):	0.056	
Result (pCi/L, g, F):	5.057	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.815	
Numerical Performance Indicator:	0.96	
Percent Recovery:	108.63%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	92505462001	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	92505462001DUP	
Sample Result (pCi/L, g, F):	0.150	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.246	
Sample Duplicate Result (pCi/L, g, F):	0.399	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.289	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	-1.282	92505462001
Duplicate RPD:	90.57%	92505462001DUP
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Fail***	
% RPD Limit:	25%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

~~***Batch must be re-prepped due to unacceptable precision~~ DNPI < 3
JJY 12-1-20

Quality Control Sample Performance Assessment

Pace Analytical
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Test:	Ra-228
Analyst:	VAL
Date:	11/25/2020
Worklist:	57465
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2048526
MB concentration:	0.623
M/B 2 Sigma CSU:	0.506
MB MDC:	1.002
MB Numerical Performance Indicator:	2.42
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS57465	LCSD57465
Count Date:	12/3/2020	12/3/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	37.408	37.408
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.805	0.826
Target Conc. (pCi/L, g, F):	4.646	4.527
Uncertainty (Calculated):	0.228	0.222
Result (pCi/L, g, F):	3.570	4.606
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.862	1.105
Numerical Performance Indicator:	-2.37	0.14
Percent Recovery:	76.84%	101.73%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date:		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL):		
Spike Volume Used in MS (mL):		
Spike Volume Used in MSD (mL):		
MS Aliquot (L, g, F):		
MS Target Conc.(pCi/L, g, F):		
MSD Aliquot (L, g, F):		
MSD Target Conc. (pCi/L, g, F):		
MS Spike Uncertainty (calculated):		
MSD Spike Uncertainty (calculated):		
Sample Result:		
Sample Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
MS Numerical Performance Indicator:		
MSD Numerical Performance Indicator:		
MS Percent Recovery:		
MSD Percent Recovery:		
MS Status vs Numerical Indicator:		
MSD Status vs Numerical Indicator:		
MS Status vs Recovery:		
MSD Status vs Recovery:		
MS/MSD Upper % Recovery Limits:		
MS/MSD Lower % Recovery Limits:		

Duplicate Sample Assessment		
Sample I.D.:	LCS57465	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD57465	
Sample Result (pCi/L, g, F):	3.570	
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.862	
Sample Duplicate Result (pCi/L, g, F):	4.606	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.105	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-1.448	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	27.88%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

Matrix Spike/Matrix Spike Duplicate Sample Assessment		
Sample I.D.		
Sample MS I.D.		
Sample MSD I.D.		
Sample Matrix Spike Result:		
Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
Sample Matrix Spike Duplicate Result:		
Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
Duplicate Numerical Performance Indicator:		
(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:		
MS/ MSD Duplicate Status vs Numerical Indicator:		
MS/ MSD Duplicate Status vs RPD:		
% RPD Limit:		

Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

12-4-20

Data Validation Reports

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date: August 11, 2020

To: Whitney Law

From: Kristoffer Henderson

CC: J. Caprio

Subject: Stage 2A Data Validation - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2629703 and 30353287

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-two aqueous samples, one field duplicate sample and one field blank, collected March 2-4, 2020, 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 (US) Environmental Protection Agency (EPA) Methods 3005A/6020B
- Mercury by USEPA Method 7470A

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Fluoride by USEPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by USEPA Method 9315
- Radium-228 by USEPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); 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
2629703001	MW-20
2629703002	FB-01
2629703003	MW-29
2629703004	MW-5
2629703008	MW-6
2629703009	MW-7
2629703010	HGWC-10
2629703011	HGWC-11
2629703012	HGWC-12
2629703013	MW-25D
2629703014	HGWC-8
2629703015	MW-30D

Laboratory ID	Client ID
2629703016	HGWC-7
2629703017	MW-28D
2629703018	MW-24D
2629703019	FD-02
2629703020	HGWC-13
2629703021	MW-19
2629703022	HGWC-9
2629703023	MW-26D
2629703024	MW-27D
2629714001	HGWA-1
2629714002	HGWA-2
2629714003	HGWA-3

The samples in laboratory report 2629703 were received within 0-6 degrees Celsius (^{o}C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 2629703: Incorrect error corrections were observed on the COC, instead of the proper procedure of a single strike through, correction, and initials and date of person making the corrections.
- 2629703: The relinquished by signatures, dates and times were not documented for the third sample transfer on the pages 1- 5, 8 and 10 of the COC.

- 2629703: The received by signature, date and time were not documented for the fourth sample transfer on page 6 of the COC.
- 2629703: The relinquished by year was not documented for the third sample transfer, the received by signature, date and time were not documented for the fourth sample transfer, and the year was not documented for the collection times for the samples listed on page 7 of the COC. The samples were logged in with the collection year of 2020.
- 2629703: The relinquished by signature, date and time were not documented for the fourth sample transfer and the year was not documented for the collection times for the samples listed on page 9 of the COC. The samples were logged in with the collection year of 2020.
- 2629703: The relinquished by signature, date and time were not documented for the fourth sample transfer on page 10 of the COC.
- 30353287: The relinquished by signature, date and time were not documented on page 1 of the COC.
- 30353287: The signatures, dates and times for the sample transfers for pages 3-4 of the COC were documented on separate pages.
- 30353287: The relinquished by signature, date and time were not documented on page 4 of the COC.

The field pH data included with laboratory report 2629703 were not validated.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3005A/6020B (Mercury evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four method blanks were reported (batches 44279, 44398, 44440 and 44486). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exceptions.

Antimony was detected at estimated concentrations greater than the MDL and less than the reporting limit (RL) in the method blanks in batches 44279 and 44486. Therefore, the estimated antimony concentrations in the associated samples were U qualified as not detected at the RL.

Chromium was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 44440. Therefore, the estimated chromium concentrations in the associated samples were U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-24D	Antimony	0.0017	J B	0.0030	U	3
FD-02	Antimony	0.00084	J B	0.0030	U	3
HGWC-13	Antimony	0.00061	J B	0.0030	U	3
HGWC-9	Antimony	0.00032	J B	0.0030	U	3
MW-26D	Antimony	0.0020	J B	0.0030	U	3
MW-27D	Antimony	0.00037	J B	0.0030	U	3
MW-30D	Chromium	0.0013	J B	0.010	U	3
HGWC-7	Chromium	0.0016	J B	0.010	U	3

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL
B-laboratory flag indicating analyte was detected in both the method blank and sample
* 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

1.4 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 MW-6 and MW-28D. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exception.

The recovery of barium in the MSD using sample MW-28D was high and outside the laboratory specified acceptance criteria. Since the barium concentration in sample MW-28D was greater than four times the spiked concentration, no qualifications were applied to the data.

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.

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). Four LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

One field blank was collected with the sample set, FB-01. Metals were not detected in the field blank above the MDLs.

1.8 Field Duplicate

One field duplicate sample was collected with the sample set, FD-02. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, HGWC-13.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The

laboratory flags B and M1 used in the level II report were not included in the EDD. No other 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 these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

2.2 Holding Time

The holding time for mercury analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four method blanks were reported (batches 44210, 44366, 44367 and 44416). 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). Two sample set specific MS/MSD pairs were reported using samples MW-5 and HGWC-13. 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). Four LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Equipment Blank

An equipment blank was not collected with the sample set.

2.7 Field Blank

One field blank was collected with the sample set, FB-01. 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, FD-02. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, HGWC-13.

2.9 Sensitivity

The samples were reported to the MDL. No elevated nondetect 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 FLUORIDE

The samples were analyzed for fluoride 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 Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The fluoride data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

3.2 Holding Times

The holding time for the fluoride analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported (batches 529175, 529177 and 529390). Fluoride was not detected in the method blanks above the MDL.

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, using

samples MW-25D and HGWC-9. The recovery and RPD results were within the laboratory specified acceptance criteria.

Four batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

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). Three LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

3.6 Equipment Blank

An equipment blank was not collected with the sample set.

3.7 Field Blank

One field blank was collected with the sample set, FB-01. Fluoride was not detected in the field blank above the MDL.

3.8 Field Duplicate

One field duplicate sample was collected with the sample set, FD-02. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, HGWC-13.

3.9 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

3.10 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.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by USEPA method 9315, radium-228 by USEPA 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

4.1 Overall Assessment

The radium-226 and radium-228 data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

4.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported for the radium-228 data (batches 387516, 387667 and 387208). Four method blanks were reported for the radium-226 data (batches 388320, 387666, 387205 and 387515). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exceptions.

Radium-226 was detected above the MDCs in the method blanks in batches 388320 (0.387 pCi/L), 387666 (0.516 pCi/L), 387205 (0.605 pCi/L) and 387515 (0.400 pCi/L). Therefore, the

radium-226 concentrations in the associated samples less than the method blank concentrations were U qualified as not detected at the reported concentrations and the radium-226 concentrations in the associated samples greater than the method blank concentrations were J+ qualified as estimated with high bias.

In addition, the combined radium-226 + 228 concentrations in samples MW-7, MW-25D, MW-28D, FD-02, MW-19, HGWC-9, MW-27D and HGWA-2 were J+ qualified as estimated with high bias, based on professional and technical judgment.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
MW-20	Radium-226	0.653	NA	0.653	J+	3
FB-01	Radium-226	0.367	NA	0.367	U	3
MW-29	Radium-226	0.413	NA	0.413	J+	3
MW-5	Radium-226	0.408	NA	0.408	J+	3
MW-6	Radium-226	0.614	NA	0.614	J+	3
MW-7	Radium-226	0.434	NA	0.434	J+	3
MW-7	Combined Radium 226 + 228	1.15	NA	1.15	J+	3
HGWC-11	Radium-226	0.523	NA	0.523	J+	3
HGWC-12	Radium-226	0.631	NA	0.631	J+	3
MW-25D	Radium-226	0.663	NA	0.663	J+	3
MW-25D	Combined Radium 226 + 228	1.36	NA	1.36	J+	3
HGWC-8	Radium-226	0.493	NA	0.493	U	3
MW-30D	Radium-226	0.332	NA	0.332	U	3
HGWC-7	Radium-226	0.510	NA	0.510	J+	3
MW-28D	Radium-226	0.904	NA	0.904	J+	3
MW-28D	Combined Radium 226 + 228	1.31	NA	1.31	J+	3
MW-24D	Radium-226	0.255	NA	0.255	U	3
FD-02	Radium-226	0.650	NA	0.650	J+	3
FD-02	Combined Radium 226 + 228	1.17	NA	1.17	J+	3
HGWC-13	Radium-226	0.486	NA	0.486	J+	3
MW-19	Radium-226	0.542	NA	0.542	J+	3
MW-19	Combined Radium 226 + 228	1.04	NA	1.04	J+	3
HGWC-9	Radium-226	0.557	NA	0.557	J+	3
HGWC-9	Combined Radium 226 + 228	1.03	NA	1.03	J+	3
MW-26D	Radium-226	0.933	NA	0.933	J+	3
MW-27D	Radium-226	0.904	NA	0.904	J+	3
MW-27D	Combined Radium 226 + 228	1.12	NA	1.12	J+	3
HGWA-1	Radium-226	0.577	NA	0.577	U	3
HGWA-2	Radium-226	0.903	NA	0.903	J+	3
HGWA-2	Combined Radium 226 + 228	1.58	NA	1.58	J+	3

pCi/L- picocuries per liter
NA-not applicable

4.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Three LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory specified acceptance criteria, with the following exception.

The recovery of radium-228 in the LCS in the batch 387208 was low and outside the laboratory specified acceptance criteria. Therefore, the non-detect radium-228 results in the associated samples were UJ qualified as estimated less than the MDC. Also, the non-detect combined radium 226 + 228 results in samples HGWA-1 and HGWA-3 were UJ qualified as estimated less than the MDC and the combined radium 226 + 228 concentration in sample HGWA-2 was J qualified as estimated.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
HGWA-1	Radium-228	0.0334	U	0.0334	UJ	5
HGWA-1	Combined Radium 226 + 228	0.610	U	0.610	UJ	5
HGWA-2	Radium-228	0.680	U	0.680	UJ	5
HGWA-2	Combined Radium 226 + 228	1.58	NA	1.58	J	5
HGWA-3	Radium-228	0.0192	U	0.0192	UJ	5
HGWA-3	Combined Radium 226 + 228	0.249	U	0.249	UJ	5

pCi/L- picocuries per liter
U-not detected at or above the MDC
NA-not applicable

4.6 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported for radium-226 using samples MW-28D, HGWC-8 and MW-28D. The RER (2σ) results were within the laboratory specified acceptance criteria.

One batch laboratory duplicate was also reported for radium-226. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory specified acceptance criteria.

4.8 Equipment Blank

An equipment blank was not collected with the sample set.

4.9 Field Blank

One field blank was collected with the sample set, FB-01. Radium--228 was not detected in the field blank above the MDC.

Radium-226 (0.367 pCi/L) was detected in FB-01 at a concentration greater than the MDC. Since the radium-226 concentration in FB-01 was U qualified as not detected due to method blank contamination, no additional qualifications were applied to the data, based on professional and technical judgment.

4.10 Field Duplicate

One field duplicate sample was collected with the sample set, FD-02. Acceptable precision (RER (2σ) < 3) was demonstrated between the field duplicate and the original sample, HGWC-13.

4.11 Sensitivity

The samples were reported to the MDCs. No elevated nondetect results were reported.

4.12 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.

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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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date:	August 11, 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2630471 and 30356790**

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-two aqueous samples, one field duplicate sample and one field blank, collected 25 March - 2 April 2020, 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:

- Calcium by United States (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Metals by USEPA Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by USEPA Method 9315
- Radium-228 by USEPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); 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
2630471001	HGWA-1
2630471002	HGWA-3
2630471003	HGWA-2
2630471004	HGWC-12
2630471005	MW-25D
2630471006	MW-19
2630471007	MW-5
2630471008	HGWC-7
2630471009	MW-28D
2630471010	MW-20
2630471011	HGWC-8
2630471012	MW-6

Laboratory ID	Client ID
2630471013	FB-01
2630471014	MW-7
2630471015	MW-24D
2630471016	HGWC-13
2630471017	MW-29
2630471018	HGWC-11
2630471019	MW-26D
2630471020	HGWC-9
2630471021	MW-30D
2630471022	FD-01
2630471023	HGWC-10
2630471024	MW-27D

The samples in laboratory report 2630471 and 30356790 were received within 0-6 degrees Celsius (^{o}C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 2630471: The year was documented for the collection times for the samples listed on pages 1,4-5 of the COC. The samples were logged in with the collection year 2020.
- 30356790: The relinquished by signature, date and time were not documented on page 1 of the COC.
- 30356790: The signatures, dates and times for the sample transfer for page 3 of the COC were not documented.

- 30356790: The signature, date and time for the sample transfers for pages 4-5 of the COC were only documented on page 5 and the signature, date and time for the sample transfer for pages 6-7 were only documented on page 7 of the COC.

The field pH data included with laboratory report 2629703 were not validated.

1.0 METALS

The samples were analyzed for calcium by USEPA methods 3010A/6010D and metals by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
⊗ Field Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Thirteen method blanks were reported (batches 45121,

45172, 45185, 45190, 45218, 45249, 45281, 45112, 45171, 45184, 45189, 45226 and 45280). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exceptions.

Arsenic was detected in the method blanks in batches 45189 and 45226 at estimated concentrations greater than the MDL and less than the RL. Therefore, the estimated arsenic concentrations in the associated samples were U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
MW-29	Arsenic	0.00037	J B	0.005	U	3
HGWC-11	Arsenic	0.0022	J B	0.005	U	3

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL
B-laboratory flag indicating analyte was detected in both the method blank and sample
* 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

1.4 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). Three sample set specific MS/MSD pairs were reported for calcium using samples MW-25D, HGWC-11 and HGWC-10 and one sample set specific MS/MSD pair was reported for metals using sample HGWC-11. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of calcium in the MS/MSD pairs using samples HGWC-11 and HGWC-10 were high and outside the laboratory specified acceptance criteria. Since the calcium concentrations in samples HGWC-11 and HGWC-10 were greater than four times the spiked concentration, no qualifications were applied to the data.

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.

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). Thirteen LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

One field blank was collected with the sample set, FB-01. Metals were not detected in the field blank above the MDLs, with the following exception.

Lead was detected in FB-01 at an estimated concentration greater than the MDL and less than the RL. Therefore, the estimated lead concentrations in the associated samples were U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HGWA-2	Lead	0.00011	J	0.0050	U	3
HGWC-12	Lead	0.00043	J	0.0050	U	3
HGWC-7	Lead	0.000054	J	0.0050	U	3
MW-28D	Lead	0.000062	J	0.0050	U	3
MW-20	Lead	0.00013	J	0.0050	U	3
MW-24D	Lead	0.000064	J	0.0050	U	3
HGWC-13	Lead	0.00010	J	0.0050	U	3
MW-29	Lead	0.00011	J	0.0050	U	3
HGWC-11	Lead	0.00030	J	0.0050	U	3
MW-26D	Lead	0.00010	J	0.0050	U	3
HGWC-9	Lead	0.00014	J	0.0050	U	3
MW-30D	Lead	0.000067	J	0.0050	U	3
FD-01	Lead	0.00021	J	0.0050	U	3
HGWC-10	Lead	0.000050	J	0.0050	U	3
MW-27D	Lead	0.00013	J	0.0050	U	3

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL

1.8 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-30D.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The laboratory flags B and M1 used in the level II report were not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C 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 Times
✓ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported for the anions (batches 533983, 533985, 534237, 534425 and 534656). The anions were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three sample set specific MS/MSD pairs were reported for the anions, using samples MW-5, MW-7 and MW-27D. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exception.

The recovery of chloride in the MSD using sample MW-5 was high and outside the laboratory specified acceptance criteria. Therefore, the estimated chloride concentration in sample MW-5 was J qualified as estimated.

Seven batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
MW-5	Chloride	0.73	J	0.73	J	4

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL

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). Four LCSs were reported for TDS and five LCSs were reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

2.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported for TDS using samples HGWC-7 and HGWC-11. The RPD results were within the laboratory specified acceptance criteria.

Six batch laboratory duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

One field blank was collected with the sample set, FB-01. The wet chemistry parameters were not detected in the field blank above the MDL.

2.9 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-30D.

2.10 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.11 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.

3.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by USEPA method 9315, radium-228 by USEPA 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

3.1 Overall Assessment

The radium-226 and radium-228 data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

3.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported for the radium-228 data (batches 390595, 391344 and 391023). Three method blanks were reported for the radium-226 data (batches 391022, 390592 and 391343). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exception.

Radium-226 was detected above the MDC in the method blank in batch 390592 (0.444 pCi/L). Therefore, the radium-226 concentrations in the associated samples less than the method blank concentration were U qualified as not detected at the reported concentrations and the radium-226 concentration in the associated sample greater than the method blank concentration was J+ qualified as estimated with high bias.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
HGWA-1	Radium-226	0.221	NA	0.221	U	3
HGWA-3	Radium-226	0.377	NA	0.377	U	3
HGWA-2	Radium-226	0.621	NA	0.621	J+	3

pCi/L- picocuries per liter
NA-not applicable

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Three LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory specified acceptance criteria.

3.6 Laboratory Duplicate

Two batch laboratory duplicates were reported for radium-226. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory specified acceptance criteria.

3.8 Equipment Blank

An equipment blank was not collected with the sample set.

3.9 Field Blank

One field blank was collected with the sample set, FB-01. Radium-226 and Radium-228 were not detected in the field blank above the MDCs.

3.10 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RER (2σ) < 3) was demonstrated between the field duplicate and the original sample, MW-30D.

3.11 Sensitivity

The samples were reported to the MDCs. No elevated nondetect results were reported.

3.12 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.

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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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date:	August 11, 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 2630907**

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of one aqueous sample, collected 9 April 2020, as part of the Plant Hammond AP on-site sampling event.

The sample was analyzed at Pace Analytical Services Atlanta, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by United States (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Iron by USEPA Methods 3005A/6020B

The sample was analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Alkalinity by Standard Method 2320B
- Sulfide by Standard Method 4500-S2D
- Anions (Chloride and Sulfate) by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following sample was analyzed and reported in the laboratory report:

Laboratory ID	Client ID
2630907001	MW-30D

The sample was received within 0-6 degrees Celsius (^{o}C). No sample preservation issues were noted by the laboratory.

The year was not documented for the collection time. The sample was logged in with the collection year 2020.

The field pH data was not validated.

1.0 METALS

The sample was analyzed for metals by USEPA methods 3010A/6010D and iron by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 45592 and 45464). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported for iron using sample MW-30D. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria.

One batch MS/MSD pair was also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The sample was reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The sample was analyzed for alkalinity by Standard Method 2320B, sulfide 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 Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the alkalinity analysis of a water sample is 14 days from sample collection to analysis. The holding time for the sulfide analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions 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). Method blanks were reported for the alkalinity (batch 536610), sulfide (batch 536450) and anions (batch 536461). The wet chemistry parameters were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three sample set specific MS/MSD pairs were reported for the anions, using samples MW-5, MW-7 and MW-27D. The recovery and RPD results were within the laboratory specified acceptance criteria.

Two batch MS/MSD pairs were also reported for alkalinity, one batch MS/MSD pair was reported for sulfide and two batch MS/MSD pairs were reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported for alkalinity, one LCS was reported for sulfide and one LCS was reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

2.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported for TDS using samples HGWC-7 and HGWC-11. The RPD results were within the laboratory specified acceptance criteria.

Six batch laboratory duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

A field blank was not collected with the sample set.

2.9 Field Duplicate

A field duplicate was not collected with the sample set.

2.10 Sensitivity

The sample was reported to the MDL. No elevated nondetect results were reported.

2.11 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.

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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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date: August 11, 2020

To: Whitney Law

From: Kristoffer Henderson

CC: J. Caprio

Subject: Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 2631804

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of one unfiltered aqueous sample and one filtered aqueous sample, collected 11 May 2020, 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:

- Total and Dissolved Calcium by United States (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Total and Dissolved Boron and Molybdenum by USEPA Methods 3005A/6020B
- Total Dissolved Solids (TDS) and Field Filtered TDS by Standard Method 300.0

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Total and Dissolved Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2631804001	MW-40D

Laboratory ID	Client ID
2631804002	MW-40D FILTERED

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

The year was not documented on the chain of custody (COC) for the collection times. The samples were logged in with the collection year 2020. The relinquished by signature, date and time were not documented on the COC for the third sample transfer.

The field pH data was not validated.

1.0 METALS

The samples were analyzed for total and dissolved calcium by USEPA methods 3010A/6010D and total and dissolved boron and molybdenum by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Total vs Dissolved Metals Assessment
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Four method blanks were reported (batches 46303, 46336, 46300 and 46335). Metals were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported for calcium using samples MW-40D and MW-40D FILTERED and one sample set specific MS/MSD pair was reported for boron and molybdenum using sample MW-40D. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recovery was low, and the MSD recovery was high for calcium, both outside the laboratory specified acceptance criteria in the MS/MSD pair using sample MW-40D. Since the calcium concentration in sample MW-40D was greater than four times the spiked concentration, no qualifications were applied to the data.

The recovery of calcium in the MS using sample MW-40D FILTERED was low and outside the laboratory specified acceptance criteria. Since the calcium concentration in sample MW-40D FILTERED was greater than four times the spiked concentration, no qualifications were applied to the data.

One batch MS/MSD pair was also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

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). Four LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Laboratory Duplicate

One batch laboratory duplicate was reported for boron and molybdenum. 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 Equipment Blank

An equipment blank was not collected with the sample set.

1.8 Field Blank

A field blank was not collected with the sample set.

1.9 Field Duplicate

A field duplicate was not collected with the sample set.

1.10 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.11 Total vs Dissolved Metals Assessment

The sample was collected as both an unfiltered and filtered sample to report total and dissolved metals, respectively. The total calcium concentration was greater than the dissolved calcium concentration and total and dissolved boron were detected at estimated concentrations greater than the MDL and less than the reporting limit (RL). However, the dissolved molybdenum concentration was greater than the total molybdenum concentration. Since the RPD between the total and dissolved molybdenum concentrations was less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

1.12 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The

laboratory flag M1 reported in the level II report was not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The samples were analyzed for TDS and field filtered TDS by Standard Method 2540C and total and dissolved anions by Standard 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 Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Total vs Dissolved Wet Chemistry Assessment
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the anions (batch 536461). The anions were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS/MSD pair was reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported for TDS and one LCS was reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

2.6 Laboratory Duplicate

One batch laboratory duplicate was reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

A field blank was not collected with the sample set.

2.9 Field Duplicate

A field duplicate was not collected with the sample set.

2.10 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.11 Total vs Dissolved Wet Chemistry Assessment

The sample was collected as both an unfiltered and filtered sample to report total and dissolved anions and unfiltered and field filtered TDS, respectively. The wet chemistry concentrations in the filtered sample (dissolved) were greater than the wet chemistry concentrations in the unfiltered sample (total). Since the RPDs between the total and dissolved wet chemistry concentrations were less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

2.12 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.

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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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date: August 4, 2020

To: Whitney Law

From: Kristoffer Henderson

CC: J. Caprio

Subject: Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 2632070

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of one aqueous sample, collected 19 May 2020, as part of the Plant Hammond AP on-site sampling event.

The sample was analyzed at Pace Analytical Services Atlanta, Peachtree Corners, Georgia, for the following analytical tests:

- Boron, Calcium and Molybdenum by USEPA Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 300.0

The sample was analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and

- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following sample was analyzed and reported in the laboratory report:

Laboratory ID	Client ID
2632070001	MW-40D

The sample was received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

The year was not documented on the chain of custody (COC) for the collection time. The sample was logged in with the collection year 2020. The relinquished by signature, date and time were not documented on the COC for the third sample transfer.

1.0 METALS

The sample was analyzed for boron, calcium and molybdenum by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 46536). Metals were not detected in the method blank 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). One sample set specific MS/MSD pair was reported using sample MW-40D. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria.

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). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The sample was reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The laboratory flag M1 reported in the level II report was not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The sample was analyzed for TDS by Standard Method 2540C and anions by Standard 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 Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the anions (batch 542996). The anions were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two batch MS/MSD pairs were reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported for TDS and one LCS was reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

2.6 Laboratory Duplicate

One batch laboratory duplicate was reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

A field blank was not collected with the sample set.

2.9 Field Duplicate

A field duplicate was not collected with the sample set.

2.10 Sensitivity

The sample was reported to the MDL. No elevated nondetect results were reported.

2.11 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.

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* * * * *

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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date: August 11, 2020

To: Whitney Law

From: Kristoffer Henderson

CC: J. Caprio

Subject: Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 92482346

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of seven aqueous samples, one filtered aqueous sample and one field blank, collected 16-19 June 2020, 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 (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Boron and Molybdenum by USEPA Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Alkalinity by Standard Method 2320B
- Sulfide by Standard Method 4500S2D
- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
92482346001	HGWC-8
92482346002	MW-1
92482346003	HGWA-1
92482346004	HGWA-3
92482346005	HGWC-7

Laboratory ID	Client ID
92482346006	MW-30D
92482346007	FB-01
92482346008	MW-30D FILTERED
92482346009	MW-40D

The samples in laboratory report 2630471 were received within 0-6 degrees Celsius (^{o}C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- There were time discrepancies for the third sample transfer on page one of the COC. The relinquished by time was documented as 6/17/20 1056 and the received by time was documented as 6/17/20 1057.
- There were time discrepancies for the second sample transfer on page two of the COC. The relinquished by time was documented as 6/17/20 1056 and the received by time was documented as 6/17/20 1057.

The field pH data included in the laboratory report were not validated.

The report was revised twice. The report was revised on August 5, 2020 to remove extra metals reported for sample MW-30D. The report was revised a second time to correct the results for FB-01.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3010A/6010D and boron and molybdenum by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Time
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Total vs Dissolved Metals Assessment
- ⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Six method blanks were reported (batches 548325, 548539, 550184, 548037, 548509 and 549351). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exception.

Potassium was detected in the method blank in batch 550184 at an estimated concentration greater than the MDL and less than the reporting limit (RL). Since potassium was either not detected or detected above the RL in the associated samples, no qualifications were applied to the data.

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). One sample set specific MS/MSD pair was reported by USEPA method 6010D using samples HGWC-7. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recoveries of calcium, magnesium and sodium were low, and the MSD recovery of calcium was high, all outside the laboratory specified acceptance criteria. Since calcium, magnesium and sodium concentrations in sample HGWC-7 were greater than four times the spiked concentrations, no qualifications were applied to the data.

Five batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Six LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

One field blank was collected with the sample set, FB-01. Metals were not detected in the field blank above the MDLs.

1.8 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-30D.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Total vs Dissolved Metals Assessment

Sample MW-30D was collected as both an unfiltered and filtered sample to report total and dissolved metals, respectively. The estimated dissolved molybdenum concentration greater than the MDL and less than the RL was greater than the estimated total molybdenum concentration greater than the MDL and less than the RL. Since these were estimated concentrations, no qualifications were applied to the data, based on professional and technical judgment.

1.11 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The laboratory flag M1 used in the level II report were not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C, alkalinity by Standard Method 2320B, sulfide 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 Times
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Total vs Dissolved Wet Chemistry Assessment
⊗ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in this data package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as

estimated) to the total number of analytical results requested on samples submitted for these analyses, for this dataset is 100%.

2.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the alkalinity analysis of a water sample is 14 days from sample collection to analysis. The holding time for the sulfide analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions 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). Three method blanks were reported for TDS (batches 548159, 548606 and 548907), two method blanks were reported for alkalinity (batches 549851 and 550396), three method blanks were reported for sulfide (batches 548296, 549379 and 549382) and three method blanks were reported for the anions (batches 548965, 549186 and 549586). The wet chemistry parameters were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Six batch MS/MSD pairs were reported for alkalinity, six batch MS/MSD pairs were reported for sulfide and six batch MS/MSD pairs were reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported for TDS, two LCSs were reported for alkalinity, three LCSs were reported for sulfide and three LCSs were reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

2.6 Laboratory Duplicate

Five batch laboratory duplicates were reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

One field blank was collected with the sample set, FB-01. The wet chemistry parameters were not detected in the field blank above the MDL.

2.9 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-30D.

2.10 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.11 Total vs Dissolved Wet Chemistry Assessment

Sample MW-30D was collected as both an unfiltered and filtered sample to report total and dissolved metals, respectively. The wet chemistry concentrations in the filtered sample (dissolved) were greater than the wet chemistry concentrations in the unfiltered sample (total). Since the RPDs between the total and dissolved wet chemistry concentrations were less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

2.12 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. The laboratory flag D3 used in the level II report were not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

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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 recovery outside limits
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

RPD-relative percent difference

Geosyntec consultants

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Memorandum

Date:	December 14, 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 92495887 and 92495894**

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of twenty-five aqueous samples, one filtered aqueous sample, one field duplicate and one field blank, collected 15-28 September 2020, 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 (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Metals by USEPA Methods 3005A/6020B
- Mercury by USEPA Method 7470A
- Total Dissolved Solids (TDS) by Standard Method 2540C

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Alkalinity by Standard Method 2320B
- Sulfide by Standard Method 4500S2D
- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by USEPA Method 9315
- Radium-228 by USEPA Method 9320

- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitation of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
92495887001	HGWA-1
92495887002	HGWA-2
92495887003	HGWA-3
92495887004	HGWC-7
92495887005	HGWC-7 FILTERED
92495887006	HGWC-8
92495887007	HGWC-10
92495887008	MW-29
92495887009	HGWA-43D
92495887010	HGWA-44D
92495887011	HGWC-9
92495887012	MW-5
92495887013	MW-20
92495887014	MW-26D
92495887015	FD-01
92495887016	HGWC-11
92495887017	HGWC-12
92495887018	MW-25D
92495887019	MW-27D
92495887020	HGWC-13
92495887021	MW-6
92495887022	MW-7

Laboratory ID	Client ID
92495887023	MW-24D
92495887024	MW-19
92495887025	MW-28D
92495887026	MW-30D
92495887027	FB-01
92495887028	MW-40D
92495894001	HGWA-1
92495894002	HGWA-2
92495894003	HGWA-3
92495894004	HGWC-7
92495894005	HGWC-7 FILTERED
92495894006	HGWC-8
92495894007	HGWC-10
92495894008	MW-29
92495894009	HGWA-43D
92495894010	HGWA-44D
92495894011	HGWC-9
92495894012	MW-5
92495894013	MW-20
92495894014	MW-26D
92495894015	FD-01
92495894016	HGWC-11

Laboratory ID	Client ID
92495894017	HGWC-12
92495894018	MW-25D
92495894019	MW-27D
92495894020	HGWC-13
92495894021	MW-6
92495894022	MW-7

Laboratory ID	Client ID
92495894023	MW-24D
92495894024	MW-19
92495894025	MW-28D
92495894026	MW-30D
92495894027	FB-01
92495894028	MW-40D

The samples were received within 0-6 degrees Celsius (°C). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- There were time discrepancies for the third sample transfer on page 1 and the second transfer on page 2 of the COC. The *relinquished by* time was documented as 9/16/20 1113 and the *received by* time was documented as 9/16/20 1114.
- There were time discrepancies for the third sample transfer on pages 7-9 of the COC. The *relinquished by* time was documented as 9/18/20 1017 and the *received by* time was documented as 9/18/20 1028.
- The year was not documented for the collection times of samples HGWA-3, HGWC-8, HGWC-10, MW-29, MW-43D, MW-44D, HGWC-9, MW-5, MW-20, MW-26D, MW-25D, MW-27D, MW-6, MW-7, MW-19, MW-28D, FB-01 and MW-40D. The samples were logged in with the collection year of 2020.
- A collection time was not documented on the COC for field duplicate, FD-01. FD-01 was logged in with the collection time of 00:00.

The field pH data included in the laboratory report were not validated.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3010A/6010D and USEPA methods 3005A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
✓ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate

✓ Laboratory Control Sample
✓ Equipment Blank
⊗ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Total vs Dissolved Metals Assessment
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this 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). Eleven method blanks were reported (batches 568201, 568471, 568747, 568748, 570395, 568198, 568417, 568430, 568749, 569670 and 570627). Metals were not detected in the method blanks above the method detection limits (MDLs) with the following exceptions.

Potassium was detected in the method blanks in batches 568201 and 568748 at estimated concentrations greater than the MDL and less than the reporting limit (RL). Since potassium was either not detected or detected above the RL in the associated samples, no qualifications were applied to the data.

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). Sample set specific MS/MSD pairs were reported by USEPA method 6010D using samples HGWC-7, HGWC-7 FILTERED and MW-7 and by USEPA method 6020B using samples MW-26D and HGWC-13. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of potassium in the MS/MSD pair using sample HGWC-7 FILTERED were high and outside the laboratory specified acceptance criteria. Therefore, the potassium concentration in sample HGWC-7 FILTERED was J+ qualified as estimated with high bias.

No qualifications were applied based on MS/MSD recoveries if the sample concentration was greater than four times the spiked concentration.

Seven batch MS/MSD pairs were also reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
HGWC-7 FILTERED	Potassium	2.4	M1	2.4	J+	4

mg/L-milligrams per liter
M1-laboratory flag indicating MS recovery was outside the QC limits
* 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

1.5 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). Eleven LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

One field blank was collected with the sample set, FB-01. Metals were not detected in the field blank above the MDLs, with the following exception.

Boron was detected in FB-01 at an estimated concentration greater than the MDL and less than the RL. Therefore, the estimated boron concentrations in the associated samples were U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
HGWA-1	Boron	0.017	J	0.1	U	3
HGWA-2	Boron	0.044	J	0.1	U	3
HGWA-3	Boron	0.0071	J	0.1	U	3
HGWA-43D	Boron	0.061	J	0.1	U	3

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
MW-5	Boron	0.067	J	0.1	U	3

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL

1.8 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-26D.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Total vs Dissolved Metals Assessment

Sample HGWC-7 was collected as both an unfiltered and filtered sample to report total and dissolved metals, respectively. The total metals concentrations were greater than or equal to the dissolved metals concentrations, with the following exceptions.

Six dissolved metals concentrations were greater than the associated total metals concentrations. Since the RPDs between the total and dissolved concentrations were less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD
HGWC-7	Calcium	98	M1	7
HGWC-7 FILTERED	Calcium	105	M1	
HGWC-7	Magnesium	8.9	M1	7
HGWC-7 FILTERED	Magnesium	9.5	NA	
HGWC-7	Manganese	0.15	NA	6
HGWC-7 FILTERED	Manganese	0.16	M1	
HGWC-7	Potassium	2.3	NA	4
HGWC-7 FILTERED	Potassium	2.4	M1	
HGWC-7	Sodium	8.7	M1	8
HGWC-7 FILTERED	Sodium	9.4	M1	
HGWC-7	Barium	0.068	NA	1
HGWC-7 FILTERED	Barium	0.069	NA	
HGWC-7	Molybdenum	0.046	NA	4
HGWC-7 FILTERED	Molybdenum	0.048	NA	

mg/L-milligrams per liter

M1-laboratory flag indicating MS recovery was outside the QC limits
NA-not applicable

1.11 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The laboratory flags B, D3 and M1 used in the level II report were not included in the EDD. No other 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
- ✓ Total vs Dissolved Mercury Assessment
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this 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). Two method blanks were reported (batches 572608 and 574037). 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). Two batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

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). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Equipment Blank

An equipment blank was not collected with the sample set.

2.7 Field Blank

One field blank was collected with the sample set, FB-02. 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, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-26D.

2.9 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.10 Total vs Dissolved Mercury Assessment

Sample HGWC-7 was collected as both an unfiltered and filtered sample to report total and dissolved mercury, respectively. The total mercury concentration was greater than or equal to the dissolved mercury concentration.

2.11 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.

3.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C, alkalinity by Standard Method 2320B, sulfide 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 Times
✓ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Total vs Dissolved Wet Chemistry Assessment
⊗ Electronic Data Deliverables Review

3.1 Overall Assessment

The wet chemistry data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this data set is 100%.

3.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the alkalinity analysis of a water sample is 14 days from sample collection to analysis. The holding time for the sulfide analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions (chloride, fluoride and sulfate)

analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Seven method blanks were reported for TDS (batches 567372, 567872, 568080, 568395, 568648, 569874 and 570220), six method blanks were reported for alkalinity (batches 568673, 568674, 568970, 570242, 571506 and 571655), six method blanks were reported for sulfide (batches 568020, 568021, 568022, 568633, 569578 and 570214) and eight method blanks were reported for the anions (batches 567529, 567607, 567633, 567943, 568377, 568379, 569516 and 570137). 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). Sample set specific MS/MSD pairs were reported for alkalinity using samples MW-20 and MW-25D, sulfide using samples MW-20 and MW-26D and the anions using samples HGWC-9, FB-01 and MW-40D. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of chloride in the MS/MSD pair using sample MW-40D were low and outside the laboratory specified acceptance criteria. Also, the MS recovery was low, and the MSD recovery was high, both outside the laboratory specified acceptance criteria for sulfate in the MS/MSD pair using sample MW-40D. Since the chloride and sulfate concentrations in sample MW-40D were greater than four times the spiked concentrations, no qualifications were applied to the data.

Ten batch MS/MSD pairs were reported for alkalinity, ten batch MS/MSD pairs were reported for sulfide and twelve batch MS/MSD pairs were reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Seven LCSs were reported for TDS, six LCSs were reported for alkalinity, six LCSs were reported for sulfide and eight LCSs were reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

3.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported using samples MW-25D and MW-30D. The RPD results were within the laboratory specified acceptance criteria.

Nine batch laboratory duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.7 Equipment Blank

An equipment blank was not collected with the sample set.

3.8 Field Blank

One field blank was collected with the sample set, FB-01. The wet chemistry parameters were not detected in the field blank above the MDL.

3.9 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample, MW-26D.

3.10 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

3.11 Total vs Dissolved Wet Chemistry Assessment

Sample HGWC-7 was collected as both an unfiltered and filtered sample to report total and dissolved wet chemistry, respectively. The total wet chemistry concentrations were greater than or equal to the dissolved wet chemistry concentrations, with the following exception.

The TDS concentration in HGWC-7 FILTERED was greater than the TDS concentration in HGWC-7. Since the RPD between the TDS concentrations was less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD
HGWC-7	TDS	392	NA	2
HGWC-7 FILTERED	TDS	399	NA	

mg/L-milligrams per liter
NA-not applicable

3.12 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. The laboratory flags MW and M6 used in the level II report were not included in the EDD. No other discrepancies were identified between the level II report and the EDD.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by USEPA method 9315, radium-228 by USEPA 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
✓ Total vs Dissolved Radiochemistry Assessment
✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this data set is 100%.

4.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Five method blanks were reported for the radium-228 data (batches 415620, 415618, 417135, 415619 and 417137). Seven method blanks were reported for the radium-226 data (batches 415616, 417134, 418550, 416276, 415615, 415617 and 417136). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs), with the following exception.

Radium-226 was detected above the MDC in the method blank in batch 415617 (1.55 pCi/L). Therefore, the radium-226 concentrations in the associated samples less than the method blank concentration were U qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
HGWC-12	Radium-226	0.590	NA	0.590	U	3
MW-27D	Radium-226	0.603	NA	0.603	U	3

pCi/L- picocuries per liter
NA-not applicable

4.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and six LCS/LCS duplicate (LCSD) pairs were reported for radium-226. Five LCS/LCSD pairs were reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory specified acceptance criteria, with the following exception.

The recovery of radium-228 in the LCS in batch 417135 was low and outside the laboratory specified acceptance criteria. Therefore, the non-detect results of radium-228 and combined radium in the associated sample were UJ qualified as estimated less than the reported concentrations.

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
MW-30D	Radium-228	0.435	U	0.435	UJ	5

Sample	Analyte	Laboratory Result (pCi/L)	Laboratory Flag	Validation Result (pCi/L)	Validation Qualifier	Reason Code
MW-30D	Combined Radium 226 + 228	0.809	U	0.809	UJ	5

pCi/L- picocuries per liter
U-not detected at or above the MDC

4.6 Laboratory Duplicate

Two sample set specific laboratory duplicates were reported using samples HGWA-2 and FB-01. The RER (2σ) results were within the laboratory specified acceptance criteria.

Three batch laboratory duplicates were also reported for radium-226. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory specified acceptance criteria.

4.8 Equipment Blank

An equipment blank was not collected with the sample set.

4.9 Field Blank

One field blank was collected with the sample set, FB-01. Radium-226 and Radium-228 were not detected in the field blank above the MDCs.

4.10 Field Duplicate

One field duplicate sample was collected with the sample set, FD-01. Acceptable precision (RER (2σ) < 3) was demonstrated between the field duplicate and the original sample, MW-26D.

4.11 Sensitivity

The samples were reported to the MDCs. No elevated nondetect results were reported.

4.12 Total vs Dissolved Radiochemistry Assessment

Sample HGWC-7 was collected as both an unfiltered and filtered sample to report total and dissolved radiochemistry, respectively. The total radiochemistry concentration was greater than or equal to the dissolved radiochemistry concentration.

4.13 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.

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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

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Memorandum

Date:	January 12, 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 92505462 and 92505474**

SITE: Plant Hammond AP-1

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of two aqueous samples, one filtered aqueous sample and one equipment blank, collected 10 November 2020, 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:

- Calcium by United States (US) Environmental Protection Agency (EPA) Methods 3010A/6010D
- Metals by USEPA Methods 3005A/6020B
- Mercury by USEPA Method 7470A
- Total Dissolved Solids (TDS) by Standard Method 2540C

The samples were analyzed at Pace Analytical Services Asheville, North Carolina, for the following analytical test:

- Anions (Chloride, Fluoride and Sulfate) by USEPA Method 300.0

The samples were analyzed at Pace Analytical Services, LLC, Greensburg, Pennsylvania, for the following analytical tests:

- Radium-226 by USEPA Method 9315
- Radium-228 by USEPA Method 9320
- Total Radium by Calculation

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitation of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment, and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001); and
- American National Standard, Verification and Validation of Radiological Data for use in Waste Management and Environmental Remediation, February 15, 2012 (ANSI/ANS-41.5-2012).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
92505462001	HGWA-43D
92505462002	EB-01
92505462003	HGWA-44D
92505462004	HGWA-44D FILTERED

Laboratory ID	Client ID
92505474001	HGWA-43D
92505474002	EB-01
92505474003	HGWA-44D
92505474004	HGWA-44D FILTERED

The samples were received within 0-6 degrees Celsius (ºC). No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- EB-01 was listed as FB-01 on the COC and the containers were labeled EB-01. The sample was logged in per the sample label per the client's request.
- The year was not documented for the *relinquished by* date for the first sample transfer on page one of the COC and for the second sample transfer on page two of the COC.
- The *received by* signature, date and time were not documented for the second sample transfer on page one of the COC and for the third sample transfer on page two of the COC.
- The year was not documented for the collection times of samples HGWA-43D and EB-01. The samples were logged in with the collection year of 2020.

The field pH data included in the laboratory report were not validated.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3010A/6010D and USEPA methods 3005A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Time
⊗ Method Blank
✓ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
✓ Total vs Dissolved Metals Assessment
⊗ Electronic Data Deliverables Review

1.1 Overall Assessment

The metals data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this 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). Two method blanks were reported (batches 580529 and 581474). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exception.

Antimony was detected in the method blank in batch 581474 at an estimated concentration greater than the MDL and less than the reporting limit (RL). Therefore, the estimated antimony concentration in the associated sample was U qualified as not detected at the RL.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result	Validation Qualifier*	Reason Code**
HGWA-43D	Antimony	0.00043	J B	0.0030	U	3

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
B-laboratory indicating the analyte was detected in both the method blank and sample
* 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

1.4 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 batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Equipment Blank

One equipment blank was collected with the sample set, EB-01. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Total vs Dissolved Metals Assessment

Sample HGWC-44D was collected as both an unfiltered and filtered sample to report total and dissolved metals, respectively. The total metals concentrations were greater than or equal to the dissolved metals concentrations, with the following exception.

One dissolved metals concentration was greater than the associated total metal concentration. Since the relative percent difference (RPD) between the total and dissolved concentrations was less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD
HGWC-44D	Barium	0.38	NA	3
HGWC-44D FILTERED	Barium	0.39	NA	

mg/L-milligrams per liter
NA-not applicable

1.11 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The laboratory flag B used in the level II report was not included in the EDD. No other 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
- ✓ Total vs Dissolved Mercury Assessment
- ✓ Electronic Data Deliverables Review

2.1 Overall Assessment

The mercury data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this 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). One method blank was reported (batches 580637). Mercury was not detected in the method blank above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS/MSD pair was reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory specified acceptance criteria.

2.6 Equipment Blank

One equipment blank was collected with the sample set, EB-01. Mercury was not detected in the equipment blank above the MDL.

2.7 Field Blank

A field blank was not collected with the sample set.

2.8 Field Duplicate

A field duplicate was not collected with the sample set.

2.9 Sensitivity

The samples were reported to the MDL. No elevated nondetect results were reported.

2.10 Total vs Dissolved Mercury Assessment

Sample HGWC-44D was collected as both an unfiltered and filtered sample to report total and dissolved mercury, respectively. The total mercury concentration was greater than or equal to the dissolved mercury concentration.

2.11 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.

3.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard method 2540C 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 Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Field Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Total vs Dissolved Wet Chemistry Assessment
- ✓ Electronic Data Deliverables Review

3.1 Overall Assessment

The wet chemistry data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this data set is 100%.

3.2 Holding Times

The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding time for the anions (chloride, fluoride, and sulfate) analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for TDS (batch 580276) and one method blank was reported for the anions (batch 580375). 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 batch MS/MSD pairs were reported for the anions. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported for TDS and one LCS was reported for the anions. The recovery results were within the laboratory specified acceptance criteria.

3.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported using sample HGWA-44D. The RPD result was within the laboratory specified acceptance criteria.

One batch laboratory duplicate was also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

3.7 Equipment Blank

One equipment blank was collected with the sample set, EB-01. The wet chemistry parameters were not detected in the equipment blank above the MDL, with the following exception.

TDS (13.0 mg/L) was detected in EB-01 at a concentration greater than the RL. Since TDS was detected in the associated samples at concentrations greater than ten times the equipment blank concentration, no qualifications were applied to the data based on technical and professional judgement.

3.8 Field Blank

A field blank was not collected with the sample set.

3.9 Field Duplicate

A field duplicate was not collected with the sample set.

3.10 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

3.11 Total vs Dissolved Wet Chemistry Assessment

Sample HGWC-44D was collected as both an unfiltered and filtered sample to report total and dissolved wet chemistry, respectively. The total wet chemistry concentrations were greater than or equal to the dissolved wet chemistry concentrations, with the following exception.

The TDS concentration in HGWC-44D FILTERED was greater than the TDS concentration in HGWC-44D. Since the RPD between the TDS concentrations was less than 30%, no qualifications were applied to the data, based on professional and technical judgment.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	RPD
HGWC-44D	TDS	287	NA	5
HGWC-44D FILTERED	TDS	301	NA	

mg/L-milligrams per liter
NA-not applicable

3.12 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.

4.0 RADIOCHEMISTRY

The samples were analyzed for radium-226 by USEPA method 9315, radium-228 by USEPA 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
- ✓ Total vs Dissolved Radiochemistry Assessment
- ✓ Electronic Data Deliverables Review

4.1 Overall Assessment

The radium-226 and radium-228 data reported in this data set are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this data set is 100%.

4.2 Holding Times

The holding times for the radium-226 and radium-228 analyses of a water sample are 180 days from sample collection to analysis. The holding times were met for the sample analyses.

4.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the radium-228 data (batch 423745). One method blank was reported for the radium-226 data (batch 423681). Radium-226 and radium-228 were not detected in the method blanks above the minimum detectable concentrations (MDCs).

4.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported with the data.

4.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS/LCS duplicate (LCSD) pair was reported for radium-226. One LCS/LCSD pair was reported for radium-228. The recovery and replicate error ratio (RER) [2 sigma (2σ)] results were within the laboratory specified acceptance criteria.

4.6 Laboratory Duplicate

One sample set specific laboratory duplicate was reported for radium-226 using sample HGWA-43D. The RER (2σ) result was within the laboratory specified acceptance criteria.

4.7 Tracers and Carriers

Carriers were reported for the radium-226 and radium-228 analyses and a tracer was reported for the radium-228 analyses. The recovery results were within the laboratory specified acceptance criteria.

4.8 Equipment Blank

One equipment blank was collected with the sample set, EB-01. Radium-226 and Radium-228 were not detected in the equipment blank above the MDCs.

4.9 Field Blank

A field blank was not collected with the sample set.

4.10 Field Duplicate

A field duplicate was not collected with the sample set.

4.11 Sensitivity

The samples were reported to the MDCs. No elevated nondetect results were reported.

4.12 Total vs Dissolved Radiochemistry Assessment

Sample HGWC-44D was collected as both an unfiltered and filtered sample to report total and dissolved radiochemistry, respectively. The total radiochemistry concentration was greater than or equal to the dissolved radiochemistry concentration.

4.13 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.

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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

APPENDIX E2
Field Data Sheets

Purge Logs

Product Name: Low-Flow System

Date: 2020-03-02 11:42:55

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	27 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	1 ft

Well Information:		Pumping Information:	
Well ID	HGWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6055124 L
Well Total Depth	32.50 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.40 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:19:03	600.02	15.93	7.11	666.53	7.60	8.00	0.41	51.90
Last 5	11:24:03	900.02	15.93	7.10	661.30	1.47	7.90	0.65	48.56
Last 5	11:29:03	1200.02	15.93	7.10	658.39	1.47	8.00	0.44	45.57
Last 5	11:34:03	1500.02	15.93	7.10	655.91	0.97	7.90	0.42	47.31
Last 5	11:39:03	1800.02	15.95	7.10	653.55	1.11	7.90	0.41	45.43
Variance 0			0.00	-0.00	-2.91			-0.20	-2.98
Variance 1			0.00	-0.00	-2.47			-0.02	1.74
Variance 2			0.02	0.00	-2.36			-0.01	-1.88

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWA-1

Grab

Product Name: Low-Flow System

Date: 2020-03-02 10:43:51

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	22 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	HGWA-2	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5831953 L
Well Total Depth	27.95 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.91 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:22:31	900.03	15.33	5.53	174.25	20.70	4.97	0.35	173.35
Last 5	10:27:31	1200.02	15.23	5.49	173.83	7.23	4.97	0.33	176.62
Last 5	10:32:31	1500.02	15.29	5.46	172.25	7.37	4.97	0.30	180.37
Last 5	10:37:31	1800.02	15.35	5.44	173.27	5.01	4.97	0.31	182.67
Last 5	10:42:31	2100.02	15.54	5.43	172.56	4.96	4.97	0.33	181.74
Variance 0			0.06	-0.03	-1.59			-0.03	3.76
Variance 1			0.06	-0.02	1.02			0.01	2.30
Variance 2			0.19	-0.01	-0.71			0.02	-0.93

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWA-2

Grab

Product Name: Low-Flow System

Date: 2020-03-02 12:31:45

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	39 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	39 ft

Well Information:		Pumping Information:	
Well ID	HGWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6590735 L
Well Total Depth	44.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.47 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:10:12	300.03	15.84	6.55	402.51	8.72	4.48	0.87	-43.77
Last 5	12:15:12	600.02	16.03	6.67	404.12	3.34	4.48	0.40	-63.37
Last 5	12:20:13	900.80	16.09	6.78	403.85	2.17	4.78	0.33	-71.73
Last 5	12:25:13	1200.80	16.13	6.86	403.76	1.76	4.78	0.31	-76.43
Last 5	12:30:13	1500.80	16.17	6.94	403.39	0.86	4.78	0.33	-79.32
Variance 0			0.06	0.11	-0.28			-0.07	-8.36
Variance 1			0.04	0.09	-0.08			-0.02	-4.70
Variance 2			0.04	0.08	-0.37			0.02	-2.90

Notes

SmarTroll malfunctioned. Restarting Low-Flow purge.

Product Name: Low-Flow System

Date: 2020-03-02 12:49:48

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	44.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.47 ft	Total Volume Pumped	12.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:38:16	300.02	16.22	7.03	403.19	0.71	4.78	0.31	-83.40
Last 5	12:43:16	600.02	16.22	7.08	403.23	0.62	4.78	0.29	-84.82
Last 5	12:48:16	900.02	16.21	7.12	402.38	0.62	4.78	0.30	-86.31
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.01	0.05	0.04			-0.02	-1.42
Variance 2			-0.01	0.04	-0.85			0.00	-1.49

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 250-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWA-3

Grab

Product Name: Low-Flow System

Date: 2020-03-04 11:44:48

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	25 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23.17 ft

Well Information:		Pumping Information:	
Well ID	HGWC-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5965856 L
Well Total Depth	28.17 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.32 in
Depth to Water	3.42 ft	Total Volume Pumped	15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:22:40	3001.02	18.19	7.17	674.49	11.90	3.53	0.56	-37.34
Last 5	11:27:40	3301.02	18.21	7.17	683.28	9.66	3.53	0.57	-36.37
Last 5	11:32:40	3600.92	18.21	7.17	670.80	7.39	3.53	0.46	-35.53
Last 5	11:37:40	3900.92	18.25	7.17	664.79	5.49	3.53	0.41	-34.64
Last 5	11:42:40	4200.92	18.25	7.17	672.74	4.84	3.53	0.41	-33.71
Variance 0			-0.00	0.00	-12.48			-0.11	0.84
Variance 1			0.04	-0.00	-6.02			-0.06	0.89
Variance 2			0.00	-0.00	7.96			0.01	0.93

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-7

Grab

Product Name: Low-Flow System

Date: 2020-03-03 16:17:37

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	21 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	21 ft

Well Information:		Pumping Information:	
Well ID	HGWC-8	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5787319 L
Well Total Depth	26.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	1.79 ft	Total Volume Pumped	14 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:52:26	1508.15	18.59	7.05	752.06	12.20	1.80	0.13	295.08
Last 5	15:57:26	1808.15	18.52	7.06	752.38	8.51	1.80	0.12	292.17
Last 5	16:02:26	2108.15	18.51	7.06	752.69	7.29	1.80	0.12	285.60
Last 5	16:07:26	2408.15	18.50	7.06	753.33	5.37	1.80	0.12	278.11
Last 5	16:12:26	2708.15	18.51	7.06	753.68	4.99	1.80	0.11	273.14
Variance 0			-0.01	0.00	0.31			-0.01	-6.57
Variance 1			-0.01	-0.00	0.65			0.00	-7.49
Variance 2			0.01	0.00	0.34			-0.01	-4.97

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-8

Grab

Product Name: Low-Flow System

Date: 2020-03-04 10:21:30

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	2 ft

Well Information:		Pumping Information:	
Well ID	HGWC-9	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6635369 L
Well Total Depth	46.98ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.08 ft	Total Volume Pumped	17 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:59:23	3931.77	16.74	6.96	1093.09	2.01	7.20	0.39	31.75
Last 5	10:04:23	4231.77	16.74	6.96	1093.14	1.93	7.20	0.35	30.98
Last 5	10:09:23	4531.77	16.78	6.96	1093.11	1.78	7.20	0.34	30.40
Last 5	10:14:23	4831.77	16.79	6.96	1093.19	1.57	7.20	0.31	30.37
Last 5	10:19:23	5131.83	16.76	6.97	1093.06	1.77	7.20	0.31	29.63
Variance 0			0.04	0.00	-0.04			-0.02	-0.59
Variance 1			0.01	0.00	0.09			-0.02	-0.02
Variance 2			-0.03	0.00	-0.13			-0.01	-0.74

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-9

Grab

Product Name: Low-Flow System

Date: 2020-03-03 18:17:35

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	24 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	18 ft

Well Information:		Pumping Information:	
Well ID	HGWC-10	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1971222 L
Well Total Depth	23 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0.72 in
Depth to Water	5.45 ft	Total Volume Pumped	28 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:55:30	7207.84	16.55	6.71	566.50	1.15	5.52	2.38	16.36
Last 5	18:00:30	7507.84	16.82	6.72	595.08	0.97	5.52	2.38	18.20
Last 5	18:05:30	7807.84	16.69	6.71	610.40	0.88	5.52	2.76	17.68
Last 5	18:10:30	8107.84	17.27	6.72	604.44	0.76	5.52	2.72	19.85
Last 5	18:15:30	8407.84	17.49	6.76	603.43	0.97	5.52	2.85	24.19
Variance 0			-0.14	-0.00	15.31			0.38	-0.52
Variance 1			0.58	0.01	-5.95			-0.05	2.17
Variance 2			0.22	0.04	-1.01			0.14	4.34

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-10

Grab

Product Name: Low-Flow System

Date: 2020-03-03 13:27:27

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	28 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	20.75 ft

Well Information:		Pumping Information:	
Well ID	HGWC-11	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2149758 L
Well Total Depth	25.78 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	1.44 in
Depth to Water	8.93 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:05:35	600.03	17.72	5.65	698.61	36.90	9.05	4.54	118.93
Last 5	13:10:35	900.02	17.61	5.82	650.99	8.13	9.05	3.51	95.63
Last 5	13:15:35	1200.02	17.67	5.88	647.95	4.51	9.05	3.50	85.45
Last 5	13:20:35	1500.02	17.76	5.93	630.20	2.78	9.05	3.40	79.23
Last 5	13:25:35	1800.02	17.76	5.95	630.64	2.30	9.05	3.39	75.10
Variance 0			0.07	0.06	-3.04			-0.01	-10.18
Variance 1			0.09	0.05	-17.74			-0.10	-6.22
Variance 2			0.00	0.02	0.44			-0.01	-4.13

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-11

Grab

Product Name: Low-Flow System

Date: 2020-03-03 14:16:46

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	33 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	30.68 ft

Well Information:		Pumping Information:	
Well ID	HGWC-12	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.632293 L
Well Total Depth	35.68 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	0 in
Depth to Water	9.01 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:00:29	300.15	18.81	6.75	841.30	4.30	9.01	0.22	-10.09
Last 5	14:05:29	600.02	18.85	6.87	842.09	3.95	9.01	0.14	5.48
Last 5	14:10:29	900.02	18.89	6.92	842.15	2.45	9.01	0.13	10.03
Last 5	14:15:29	1200.02	18.96	6.95	841.50	1.08	9.01	0.14	11.72
Last 5									
Variance 0			0.04	0.12	0.79			-0.08	15.57
Variance 1			0.05	0.06	0.06			-0.01	4.55
Variance 2			0.07	0.02	-0.65			0.00	1.69

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-12

Grab

Product Name: Low-Flow System

Date: 2020-03-04 14:54:27

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	40 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	40 ft

Well Information:		Pumping Information:	
Well ID	HGWC-13	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6635369 L
Well Total Depth	45.07 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.12 ft	Total Volume Pumped	23 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:32:20	4799.87	18.85	7.16	1350.13	5.63	17.20	0.15	-52.04
Last 5	14:37:20	5099.87	18.82	7.16	1350.16	5.48	17.20	0.15	-51.85
Last 5	14:42:20	5399.87	18.88	7.16	1348.60	5.13	17.20	0.15	-51.19
Last 5	14:47:20	5699.87	18.85	7.16	1348.87	6.83	17.20	0.15	-50.94
Last 5	14:52:20	5999.73	18.86	7.16	1349.81	4.71	17.20	0.15	-50.86
Variance 0			0.06	0.00	-1.57			0.00	0.65
Variance 1			-0.03	0.00	0.27			0.00	0.25
Variance 2			0.01	0.00	0.95			-0.00	0.09

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

HGWC-13

Grab

FD-02

Grab

Product Name: Low-Flow System

Date: 2020-03-02 16:22:43

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	25 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	2 ft

Well Information:		Pumping Information:	
Well ID	MW-5	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5965856 L
Well Total Depth	30.82ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	11.23 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:00:27	600.45	16.37	6.11	531.10	6.80	11.32	3.80	87.91
Last 5	16:05:27	900.44	16.43	6.11	529.45	3.71	11.37	3.97	85.59
Last 5	16:10:27	1200.44	16.45	6.11	528.10	2.89	11.36	3.59	84.90
Last 5	16:15:27	1500.45	16.45	6.11	527.79	2.73	11.36	3.74	81.74
Last 5	16:20:27	1800.44	16.50	6.12	528.02	2.17	11.37	3.51	81.66
Variance 0			0.03	0.00	-1.34			-0.38	-0.69
Variance 1			-0.00	0.00	-0.32			0.15	-3.16
Variance 2			0.05	0.00	0.23			-0.23	-0.08

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-5

Grab

Product Name: Low-Flow System

Date: 2020-03-03 10:12:14

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	26 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	28.0 ft

Well Information:		Pumping Information:	
Well ID	MW-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.601049 L
Well Total Depth	33.00ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	10.20 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:50:18	2100.50	18.88	6.77	989.63	7.17	10.25	0.17	0.71
Last 5	09:55:18	2400.50	18.92	6.77	987.63	5.96	10.25	0.17	0.94
Last 5	10:00:18	2700.50	19.17	6.78	985.59	5.08	10.26	0.17	1.96
Last 5	10:05:18	3000.50	19.46	6.78	983.35	5.28	10.20	0.16	2.22
Last 5	10:10:18	3300.50	19.60	6.78	981.49	4.32	10.20	0.17	2.11
Variance 0			0.24	0.00	-2.05			-0.00	1.02
Variance 1			0.29	0.00	-2.24			-0.00	0.26
Variance 2			0.14	-0.00	-1.86			0.00	-0.10

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-6

Grab

Product Name: Low-Flow System

Date: 2020-03-03 13:18:59

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	20 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	2 ft

Well Information:		Pumping Information:	
Well ID	MW-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5742685 L
Well Total Depth	26.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	8.40 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:02:20	300.02	16.92	6.11	201.01	1.35	7.34	4.30	82.47
Last 5	13:07:20	600.02	17.01	6.10	202.03	1.28	7.32	4.25	79.43
Last 5	13:12:20	900.02	17.19	6.10	208.53	1.20	7.32	4.19	76.99
Last 5	13:17:20	1200.02	17.34	6.10	209.30	1.65	7.30	4.14	75.75
Last 5									
Variance 0			0.09	-0.01	1.03			-0.05	-3.05
Variance 1			0.17	-0.00	6.50			-0.06	-2.43
Variance 2			0.16	0.01	0.77			-0.05	-1.24

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-7

Grab

Product Name: Low-Flow System

Date: 2020-03-04 17:40:44

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	25 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	25 ft

Well Information:		Pumping Information:	
Well ID	MW-19	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5965856 L
Well Total Depth	29.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.08 ft	Total Volume Pumped	19 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:17:52	3299.87	17.57	6.24	843.88	8.27	6.11	0.17	157.65
Last 5	17:22:52	3599.87	17.61	6.24	846.14	7.29	6.11	0.17	159.30
Last 5	17:27:52	3899.87	17.59	6.24	852.78	7.13	6.11	0.16	157.37
Last 5	17:32:52	4199.94	17.59	6.24	855.68	5.72	6.11	0.17	155.18
Last 5	17:37:52	4499.89	17.66	6.24	860.66	4.80	6.11	0.17	164.22
Variance 0			-0.02	-0.00	6.64			-0.00	-1.93
Variance 1			0.00	0.00	2.90			0.00	-2.18
Variance 2			0.06	-0.00	4.98			-0.00	9.04

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-19

Grab

Geosyntec consultants

GROUNDWATER SAMPLING LOG SHEET

Client:	SCS	Project No.:	GW0581
Site:	Hammond AP1	Location:	Plant, Hammond
Well ID:	MW-20	Pump Type/Model:	Bladder / QED MP-50
Total Depth (ft):	34.36	Tubing Material:	Polyethylene
Depth to Water (ft):	8.65	Pump Intake Depth (ft):	29.36
Well Diameter (in):	2	Start/Stop Purge Time:	15:05 / 16:19 (2) / 16:30
Well Volume (gal) = 0.041d²h:	4.32	Purge Rate (mL/min):	200 (10)
Well Volume (L) = gal * 3.785:	15.99	Total Purge Volume (L):	16.25 / 19.25
d = well diameter (inches), h = length of water column (feet)		Purge Method:	Low-Flow / Well Volume / Other:
Well Type:	Flush / Stick Up	Sampling Method:	Pump-Discharge / Other:
Well Lock:	Yes / No		
Well Cap Condition:	Good / Replace		
Well Tag Present:	Yes / No		

Sampling Date:	03.02.20
Sampler's Name:	Shawn Lin
Sample Collection Time:	16:19
Sample Purge Rate (mL/min):	200
Sample ID:	MW-20
Laboratory Analyses:	App. IV
QA/QC Collected?	No
QA/QC I.D.	

All sample containers requiring chemical preservation properly preserved prior to demob from well? Yes / No

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
15:36	6.89	661.30	-26.50	0.18	16.92	11.3	8.98	200	6.25	Clear, no odor, pre-purged
15:41	6.91	662.90	-32.70	0.18	17.06	13.2	8.98	200	7.25	Clear, no odor
15:36	6.93	662.90	-37.20	0.18	17.19	12.0	8.98	200	8.25	"
15:41	6.94	665.20	-41.20	0.18	17.16	11.4	9.04	200	9.25	"
15:46	6.95	664.40	-44.30	0.18	17.28	11.0	9.04	200	10.25	"
15:51	6.96	664.50	-47.50	0.17	17.32	9.15	9.04	200	11.25	"
15:56	6.96	665.10	-49.80	0.17	17.32	7.86	9.04	200	12.25	"
16:01	6.97	664.50	-51.60	0.17	17.48	6.98	9.04	200	13.25	"
16:06	6.97	664.90	-54.30	0.17	17.46	6.64	9.04	200	14.25	"
16:11	6.99	664.90	-55.80	0.17	17.61	5.76	9.04	200	15.25	"
16:16	6.98	664.10	-57.90	0.17	17.58	4.95	9.04	200	16.25	"
							(30)			
Stabilizing Criteria	**+/- 0.1 SU**	**+/- 5%**		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		**< 5 NTUs**	**< 0.3 ft**	**> 100 mL < 250 mL**	**> 3L**	

Product Name: Low-Flow System

Date: 2020-03-04 12:07:52

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	68 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	68 ft

Well Information:		Pumping Information:	
Well ID	MW-24D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7885128 L
Well Total Depth	73.11 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	20.89 ft	Total Volume Pumped	15.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:45:18	3000.02	18.64	7.38	504.99	7.00	20.86	0.26	103.43
Last 5	11:50:18	3300.02	18.64	7.41	505.27	6.49	20.86	0.27	105.49
Last 5	11:55:18	3599.87	18.59	7.43	504.83	5.93	20.86	0.27	109.84
Last 5	12:00:18	3899.87	18.64	7.45	504.34	5.72	20.86	0.28	108.95
Last 5	12:05:18	4199.87	18.68	7.47	504.19	4.73	20.86	0.27	108.96
Variance 0			-0.04	0.02	-0.43			0.00	4.34
Variance 1			0.04	0.02	-0.49			0.00	-0.89
Variance 2			0.05	0.02	-0.16			-0.00	0.02

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-24D

Grab

Product Name: Low-Flow System

Date: 2020-03-03 15:14:30

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	60 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	58.03 ft

Well Information:		Pumping Information:	
Well ID	MW-25D	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7528054 L
Well Total Depth	63.03 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	37.68 in
Depth to Water	8.95 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:52:50	600.02	18.70	7.54	715.18	2.41	11.33	0.42	-238.77
Last 5	14:57:50	900.02	18.76	7.54	713.09	2.72	11.68	0.48	-234.20
Last 5	15:02:50	1200.02	18.87	7.55	704.61	1.99	11.84	0.49	-230.22
Last 5	15:07:50	1500.02	18.92	7.56	673.69	2.40	11.99	0.59	-232.27
Last 5	15:12:50	1800.02	19.00	7.56	705.24	1.56	12.09	0.57	-230.56
Variance 0			0.11	0.01	-8.48			0.01	3.97
Variance 1			0.05	0.01	-30.92			0.10	-2.04
Variance 2			0.07	0.01	31.55			-0.01	1.70

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples
MW-25D

Grab

Product Name: Low-Flow System

Date: 2020-03-04 12:42:24

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	72 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	1 ft

Well Information:		Pumping Information:	
Well ID	MW-26D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.8063664 L
Well Total Depth	77.91 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.20 ft	Total Volume Pumped	13.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:18:26	3300.85	16.65	7.16	920.73	6.41	7.30	1.99	-41.91
Last 5	12:23:26	3600.85	16.48	7.15	924.39	4.95	7.30	3.99	-42.17
Last 5	12:28:26	3900.85	16.47	7.14	924.17	4.21	7.30	2.88	-41.30
Last 5	12:33:26	4200.85	16.49	7.13	925.34	3.94	7.30	3.88	-41.83
Last 5	12:38:26	4500.85	16.50	7.14	926.53	--	--	4.20	-42.12
Variance 0			-0.01	-0.01	-0.23			-1.11	0.88
Variance 1			0.02	-0.00	1.17			1.00	-0.53
Variance 2			0.00	0.00	1.20			0.32	-0.29

Notes

Stopped pumping, Bladder pump in well needs to be pulled because air is being released into pump discharge tubing.

Product Name: Low-Flow System

Date: 2020-03-04 13:41:56

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	75 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	2.5 ft

Well Information:		Pumping Information:	
Well ID	MW-26D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.4247567 L
Well Total Depth	77.91 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.09 ft	Total Volume Pumped	18.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:29:10	300.03	16.68	11.09	678.64	1.45	7.21	3.96	-22.51
Last 5	13:34:10	600.02	16.65	11.11	679.04	0.97	7.21	3.93	-18.40
Last 5	13:39:10	900.02	16.65	11.12	678.51	0.77	7.20	3.90	-15.89
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.03	0.02	0.40			-0.03	4.11
Variance 2			-0.00	0.01	-0.53			-0.03	2.51

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-26D

Grab

Product Name: Low-Flow System

Date: 2020-03-04 16:26:45

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	61 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	339797		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	4 ft

Well Information:		Pumping Information:	
Well ID	MW-27D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3622688 L
Well Total Depth	62.97 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	1.30 ft	Total Volume Pumped	6.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:01:25	1200.02	16.69	8.50	515.22	4.41	9.66	0.17	-93.01
Last 5	16:06:25	1500.02	16.67	8.46	497.69	2.60	10.10	0.17	-86.60
Last 5	16:11:25	1800.02	16.43	8.41	472.33	3.54	11.00	0.18	-82.12
Last 5	16:16:25	2100.03	16.42	8.37	466.38	1.67	11.56	0.19	-82.14
Last 5	16:21:25	2400.02	16.25	8.33	463.87	3.09	12.42	0.20	-79.69
Variance 0			-0.25	-0.05	-25.36			0.01	4.48
Variance 1			-0.01	-0.05	-5.95			0.01	-0.01
Variance 2			-0.17	-0.04	-2.50			0.01	2.44

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-27D

Grab

Product Name: Low-Flow System

Date: 2020-03-04 10:03:54

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	55 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	53.14 ft

Well Information:		Pumping Information:	
Well ID	MW-28D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.7304883 L
Well Total Depth	58.14 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	2.76 in
Depth to Water	3.31 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:40:53	3599.92	16.24	7.54	485.10	8.77	3.54	0.76	-219.08
Last 5	09:45:55	3901.92	16.20	7.54	492.82	4.79	3.54	0.79	-218.50
Last 5	09:50:55	4201.92	16.29	7.55	547.18	5.10	3.54	0.80	-219.05
Last 5	09:55:55	4501.92	16.31	7.54	557.26	4.42	3.54	0.79	-218.44
Last 5	10:00:55	4801.92	16.24	7.55	546.61	3.80	3.54	0.80	-218.59
Variance 0			0.09	0.01	54.36			0.01	-0.55
Variance 1			0.02	-0.01	10.08			-0.01	0.60
Variance 2			-0.08	0.01	-10.65			0.01	-0.15

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A). Lowered purge rate at 0905 from 200 to 100 ml/min.

Grab Samples
MW-28D

Grab

Product Name: Low-Flow System

Date: 2020-03-02 15:54:21

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	MW-29	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5876587 L
Well Total Depth	28.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.30 ft	Total Volume Pumped	16.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:32:03	2400.02	16.23	7.04	778.77	9.66	3.37	0.23	125.78
Last 5	15:37:03	2700.02	16.31	7.04	778.25	9.39	3.37	0.21	125.30
Last 5	15:42:03	3000.02	16.36	7.04	779.15	7.00	3.37	0.19	124.02
Last 5	15:47:03	3300.02	16.36	7.04	778.78	6.14	3.37	0.20	122.51
Last 5	15:52:02	3599.87	16.39	7.05	778.52	4.79	3.37	0.21	120.90
Variance 0			0.05	-0.00	0.90			-0.02	-1.28
Variance 1			-0.00	0.00	-0.37			0.01	-1.51
Variance 2			0.03	0.00	-0.26			0.01	-1.61

Notes

Bladder pump controller malfunctioned before filling bottles. Restarting purge.

Product Name: Low-Flow System

Date: 2020-03-02 17:23:27

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	538243		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	MW-29	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5876587 L
Well Total Depth	28.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.3 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:11:05	300.02	16.58	7.22	779.00	5.69	3.46	0.33	111.77
Last 5	17:16:05	600.02	16.68	7.17	778.76	3.11	3.46	0.22	113.16
Last 5	17:21:05	900.02	16.76	7.13	778.79	2.78	3.46	0.18	113.79
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.09	-0.06	-0.24			-0.12	1.39
Variance 2			0.08	-0.03	0.03			-0.04	0.62

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-29

Grab

Product Name: Low-Flow System

Date: 2020-03-04 14:22:52

Project Information:		Pump Information:	
Operator Name	Taylor Payne	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	104 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	505592		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102.5 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.949196 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	98.04 in
Depth to Water	1.45 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:01:35	1500.02	16.51	8.10	2446.57	7.79	9.08	0.42	-241.23
Last 5	14:06:35	1800.02	16.57	8.11	2441.64	6.12	9.26	0.46	-242.46
Last 5	14:11:35	2100.02	16.72	8.11	2405.13	5.88	9.41	0.45	-243.09
Last 5	14:16:35	2400.02	16.78	8.12	2399.19	5.23	9.51	0.47	-241.69
Last 5	14:21:35	2700.02	16.74	8.12	2384.33	4.40	9.51	0.52	-237.66
Variance 0			0.16	0.01	-36.51			-0.01	-0.63
Variance 1			0.06	0.00	-5.95			0.03	1.41
Variance 2			-0.05	0.00	-14.86			0.04	4.02

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 120-mL plastic bottle for F (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. IV metals (EPA 6020B/7470A).

Grab Samples

MW-30D

Grab

Product Name: Low-Flow System

Date: 2020-03-25 15:53:22

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	20 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	440279		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	27 ft

Well Information:		Pumping Information:	
Well ID	HGWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5742685 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.50 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:36:15	300.05	16.64	6.94	909.49	15.70	6.60	0.43	18.74
Last 5	15:41:15	600.02	16.65	6.94	914.07	0.42	6.30	0.18	16.90
Last 5	15:46:15	900.02	17.12	6.94	903.54	0.78	6.15	0.18	17.40
Last 5	15:51:15	1200.02	17.28	6.95	890.79	0.87	5.91	0.18	18.21
Last 5									
Variance 0			0.01	-0.00	4.58			-0.25	-1.84
Variance 1			0.47	0.01	-10.52			-0.01	0.50
Variance 2			0.16	0.00	-12.75			0.00	0.80

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWA-1

Grab

Low-Flow Test Report:

Test Date / Time: 3/25/2020 3:59:10 PM
Project: Plant Hammond
Operator Name: Chad Russo

Location Name: HGWA-2 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18 ft** **Total Depth: 27.95 ft** **Initial Depth to Water: 4.49 ft**	**Pump Type: Bladder** **Tubing Type: Poly ethylene** **Pump Intake From TOC: 23 ft** **Estimated Total Volume Pumped: 7 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 364452**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
3/25/2020 3:59 PM	00:00	5.48 pH	17.01 °C	219.18 µS/cm	0.61 mg/L		179.8 mV	4.49 ft	200.00 ml/min
3/25/2020 4:04 PM	05:00	5.48 pH	17.01 °C	221.17 µS/cm	0.30 mg/L	11.76 NTU	95.9 mV	4.54 ft	200.00 ml/min
3/25/2020 4:09 PM	10:00	5.41 pH	16.94 °C	213.88 µS/cm	0.19 mg/L	10.03 NTU	85.7 mV	4.54 ft	200.00 ml/min
3/25/2020 4:14 PM	15:00	5.39 pH	16.92 °C	212.43 µS/cm	0.16 mg/L	7.86 NTU	82.3 mV	4.54 ft	200.00 ml/min
3/25/2020 4:19 PM	20:00	5.37 pH	16.86 °C	209.59 µS/cm	0.14 mg/L	6.48 NTU	75.6 mV	4.54 ft	200.00 ml/min
3/25/2020 4:24 PM	25:00	5.36 pH	16.87 °C	207.91 µS/cm	0.13 mg/L	5.03 NTU	73.0 mV	4.54 ft	200.00 ml/min
3/25/2020 4:29 PM	30:00	5.36 pH	16.87 °C	207.69 µS/cm	0.12 mg/L	4.45 NTU	64.9 mV	4.54 ft	200.00 ml/min

Samples

Sample ID:	Description:
HGWA-2	Grab

Low-Flow Test Report:

Test Date / Time: 3/25/2020 2:59:21 PM
Project: Plant Hammond
Operator Name: Chad Russo

Location Name: HGWA-3 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 35 ft** **Total Depth: 44.87 ft** **Initial Depth to Water: 4.09 ft**	**Pump Type: Bladder** **Tubing Type: Poly ethylene** **Pump Intake From TOC: 40 ft** **Estimated Total Volume Pumped: 4 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 364452**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
3/25/2020 2:59 PM	00:00	7.39 pH	17.25 °C	507.85 µS/cm	0.92 mg/L		-50.1 mV	4.09 ft	200.00 ml/min
3/25/2020 3:04 PM	05:00	7.39 pH	17.10 °C	509.15 µS/cm	0.38 mg/L	2.05 NTU	-54.6 mV	4.09 ft	200.00 ml/min
3/25/2020 3:09 PM	10:00	7.40 pH	17.10 °C	508.82 µS/cm	0.22 mg/L	1.47 NTU	-62.9 mV	4.09 ft	200.00 ml/min
3/25/2020 3:14 PM	15:00	7.40 pH	17.11 °C	508.34 µS/cm	0.18 mg/L	1.39 NTU	-64.5 mV	4.09 ft	200.00 ml/min

Samples

Sample ID:	Description:
HGWA-3	Grab

Product Name: Low-Flow System

Date: 2020-03-27 09:28:50

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	27.8 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.30 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:06:49	300.05	18.03	7.08	712.77	3.09	3.37	0.27	95.33
Last 5	09:11:49	600.03	18.08	7.06	712.72	1.98	3.37	0.15	76.14
Last 5	09:16:49	900.02	18.12	7.04	712.79	1.36	3.37	0.12	64.31
Last 5	09:21:49	1200.02	18.17	7.05	713.02	1.35	3.37	0.12	57.79
Last 5	09:26:49	1500.02	18.21	7.05	712.97	1.31	3.37	0.11	53.15
Variance 0			0.04	-0.01	0.07			-0.03	-11.83
Variance 1			0.04	0.00	0.23			-0.01	-6.52
Variance 2			0.05	0.00	-0.05			-0.00	-4.64

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWC-7

Grab

Product Name: Low-Flow System

Date: 2020-03-27 10:32:55

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-8	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	26.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	1.51 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:11:01	600.02	13.03	6.98	871.16	1.79	1.52	0.33	46.91
Last 5	10:16:01	900.02	13.04	6.96	873.03	1.13	1.53	0.26	48.11
Last 5	10:21:01	1200.03	13.21	6.95	872.02	0.83	1.53	0.23	48.75
Last 5	10:26:01	1500.03	13.24	6.95	872.87	1.32	1.52	0.22	50.01
Last 5	10:31:01	1800.03	13.48	6.95	870.58	1.00	1.54	0.21	52.26
Variance 0			0.17	-0.01	-1.02			-0.03	0.64
Variance 1			0.02	-0.00	0.86			-0.01	1.26
Variance 2			0.25	-0.00	-2.30			-0.01	2.25

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWC-8

Grab

Product Name: Low-Flow System

Date: 2020-03-31 11:55:16

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-9	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	46.98 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	8.75 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:33:40	1200.03	11.47	7.09	1076.38	8.82	8.81	0.21	30.90
Last 5	11:38:40	1500.03	11.60	7.08	1076.26	7.04	8.81	0.19	30.74
Last 5	11:43:40	1800.03	11.67	7.07	1076.18	6.02	8.81	0.19	30.68
Last 5	11:48:40	2100.03	11.74	7.07	1073.29	5.83	8.81	0.18	30.73
Last 5	11:53:40	2400.03	11.71	7.07	1075.31	4.92	8.81	0.17	30.58
Variance 0			0.07	-0.01	-0.08			-0.00	-0.06
Variance 1			0.08	-0.00	-2.89			-0.01	0.05
Variance 2			-0.04	-0.00	2.03			-0.01	-0.15

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWC-9

Grab

Low-Flow Test Report:

Test Date / Time: 4/1/2020 9:32:30 AM
Project: Plant Hammond (2)
Operator Name: Aaron Reeder

Location Name: HGWC-10 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 13 ft** **Total Depth: 23 ft** **Initial Depth to Water: 7.26 ft**	**Pump Type: Alexis Peri** **Tubing Type: Poly** **Pump Intake From TOC: 18 ft** **Estimated Total Volume Pumped: 4000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Weather Conditions:
Sunny and cool

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 5	+/- 10	+/- 5	
4/1/2020 9:32 AM	00:00	6.86 pH	15.17 °C	389.12 µS/cm	3.32 mg/L	2.72 NTU	96.0 mV	7.26 ft	200.00 ml/min
4/1/2020 9:37 AM	05:00	6.86 pH	15.80 °C	399.53 µS/cm	3.11 mg/L	2.52 NTU	84.1 mV	7.30 ft	200.00 ml/min
4/1/2020 9:42 AM	10:00	6.85 pH	15.98 °C	402.43 µS/cm	3.01 mg/L	2.74 NTU	38.0 mV	7.31 ft	200.00 ml/min
4/1/2020 9:47 AM	15:00	6.84 pH	15.98 °C	416.84 µS/cm	2.93 mg/L	2.48 NTU	35.2 mV	7.31 ft	200.00 ml/min

Samples

Sample ID:	Description:
HGWC-10	Grab

Low-Flow Test Report:

Test Date / Time: 3/31/2020 3:04:32 PM
Project: Plant Hammond
Operator Name: Chad Russo

Location Name: HGWC-11 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 16 ft** **Total Depth: 25.78 ft** **Initial Depth to Water: 9.55 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly ethylene** **Pump Intake From TOC: 21 ft** **Estimated Total Volume Pumped: 4 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.1 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 364452**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
3/31/2020 3:04 PM	00:00	5.61 pH	16.51 °C	732.83 µS/cm	4.97 mg/L		242.9 mV	9.55 ft	200.00 ml/min
3/31/2020 3:09 PM	05:00	5.66 pH	16.38 °C	741.76 µS/cm	4.81 mg/L	5.63 NTU	115.1 mV	9.65 ft	200.00 ml/min
3/31/2020 3:14 PM	10:00	5.68 pH	16.34 °C	740.83 µS/cm	4.74 mg/L	4.11 NTU	105.0 mV	9.65 ft	200.00 ml/min
3/31/2020 3:19 PM	15:00	5.70 pH	16.29 °C	737.68 µS/cm	4.68 mg/L	2.86 NTU	103.9 mV	9.65 ft	200.00 ml/min

Samples

Sample ID:	Description:
HGWC-11	Grab

Product Name: Low-Flow System

Date: 2020-03-26 08:45:31

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-12	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	25.78 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.47 ft	Total Volume Pumped	6.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	08:21:53	300.06	10.96	6.76	851.77	1.23	6.46	0.34	34.78
Last 5	08:26:53	600.03	11.22	6.88	850.62	0.90	6.47	0.29	36.55
Last 5	08:31:53	900.03	11.33	6.94	850.17	1.66	6.48	0.25	36.63
Last 5	08:36:53	1200.03	11.47	6.97	848.76	0.60	6.49	0.25	36.48
Last 5	08:41:53	1500.03	11.63	6.99	847.33	0.60	6.48	0.25	36.30
Variance 0			0.10	0.06	-0.45			-0.04	0.07
Variance 1			0.14	0.03	-1.41			-0.00	-0.14
Variance 2			0.17	0.02	-1.42			0.00	-0.18

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWC-12

Grab

Product Name: Low-Flow System

Date: 2020-03-30 12:09:16

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-13	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	45.07 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.18 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:47:48	2400.04	14.84	6.91	1247.09	6.40	17.19	0.24	-46.02
Last 5	11:52:48	2700.04	14.84	6.91	1246.51	5.25	17.18	0.24	-46.29
Last 5	11:57:49	3001.04	14.94	6.90	1247.23	5.15	17.17	0.22	-46.51
Last 5	12:02:49	3301.04	14.92	6.91	1246.14	3.76	17.17	0.21	-46.17
Last 5	12:07:49	3601.05	15.12	6.91	1244.17	4.06	17.17	0.21	-46.07
Variance 0			0.11	-0.00	0.72			-0.02	-0.23
Variance 1			-0.03	0.00	-1.09			-0.01	0.34
Variance 2			0.20	0.00	-1.97			0.00	0.10

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

HGWC-13

Grab

Product Name: Low-Flow System

Date: 2020-03-26 14:05:04

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-5	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	30.82 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.01 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:47:55	300.03	14.32	6.33	571.64	0.53	7.11	3.57	64.99
Last 5	13:52:55	600.03	13.94	6.20	573.83	0.38	7.12	3.05	67.46
Last 5	13:57:55	900.03	13.85	6.16	570.06	0.40	7.11	2.90	70.54
Last 5	14:02:55	1200.03	13.76	6.14	572.48	0.36	7.11	2.84	74.43
Last 5									
Variance 0			-0.38	-0.13	2.19			-0.52	2.47
Variance 1			-0.09	-0.05	-3.78			-0.15	3.08
Variance 2			-0.09	-0.02	2.43			-0.06	3.89

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-5

Grab

Product Name: Low-Flow System

Date: 2020-03-27 12:53:12

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	33.0 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.55 ft	Total Volume Pumped	11.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:30:07	1800.03	14.91	6.82	994.69	4.07	7.57	0.37	65.70
Last 5	12:35:07	2100.03	15.07	6.82	994.74	3.83	7.57	0.34	69.13
Last 5	12:40:07	2400.03	15.05	6.82	995.16	2.81	7.57	0.29	70.93
Last 5	12:45:07	2700.03	15.06	6.82	994.72	2.37	7.57	0.29	73.21
Last 5	12:50:07	3000.03	15.16	6.82	991.56	2.55	7.57	0.28	77.97
Variance 0			-0.02	-0.00	0.42			-0.04	1.80
Variance 1			0.01	-0.01	-0.44			0.00	2.29
Variance 2			0.10	0.00	-3.16			-0.01	4.75

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-6

Grab

Product Name: Low-Flow System

Date: 2020-03-30 08:31:12

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	26.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.38 ft	Total Volume Pumped	0 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	08:25:35	300.07	10.82	6.29	175.68	3.37	6.44	5.69	113.80
Last 5	08:30:35	600.01	10.91	6.12	175.67	--	--	5.51	106.64
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.10	-0.17	-0.01			-0.18	-7.16
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

iPad malfunctioned. Restarting inSitu app.

Product Name: Low-Flow System

Date: 2020-03-30 08:58:52

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	26.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.38 ft	Total Volume Pumped	8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	08:37:18	300.03	10.94	6.04	178.84	1.72	6.45	5.36	101.44
Last 5	08:42:18	600.03	10.97	6.02	182.83	1.34	6.44	5.29	99.25
Last 5	08:47:18	900.03	11.01	6.04	186.98	0.89	6.45	5.25	95.94
Last 5	08:52:18	1200.03	11.05	6.05	191.48	1.41	6.44	5.19	94.24
Last 5	08:57:18	1500.03	11.11	6.06	196.14	0.91	6.44	5.13	92.50
Variance 0			0.04	0.02	4.14			-0.04	-3.31
Variance 1			0.04	0.01	4.50			-0.06	-1.71
Variance 2			0.06	0.01	4.66			-0.06	-1.74

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-7

Grab

Product Name: Low-Flow System

Date: 2020-03-26 12:22:19

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-19	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	29.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.09 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:00:51	900.03	13.98	6.35	971.70	1.65	5.09	0.35	41.96
Last 5	12:05:51	1200.03	13.99	6.32	972.40	1.20	5.10	0.29	40.14
Last 5	12:10:51	1500.03	13.98	6.30	967.86	1.19	5.10	0.26	39.84
Last 5	12:15:51	1800.04	14.07	6.29	967.41	1.57	5.10	0.25	37.67
Last 5	12:21:03	2112.04	14.22	6.28	966.52	1.01	5.09	0.24	36.83
Variance 0			-0.00	-0.02	-4.54			-0.03	-0.30
Variance 1			0.08	-0.01	-0.45			-0.01	-2.16
Variance 2			0.15	-0.01	-0.90			-0.01	-0.85

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-19

Grab

Product Name: Low-Flow System

Date: 2020-03-27 09:22:47

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-20	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	34.36 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.24 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:00:03	900.03	12.13	6.65	714.43	5.29	5.54	0.36	-51.55
Last 5	09:05:03	1200.03	12.16	6.69	715.65	4.81	5.57	0.30	-53.98
Last 5	09:10:03	1500.03	12.16	6.72	716.23	4.21	5.58	0.28	-54.80
Last 5	09:15:03	1800.03	12.21	6.74	716.32	3.64	5.58	0.27	-55.50
Last 5	09:20:03	2100.03	12.25	6.75	716.91	3.65	5.58	0.27	-56.05
Variance 0			-0.00	0.03	0.58			-0.02	-0.83
Variance 1			0.05	0.02	0.09			-0.01	-0.70
Variance 2			0.05	0.01	0.59			-0.00	-0.54

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-20

Grab

Product Name: Low-Flow System

Date: 2020-03-30 10:23:08

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-24D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	73.11 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	21.01 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:01:27	900.03	13.76	7.34	524.85	3.00	21.05	0.40	9.30
Last 5	10:06:27	1200.03	13.85	7.40	523.53	3.72	21.06	0.33	9.28
Last 5	10:11:27	1500.03	13.80	7.44	523.57	2.85	21.05	0.31	7.87
Last 5	10:16:27	1800.03	13.76	7.47	523.06	2.47	21.06	0.30	5.23
Last 5	10:21:27	2100.03	13.76	7.49	523.39	2.44	21.04	0.29	1.99
Variance 0			-0.05	0.04	0.04			-0.03	-1.41
Variance 1			-0.04	0.02	-0.51			-0.00	-2.64
Variance 2			0.00	0.02	0.33			-0.01	-3.24

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-24D

Grab

Product Name: Low-Flow System

Date: 2020-03-26 10:41:27

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-25D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	63.05 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.47 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:19:23	2700.04	12.58	7.55	651.79	0.84	12.45	0.24	-187.83
Last 5	10:24:23	3000.05	12.85	7.56	648.84	1.84	12.51	0.27	-185.92
Last 5	10:29:23	3300.05	13.08	7.57	642.75	1.21	12.65	0.23	-184.87
Last 5	10:34:23	3600.05	13.30	7.57	638.52	1.20	12.74	0.22	-183.89
Last 5	10:39:23	3900.05	13.30	7.57	645.17	0.90	12.89	0.24	-184.01
Variance 0			0.23	0.00	-6.08			-0.04	1.06
Variance 1			0.22	-0.00	-4.23			-0.01	0.98
Variance 2			-0.00	0.01	6.64			0.02	-0.12

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-25D

Grab

Product Name: Low-Flow System

Date: 2020-03-31 09:28:30

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-26D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	77.91 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	8.66 ft	Total Volume Pumped	10.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:06:41	2400.04	11.38	7.20	877.37	7.94	8.81	0.33	-58.07
Last 5	09:11:41	2700.04	11.42	7.19	880.94	7.87	8.81	0.32	-57.64
Last 5	09:16:41	3000.02	10.86	7.20	885.48	5.68	8.81	0.34	-55.54
Last 5	09:21:41	3300.04	11.02	7.20	885.69	5.94	8.82	0.38	-55.21
Last 5	09:26:41	3600.04	10.91	7.20	888.54	4.89	8.82	0.38	-53.83
Variance 0			-0.56	0.01	4.54			0.02	2.09
Variance 1			0.16	-0.01	0.21			0.04	0.34
Variance 2			-0.11	0.00	2.85			-0.00	1.38

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-26D

Grab

Product Name: Low-Flow System

Date: 2020-04-01 09:56:30

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-27D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	62.97 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	2.13 ft	Total Volume Pumped	18.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:34:13	3299.99	15.18	7.84	464.95	0.82	16.34	1.71	-26.41
Last 5	09:39:13	3599.99	14.94	7.85	465.98	0.97	16.72	1.95	-26.69
Last 5	09:44:13	3899.99	15.27	7.85	470.79	0.65	17.18	2.15	-29.78
Last 5	09:49:13	4199.98	15.03	7.86	470.18	1.69	17.54	2.19	-28.84
Last 5	09:54:13	4499.98	15.08	7.87	466.70	1.75	17.93	2.42	-28.10
Variance 0			0.32	0.00	4.81			0.20	-3.10
Variance 1			-0.23	0.01	-0.61			0.04	0.94
Variance 2			0.04	0.01	-3.48			0.23	0.74

Notes

Water level was dropping too fast. Attempted to purge the well dry and will sample tomorrow.

Low-Flow Test Report:

Test Date / Time: 4/2/2020 10:36:39 AM
Project: Plant Hammond (2)
Operator Name: Chad Russo

Location Name: MW-27D **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 53 ft** **Total Depth: 62.97 ft** **Initial Depth to Water: 3.53 ft**	**Pump Type: Peristaltic** **Tubing Type: Poly ethylene** **Pump Intake From TOC: 58 ft** **Estimated Total Volume Pumped: 2 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 2.52 ft**	**Instrument Used: SmarTROLL MP** **Serial Number: 364452**

Test Notes:

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
4/2/2020 10:36 AM	00:00	8.10 pH	17.19 °C	427.18 µS/cm	4.45 mg/L		163.8 mV	3.53 ft	200.00 ml/min
4/2/2020 10:41 AM	05:00	8.11 pH	18.03 °C	420.78 µS/cm	4.41 mg/L	3.50 NTU	27.3 mV	6.05 ft	200.00 ml/min

Samples

Sample ID:	Description:
MW-27D	Grab

Product Name: Low-Flow System

Date: 2020-03-27 10:36:35

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-28D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	58.14 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.25 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:14:43	900.02	18.35	7.38	570.63	2.80	3.35	0.13	-134.71
Last 5	10:19:43	1200.02	18.36	7.39	571.09	2.22	3.35	0.12	-144.48
Last 5	10:24:43	1500.02	18.43	7.40	571.25	1.86	3.35	0.11	-153.05
Last 5	10:29:43	1800.02	18.56	7.41	571.62	1.57	3.35	0.12	-159.53
Last 5	10:34:43	2100.01	18.53	7.42	572.28	1.43	3.35	0.11	-164.29
Variance 0			0.07	0.01	0.16			-0.01	-8.57
Variance 1			0.13	0.01	0.37			0.01	-6.48
Variance 2			-0.03	0.01	0.66			-0.00	-4.76

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-28D

Grab

Product Name: Low-Flow System

Date: 2020-03-30 15:28:03

Project Information:		Pump Information:	
Operator Name	Nelson Gunby	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	364456		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-29	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	28.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.65 ft	Total Volume Pumped	9.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:05:02	1200.03	13.49	7.09	862.34	3.56	3.72	0.29	46.63
Last 5	15:10:02	1500.03	13.30	7.08	861.61	2.68	3.71	0.25	49.19
Last 5	15:15:02	1800.03	13.28	7.08	862.35	2.65	3.71	0.23	46.04
Last 5	15:20:02	2100.03	13.39	7.07	862.31	1.88	3.71	0.21	46.60
Last 5	15:25:02	2400.04	13.25	7.07	863.09	2.00	3.71	0.23	44.91
Variance 0			-0.02	-0.01	0.75			-0.02	-3.15
Variance 1			0.11	-0.01	-0.04			-0.01	0.56
Variance 2			-0.13	-0.00	0.77			0.01	-1.69

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples
MW-29
Grab

Product Name: Low-Flow System

Date: 2020-03-27 12:15:43

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	2.90 ft	Total Volume Pumped	8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:44:50	300.03	18.65	8.01	2435.73	2.72	8.25	0.01	-205.64
Last 5	11:49:50	600.03	18.77	8.03	2381.57	2.72	9.30	0.01	-212.22
Last 5	11:54:55	905.03	18.79	8.04	2352.79	4.26	10.60	0.02	-217.53
Last 5	11:59:55	1205.02	18.92	8.03	2345.63	4.59	11.97	0.02	-225.32
Last 5	12:04:55	1505.02	18.99	8.07	2339.69	--	--	0.03	-257.21
Variance 0			0.02	0.00	-28.78			0.01	-5.30
Variance 1			0.13	-0.00	-7.16			0.01	-7.79
Variance 2			0.07	0.04	-5.94			0.01	-31.89

Notes

iPad malfunctioned. Restarting inSitu app.

Product Name: Low-Flow System

Date: 2020-03-27 13:03:32

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	2.90 ft	Total Volume Pumped	14 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:39:45	1203.03	19.37	8.07	2313.59	3.53	19.22	0.10	-297.40
Last 5	12:44:45	1503.02	19.48	8.11	2310.74	2.48	20.34	0.11	-301.27
Last 5	12:49:47	1805.02	19.59	8.10	2307.12	2.73	21.00	0.11	-301.99
Last 5	12:54:47	2105.02	19.73	8.10	2317.03	3.14	21.95	0.10	-302.67
Last 5	12:59:49	2407.01	19.70	8.09	2315.44	3.16	22.90	0.12	-302.05
Variance 0			0.11	-0.01	-3.62			-0.00	-0.72
Variance 1			0.14	-0.01	9.91			-0.00	-0.68
Variance 2			-0.02	-0.01	-1.58			0.02	0.62

Notes

Water level was not stabilizing. Stopped purging and will resume on Monday morning.

Product Name: Low-Flow System

Date: 2020-03-30 13:37:14

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.70 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:14:29	5702.95	19.50	8.19	2146.11	1.12	30.90	0.10	-208.97
Last 5	13:19:29	6002.95	19.73	8.19	2150.13	1.00	32.14	0.11	-210.15
Last 5	13:24:29	6302.95	19.68	8.19	2147.77	1.03	32.73	0.10	-209.89
Last 5	13:29:29	6602.94	19.91	8.20	2146.81	0.95	33.32	0.11	-210.31
Last 5	13:34:29	6902.94	20.00	8.20	2141.70	--	--	0.11	-211.23
Variance 0			-0.05	0.00	-2.36			-0.01	0.26
Variance 1			0.23	0.00	-0.96			0.01	-0.42
Variance 2			0.09	0.00	-5.11			0.00	-0.92

Notes

Water level was dropping too fast. Attempted to purge the well dry and wil l try to sample tomorrow. Complete purged volume: 49 L.

Product Name: Low-Flow System

Date: 2020-03-31 09:59:38

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646777		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	82.88 ft	Total Volume Pumped	1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:56:38	300.03	16.87	8.27	2038.40	4.41	84.07	0.81	-8.43
Last 5									
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.00	0.00			0.00	0.00
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B).

Grab Samples

MW-30D

Grab

FD-01

Grab

Product Name: Low-Flow System

Date: 2020-04-08 18:08:49

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	102 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9402692 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	45.42 ft	Total Volume Pumped	94 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:42:16	300.05	20.84	7.97	1939.69	0.83	46.87	0.26	-1.34
Last 5	13:52:15	900.01	21.52	8.03	2377.51	2.61	47.93	0.15	9.88
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.68	0.06	437.82			-0.11	11.21
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Drawdown too high. Purged dry.

Product Name: Low-Flow System

Date: 2020-04-09 11:33:49

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	102 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9402692 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	73.8 ft	Total Volume Pumped	2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:20:34	300.05	19.93	8.28	1860.06	7.47	74.89	0.13	27.48
Last 5	11:25:34	600.01	20.29	8.31	2029.56	7.40	75.14	0.56	10.16
Last 5	11:30:34	900.01	21.03	8.27	2149.40	4.35	75.36	1.30	3.31
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.36	0.03	169.50			0.43	-17.33
Variance 2			0.74	-0.04	119.84			0.74	-6.85

Notes

Four bottles: One 250-mL plastic bottle for alkalinity/bicarbonate (SM 2320B); one 250-mL plastic bottle for Cl, and SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010/6020B), and one 125-mL plastic bottle with for sulfide (SM 4500).

Grab Samples

MW-30D

Grab

Geosyntec consultants

GROUNDWATER SAMPLING LOG SHEET

Client: SCS
Site: Hammond
Well ID: MW-40D
Total Depth (ft): 141.6
Depth to Water (ft): 135.85
Well Diameter (in): 2
Well Volume (gal) = 0.041d²h: 0.94
Well Volume (L) = gal * 3.785: 3.57
d = well diameter (inches); h = length of water column (feet)

Well Type: Flush (Stick Up)
Well Lock: (Yes) No
Well Cap Condition: (Good) Replace
Well Tag Present: (Yes) No

Project No.: GW6581
Location: AP-1
Pump Type/Model: Bladder
Tubing Material: poly
Pump Intake Depth (ft): 140
Start/Stop Purge Time: 1335/
Purge Rate (mL/min): —
Total Purge Volume (L): —
Purge Method: Low-Flow Well Volume Other: Dry purge with bailer previously (WV)
Sampling Method: Pump Discharge Other: Bailer (WV)

Sampling Date: 5/11/2020
Sampler's Name: Chad Russo
Sample Collection Time: 1405
Sample Purge Rate (mL/min): —
Sample ID: MW-40D
Laboratory Analyses: App. III + Mo

QA/QC Collected? No
QA/QC I.D.: —

All sample containers requiring chemical preservation properly preserved prior to demob from well? (Yes) No

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1405	7.77	578.9	413.1	3.05	19.14	97.1	135.85	—	—	grab sample w/ bailer
						CR				
						5/12/2020				
Stabilizing Criteria	**+/- 0.1 SU**	**+/- 5%**		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		**< 5 NTUs**	**< 0.3 ft**	**> 100 mL < 250 mL**	**> 3L**	

Product Name: Low-Flow System

Date: 2020-06-16 09:44:44

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	27 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	27 ft

Well Information:		Pumping Information:	
Well ID	HGWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6055124 L
Well Total Depth	32.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.81 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:23:13	600.02	16.95	6.92	872.40	0.01	18.42	0.94	79.88
Last 5	09:28:13	900.02	16.95	6.94	873.60	0.00	18.42	0.80	72.33
Last 5	09:33:13	1200.03	16.97	6.95	871.90	0.00	18.42	0.79	66.63
Last 5	09:38:13	1500.02	16.96	6.96	866.33	0.00	18.44	0.71	62.19
Last 5	09:43:13	1800.02	17.01	6.97	862.15	0.00	18.48	0.73	58.88
Variance 0			0.02	0.02	-1.69			-0.01	-5.70
Variance 1			-0.00	0.01	-5.57			-0.08	-4.44
Variance 2			0.04	0.01	-4.18			0.01	-3.32

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-1

Grab

Product Name: Low-Flow System

Date: 2020-06-16 11:13:33

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	40 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	40 ft

Well Information:		Pumping Information:	
Well ID	HGWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6635369 L
Well Total Depth	44.87 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	8.64 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:50:57	900.02	17.99	7.27	452.79	8.14	8.64	0.32	19.36
Last 5	10:55:57	1200.02	17.99	7.28	451.76	7.36	8.64	0.29	16.90
Last 5	11:00:57	1500.03	17.93	7.30	450.79	7.05	8.64	0.24	15.34
Last 5	11:05:57	1800.02	17.90	7.30	450.49	6.21	8.64	0.21	13.65
Last 5	11:10:57	2100.02	17.93	7.31	449.79	3.43	8.64	0.20	12.49
Variance 0			-0.06	0.01	-0.96			-0.05	-1.56
Variance 1			-0.02	0.01	-0.31			-0.02	-1.69
Variance 2			0.03	0.01	-0.70			-0.01	-1.16

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-3

Grab

Product Name: Low-Flow System

Date: 2020-06-17 12:57:22

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	HGWC-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5876587 L
Well Total Depth	28.17 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.86 ft	Total Volume Pumped	37 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:35:49	9599.99	19.96	7.20	653.09	10.26	4.90	0.13	12.47
Last 5	12:40:49	9900.05	20.08	7.19	652.71	11.24	4.90	0.12	12.49
Last 5	12:45:49	10200.02	20.22	7.19	652.36	9.31	4.90	0.12	12.31
Last 5	12:50:49	10499.99	20.17	7.19	652.19	8.43	4.90	0.12	12.41
Last 5	12:55:49	10799.99	20.08	7.20	652.71	7.39	4.90	0.12	12.45
Variance 0			0.14	0.00	-0.35			-0.00	-0.17
Variance 1			-0.05	0.00	-0.17			-0.00	0.10
Variance 2			-0.09	0.00	0.52			-0.00	0.03

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-7

Grab

Product Name: Low-Flow System

Date: 2020-06-16 15:12:06

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	HGWC-8	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.485 L
Well Total Depth	25.06 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.21 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:59:20	300.02	21.25	6.99	813.02	1.58	4.21	0.11	129.75
Last 5	15:04:20	600.02	21.33	6.98	814.06	1.50	4.21	0.11	135.38
Last 5	15:09:20	900.02	20.71	6.97	813.90	1.37	4.21	0.11	139.72
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.08	-0.01	1.04			0.00	5.63
Variance 2			-0.63	-0.00	-0.16			-0.00	4.34

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-8

Grab

Product Name: Low-Flow System

Date: 2020-06-16 14:07:01

Project Information:		Pump Information:	
Operator Name	Shawn Lin	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	MW-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	31.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	9.9 ft	Total Volume Pumped	8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:40:37	600.02	20.00	6.87	914.59	9.51	10.19	0.24	59.64
Last 5	13:45:37	900.02	20.22	6.86	911.02	6.32	10.19	0.19	69.80
Last 5	13:55:37	1500.02	20.22	6.86	913.78	4.79	10.19	0.12	82.28
Last 5	14:00:37	1800.02	20.40	6.86	911.07	4.41	10.19	0.11	86.41
Last 5	14:05:37	2100.02	20.47	6.86	908.89	2.91	10.19	0.09	88.95
Variance 0			0.00	-0.01	2.76			-0.07	12.48
Variance 1			0.18	0.00	-2.71			-0.01	4.13
Variance 2			0.07	-0.00	-2.18			-0.02	2.55

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-1

Grab

Product Name: Low-Flow System

Date: 2020-06-16 13:37:21

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	102.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102.5 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9425008 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	2.89 ft	Total Volume Pumped	54 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:15:49	2400.02	21.29	8.29	1423.39	2.29	9.51	0.04	-287.73
Last 5	13:20:49	2700.02	20.86	8.35	1398.42	2.19	10.67	0.04	-288.58
Last 5	13:25:49	3000.02	20.40	8.39	1377.43	2.80	12.50	0.05	-288.77
Last 5	13:30:49	3300.02	20.09	8.42	1378.76	2.21	13.62	0.08	-289.19
Last 5	13:35:49	3600.02	19.94	8.45	1374.90	2.78	14.90	0.10	-288.29
Variance 0			-0.45	0.04	-20.99			0.01	-0.19
Variance 1			-0.32	0.03	1.33			0.02	-0.43
Variance 2			-0.14	0.03	-3.86			0.02	0.90

Notes

Purge dry

Product Name: Low-Flow System

Date: 2020-06-17 13:42:31

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	102.5 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102.5 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9425008 L
Well Total Depth	107.5 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	68.6 ft	Total Volume Pumped	1 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:39:43	300.05	20.92	8.33	1479.02	19.10	69.61	0.23	16.84
Last 5									
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.00	0.00			0.00	0.00
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Five bottles: One 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B), one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-30D

Grab

MW-30D Filtered

Grab

Geosyntec consultants

GROUNDWATER SAMPLING LOG SHEET

Client:	SES	Project No.:	GW6581	Sampling Date:	6/19/2020
Site:	Hammond	Location:	AP-1	Sampler's Name:	Chad Bosso
Well ID:	MW-40D	Pump Type/Model:	Bailer	Sample Collection Time:	~~1020~~ 1025
Total Depth (ft):	136.85	Tubing Material:	N/A	Sample Purge Rate (mL/min):	—
Depth to Water (ft):	140.64	Pump Intake Depth (ft):	140	Sample ID:	MW-40D
Well Diameter (in):	2	Start/Stop Purge Time:	—	Laboratory Analyses:	App III+IV+ ions
Well Volume (gal) = $0.041d^2h$:	0.62	Purge Rate (mL/min):	—		
Well Volume (L) = gal * 3.785:	2.35	Total Purge Volume (L):	—		

d = well diameter (inches); h = length of water column (feet)

Purge Method: Low-Flow Well Volume Other: Bailer — QA/QC Collected?: —

Sampling Method: Pump Discharge Other: Bailer — QA/QC I.D.: —

Well Type: Flush (Stick Up) circled

Well Lock: (Yes) circled No

Well Cap Condition: (Good) circled Replace

Well Tag Present: (Yes) circled No

All sample containers requiring chemical preservation properly preserved prior to demob from well? (Yes) circled No

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1020	7.4	2117.7	90.4	3.1	28.27	22.3	136.85	—	—	
1025										grab sample
Stabilizing Criteria	+/- 0.1 SU	+/- 5%		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		< 5 NTUs	< 0.3 ft	> 100 mL < 250 mL	> 3L	

CB 6/19/2020

Product Name: Low-Flow System

Date: 2020-09-15 14:00:40

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	29 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	HGWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6144392 L
Well Total Depth	32.30 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	21.03 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:35:42	1200.02	18.57	7.12	675.09	6.15	21.66	0.73	46.26
Last 5	13:40:42	1500.02	18.61	7.14	640.84	3.75	21.68	0.74	45.86
Last 5	13:45:42	1800.02	18.61	7.13	636.90	2.72	21.68	0.75	45.56
Last 5	13:50:42	2100.02	18.59	7.13	642.42	1.99	21.68	0.84	43.99
Last 5	13:55:42	2400.02	18.57	7.15	637.79	2.15	21.70	0.74	42.92
Variance 0			-0.00	-0.01	-3.93			0.01	-0.30
Variance 1			-0.02	0.00	5.52			0.09	-1.57
Variance 2			-0.02	0.02	-4.63			-0.10	-1.07

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-1

Grab

Product Name: Low-Flow System

Date: 2020-09-15 11:00:31

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammon	Tubing Diameter	0.17 in
Site Name	d Plant Hammond	Tubing Length	24 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	23 ft

Well Information:		Pumping Information:	
Well ID	HGWA-2	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5921222 L
Well Total Depth	28.44 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	11.30 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:32:10	899.92	20.15	5.32	195.68	11.60	11.41	0.42	169.65
Last 5	10:37:10	1199.92	20.13	5.28	194.22	8.02	11.42	0.41	173.23
Last 5	10:42:10	1499.91	20.17	5.24	193.95	5.33	11.42	0.40	175.76
Last 5	10:47:10	1799.91	20.12	5.24	192.89	5.42	11.42	0.36	175.10
Last 5	10:52:10	2099.88	20.26	5.22	193.35	3.45	11.42	0.30	177.98
Variance 0			0.05	-0.04	-0.27			-0.01	2.53
Variance 1			-0.05	-0.00	-1.06			-0.04	-0.65
Variance 2			0.14	-0.02	0.45			-0.05	2.88

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-2

Grab

Product Name: Low-Flow System

Date: 2020-09-15 11:44:46

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	41 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	40 ft

Well Information:		Pumping Information:	
Well ID	HGWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6680003 L
Well Total Depth	45.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	11.14 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:20:49	599.92	19.75	7.20	432.07	2.79	11.14	0.43	135.56
Last 5	11:25:49	899.91	19.67	7.25	431.63	2.66	11.14	0.32	128.09
Last 5	11:30:49	1199.91	19.68	7.26	431.82	1.91	11.14	0.26	123.92
Last 5	11:35:49	1499.90	19.64	7.28	432.89	1.45	11.15	0.22	118.72
Last 5	11:40:49	1799.89	19.73	7.29	433.82	1.39	11.15	0.19	117.44
Variance 0			0.01	0.02	0.19			-0.06	-4.18
Variance 1			-0.04	0.02	1.07			-0.04	-5.20
Variance 2			0.09	0.00	0.93			-0.03	-1.29

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-3

Grab

Product Name: Low-Flow System

Date: 2020-09-16 12:15:59

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	58 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	57 ft

Well Information:		Pumping Information:	
Well ID	HGWA-43D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.3488785 L
Well Total Depth	62.80 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	20.86 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:53:12	5399.89	19.50	7.52	489.14	2.49	28.90	3.50	123.71
Last 5	11:58:12	5699.88	19.55	7.52	489.23	3.04	29.04	3.51	124.17
Last 5	12:03:12	5999.87	19.55	7.51	489.18	1.70	29.23	3.51	125.27
Last 5	12:08:12	6299.85	19.59	7.51	490.42	4.39	29.34	3.52	127.61
Last 5	12:13:12	6599.86	19.59	7.52	490.47	2.00	29.44	3.55	126.16
Variance 0			0.00	-0.00	-0.05			0.00	1.09
Variance 1			0.04	-0.00	1.24			0.00	2.34
Variance 2			-0.00	0.00	0.05			0.04	-1.45

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples
HGWA-43D

Grab

Product Name: Low-Flow System

Date: 2020-09-16 15:15:05

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	109 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	108 ft

Well Information:		Pumping Information:	
Well ID	HGWA-44D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9715132 L
Well Total Depth	112.70 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	19.78 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:52:53	1799.98	18.75	7.82	485.06	7.32	22.23	0.33	82.08
Last 5	14:57:53	2099.97	18.75	7.83	484.75	6.23	22.41	0.31	80.84
Last 5	15:02:53	2399.96	19.01	7.84	485.74	6.11	22.33	0.30	79.80
Last 5	15:07:53	2699.96	19.13	7.84	485.10	4.90	22.25	0.31	80.08
Last 5	15:12:53	2999.95	19.10	7.83	484.70	4.93	22.23	0.31	77.43
Variance 0			0.26	0.01	0.99			-0.01	-1.04
Variance 1			0.12	0.00	-0.64			0.01	0.28
Variance 2			-0.02	-0.01	-0.40			0.00	-2.65

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWA-44D

Grab

Product Name: Low-Flow System

Date: 2020-09-16 12:31:18

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	29 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	HGWC-7	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.6144392 L
Well Total Depth	30.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.58 ft	Total Volume Pumped	27.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:04:33	9906.00	21.19	7.29	678.36	31.9	6.65	7.67	106.88
Last 5	12:09:33	10206.00	21.11	7.29	678.67	--	--	7.87	105.68
Last 5	12:14:33	10506.00	21.08	7.29	678.89	24.1	6.65	8.05	104.54
Last 5	12:19:33	10806.00	21.07	7.29	678.75	23.5	6.65	8.10	102.38
Last 5	12:24:33	11106.00	21.10	7.30	678.45	21.0	6.65	8.00	100.49
Variance 0			-0.03	-0.00	0.23			0.19	-1.13
Variance 1			-0.01	0.00	-0.15			0.05	-2.17
Variance 2			0.03	0.00	-0.30			-0.10	-1.89

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-7

Grab

HGWC-7 Filtered

Grab

Product Name: Low-Flow System

Date: 2020-09-16 09:32:15

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	20 ft

Well Information:		Pumping Information:	
Well ID	HGWC-8	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.6189027 L
Well Total Depth	25.06 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.46 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:11:12	2399.99	21.29	6.88	865.80	16.59	5.45	0.47	68.28
Last 5	09:16:12	2699.99	21.28	6.92	878.38	11.10	5.45	0.44	68.20
Last 5	09:21:12	2999.99	21.26	6.92	872.84	7.20	5.45	0.45	68.25
Last 5	09:26:12	3299.99	21.28	6.92	872.72	5.30	5.45	0.42	68.22
Last 5	09:31:12	3599.99	21.25	6.92	860.92	4.73	5.45	0.40	68.01
Variance 0			-0.02	0.00	-5.54			0.01	0.04
Variance 1			0.02	-0.00	-0.12			-0.03	-0.02
Variance 2			-0.03	0.00	-11.80			-0.02	-0.21

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-8

Grab

Product Name: Low-Flow System

Date: 2020-09-17 11:35:54

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	44 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	43 ft

Well Information:		Pumping Information:	
Well ID	HGWC-9	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6635369 L
Well Total Depth	47.69 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.07 ft	Total Volume Pumped	34 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:14:58	8999.92	19.99	7.00	1100.27	7.76	14.08	0.13	52.90
Last 5	11:19:58	9299.92	20.07	7.00	1099.32	6.65	14.08	0.12	53.15
Last 5	11:24:58	9599.92	20.13	7.00	1099.27	5.64	14.08	0.14	53.55
Last 5	11:29:58	9899.92	20.17	6.99	1099.41	5.27	14.08	0.10	53.95
Last 5	11:34:58	10199.91	20.16	7.00	1100.72	4.90	14.08	0.12	54.28
Variance 0			0.06	-0.00	-0.04			0.02	0.40
Variance 1			0.04	-0.00	0.14			-0.03	0.39
Variance 2			-0.02	0.00	1.31			0.01	0.34

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-9

Grab

Product Name: Low-Flow System

Date: 2020-09-16 16:14:23

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	20 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	18 ft

Well Information:		Pumping Information:	
Well ID	HGWC-10	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5742685 L
Well Total Depth	22.73 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.13 ft	Total Volume Pumped	17 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:51:40	3902.98	20.02	6.66	878.73	1.41	14.09	1.41	57.59
Last 5	15:56:40	4202.99	20.10	6.67	878.43	0.77	14.09	0.57	58.35
Last 5	16:01:40	4502.97	20.12	6.66	873.89	0.42	14.09	0.53	58.42
Last 5	16:06:40	4802.97	20.12	6.66	871.65	0.38	14.09	0.45	58.31
Last 5	16:11:40	5102.97	20.12	6.66	873.05	0.42	14.09	0.42	58.16
Variance 0			0.02	-0.01	-4.53			-0.04	0.08
Variance 1			0.01	-0.00	-2.24			-0.08	-0.11
Variance 2			-0.00	0.00	1.39			-0.03	-0.15

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-10

Grab

Product Name: Low-Flow System

Date: 2020-09-18 13:31:54

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	21 ft

Well Information:		Pumping Information:	
Well ID	HGWC-11	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1926587 L
Well Total Depth	26.05 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.93 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:10:00	1200.02	23.12	6.42	833.08	0.29	14.97	0.55	156.96
Last 5	13:15:00	1500.02	23.07	6.41	830.14	0.37	14.97	0.44	152.14
Last 5	13:20:00	1800.03	23.07	6.42	828.95	0.79	14.97	0.40	149.22
Last 5	13:25:00	2100.02	22.96	6.42	830.47	0.79	14.97	0.42	145.73
Last 5	13:30:00	2400.02	23.86	6.41	839.22	0.42	14.97	0.58	143.44
Variance 0			0.00	0.00	-1.19			-0.04	-2.91
Variance 1			-0.11	0.00	1.52			0.02	-3.50
Variance 2			0.90	-0.01	8.75			0.17	-2.29

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-11

Grab

Product Name: Low-Flow System

Date: 2020-09-18 15:52:14

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	38 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	36 ft

Well Information:		Pumping Information:	
Well ID	HGWC-12	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6546101 L
Well Total Depth	35.05 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.98 ft	Total Volume Pumped	15 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:30:01	2100.02	21.02	7.16	1042.99	5.90	15.00	0.18	114.79
Last 5	15:35:01	2400.02	20.95	7.15	1043.40	5.20	15.00	0.18	117.78
Last 5	15:40:01	2700.02	20.88	7.16	1043.57	5.00	15.00	0.18	113.03
Last 5	15:45:01	3000.02	20.78	7.16	1043.36	4.80	15.00	0.17	113.77
Last 5	15:50:01	3300.02	20.93	7.17	1050.06	--	--	5.47	92.76
Variance 0			-0.06	0.01	0.17			0.01	-4.76
Variance 1			-0.10	-0.00	-0.20			-0.01	0.74
Variance 2			0.14	0.01	6.70			5.29	-21.00

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples
HGWC-12

Grab

Product Name: Low-Flow System

Date: 2020-09-21 16:49:11

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	42 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	40 ft

Well Information:		Pumping Information:	
Well ID	HGWC-13	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6724638 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	21.15 ft	Total Volume Pumped	24.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:27:16	3301.00	19.99	7.33	1019.96	5.5	21.43	0.13	-11.83
Last 5	16:32:16	3601.04	20.02	7.34	1020.63	5.1	21.43	0.13	-9.79
Last 5	16:37:16	3901.03	20.05	7.35	1022.37	4.9	21.43	0.13	-7.74
Last 5	16:42:16	4201.00	20.04	7.34	1020.68	4.6	21.43	0.13	-7.47
Last 5	16:47:16	4501.00	20.22	7.38	3.08	--	--	8.94	34.02
Variance 0			0.03	0.01	1.74			0.00	2.05
Variance 1			-0.01	-0.01	-1.69			0.00	0.27
Variance 2			0.18	0.05	-1017.59			8.81	41.49

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

HGWC-13

Grab

Product Name: Low-Flow System

Date: 2020-09-17 17:50:52

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	28 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	26 ft

Well Information:		Pumping Information:	
Well ID	MW-5	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.6099758 L
Well Total Depth	37.08 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.13 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:29:04	1200.02	21.57	6.55	772.50	0.79	17.25	0.75	64.27
Last 5	17:34:04	1500.02	21.69	6.56	762.34	1.23	17.25	1.03	64.23
Last 5	17:39:04	1800.02	21.64	6.53	755.34	0.73	17.25	0.92	64.41
Last 5	17:44:04	2100.02	21.69	6.50	747.05	0.88	17.25	0.87	64.29
Last 5	17:49:04	2400.02	21.78	6.48	742.11	0.57	17.25	0.87	64.57
Variance 0			-0.05	-0.03	-7.01			-0.11	0.18
Variance 1			0.05	-0.04	-8.29			-0.05	-0.12
Variance 2			0.09	-0.02	-4.94			-0.01	0.28

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-5

Grab

Product Name: Low-Flow System

Date: 2020-09-21 10:15:57

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	29 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	28 ft

Well Information:		Pumping Information:	
Well ID	MW-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6144392 L
Well Total Depth	32.93 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	17.49 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:53:58	600.01	20.31	6.84	1018.83	7.65	17.49	0.44	45.59
Last 5	09:58:58	900.00	20.56	6.86	1016.04	4.91	17.49	0.35	51.98
Last 5	10:03:58	1200.00	20.62	6.87	1015.72	3.99	17.49	0.28	57.41
Last 5	10:08:58	1499.99	20.71	6.88	1015.37	2.29	17.49	0.26	63.41
Last 5	10:13:58	1799.98	20.75	6.88	1015.54	1.79	17.49	0.22	68.92
Variance 0			0.06	0.01	-0.33			-0.07	5.43
Variance 1			0.09	0.01	-0.34			-0.02	6.00
Variance 2			0.04	0.00	0.17			-0.04	5.51

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-6

Grab

Product Name: Low-Flow System

Date: 2020-09-21 16:39:06

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	MW-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5876587 L
Well Total Depth	26.65 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.16 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:16:08	900.01	20.75	6.35	414.28	0.74	14.19	1.43	427.07
Last 5	16:21:08	1199.99	20.69	6.40	430.26	0.63	14.19	1.37	446.35
Last 5	16:26:08	1499.99	20.71	6.44	441.97	0.45	14.19	1.29	458.64
Last 5	16:31:08	1799.98	20.69	6.48	454.55	0.30	14.19	1.24	473.33
Last 5	16:36:08	2099.97	20.75	6.50	463.97	0.48	14.19	1.18	483.98
Variance 0			0.02	0.04	11.70			-0.08	12.29
Variance 1			-0.02	0.04	12.59			-0.05	14.69
Variance 2			0.06	0.03	9.41			-0.06	10.65

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-7

Grab

Product Name: Low-Flow System

Date: 2020-09-21 15:14:18

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	24 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	24 ft

Well Information:		Pumping Information:	
Well ID	MW-19	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.5921222 L
Well Total Depth	29.48 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	12.44 ft	Total Volume Pumped	12 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:52:25	2400.00	21.87	6.41	896.01	13.08	12.44	0.14	47.55
Last 5	14:57:25	2700.00	21.88	6.41	895.25	10.99	12.44	0.14	47.91
Last 5	15:02:25	3000.00	21.89	6.41	896.93	7.65	12.44	0.14	48.20
Last 5	15:07:25	3299.99	21.91	6.41	896.39	5.51	12.44	0.14	48.45
Last 5	15:12:25	3599.99	21.92	6.41	895.78	4.95	12.44	0.14	48.52
Variance 0			0.01	0.00	1.68			-0.01	0.29
Variance 1			0.02	-0.00	-0.55			0.00	0.25
Variance 2			0.01	0.00	-0.61			-0.00	0.07

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-19

Grab

Product Name: Low-Flow System

Date: 2020-09-17 15:53:27

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	29 ft

Well Information:		Pumping Information:	
Well ID	MW-20	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.6099758 L
Well Total Depth	34.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.78 ft	Total Volume Pumped	3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:32:33	900.01	21.30	6.66	686.78	4.55	14.93	0.60	-29.01
Last 5	15:37:33	1200.01	21.46	6.71	693.93	3.57	14.96	0.44	-35.59
Last 5	15:42:33	1500.01	21.22	6.74	699.66	3.73	14.96	0.43	-32.20
Last 5	15:47:33	1800.01	21.33	6.75	701.95	2.96	14.96	0.42	-32.26
Last 5	15:52:33	2100.01	21.37	6.78	702.43	1.68	14.96	0.43	-8.06
Variance 0			-0.25	0.03	5.73			-0.01	3.39
Variance 1			0.11	0.01	2.28			-0.02	-0.06
Variance 2			0.04	0.03	0.48			0.02	24.19

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-20

Grab

Product Name: Low-Flow System

Date: 2020-09-21 17:56:49

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	69 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	67 ft

Well Information:		Pumping Information:	
Well ID	MW-24D	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.7929762 L
Well Total Depth	73.40 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	27.09 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:32:22	600.02	20.52	7.65	579.89	1.95	27.14	0.13	219.36
Last 5	17:37:22	900.02	20.52	7.64	579.17	2.00	27.14	0.14	195.83
Last 5	17:42:22	1200.02	20.55	7.64	579.17	1.88	27.14	0.15	171.16
Last 5	17:47:22	1500.02	20.47	7.66	578.57	1.55	27.14	0.19	149.77
Last 5	17:52:22	1800.02	20.39	7.65	578.23	1.67	27.14	0.17	132.47
Variance 0			0.03	-0.00	0.00			0.01	-24.67
Variance 1			-0.09	0.02	-0.61			0.04	-21.39
Variance 2			-0.08	-0.01	-0.34			-0.02	-17.29

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-24D

Grab

Product Name: Low-Flow System

Date: 2020-09-18 13:17:19

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	59 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	MW-25D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.7483419 L
Well Total Depth	63.14 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.85 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:55:18	600.01	22.71	7.63	640.37	0.51	18.13	0.10	63.74
Last 5	13:00:18	899.99	23.33	7.64	630.99	0.55	18.15	0.09	54.78
Last 5	13:05:18	1199.99	23.35	7.63	629.26	0.44	18.15	0.10	44.56
Last 5	13:10:18	1499.99	23.30	7.63	628.37	0.48	18.19	0.12	32.27
Last 5	13:15:18	1799.98	23.21	7.64	628.59	0.56	18.22	0.13	19.18
Variance 0			0.02	-0.00	-1.72			0.01	-10.22
Variance 1			-0.05	0.00	-0.89			0.02	-12.29
Variance 2			-0.09	0.00	0.22			0.01	-13.09

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-25D

Grab

Product Name: Low-Flow System

Date: 2020-09-17 13:02:33

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	72 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	72 ft

Well Information:		Pumping Information:	
Well ID	MW-26D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.8063664 L
Well Total Depth	77.98 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	14.00 ft	Total Volume Pumped	3.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:41:12	900.03	21.06	7.14	979.60	3.52	14.11	0.35	-13.27
Last 5	12:46:12	1200.02	21.11	7.12	991.09	3.06	14.11	0.31	-14.45
Last 5	12:51:12	1500.03	21.28	7.10	997.13	2.26	14.11	0.30	-16.74
Last 5	12:56:12	1800.07	21.51	7.08	1001.94	1.75	14.11	0.28	-16.71
Last 5	13:01:18	2106.03	21.74	7.08	1004.72	1.64	14.11	0.28	-14.62
Variance 0			0.18	-0.02	6.03			-0.01	-2.29
Variance 1			0.23	-0.01	4.81			-0.02	0.03
Variance 2			0.23	-0.01	2.78			-0.00	2.09

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-25D

Grab

FD-01

Grab

Product Name: Low-Flow System

Date: 2020-09-17 13:06:57

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	59 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	MW-27D	Final Pumping Rate	400 mL/min
Well diameter	2 in	Total System Volume	0.7483419 L
Well Total Depth	63.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.45 ft	Total Volume Pumped	49 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:28:14	300.04	21.71	7.44	537.41	4.64	5.05	0.60	34.43
Last 5	09:33:14	600.01	21.55	7.48	540.10	4.62	5.87	0.39	28.81
Last 5	09:38:14	900.00	21.56	7.51	537.37	2.62	6.77	0.32	27.03
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.16	0.04	2.69			-0.21	-5.61
Variance 2			0.01	0.03	-2.73			-0.07	-1.78

Notes

Stopped readings to purge dry. Will sample tomorrow

Grab Samples

Product Name: Low-Flow System

Date: 2020-09-18 08:56:27

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	59 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	597519		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	58 ft

Well Information:		Pumping Information:	
Well ID	MW-27D	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.7483419 L
Well Total Depth	63.21 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	9.39 ft	Total Volume Pumped	1.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	08:48:49	300.08	20.04	7.51	403.21	2.72	11.16	1.25	179.28
Last 5									
Last 5									
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.00	0.00			0.00	0.00
Variance 2			0.00	0.00	0.00			0.00	0.00

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-27D

Grab

Product Name: Low-Flow System

Date: 2020-09-21 19:14:36

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	62 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	53 ft

Well Information:		Pumping Information:	
Well ID	MW-28D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.7617322 L
Well Total Depth	58.20 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.55 ft	Total Volume Pumped	26 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	18:52:42	9299.92	21.19	7.46	621.94	11.15	5.63	0.25	-59.75
Last 5	18:57:42	9599.92	21.11	7.46	623.27	10.59	5.63	0.25	-59.65
Last 5	19:02:42	9899.92	21.06	7.46	622.26	9.81	5.63	0.25	-60.52
Last 5	19:07:42	10199.91	21.02	7.46	624.66	8.90	5.63	0.25	-59.78
Last 5	19:12:42	10499.91	20.97	7.46	624.12	9.48	5.63	0.26	-59.84
Variance 0			-0.05	0.00	-1.01			0.00	-0.86
Variance 1			-0.05	-0.00	2.40			-0.00	0.73
Variance 2			-0.05	-0.00	-0.54			0.00	-0.06

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-28D

Grab

Product Name: Low-Flow System

Date: 2020-09-16 13:14:11

Project Information:		Pump Information:	
Operator Name	Thomas Kessler	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	646773		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	22 ft

Well Information:		Pumping Information:	
Well ID	MW-29	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.6189027 L
Well Total Depth	28.75 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.60 ft	Total Volume Pumped	27 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:53:24	6905.96	20.31	6.87	872.99	0.00	7.68	0.34	41.37
Last 5	12:58:24	7205.94	20.31	6.88	873.78	0.00	7.68	0.25	41.17
Last 5	13:03:24	7505.94	20.31	6.88	874.97	0.00	7.68	0.22	41.35
Last 5	13:08:24	7805.94	20.33	6.88	874.11	0.00	7.68	0.23	41.55
Last 5	13:13:24	8105.94	20.33	6.88	873.67	0.00	7.68	0.23	41.57
Variance 0			0.00	-0.00	1.18			-0.02	0.18
Variance 1			0.02	-0.00	-0.86			0.00	0.20
Variance 2			-0.00	0.00	-0.44			0.00	0.03

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-29

Grab

Product Name: Low-Flow System

Date: 2020-09-24 11:00:58

Project Information:		Pump Information:	
Operator Name	Vashish Taukoor	Pump Model/Type	QED MP50
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	105 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	512733		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	102.5 ft

Well Information:		Pumping Information:	
Well ID	MW-30D	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.9536594 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.15 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:35:02	1500.03	19.59	8.72	1419.90	4.25	14.35	0.50	-113.32
Last 5	10:40:02	1800.03	19.23	8.73	1415.12	4.41	14.52	0.62	-106.06
Last 5	10:45:02	2100.03	19.09	8.73	1441.56	4.57	14.80	0.58	-94.29
Last 5	10:50:02	2400.03	19.32	8.72	1415.23	4.22	15.00	0.41	-107.44
Last 5	10:55:02	2700.02	19.16	8.73	1406.34	--	--	0.22	-112.57
Variance 0			-0.14	0.00	26.44			-0.04	11.77
Variance 1			0.23	-0.01	-26.33			-0.18	-13.15
Variance 2			-0.16	0.01	-8.89			-0.19	-5.13

Notes

Seven bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); one 250-mL plastic bottle with HNO3 for metals (EPA 6010D/6020B); one 250-mL plastic bottle for Alkalinity (2320B); and one 125-mL plastic bottle with ZnAc + NaOH for sulfide (4500S2D).

Grab Samples

MW-30D

Grab

Geosyntec consultants

GROUNDWATER SAMPLING LOG SHEET

Client: SCS
Site: Hammond
Well ID: MW-40D
Total Depth (ft): 143.10
Depth to Water (ft): 135.00
Well Diameter (in): 2
Well Volume (gal) = 0.041d²h: 1.37 1.33
Well Volume (L) = gal * 3.785: 5.03
d = well diameter (inches); h = length of water column (feet)

Well Type: Flush / (Stick Up)
Well Lock: (Yes) / No
Well Cap Condition: (Good) / Replace
Well Tag Present: (Yes) / No

Project No.: GW6581
Location: API
Pump Type/Model: N/A (Bladder)
Tubing Material: N/A
Pump Intake Depth (ft): 138.10'
Start/Stop Purge Time: N/A
Purge Rate (mL/min): N/A
Total Purge Volume (L): N/A
Purge Method: (Low-Flow) / Well Volume / Other: ____
Sampling Method: (Pump Discharge) / Other: ____

Sampling Date: 9/28
Sampler's Name: CR
Sample Collection Time: 1515
Sample Purge Rate (mL/min): N/A
Sample ID: MW-40D
Laboratory Analyses: APP3/4
QA/QC Collected? -
QA/QC I.D. -

All sample containers requiring chemical preservation properly preserved prior to demob from well? Yes No

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1510	7.69	7970	~~2.69~~	2.69	27.16	781	135.00	N/A	N/A	ORP = 156
1515										grab sample
										Transcribed By TJ
							12			
							9/30			
Stabilizing Criteria	**+/- 0.1 SU**	**+/- 5%**		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		**< 5 NTUs**	**< 0.3 ft**	**> 100 mL < 250 mL**	**> 3L**	

Low-Flow Test Report:

Test Date / Time: 11/10/2020 9:26:05 AM
Project: GP-Plant Hammond
Operator Name: Thomas Kessler

Location Name: HGWA-43D **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 51.25 ft** **Initial Depth to Water: 17.63 ft**	**Pump Type: Bladder** **Tubing Type: Polyethylene** **Pump Intake From TOC: 56.25 ft** **Estimated Total Volume Pumped: 5000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 2.52 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728550**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6010D/6020B/7470A). Total depth = 61.80 ft.

Weather Conditions:
Cloudy, 70 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
11/10/2020 9:26 AM	00:00	7.43 pH	19.51 °C	519.66 µS/cm	2.23 mg/L	13.90 NTU	66.7 mV	17.63 ft	100.00 ml/min
11/10/2020 9:31 AM	05:00	7.31 pH	18.97 °C	526.55 µS/cm	0.85 mg/L	13.90 NTU	36.6 mV	18.00 ft	100.00 ml/min
11/10/2020 9:36 AM	10:00	7.30 pH	18.73 °C	526.05 µS/cm	0.47 mg/L	11.52 NTU	27.9 mV	18.54 ft	100.00 ml/min
11/10/2020 9:41 AM	15:00	7.30 pH	18.70 °C	529.05 µS/cm	0.41 mg/L	8.72 NTU	21.7 mV	18.75 ft	100.00 ml/min
11/10/2020 9:46 AM	20:00	7.29 pH	18.70 °C	531.52 µS/cm	0.35 mg/L	6.87 NTU	15.7 mV	19.08 ft	100.00 ml/min
11/10/2020 9:51 AM	25:00	7.28 pH	18.66 °C	532.18 µS/cm	0.31 mg/L	6.52 NTU	10.3 mV	19.26 ft	100.00 ml/min
11/10/2020 9:56 AM	30:00	7.28 pH	18.61 °C	533.94 µS/cm	0.30 mg/L	3.33 NTU	4.6 mV	19.45 ft	100.00 ml/min
11/10/2020 10:01 AM	35:00	7.27 pH	18.62 °C	533.72 µS/cm	0.26 mg/L	3.21 NTU	-0.3 mV	19.55 ft	100.00 ml/min
11/10/2020 10:06 AM	40:00	7.27 pH	18.55 °C	526.45 µS/cm	0.23 mg/L	3.37 NTU	-6.1 mV	19.75 ft	100.00 ml/min
11/10/2020 10:11 AM	45:00	7.28 pH	18.47 °C	524.76 µS/cm	0.20 mg/L	2.55 NTU	-12.1 mV	19.95 ft	100.00 ml/min
11/10/2020 10:16 AM	50:00	7.27 pH	18.43 °C	522.45 µS/cm	0.18 mg/L	2.29 NTU	-16.8 mV	20.15 ft	100.00 ml/min

Samples

Sample ID:	Description:
HGWA-43D	Grab Sample

Low-Flow Test Report:

Test Date / Time: 11/10/2020 1:01:59 PM
Project: GP-Plant Hammond
Operator Name: Shawn Lin

Location Name: HGWA-44D **Well Diameter: 2 in** **Casing Type: PVC Screen** **Length: 10 ft** **Top of Screen: 103.28 ft** **Initial Depth to Water: 16.81**	**Pump Type: Bladder** **Tubing Type: Polyethylene** **Pump Intake From TOC: 108.28 m** **Estimated Total Volume Pumped: 23.7 liter** **Flow Cell Volume: 90 ml** **Final Flow Rate: 120 ml/min** **Final Draw Down: 19.75 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728634**

Test Notes:

AquaTroll battery died at 13:11, continued purge to lower turbidity while charging the AquaTroll. Restarted purge at 14:27.
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6010D/6020B/7470A). Measured total depth = 113.30 ft.

Weather Conditions:

Cloudy, 70 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
11/10/2020 1:01 PM	00:00	7.82 pH	18.48 °C	491.24 µS/cm	0.35 mg/L		-85.8 mV		200.00 ml/min
11/10/2020 1:06 PM	05:00	7.82 pH	18.44 °C	496.57 µS/cm	0.28 mg/L	58.10 NTU	-88.6 mV	18.72 ft	200.00 ml/min
11/10/2020 1:11 PM	10:00	7.83 pH	18.42 °C	497.00 µS/cm	0.24 mg/L		-80.0 mV	18.72 ft	200.00 ml/min
11/10/2020 1:14 PM	12:41	7.83 pH	18.40 °C	495.66 µS/cm	0.24 mg/L		-94.2 mV	18.72 ft	200.00 ml/min
11/10/2020 2:27 PM	01:25:08	7.82 pH	18.71 °C	509.00 µS/cm	0.18 mg/L	39.00 NTU	-52.0 mV	19.51 ft	120.00 ml/min
11/10/2020 2:32 PM	01:30:35	7.82 pH	18.69 °C	507.62 µS/cm	0.17 mg/L	34.10 NTU	-83.2 mV	19.51 ft	120.00 ml/min
11/10/2020 2:37 PM	01:35:35	7.83 pH	18.68 °C	506.98 µS/cm	0.16 mg/L	28.00 NTU	-78.6 mV	19.55 ft	120.00 ml/min
11/10/2020 2:42 PM	01:40:35	7.83 pH	18.64 °C	507.98 µS/cm	0.15 mg/L	28.40 NTU	-78.0 mV	19.55 ft	120.00 ml/min
11/10/2020 2:47 PM	01:45:35	7.83 pH	18.60 °C	507.25 µS/cm	0.15 mg/L	26.80 NTU	-77.8 mV	19.60 ft	120.00 ml/min

11/10/2020 2:52 PM	01:50:35	7.83 pH	18.57 °C	506.67 µS/cm	0.15 mg/L	26.90 NTU	-77.7 mV	19.60 ft	120.00 ml/min
11/10/2020 2:57 PM	01:55:35	7.83 pH	18.60 °C	505.33 µS/cm	0.13 mg/L	26.00 NTU	-78.2 mV	19.63 ft	120.00 ml/min
11/10/2020 3:02 PM	02:00:35	7.84 pH	18.59 °C	505.55 µS/cm	0.13 mg/L	26.30 NTU	-78.3 mV	19.69 ft	120.00 ml/min
11/10/2020 3:07 PM	02:05:35	7.84 pH	18.54 °C	504.45 µS/cm	0.13 mg/L	25.80 NTU	-78.1 mV	19.69 ft	120.00 ml/min
11/10/2020 3:12 PM	02:10:35	7.84 pH	18.51 °C	504.23 µS/cm	0.12 mg/L	24.40 NTU	-78.3 mV	19.69 ft	120.00 ml/min
11/10/2020 3:17 PM	02:15:35	7.84 pH	18.51 °C	503.85 µS/cm	0.12 mg/L	22.90 NTU	-78.1 mV	19.69 ft	120.00 ml/min
11/10/2020 3:22 PM	02:20:35	7.84 pH	18.52 °C	503.63 µS/cm	0.12 mg/L	22.20 NTU	-77.9 mV	19.69 ft	120.00 ml/min
11/10/2020 3:27 PM	02:25:35	7.84 pH	18.51 °C	502.69 µS/cm	0.13 mg/L	20.60 NTU	-78.3 mV	19.69 ft	120.00 ml/min
11/10/2020 3:32 PM	02:30:35	7.84 pH	18.51 °C	501.88 µS/cm	0.12 mg/L	22.00 NTU	-78.4 mV	19.69 ft	120.00 ml/min
11/10/2020 3:37 PM	02:35:35	7.84 pH	18.51 °C	501.99 µS/cm	0.11 mg/L	21.40 NTU	-78.3 mV	19.71 ft	120.00 ml/min
11/10/2020 3:42 PM	02:40:35	7.84 pH	18.53 °C	502.57 µS/cm	0.12 mg/L	20.40 NTU	-78.4 mV	19.71 ft	120.00 ml/min
11/10/2020 3:47 PM	02:45:35	7.84 pH	18.51 °C	501.78 µS/cm	0.12 mg/L	19.60 NTU	-78.7 mV	19.71 ft	120.00 ml/min
11/10/2020 3:52 PM	02:50:35	7.84 pH	18.52 °C	502.02 µS/cm	0.12 mg/L	19.80 NTU	-78.8 mV	19.71 ft	120.00 ml/min

Samples

Sample ID:	Description:
HGWA-44D	Grab Sample
HGWA-44D, filtered	Grab Sample

Low-Flow Test Report:

Test Date / Time: 12/15/2020 9:50:43 AM
Project: GP-Plant Hammond
Operator Name: Thomas Kessler

Location Name: HGWA-43D **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 52.55 ft** **Initial Depth to Water: 14.51 ft**	**Pump Type: Bladder** **Tubing Type: Polyethylene** **Pump Intake From TOC: 57.55 ft** **Estimated Total Volume Pumped: 9 liters** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min Final Draw Down: 1.6 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728634**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6010D/6020B/7470A). Total depth = 61.80 ft.

Weather Conditions:
Sunny, cold

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	
12/15/2020 9:50 AM	00:00	7.34 pH	14.21 °C	526.82 µS/cm	1.46 mg/L	29.90 NTU	-59.7 mV	14.51 ft	100.00 ml/min
12/15/2020 9:55 AM	05:00	7.30 pH	15.61 °C	517.14 µS/cm	0.70 mg/L	37.61 NTU	-60.6 mV	15.00 ft	100.00 ml/min
12/15/2020 10:00 AM	10:00	7.31 pH	16.28 °C	515.08 µS/cm	0.96 mg/L	33.61 NTU	-108.1 mV	15.34 ft	100.00 ml/min
12/15/2020 10:05 AM	15:00	7.32 pH	16.55 °C	508.92 µS/cm	0.89 mg/L	24.82 NTU	-115.1 mV	15.61 ft	100.00 ml/min
12/15/2020 10:10 AM	20:00	7.34 pH	16.75 °C	498.96 µS/cm	0.60 mg/L	21.50 NTU	-69.4 mV	15.75 ft	100.00 ml/min
12/15/2020 10:15 AM	25:00	7.35 pH	16.80 °C	484.29 µS/cm	0.48 mg/L	19.06 NTU	-67.3 mV	15.85 ft	100.00 ml/min
12/15/2020 10:20 AM	30:00	7.35 pH	16.93 °C	475.04 µS/cm	0.57 mg/L	15.28 NTU	-65.8 mV	15.92 ft	100.00 ml/min
12/15/2020 10:25 AM	35:00	7.36 pH	17.09 °C	465.50 µS/cm	0.45 mg/L	14.47 NTU	-110.0 mV	15.97 ft	100.00 ml/min
12/15/2020 10:30 AM	40:00	7.36 pH	17.08 °C	459.56 µS/cm	0.35 mg/L	14.03 NTU	-108.6 mV	16.02 ft	100.00 ml/min
12/15/2020 10:35 AM	45:00	7.37 pH	17.28 °C	453.06 µS/cm	0.42 mg/L	12.14 NTU	-110.5 mV	16.05 ft	100.00 ml/min
12/15/2020 10:40 AM	50:00	7.37 pH	17.31 °C	447.42 µS/cm	0.32 mg/L	11.04 NTU	-61.9 mV	16.08 ft	100.00 ml/min

12/15/2020 10:45 AM	55:00	7.37 pH	17.26 °C	447.49 µS/cm	0.82 mg/L	10.63 NTU	-60.8 mV	16.10 ft	100.00 ml/min
12/15/2020 10:50 AM	01:00:00	7.38 pH	17.18 °C	447.76 µS/cm	0.74 mg/L	9.65 NTU	-58.5 mV	16.11 ft	100.00 ml/min
12/15/2020 10:55 AM	01:05:00	7.38 pH	16.87 °C	454.65 µS/cm	0.71 mg/L	8.89 NTU	-104.5 mV	16.11 ft	100.00 ml/min
12/15/2020 11:00 AM	01:10:00	7.39 pH	16.77 °C	455.20 µS/cm	0.44 mg/L	7.34 NTU	-101.8 mV	16.11 ft	100.00 ml/min
12/15/2020 11:05 AM	01:15:00	7.39 pH	17.04 °C	451.13 µS/cm	0.31 mg/L	6.63 NTU	-58.6 mV	16.11 ft	100.00 ml/min
12/15/2020 11:10 AM	01:20:00	7.40 pH	17.26 °C	448.17 µS/cm	0.31 mg/L	6.43 NTU	-56.8 mV	16.11 ft	100.00 ml/min
12/15/2020 11:15 AM	01:25:00	7.40 pH	17.20 °C	452.85 µS/cm	0.27 mg/L	5.33 NTU	-56.6 mV	16.11 ft	100.00 ml/min
12/15/2020 11:20 AM	01:30:00	7.39 pH	17.11 °C	453.03 µS/cm	0.22 mg/L	4.88 NTU	-55.8 mV	16.11 ft	100.00 ml/min

Samples

Sample ID:	Description:
HGWA-43D	Grab Sample

Low-Flow Test Report:

Test Date / Time: 12/15/2020 1:09:32 PM
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: 103.25 ft** **Initial Depth to Water: 14.4 ft**	**Pump Type: Bladder** **Tubing Type: Polyethylene** **Pump Intake From TOC: 108 ft** **Estimated Total Volume Pumped: 18.5 liters** **Flow Cell Volume: 90 ml** **Final Flow Rate: 100 ml/min** **Final Draw Down: 2.33 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728634**

Test Notes:
Five bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C); one 250-mL plastic bottle for Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6010D/6020B/7470A). Total depth = 111.3 ft.

Weather Conditions:
Sunny, cold

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	
12/15/2020 1:09 PM	00:00	7.90 pH	15.77 °C	484.96 µS/cm	1.80 mg/L	63.27 NTU	-106.7 mV	14.40 ft	100.00 ml/min
12/15/2020 1:14 PM	05:00	7.90 pH	16.46 °C	498.20 µS/cm	1.07 mg/L	98.00 NTU	-105.8 mV	14.55 ft	100.00 ml/min
12/15/2020 1:19 PM	10:00	7.90 pH	16.38 °C	499.17 µS/cm	0.74 mg/L	114.00 NTU	-182.1 mV	14.70 ft	100.00 ml/min
12/15/2020 1:24 PM	15:00	7.90 pH	16.30 °C	497.96 µS/cm	0.64 mg/L	112.00 NTU	-186.3 mV	14.93 ft	100.00 ml/min
12/15/2020 1:29 PM	20:00	7.90 pH	16.37 °C	496.40 µS/cm	0.57 mg/L	139.00 NTU	-114.7 mV	15.13 ft	100.00 ml/min
12/15/2020 1:34 PM	25:00	7.90 pH	16.26 °C	494.15 µS/cm	0.52 mg/L	128.00 NTU	-191.2 mV	15.28 ft	100.00 ml/min
12/15/2020 1:39 PM	30:00	7.90 pH	16.24 °C	491.16 µS/cm	0.48 mg/L	92.00 NTU	-194.6 mV	15.45 ft	100.00 ml/min
12/15/2020 1:44 PM	35:00	7.90 pH	16.52 °C	488.12 µS/cm	0.43 mg/L	50.00 NTU	-119.5 mV	15.60 ft	100.00 ml/min
12/15/2020 1:49 PM	40:00	7.90 pH	16.59 °C	483.68 µS/cm	0.40 mg/L	61.95 NTU	-200.0 mV	15.65 ft	100.00 ml/min
12/15/2020 1:54 PM	45:00	7.90 pH	16.81 °C	479.85 µS/cm	0.37 mg/L	49.82 NTU	-123.8 mV	15.77 ft	100.00 ml/min
12/15/2020 1:59 PM	50:00	7.90 pH	16.55 °C	493.05 µS/cm	0.35 mg/L	58.41 NTU	-124.2 mV	15.82 ft	100.00 ml/min
12/15/2020 2:04 PM	55:00	7.90 pH	16.64 °C	494.17 µS/cm	0.35 mg/L	38.92 NTU	-126.4 mV	15.90 ft	100.00 ml/min

12/15/2020 2:09 PM	01:00:00	7.90 pH	16.69 °C	492.65 µS/cm	0.32 mg/L	28.72 NTU	-207.7 mV	15.90 ft	100.00 ml/min
12/15/2020 2:14 PM	01:05:00	7.89 pH	16.55 °C	490.67 µS/cm	0.30 mg/L	23.69 NTU	-126.3 mV	15.91 ft	100.00 ml/min
12/15/2020 2:19 PM	01:10:00	7.88 pH	16.37 °C	492.49 µS/cm	0.29 mg/L	21.04 NTU	-124.5 mV	15.95 ft	100.00 ml/min
12/15/2020 2:24 PM	01:15:00	7.89 pH	16.26 °C	489.74 µS/cm	0.28 mg/L	18.27 NTU	-124.8 mV	15.95 ft	100.00 ml/min
12/15/2020 2:29 PM	01:20:00	7.88 pH	16.10 °C	488.48 µS/cm	0.28 mg/L	17.32 NTU	-207.2 mV	16.00 ft	100.00 ml/min
12/15/2020 2:34 PM	01:25:00	7.88 pH	15.93 °C	489.52 µS/cm	0.27 mg/L	15.96 NTU	-126.3 mV	16.05 ft	100.00 ml/min
12/15/2020 2:39 PM	01:30:00	7.88 pH	15.96 °C	489.65 µS/cm	0.26 mg/L	18.00 NTU	-126.0 mV	16.00 ft	100.00 ml/min
12/15/2020 2:44 PM	01:35:00	7.88 pH	15.96 °C	486.86 µS/cm	0.26 mg/L	16.95 NTU	-206.9 mV	16.00 ft	100.00 ml/min
12/15/2020 2:49 PM	01:40:00	7.88 pH	16.15 °C	485.86 µS/cm	0.25 mg/L	16.43 NTU	-207.8 mV	16.05 ft	100.00 ml/min
12/15/2020 2:54 PM	01:45:00	7.88 pH	16.01 °C	489.56 µS/cm	0.24 mg/L	16.22 NTU	-125.5 mV	16.05 ft	100.00 ml/min
12/15/2020 2:59 PM	01:50:00	7.88 pH	15.89 °C	489.90 µS/cm	0.24 mg/L	16.47 NTU	-124.1 mV	16.05 ft	100.00 ml/min
12/15/2020 3:04 PM	01:55:00	7.88 pH	15.74 °C	490.53 µS/cm	0.25 mg/L	13.59 NTU	-204.7 mV	16.05 ft	100.00 ml/min
12/15/2020 3:09 PM	02:00:00	7.87 pH	15.83 °C	489.04 µS/cm	0.25 mg/L	14.49 NTU	-206.8 mV	16.05 ft	100.00 ml/min
12/15/2020 3:14 PM	02:05:00	7.87 pH	16.38 °C	488.60 µS/cm	0.22 mg/L	14.19 NTU	-126.3 mV	16.20 ft	100.00 ml/min
12/15/2020 3:19 PM	02:10:00	7.87 pH	16.44 °C	486.41 µS/cm	0.19 mg/L	13.34 NTU	-209.6 mV	16.30 ft	100.00 ml/min
12/15/2020 3:24 PM	02:15:00	7.86 pH	16.46 °C	487.69 µS/cm	0.17 mg/L	13.09 NTU	-127.4 mV	16.35 ft	100.00 ml/min
12/15/2020 3:29 PM	02:20:00	7.88 pH	16.38 °C	491.48 µS/cm	0.16 mg/L	13.05 NTU	-126.5 mV	16.43 ft	100.00 ml/min
12/15/2020 3:34 PM	02:25:00	7.88 pH	16.35 °C	491.38 µS/cm	0.15 mg/L	12.11 NTU	-125.1 mV	16.50 ft	100.00 ml/min
12/15/2020 3:39 PM	02:30:00	7.88 pH	16.30 °C	489.46 µS/cm	0.15 mg/L	12.06 NTU	-207.6 mV	16.50 ft	100.00 ml/min
12/15/2020 3:44 PM	02:35:00	7.88 pH	16.30 °C	488.61 µS/cm	0.14 mg/L	11.87 NTU	-208.3 mV	16.60 ft	100.00 ml/min
12/15/2020 3:49 PM	02:40:00	7.87 pH	16.28 °C	488.02 µS/cm	0.13 mg/L	11.04 NTU	-124.4 mV	16.62 ft	100.00 ml/min
12/15/2020 3:54 PM	02:45:00	7.88 pH	16.30 °C	487.19 µS/cm	0.13 mg/L	11.03 NTU	-206.7 mV	16.65 ft	100.00 ml/min
12/15/2020 3:59 PM	02:50:00	7.88 pH	16.30 °C	487.66 µS/cm	0.13 mg/L	10.78 NTU	-122.7 mV	16.67 ft	100.00 ml/min
12/15/2020 4:04 PM	02:55:00	7.88 pH	16.28 °C	486.45 µS/cm	0.12 mg/L	8.75 NTU	-204.0 mV	16.70 ft	100.00 ml/min
12/15/2020 4:09 PM	03:00:00	7.86 pH	16.28 °C	486.14 µS/cm	0.12 mg/L	9.69 NTU	-203.7 mV	16.69 ft	100.00 ml/min
12/15/2020 4:14 PM	03:05:00	7.87 pH	16.32 °C	488.28 µS/cm	0.12 mg/L	9.00 NTU	-203.5 mV	16.73 ft	100.00 ml/min

Samples

Sample ID:	Description:

HGWA-44D	Grab Sample

Calibration Logs

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-2-2020 | Time (start): 0750 | Time (finish): 0830

smarTroll SN: 339797 | Turbidity Meter Type: LaMotte 2020we | SN: 977-2111

Weather Conditions: Rain Cloudy | Facility and Unit: Plant Hamond | Project No.: GW

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)	20010025 8/21	12.67	4440	4800	4477.1	+/- 5 %	Yes / No	
pH (4)			4.0	3.97	3.97	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/21	12.9	7.00	7.16	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/21	12.7	10.00	9.87	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460	12.4	+228	234.5	228.	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100.0	97.2	97.0	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	0.83	1.00	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	8.93	10.0	+/- 0.5 NTU	Yes / No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 3/2/2020

Time (start): 0730

Time (finish): 0825

smarTroll SN: 538243

Turbidity Meter Type: LaMotte 2020we

SN: 2949-0713

Weather Conditions: 48°F; raining

Facility and Unit: 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)	20010025 08/2021	13	4490	5011	4410	+/- 5 %	(Yes) No	
pH (4)			4	4.5	4	+/- 0.1 SU	(Yes) No	
pH (7)	19346057 08/2021	12.5	7	6.64	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320162 08/2021	12.1	10	8.56	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460162 08/2021	11.5	228	235.4	235.4	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	100	101.7	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.41	0.41	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.38	1.38	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.61	10	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Shaun Lin

Date: 5/2/2020

Time (start): ~~08:00~~ 07:15 (EL)

Time (finish): 08:00

smarTroll SN: 448902

Turbidity Meter Type: 2020We

SN:

Weather Conditions: Rainy

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)	#200|0025 08/2021	25	4490	4643	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.56	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	~~#200|0025~~ (EL) 08/2021	1934057 25	7.06	7.22	7.06	+/- 0.1 SU	(Yes) No	
pH (10)	~~#1934057~~ 08/2021	(EL) 1932102 25	10.08	9.98	10.08	+/- 0.1 SU	(Yes) No	
ORP (mV)	~~#1932102~~ (EL) 08/2021	1946067	246	235.9	246	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	96.4	—	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0.00	0.00	—	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1.00	1.22	—	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10.00	10.22	—	+/- 0.5 NTU	(Yes) No	

EQUIPMENT CALIBRATION LOG

Field Technician: T. Payne | Date : 3/2/2020 | Time (start): 7:45 | Time (finish): 8:10

smarTroll SN: R29827 | Turbidity Meter Type: LaMotte2020we | SN: 2984-0423

Weather Conditions: rain | Facility and Unit: Plant Hammond | Project No.: GW6581B

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)	20010025 8/21	13.4	4490	5117	4490	+/- 5 %	Yes	
pH (4)			4	4.01	--	+/- 0.1 SU	Yes	
pH (7)	19348051 8/21	13.3	7	6.96	--	+/- 0.1 SU	Yes	
pH (10)	1932022 8/21	13.5	10	10.03	--	+/- 0.1 SU	Yes	
ORP (mV)	19480167	13.3	228	225	--	+/- 20mV	Yes	
DO (%) (1pt, 100% water saturated air cal)			100	96.7	--	+/- 6 % saturation	Yes	
Turbidity 0 NTU			0	0.01	--	+/- 0.5 NTU	Yes	
Turbidity 1 NTU			1	0.98	--	+/- 0.5 NTU	Yes	
Turbidity 10 NTU			10	8.75	9.99	+/- 0.5 NTU	Yes	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-3-2020 | Time (start): 0715 | Time (finish): 0745

smarTroll SN: 339747 | Turbidity Meter Type: LaMotte 2020 | SN: 977-2111

Weather Conditions: Cloudy Rain | Facility and Unit: Plant Hammond | Project No.: GV6581

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)	20010025 8/21	12.4	4490	4477	4490	+/- 5 %	Yes / No	
pH (4)			4.0	4.51	4.50	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/21	12.5	7.0	7.04	7.0	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/21	12.5	10.0	9.84	10.0	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/21	~~12.6~~ ~~+228~~	~~+228 239.3~~	239.3	228.0	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	98.0%	98.0%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]		0	1.85	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]		1.0	1.87	1.0	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]		10.0	~~13.07~~ 9.18	10.0	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 3/3/2020

Time (start): 0740

Time (finish): 0820

smarTroll SN: 538243

Turbidity Meter Type: LaMotte 2026 we

SN: 2949-0413

Weather Conditions: 55°F; raining

Facility and Unit: 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)	20010025 08/2021	14.9	4490	4550	4508	+/- 5 %	(Yes) No	
pH (4)			4	4.54	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/2021	15.6	5.62	7	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	16.1	8	10	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460169	16.5	228	~~228~~ 247.3	227.1	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	101.9	102.2	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0.41	0.41	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.30	1.30	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10.46	10.46	+/- 0.5 NTU	(Yes) No	

EQUIPMENT CALIBRATION LOG

Field Technician: T. Payne | Date : 3/3/2020 | Time (start): 7:00 | Time (finish): 7:30

smarTroll SN: R29827 | Turbidity Meter Type: LaMotte2020we | SN: 2984-0423

Weather Conditions: rain | Facility and Unit: Plant Hammond | Project No.: GW6581B

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)	20010025 8/21	13.3	4490	4598	4488	+/- 5 %	Yes	
pH (4)			4	4.05	--	+/- 0.1 SU	Yes	
pH (7)	19348051 8/21	13.3	7	7.24	7.01	+/- 0.1 SU	Yes	
pH (10)	1932022 8/21	13.4	10	9.96	--	+/- 0.1 SU	Yes	
ORP (mV)	19480167	13.4	228	255.5	228	+/- 20mV	Yes	
DO (%) (1pt, 100% water saturated air cal)			100	96.4	--	+/- 6 % saturation	Yes	
Turbidity 0 NTU			0	0.01	--	+/- 0.5 NTU	Yes	
Turbidity 1 NTU			1	0.8	--	+/- 0.5 NTU	Yes	
Turbidity 10 NTU			10	8.61	9.98	+/- 0.5 NTU	Yes	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-4-2020 | Time (start): 0720 | Time (finish): 0741

smarTroll SN: 334797 | Turbidity Meter Type: LaMotte 2020we | SN: 477-2111

Weather Conditions: Cloudy / Rain | Facility and Unit: Plant Hammond | Project No.: 6h6581

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)	20010025 8/2021	12.9	4490	4352	4490	+/- 5%	(Yes) No	
pH (4)		13.2	4.0	4.52	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	13.6	7.0	7.21	7.0	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	13.4	10.0	9.83	10.0	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021		+228	239.7	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100%	98.2	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	-.84	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1.0	0.68	1.0	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10.0	12.66	10.0	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: ~~0720~~ 1/4/2020

Time (start): 0720 Time (finish): 0800

smarTroll SN: 538243

Turbidity Meter Type: LaMotte 2020we SN: 2949-0413

Weather Conditions: 52°F, cloudy

Facility and Unit: 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)	20910025 08/2021	16.6	4490	4587	4513	+/- 5 %	Yes No	
pH (4)			4	4.62	4	+/- 0.1 SU	Yes No	
pH (7)	19340057 08/2021	16.2	7	5.79	7	+/- 0.1 SU	Yes No	
pH (10)	19320102 08/2021	15.8	10	8.08	10	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 08/2021	15.1	228	225.7	229	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	97.8	99.2	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	0.43	0.43	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1	1.36	1.36	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10	10.51	10.27	+/- 0.5 NTU	Yes No	

EQUIPMENT CALIBRATION LOG

Field Technician: T. Payne | Date : 3/4/2020 | Time (start): 7:10 | Time (finish): 7:30

smarTroll SN: R29827 | Turbidity Meter Type: LaMotte2020we | SN: 2984-0423

Weather Conditions: rain | Facility and Unit: Plant Hammond | Project No.: GW6581B

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)	20010025 8/21	15.4	4490	44006	4490	+/- 5 %	Yes	
pH (4)			4	4.12	4	+/- 0.1 SU	Yes	
pH (7)	19348051 8/21	15.2	7	6.72	7	+/- 0.1 SU	Yes	
pH (10)	1932022 8/21	15.1	10	9.13	10	+/- 0.1 SU	Yes	
ORP (mV)	19480167	14.9	228	225.2	--	+/- 20mV	Yes	
DO (%) (1pt, 100% water saturated air cal)			100	95.9	--	+/- 6 % saturation	Yes	
Turbidity 0 NTU			0	0	--	+/- 0.5 NTU	Yes	
Turbidity 1 NTU			1	1.2	--	+/- 0.5 NTU	Yes	
Turbidity 10 NTU			10	11.54	9.71	+/- 0.5 NTU	Yes	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-25-2020 | Time (start): 0715 | Time (finish): 0740

smarTroll SN: 440279 | Turbidity Meter Type: LaMotte 202we | SN: 6389-1416

Weather Conditions: Clear | 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)	20010025 08/2021	16.2	4490	4149	4490	+/- 5 %	Yes / No	
pH (4)		16.3	4.00	4.32	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	16.3	7.00	7.12	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 08/2021	16.6	10.00	9.91	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 08/2021	16.4	+228	236.5	+228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	92.6%	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			~~1.00~~ 1.00	1.09	1.00	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10.00	8.90	10.00	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo | Date: 3/25/2020 | Time (start): 0725 | Time (finish): 0800

smarTroll SN: 364452 | Turbidity Meter Type: LaMotte 2020e | SN: 710-0711

Weather Conditions: 57°F, cloudy | Facility and Unit: Hammond | Project No.: GW6501

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)	20010025 8/2021	17.7	4490	4037	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.29	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	18	7	7.11	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320167 8/2021	18.2	10	9.87	9.9	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	18.3	228	233.6	233.6	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	90.7	94.6	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.61	0.01	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.91	0.91	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.6	10.44	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Nelson Cuevas

Date: 3 25 20

Time (start): 7:00

Time (finish): 7:19

smarTroll SN: 466615

Turbidity Meter Type: Lamotte 2020we

SN: 1603

Weather Conditions: Sunny @ 60's-70's

Facility and Unit: 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)	20010025 08/2021	18.4°C	4490	4301	4480	+/- 5 %	Yes No	
pH (4)		11.6°C	4.00	4.38	4.00	+/- 0.1 SU	Yes No	
pH (7)	19390087 08/2021	11.6°C	7.00	7.17	7.00	+/- 0.1 SU	Yes No	
pH (10)	19320102 08/2021	11.7°C	10.00	9.85	10.00	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 08/2021	11.5°C	228	233.7	228	+/- 20mV	Yes No	
DO (%) (1pt. 100% water saturated air cal)	[redacted]		100%	94.0%	100%	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0.0	0.01	0.0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1.0	0.95	1.0	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10.0	12.94	10.0	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 3/25/2021 | Time (start): 7:25 | Time (finish): 7:50

smarTroll SN: 497963 | Turbidity Meter Type: ~~Hach~~ 2020We | SN: 2953

Weather Conditions: clear | 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)	#200/0025	~~12~~ 17.9	4490	4726	4490	+/- 5 %	(Yes) No	
pH (4)	08/2021		4.00	4.38	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	#1934 0057 08/21	18.0	7.02	7.25	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	#1932 0102 -8/21	18.0	10.04	9.76	10.04	+/- 0.1 SU	(Yes) No	
ORP (mV)	#1946 0167 08/2021	17.9	228	229.5	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	91.5	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.68	1.08	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.85	9.94	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-26-2020 | Time (start): 0705 | Time (finish): 0734

smarTroll SN: 440279 | Turbidity Meter Type: LaMotte 2020 we | SN: 6389-1416

Weather Conditions: Clear | Facility and Unit: 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)	20010025 08/2021	11.6	4490	4353	4440	+/- 5 %	(Yes) No	
pH (4)		11.8	4.00	4.42	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/2021	11.6	7.00	7.15	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	11.8	10.00	9.90	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/2021	11.6	+228	+243.0	+228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100%	96.6%	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]	[redacted]	0	-0.01	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.14	1.0	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10.2	10	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 3/26/2020

Time (start): 0932

Time (finish): 0950

smarTroll SN: 364452

Turbidity Meter Type: LaMotte 2020we

SN: 710-0711

Weather Conditions: 54°F; cloudy

Facility and Unit: 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)	20010025 8/2021	15.89	4490	4475.8	4490	+/- 5 %	(Yes) No	
pH (4)			4	4	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	16.34	7	7.01	7.01	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	16.7	10	9.99	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	16.47	228	230.3	230.3	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	95.59	94.28	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.21	0.21	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.7	0.7	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.27	10.04	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Nelson Gunby

Date: 3 26 20

Time (start): 700 am

Time (finish): 745

smarTroll SN: 406615

Turbidity Meter Type: Lamotte 2020we

SN: 1003

Weather Conditions: clear 50's

Facility and Unit: 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)	20010625 08/2021	9.3 °C	4490	4765	4490	+/- 5 %	(Yes) No	
pH (4)		9.2 °C	4.0	4.42	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/2021	9.5 °C	7.0	7.15	7.0	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	9.4 °C	10.0	9.80	10.0	+/- 0.1 SU	(Yes) No	
ORP (mV)	19960167 08/2021	8.6 °C	228	238.3	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	93.4	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0.0	0.0	0.0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1.0	1.29	1.0	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10.0	13.0	10.0	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin

Date: 3/26/2020

Time (start): 7:20

Time (finish): 8:00

smarTroll SN: 646777

Turbidity Meter Type: ~~2953~~ 2020WE

SN: 2953

Weather Conditions: clear

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)	#200/005 08/2021	17.7	4490	4261	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.40	4.60	+/- 0.1 SU	(Yes) No	
pH (7)	#19340057 08/2021	17.9	7.02	7.29	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	#19320102 08/2021	18.2	10.04	9.99	10.04	+/- 0.1 SU	(Yes) No	
ORP (mV)	#19460167 08/2021	17.9	228	228.5	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	91.6	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.87	0.93	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.70	9.98	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-27-2020 | Time (start): 0748 | Time (finish): 0820

smarTroll SN: 440279 | Turbidity Meter Type: LaMotte | SN: 6389-1416

Weather Conditions: Sunny | Facility and Unit: Plant Hammond / Huffaker | Project No.: 6W6581B

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)	20010025 08/2021	14.9	4440	4538	4440	+/- 5 %	Yes / No	
pH (4)		14.8	4.00	4.35	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	15.3	7.00	7.13	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 08/2021	15.6	10.00	9.89	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 08/2021	15.6	+228	+236.8	+228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100 %	92.8%	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	-0.01	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	1.82	1.00	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	9.78	10.00	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo | Date: 3/27/2020 | Time (start): 0830 | Time (finish): 0852

smarTroll SN: 364452 | Turbidity Meter Type: LaMotte 2020we | SN: 710-0711

Weather Conditions: 57°F sunny | Facility and Unit: 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)	200 10025 8/2021	18.62	4490	4519.5	4517	+/- 5 %	Yes / No	
pH (4)			4	4.03	4.03	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/2021	19.04	7	7.01	7.01	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/2021	19.25	10	10.02	10.03	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/2021	19.38	228	222.5	222.5	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	100.04	98.85	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0.07	0.07	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.57	0.71	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	6.83	10.02	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Nelson Cumby

Date: 3/27/20

Time (start): 757

Time (finish): 749

smarTroll SN: 466615

Turbidity Meter Type: Lamotte 2020we

SN: 1613

Weather Conditions: cloudy 50's

Facility and Unit: 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)	20100025 08/2021	13.6°C	4490	4707	4490	+/- 5 %	Yes / No	
pH (4)		13.5°C	4.0	4.34	4.0	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	13.7°C	7.0	7.12	7.0	+/- 0.1 SU	Yes / No	
pH (10)	14320102 08/2021	13.8°C	10.0	9.84	10.0	+/- 0.1 SU	Yes / No	
ORP (mV)	19960167 08/2021	18.5°C	228	230.1	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100%	94.9%	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0.0	0.02	0.0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1.0	0.66	1.0	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10.0		10.0	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 3/27/2020 | Time (start): 9:50 | Time (finish): 8:11

smarTroll SN: 499963 | Turbidity Meter Type: 2020 We | SN: 2953

Weather Conditions: Clear, 45F | Facility and Unit: Plant Hammond | Project No: GW658

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)	#2001 0025 08/2021	20.5	4490	4424	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.36	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	#1934 0057 08/2021	20.7	7.02	7.28	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	#1932 1102 08/2021	20.7	10.04	10.01	10.04	+/- 0.1 SU	(Yes) No	
ORP (mV)	#1946 0167 08/2021	20.7	228	223.2	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	91.6	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.95	0.98	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	11.56	9.93	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder

Date: 3-30-2020

Time (start): 1200

Time (finish): 1242

smarTroll SN: ~~440279~~ 728550

Turbidity Meter Type: Lamotte

SN: 6389-1416

Weather Conditions: Sunny

Facility and Unit: Plant Hammond/Huffaker

Project No.: GV6581

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)	20016025 08/2021	28.18	4490	4427.6	4490	+/- 5 %	Yes / No	
pH (4)		27.94	4.00	4.15	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	25.29	7.00	7.10	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 08/2021	22.76	10.00	10.15	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167	24.49	+228	234.6	+228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)			100 %	98.72%	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	-0.01	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	0.96	1	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	9.72	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo | Date: 3/30/2020 | Time (start): 0905 | Time (finish): 0933

smarTroll SN: 364452 | Turbidity Meter Type: LaMotte 2020we | SN: 710-0711

Weather Conditions: 61°F; sunny | Facility and Unit: 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)	20010625 8/2021	20.15	4490	4530	4527.9	+/- 5 %	Yes / No	
pH (4)			4	3.98	3.97	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/2021	20.83	7	6.98	6.98	+/- 0.1 SU	Yes / No	
pH (10)	19326102 8/2021	21.10	10	9.98	10	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/2021	20.76	228	224.6	224.6	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	103.49	100.91	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	0.82	0.82	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10.37	10.37	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Nelsen Gunby

Date: 3/30/20

Time (start): 708

Time (finish): 740

smarTroll SN: 4606 15

Turbidity Meter Type: LaMotte 2020we

SN: 1603

Weather Conditions: cloudy 50's

Facility and Unit: 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)	2001 0025 08/2024	12.8	4490	4790	4490	+/- 5 %	Yes No	
pH (4)		12.7	4.0	4.39	4.0	+/- 0.1 SU	Yes No	
pH (7)	193 40057 08/2021	12.6	7.0	7.16	7.0	+/- 0.1 SU	Yes No	
pH (10)	193 20102 08/2021	12.6	10.0	9.86	10.0	+/- 0.1 SU	Yes No	
ORP (mV)	19960167 08/2021	12.7	228	228.9	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100%	95.5	100%	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0.0	0.01	0.0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1.0	0.78	1.0	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10.0	12.78	10.0	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 3/30/2020 | Time (start): 7:45 | Time (finish): 8:15

smarTroll SN: 497963 | Turbidity Meter Type: 2020 we | SN: 2953

Weather Conditions: Cloudy, 45°F | Facility and Unit: Plant Hammond | Project No: GW6587

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	#200|0025	22.7	4490	4323	4490	+/- 5 %	(Yes) No	
pH (4)	08/2021	(SD)	4.00	4.32	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	#193405 08/2021	~~22.9~~ 23.0	7.02	7.19	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	#193201|02 08/2021	22.9	~~10.04~~ 10.00 (SD)	10.03	10.04	+/- 0.1 SU	(Yes) No	
ORP (mV)	#194601|69 08/2021	22.5	228	219.0	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	90.6	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]		0	0.06	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]		1	0.86	0.92	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]		10	11.15	9.80	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 3-31-2020 | Time (start): 0408 | Time (finish): 0436

smarTroll SN: Y28550 | Turbidity Meter Type: Lamotte 2020 we | SN: 6389-1416

Weather Conditions: Cloudy and cool | Facility and Unit: Plant Hammond/Huffaker | Project No.: GV6581

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)	20010025 08/2021	14.58	4490	4546	4400	+/- 5 %	Yes / No	
pH (4)		14.54	4.00	3.97	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	15.22	7.00	7.01	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 08/2021	15.89	10.00	10.03	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460967 08/2021	15.50	+228	243.6	+228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	102.94%	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	-0.02	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1.00	~~1.26~~ 1.01	1.00	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10.0	9.25	10.00	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 3/31/2020

Time (start): 0820

Time (finish): 0846

smarTroll SN: 364452

Turbidity Meter Type: LaMotte 2020 we

SN: 710-0711

Weather Conditions: 55°F cloudy

Facility and Unit: Belmont

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)	20610625 8/2021	17.9	4490	4460.9	4462	+/- 5 %	(Yes) No	
pH (4)			4	4.04	4.03	+/- 0.1 SU	(Yes) No	
pH (7)	19346057 8/2021	18.08	7	7.06	7.06	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	18.26	10	10.05	10.06	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	18.44	~~234~~ 228	231.5	231.5	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	96.94	96.47	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.05	0.05	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.63	0.63	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	12.67	9.9	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Nelson Conley | Date: 3/31/20 | Time (start): 7 am | Time (finish): 745

smarTroll SN: 466615 | Turbidity Meter Type: LaMotte 2020we | SN: 1603

Weather Conditions: Cloudy 50's | Facility and Unit: 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)	2001 0925 08/2021	12.7	4490	4728	4490	+/- 5%	Yes No	
pH (4)		12.6	4.0	4.40	4.0	+/- 0.1 SU	Yes No	
pH (7)	19340357 08/2021	12.7	7.0	7.15	7.0	+/- 0.1 SU	Yes No	
pH (10)	19320102 08/2021	12.8	10.0	9.86	10.0	+/- 0.1 SU	Yes No	
ORP (mV)	19960167 08/2021		228	228.7	2228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	96.3	100%	+/- 6% saturation	Yes No	
Turbidity 0 NTU			0.0	0.01	0.0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1.0	0.85	1.0	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10.0	9.77	10.0	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 03/3/2020 | Time (start): 7:33 | Time (finish): 8:00

smarTroll SN: 497963 | Turbidity Meter Type: 2020 We | SN: 2953

Weather Conditions: Cloudy, 50°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)	#200/0025	20.0	4490	4225	4490	+/- 5 %	(Yes) No	
pH (4)	08/2021		4.00	4.39	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	#1934 0057 08/2021	20.0	7.02	7.19	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	#1932 0102 08/2021	20.0	10.04	10.01	10.04	+/- 0.1 SU	(Yes) No	
ORP (mV)	#1946 0167 08/21	19.9	228	223.6	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	90.9	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.73	0.97	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.27	10.04	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 4-1-2020 | Time (start): 0737 | Time (finish): 0757

smarTroll SN: 728550 | Turbidity Meter Type: LaMotte 2020we | SN: 6389-1416

Weather Conditions: Clear and cool | Facility and Unit: 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)	20010025 08/2021	6.52	4490	4545.4	4490	+/- 5 %	Yes / No	
pH (4)		6.53	4.00	4.05	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340057 08/2021	6.93	7.00	7.21	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 08/2021	7.51	10.00	10.22	10.0	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 08/2021	7.37	+228	237.9	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100 %	95.75	100 %	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	-0.01	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.18	1.	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10.25	10	+/- 0.5 NTU	Yes / No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo | Date: 4/1/2020 | Time (start): 0810 | Time (finish): 0830

smarTroll SN: 364452 | Turbidity Meter Type: LaMotte 2020 we | SN: 710-0711

Weather Conditions: 50°F, clear | Facility and Unit: 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)	20010025 8/2021	10.45	4490	4549.6	4549.6	+/- 5 %	(Yes) No	
pH (4)			4	4	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	11.63	7	7.02	7.02	+/- 0.1 SU	(Yes) No	
pH (10)	19320162 8/2021	12.03	10	10.07	10.09	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	12.03	229	238.3	238.3	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	99.95	99.13	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.58	1.22	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	8.13	9.91	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 4/1/2020 | Time (start): 7:30 | Time (finish): 8:45

smarTroll SN: 497963 | Turbidity Meter Type: 2020WE | SN: 2953

Weather Conditions: Sunny, 40°F | Facility and Unit: Plant Hammond | Project No: GW1581

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)	#700/8025 08/2021	13.8	4490	4218	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.49	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	#19340057 08/2021	13.6	7.00	7.20	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	#19320102 08/2021	13.4	10.00	9.92	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	#19460167 08/2021	12.9	228	235.6	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	91.5	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0.05	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.77	0.98	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.70	9.97	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 4/2/2020

Time (start): 1005

Time (finish): 1025

smarTroll SN: 364457

Turbidity Meter Type: LaMotte 2020we

SN: 710-0711

Weather Conditions: 60°F sunny

Facility and Unit: 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)	2601005 8/2021	16.41	4490	4346.2	4346.6	+/- 5 %	(Yes) No	
pH (4)			4	3.99	3.99	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	16.92	7	7.03	7.03	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	16.87	10	10.09	10.10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460016 8/2021	16.78	228	249.1	247.4	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	103.31	103.54	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.33	0.33	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.75	0.75	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.15	9.26	+/- 0.5 NTU	(Yes) No	

Calibration Report:	Conductivity Calibration Report 2020-04-08 10:04:58 Probe: 647057 Cell Constant: 1.0168 Stability: Full

Calibration Report:	pH Calibration Report 2020-04-08 10:10:56 Probe: 647057 4.00 to 7.00 pH Slope: -57.83 mV/pH Offset: 6.90 pH 7.00 to 10.00 pH Slope: -56.44 mV/pH Offset: 6.89 pH Stability: Full

Calibration Report: ORP Calibration Report
2020-04-08 10:13:14
Probe: 647057
User Defined: 228.0 mV
Offset: -6.6 mV
Stability: Full

Calibration Report: RDO Calibration Report
2020-04-08 10:15:42
Probe: 647057
Slope: 1.0533
Offset: -0.0000
Stability: Full

Calibration Report:	Conductivity Calibration Report 2020-04-09 08:34:56 Probe: 647057 Cell Constant: 1.0034 Stability: Full

Calibration Report:	pH Calibration Report 2020-04-09 08:43:03 Probe: 647057 4.00 to 7.00 pH Slope: -57.35 mV/pH Offset: 6.88 pH 7.00 to 10.00 pH Slope: -56.02 mV/pH Offset: 6.87 pH Stability: Full

Calibration Report:	ORP Calibration Report 2020-04-09 08:45:34 Probe: 647057 User Defined: 228.0 mV Offset: 2.2 mV Stability: Full

Calibration Report: RDO Calibration Report
2020-04-09 08:50:14
Probe: 647057
Slope: 1.0645
Offset: -0.0000
Stability: Full

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 5/11/2020

Time (start): 1120

Time (finish): 1200

smarTroll SN: 588863

Turbidity Meter Type: LaMotte 2020 we

SN: 2284-2612

Weather Conditions: 60°F; sunny

Facility and Unit: 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)	200:0025 8/2021	12.3	4490	5458	4490	+/- 5 %	Yes / No	
pH (4)			4	4.29	4	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/2021	12.3	7	7.04	7	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/2021	12.3	10	9.73	10	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/2021	13	228	221	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	102.3	103.2	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.36	0.36	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	0.79	0.79	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	10.03	10.03	+/- 0.5 NTU	Yes / No	

Calibration Report: Conductivity Calibration Report
2020-05-19 08:46:17
Probe: 643819
Cell Constant: 1.0095
Stability: Nominal

Calibration Report: pH Calibration Report
2020-05-19 08:48:26
Probe: 643819
4.00 pH
Slope: -59.16 mV/pH
Offset: 6.89 pH

Stability: Nominal

Calibration Report: pH Calibration Report
2020-05-19 08:52:00
Probe: 643819
7.00 pH
Slope: -59.16 mV/pH
Offset: 6.98 pH

Stability: Nominal

Calibration Report: pH Calibration Report
2020-05-19 08:56:19
Probe: 643819
10.00 pH
Slope: -59.16 mV/pH
Offset: 7.15 pH

Stability: Nominal

Calibration Report: ORP Calibration Report
2020-05-19 08:58:58
Probe: 643819
User Defined: 228.0 mV
Offset: 1.8 mV
Stability: Nominal

Calibration Report: RDO Calibration Report
2020-05-19 09:01:28
Probe: 643819
Slope: 1.0988
Offset: -0.0000
Stability: Nominal

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 6/16/2020

Time (start): 0720

Time (finish): 0750

smarTroll SN: 643619

Turbidity Meter Type: LaMotte 2020we

SN: 1475-4011

Weather Conditions: 60°F; clear

Facility and Unit: Hammond

Project No.: GN6581

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)	20510025 8/2021	19.8	4490	4596	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.21	4	+/- 0.1 SU	(Yes) No	
pH (7)	19346057 8/2021	20.3	7	6.57	6.97	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	20.9	10	8.89	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	21.2	228	215.5	221.1	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	96.8	99.4	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.04	0.04	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.23	1.24	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.33	10.25	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 6/16/2021 | Time (start): 7:29 | Time (finish): 7:50

smarTroll SN: 597519 | Turbidity Meter Type: LaMotte 2020we | SN: 2289

Weather Conditions: Sunny | Facility and Unit: Plant Hammond | Project No.: GW6587

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	200/0025	20.3	4.49	4.43	4.488	+/- 5 %	(Yes) No	
pH (4)	08/2021		4.000	4.06	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340059 08/2021	20.3	7.00	7.04	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	20.3	10.00	9.94	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/2021	19.9	228	224.5	228.4	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	90.9	100.2	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.5	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.89	1.23	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10	9.97	+/- 0.5 NTU	(Yes) No	

7.82

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 6/17/2020

Time (start): 0910

Time (finish): 0935

smarTroll SN: 473819

Turbidity Meter Type: LaMotte 2020we

SN: 1475-4011

Weather Conditions: 65°F, cloudy

Facility and Unit: Hammond

Project No.: GW6591

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)	2001005 8/2021	21.6	4490	4562	4559	+/- 5 %	Yes / No	
pH (4)			4	4.32	4	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/2021	21.9	7	6.79	6.97	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/2021	22.2	10	9.23	9.91	+/- 0.1 SU	Yes / No	
ORP (mV)	19466167 8/2021	22.2	228	221.8	225.5	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)			100	98.4	98.5	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.14	0.14	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	0.56	0.56	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	10.86	9.98	+/- 0.5 NTU	Yes / No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 6/17/2020 | Time (start): 7:25 | Time (finish): 7:45

smarTroll SN: 597519 | Turbidity Meter Type: LaMotte 2020WE | SN: 2289

Weather Conditions: Cloudy | 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)	20010025 08/21	21.3	4490	4383	4497.1	+/- 5 %	(Yes) No	
pH (4)			4.00	4.26	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/2021	21.4	7.00	7.03	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	21.2	10.00	9.96	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/2021	21.3	228	221.1	228.4	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	90.8	100.0	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.94	0.99	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	13.09	9.99	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 6/19/2020

Time (start): 0930

Time (finish): 1010

smarTroll SN: 643819

Turbidity Meter Type: LaMotte 2020we

SN: 1475-4011

Weather Conditions: 75°F Sunny

Facility and Unit: Hammond

Project No.: GN658

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)	20010025	22.9	4490	4424	4370	+/- 5%	(Yes) No	
pH (4)	8/2021		4	4.16	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	24.8	7	6.82	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	24.1	10	9.31	9.92	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	25.1	228	221.7	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	101.2	104.6	+/- 6% saturation	(Yes) No	
Turbidity 0 NTU			0	0.45	0.45	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.45	0.89	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.14	10.14	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Shawn Lin | Date: 6/19/2021 | Time (start): 8:50 | Time (finish): 9:10

smarTroll SN: 597519 | Turbidity Meter Type: LaMotte 2020we | SN: 2289

Weather Conditions: 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)	2001005 08/21	23.3	4490	4279	4495.2	+/- 5 %	(Yes) No	
pH (4)			4.00	4.20	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/2021	23.3	7.00	7.00	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	23.4	10.00	9.99	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/2021	23.6	228	202.3	229.1	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	92.8	100.2	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.42	0.88	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	13.24	9.92	+/- 0.5 NTU	(Yes) No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Theresa Kessler

Date: 9/14/20

Time (start): 1106

Time (finish): 1144

smarTroll SN: 646773

Turbidity Meter Type: Lamotte 2020we

SN: 7009

Weather Conditions: Sunny

Facility and Unit: Hammond GW

Project No.: 2WG581

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)	20010028 08/21	26°	4490	4369	~~1351~~ 4490	+/- 5 %	Yes No	
pH (4)			4.00	4.61	~~4.00~~ 4.00	+/- 0.1 SU	Yes No	
pH (7)	19340057 08/21	27.5	7.00	7.59	7.00	+/- 0.1 SU	Yes No	
pH (10)	14320102 08/21	26.9	10.00	10.42	10.00	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 8/2021	27.1	228	192.8	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100% ~~47.8%~~	97.8%	100 %	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1	1.49	1.49	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10	10.33	10.33	+/- 0.5 NTU	Yes No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 9/14/2020

Time (start): 1105

Time (finish): 1140

smarTroll SN: 597519

Turbidity Meter Type: LaMotte 2020we

SN: 1510-4111

Weather Conditions: 85°F SUNNY

Facility and Unit: Hammond

Project No.: GW 6551

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)	20010025 8/2021	25.1	4490	4364	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.12	4	+/- 0.1 SU	Yes (No)	
pH (7)	19340057 8/2021	27	7	7.07	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	26.6	~~9.95~~ 10	9.95	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	26.7	228	214.5	228.9	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	94.6	100.8	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.01	0.01	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.47	1.47	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.46	10.46	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Heasley Date: 9/15/20 Time (start): 0855 Time (finish): 0930

smarTroll SN: 646773 Turbidity Meter Type: Lamotte 2020we SN: 7009

Weather Conditions: overcast, 78° Facility and Unit: 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)	2661602S 08/21	23.6°	4490	4371	4490	+/- 5 %	(Yes) No	
pH (4)			4.00	4.83	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 08/21	24.5°	7.00	7.71	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/21	24.7°	10.00	10.52	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	14460167 08/21	24.5	228	~~228~~ 190.8	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100 %	100.5	100 %	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU	[redacted]	[redacted]	1	.00	1	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU	[redacted]	[redacted]	10	9.63	9.68	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 9/15/2020

Time (start): 0855

Time (finish): 0935

smarTroll SN: 597519

Turbidity Meter Type: LaMotte

SN: 1510-7111

Weather Conditions: 75°F overcast

Facility and Unit: Hamm

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)	20010025 8/2021	25.1	4490	4327	4490	+/- 5 %	Yes / No	
pH (4)			4	4.23	4	+/- 0.1 SU	Yes / No	
pH (7)	19340057 8/2021	25.5	7	7.14	7	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/2021	25.6	10	9.93	10	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/2021	25.4	228	212.4	229	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)			100	90.6	99.9	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.01	0.01	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	1.54	1.49	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	10.29	10.29	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: VAIBHAV TAMHANE

Date: 9-15-2020

Time (start): 0855

Time (finish): 0935

smarTroll SN: 512733

Turbidity Meter Type: LaMotte 2020WE

SN: 2949-0413

Weather Conditions: 77°F OVERCAST

Facility and Unit: 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)	20610025 08/2021	24.7	4490	4478	4491	+/- 5 %	Yes No	
pH (4)			4.0	4.17	4.0	+/- 0.1 SU	Yes No	
pH (7)	193 400 (+7) 08/2021	24.9	7.0	7.06	7.0	+/- 0.1 SU	Yes No	
pH (10)	19320102 08/2021	24.8	10	10.02	10	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 08/2021	24.6	228	224.3	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100%	88	100%	+/- 6 % saturation	Yes No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0.62	0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU	[redacted]	[redacted]	1	0.99	1	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU	[redacted]	[redacted]	10	11.32	10	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Kessler

Date: 9/16/20

Time (start): 0700

Time (finish): 0800

smarTroll SN: 646773

Turbidity Meter Type: Lamotte 2020

SN: 4009

Weather Conditions: cloudy, cool

Facility and Unit: 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)	200010025 08/21	20.9	4490	4454	4400	+/- 5 %	(Yes) No	
pH (4)			4.0	4.84	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	14340057 08/21	21.3	7.0	7.66	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/21	21.5	10.0	10.44	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 ~~08/20~~ 08/21	21.4	+228	196	+228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	94.9	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	.07	.07	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.66	.62	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.02	10	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 9/16/2020

Time (start): 0830

Time (finish): 0903

smarTroll SN: 597519

Turbidity Meter Type: LaMotte 2020we

SN: 1510-4111

Weather Conditions: 70°F overcast

Facility and Unit: 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)	20100D5 8/2021	21.9	4490	4410	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.24	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	22.2	7	7.09	7	+/- 0.1 SU	(Yes) No	
pH (10)	14320102 8/2021	22.4	10	9.92	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	22.3	228	217.4	229.2	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	90.3	100.4	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.58	1.46	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.82	9.82	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: VASHISH TANKOR Date: 9-16-2020 Time (start): 0730 Time (finish): 0750

smarTroll SN: 512733 Turbidity Meter Type: LAMOTTE 2020WE SN: 2949-0413

Weather Conditions: 69F, OVERCAST, WINDY Facility and Unit: 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)	2001 0025 08/21	21.5	4490	4379	4490	+/- 5 %	Yes / No	
pH (4)			4	4.24	4.0	+/- 0.1 SU	Yes / No	
pH (7)	1934 0057 08/21	21.8	7	7.07	7.0	+/- 0.1 SU	Yes / No	
pH (10)	1932 0102 08/21	21.8	10	9.98	10.0	+/- 0.1 SU	Yes / No	
ORP (mV)	194 6010 7 08/21	21.3	228	227.6	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)			100	98.5	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.06	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	1.04	0.87	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	10.22	10.06	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: [redacted]

Date: 9/17/20

Time (start): 0709

Time (finish): 0736

smarTroll SN: 646773

Turbidity Meter Type: Lamotte 2020

SN: 7009

Weather Conditions: 68° Light rain

Facility and Unit: 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)	20010025 08/21	20.1	4490	4394	4490	+/- 5 %	Yes / No	
pH (4)			4.0	4.87	4.0	+/- 0.1 SU	Yes / No	
pH (7)	19340057 05/21	20.8	7.0	7.67	7.0	+/- 0.1 SU	Yes / No	
pH (10)	19320102	21.1	10	10.44	10	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 08/21	21.2	228	196.5	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	95.2	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	1.03	1	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	11.29	11	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 9/17/2020

Time (start): 0820

Time (finish): 0850

smarTroll SN: 597519

Turbidity Meter Type: Lamotte 2020we

SN: 1510-4111

Weather Conditions: 70°F overcast

Facility and Unit: Hammond

Project No: GN6581

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)	20010025 8/2021	21.5	4490	4377	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.29	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340657 8/2021	21.5	7	7.1	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	21.5	10	9.89	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	21.5	228	210.9	231.1	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	91.8	100.4	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.68	0.68	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.73	1.07	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	6.75	9.9	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: [redacted] THOMAS

Date: 9-17-2020

Time (start): 0734

Time (finish): 0757

smarTroll SN: 512733

Turbidity Meter Type: LaMOTTE 2020WE

SN: 2949-0413

Weather Conditions: 67°F, RAIN

Facility and Unit: 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)	2001 0825	20.4°C	4490	4364	4490	+/- 5 %	Yes / No	
pH (4)	8/21		4	4.28	4.00	+/- 0.1 SU	Yes / No	
pH (7)	19340857 08/21	20.8	7	7.10	7.00	+/- 0.1 SU	Yes / No	
pH (10)	19320102 8/21	20.9	10	10.0	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167 8/21	21.0	234	228	234	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	96	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.32	1	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10.45	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Wessler | Date: 9/18/20 | Time (start): 0719 | Time (finish): 0800

smarTroll SN: 646773 | Turbidity Meter Type: Lamotte 2020 | SN: 70009

Weather Conditions: Sunny, 70° | Facility and Unit: Hammond | Project No.: 61W6584

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)	20010025 08/21	22.0	4490	4386	4490	+/- 5 %	(Yes) No	
pH (4)			4.0	4.80	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	14340057 08/21	22.3	7.00	7.63	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/21	22.4	10.00	10.414	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	1946167 08/21	22.5	228	193.4	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	96.1	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.56	0.88	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	15.00	10	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo | Date: 9/18/2020 | Time (start): 0755 | Time (finish): 0820

smarTroll SN: 547519 | Turbidity Meter Type: LaMotte 2020we | SN: 1510-14111

Weather Conditions: 70°F Cloudy | Facility and Unit: 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)	20160025 8/2021	22.9	4490	4413	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.30	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	23.1	7	7.11	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320162 9/2020	23.3	10	9.88	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	23.3	228	205	230.3	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	90.9	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.4	1.4	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	12.52	10.11	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: VISHISH THAKKER

Date: 9-18-20

Time (start): 07 25

Time (finish): 07 42

smarTroll SN: 512733

Turbidity Meter Type: LaMOTTE 2020WE

SN: 2949-0413

Weather Conditions: 70F. OVERCAST

Facility and Unit: HAMMOND

Project No.: GW0581

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)	2001 0825 08/2021	21.1	4490	4382	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.26	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	193A0057 08/2021	21.9	7	7.08	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/2021	22.2	10	10.02	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/21	22.3	228	223	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	91.3	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.00	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.00	1.00	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.09	10.00	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Hessler

Date: 9-21-20

Time (start): 0800

Time (finish): 0825

smarTroll SN: 646773

Turbidity Meter Type: Lamotte 2020

SN: 7009

Weather Conditions: Sunny, 55°

Facility and Unit: Hammered

Project No.: GW6889

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)	200 10025 05/21	13.8	4490	4491	4490	+/- 5 %	(Yes) No	
pH (4)			4.0	4.91	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 05/21	15.4	7.0	7.61	7.0	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 05/21	15.6	10.00	10.35	10.0	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 05/21	15.6	228	205.7	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100%	92.8	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	1.42	0.00	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	.61	0.85	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.25	10.00	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Rosso

Date: 9/21/2020

Time (start): 0940

Time (finish): 0910

smarTroll SN: 597519

Turbidity Meter Type: LaMotte 2020we

SN: 1510-4111

Weather Conditions: 60°F sunny

Facility and Unit: Hammond

Project No.: 6W6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	20610025 8/2024	17.9	4490	4441	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.41	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	18.6	7	7.12	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2023	19	10	9.86	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	19.1	228	196	231.3	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	95.2	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.38	1.1	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	9.5	9.5	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: [redacted] Date: 9-21-20 Time (start): 08 28 Time (finish): 08 42

smarTroll SN: 512 733 Turbidity Meter Type: LAMOTTE 2020WE SN: 2949-0413

Weather Conditions: 55°F, SUNNY Facility and Unit: HAMMOND Project No.: GW 0581

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)	2001/0025 08/21	15.4°	4490	4315	4490	+/- 5 %	Yes / No	
pH (4)			4	4.37	4.00	+/- 0.1 SU	Yes / No	
pH (7)	1934057 8/21	16.5	7	7.12	7.00	+/- 0.1 SU	Yes / No	
pH (10)	1932012 8/21	16.8	10	9.96	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	1946167 8/21	17.1	228	226.7	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100%	90.3	100	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU			0	0.10	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU			1	1.65	1	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU			10	9.76	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Hessler

Date: 9/24/20

Time (start): 0720

Time (finish): 0800

smarTroll SN: 646775

Turbidity Meter Type: Lamotte 2020we

SN: 7009

Weather Conditions: Raining 58°

Facility and Unit: Hammond

Project No.: CLW6581

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)	20010025 08/21	17.9	4490	4385	4490	+/- 5 %	(Yes) No	
pH (4)			4.0	4.94	4.0	+/- 0.1 SU	(Yes) No	
pH (7)	19320057 08/21	18.7	7.0	7.63	7.0	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 08/21	18.9	10.0	10.37	10.0	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/21	14.0	228	197.2	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100%	94.0%	100%	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	2.00	0.04	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	0.28	1.08	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	14.02	9.71	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Chad Russo

Date: 9/25/2020

Time (start): 0920

Time (finish): 0940

smarTroll SN: 597519

Turbidity Meter Type: LaMotte 2020we

SN: 1510-4111

Weather Conditions: 60°F raining

Facility and Unit: 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)	2001025 9/2021	20.5	4490	4400	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.5	4	+/- 0.1 SU	(Yes) No	
pH (7)	19340057 8/2021	20.5	7	6.92	7	+/- 0.1 SU	(Yes) No	
pH (10)	19320102 8/2021	20.8	10	9.71	10	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 8/2021	21	228	205	234.8	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]		100	89.1	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.32	1.32	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.71	10.34	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: VASHISH THAKKAR

Date: 9-24-2020

Time (start): 0745

Time (finish): 0815

smarTroll SN: 512733

Turbidity Meter Type: LaMOTTE 2020we

SN: 2949-0413

Weather Conditions: 60°F, RAIN

Facility and Unit: HANNAH

Project No.: GW0581

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)	2001025 8/21	17.5	4490	4450	4490	+/- 5 %	(Yes) No	
pH (4)			4	4.36	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	1834005 8/21	18.3	7	7.16	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	1832102 8/21	19.6	10	9.94	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	1946167 8/21	19.4	228	193.9	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100	93.0	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.02	0	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.23	1	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.27	10	+/- 0.5 NTU	(Yes) No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Kessler

Date: 9/28/20

Time (start): 0815

Time (finish): 0848

smarTroll SN: 646775

Turbidity Meter Type: Lamotte 2020we

SN: 7009

Weather Conditions: Sunny, 68°

Facility and Unit: Hammond

Project No.: 60606581

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)	20010025 08/21	22.1	4490	4421.18	4490	+/- 5 %	Yes / No	
pH (4)			4.00	4.87	4.0	+/- 0.1 SU	Yes / No	
pH (7)	19340054 08/21	22.8	7.00	7.58	7.0	+/- 0.1 SU	Yes / No	
pH (10)	19320402 08/21	23.1	10.00	10.42	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460487 08/21	23.3	228	189.2	228	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100	95.9	99.8	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0.01	0.00	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1	1.29	1.28	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	6.73	9.85	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Aaron Reeder | Date: 9-28-2020 | Time (start): 1330 | Time (finish): 1405

smarTroll SN: 512733 | Turbidity Meter Type: LaMotte | SN: 2949

Weather Conditions: Sunny Hi 82/Lo 71 | Facility and Unit: Hammond | Project No: GV6581

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)	20010025 08/2021	27.5	4490	4341	4490	+/- 5 %	Yes / No	
pH (4)		27.6	4.00	4.25	4.00	+/- 0.1 SU	Yes / No	
pH (7)	08/2021 19340057	26.7	7.00	7.11	7.00	+/- 0.1 SU	Yes / No	
pH (10)	08/2021 19320102	26.2	10.00	10.08	10.00	+/- 0.1 SU	Yes / No	
ORP (mV)	19460167	26.6	228.0	197.4	228.0	+/- 20mV	Yes / No	
DO (%) (1pt, 100% water saturated air cal)	[redacted]	[redacted]	100%	97.7	100%	+/- 6 % saturation	Yes / No	
Turbidity 0 NTU	[redacted]	[redacted]	0	0	0	+/- 0.5 NTU	Yes / No	
Turbidity 1 NTU	[redacted]	[redacted]	1.00	0.99	1.00	+/- 0.5 NTU	Yes / No	
Turbidity 10 NTU	[redacted]	[redacted]	10	10	10	+/- 0.5 NTU	Yes / No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Shawn LTY

Date: 11/10/2020

Time (start): 11:55

Time (finish): 12:15

smarTroll SN: 728634

Turbidity Meter Type: LaMotte 2020 We

SN: 2953

Weather Conditions: Cloudy

Facility and Unit: Hammond

Project No.: GW6581

Calibration log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Initial Reading	Post-Cal Reading (SU) 11/10/2020	Acceptable Range	Pass?	Comments
Specific Conductance (µS/cm)	200100025 08/2021	22.29	4490	4568.3	4322.9 4487.2	+/- 5 %	Yes No	
pH (4)			4.00	4.03	4.00	+/- 0.1 SU	Yes No	
pH (7)	19340057 08/2021	22.04	7.00	7.05	7.00	+/- 0.1 SU	Yes No	
pH (10)	19329102 08/2021	22.04	10.00	9.97	10.00	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 08/2021	22.14	228	240.7	227.6	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100	101.3	99.83	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	0	0	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1	0.92	0.97	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10	11.18	9.85	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Kessler

Date: 11/10/2020

Time (start): 0738

Time (finish): 0808

smarTroll SN: 728550

Turbidity Meter Type: LaMotte 2020we

SN: 1659-0412

Weather Conditions: Overcast, 70°

Facility and Unit: Plant Hammond

Project No.: GWG581

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)	20010025 / 08/21	25°	~~4490~~ 4.00	~~5042~~ 3.80	4490	+/- 5 %	Yes No	Aquatroll 400
pH (4)			4.00	3.81	4.00	+/- 0.1 SU	Yes No	
pH (7)	19340057 08/21	20.61°	7.00	7.12	~~7.00~~ 7.02	+/- 0.1 SU	Yes No	
pH (10)	19320102 08/21	20.66°	10	10.15	~~10.00~~ 10.04	+/- 0.1 SU	Yes No	
ORP (mV)	19460167 08/21	20.79	228	226.8	228	+/- 20mV	Yes No	
DO (%) (1pt, 100% water saturated air cal)			100%	99.93%	100%	+/- 6 % saturation	Yes No	
Turbidity 0 NTU			0	0.54	0.38	+/- 0.5 NTU	Yes No	
Turbidity 1 NTU			1.00	1.00	1.00	+/- 0.5 NTU	Yes No	
Turbidity 10 NTU			10.00	7.67	9.93	+/- 0.5 NTU	Yes No	

Geosyntec consultants

EQUIPMENT CALIBRATION LOG

Field Technician: Thomas Messler

Date: 12/15/20

Time (start): 826

Time (finish): 0850

smarTroll SN: 728634

Turbidity Meter Type: Lamotte 2020we

SN: 14179-4011

Weather Conditions: Sunny, cold

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)	20010028 08/21	11.26	4490	4784	4490	+/- 5 %	(Yes) No	
pH (4)			4.0	4.00	4.00	+/- 0.1 SU	(Yes) No	
pH (7)	19340657 08/21	10.67	7.00	7.13	7.00	+/- 0.1 SU	(Yes) No	
pH (10)	19320100 08/21	9.62	10.00	10.22	10.00	+/- 0.1 SU	(Yes) No	
ORP (mV)	19460167 08/21	8.44	228	246	228	+/- 20mV	(Yes) No	
DO (%) (1pt, 100% water saturated air cal)			100%	101.75%	100	+/- 6 % saturation	(Yes) No	
Turbidity 0 NTU			0	0.03	0.03	+/- 0.5 NTU	(Yes) No	
Turbidity 1 NTU			1	1.08	1.03	+/- 0.5 NTU	(Yes) No	
Turbidity 10 NTU			10	10.16	9.71	+/- 0.5 NTU	(Yes) No	

APPENDIX F

Statistical Analysis Packages

GROUNDWATER STATS CONSULTING

August 26, 2020

Southern Company Services
Attn: Ms. Kristen Jurinko
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308

Re: Plant Hammond Ash Pond 1 (AP-1)
Statistical Analysis – March 2020 Sample Event

Dear Ms. Jurinko,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the March 2020 Semi-Annual Groundwater Monitoring and Corrective Action Statistical summary of the analysis of groundwater quality for Georgia Power Company's Plant Hammond AP-1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10, and follows the USEPA Unified Guidance (2009).

Sampling began for the CCR program in 2016, and at least 8 background samples have been collected at each of the groundwater monitoring wells. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** HGWA-1, HGWA-2, HGWA-3
- **Downgradient wells:** HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, HGWC-13

Additionally, sampling began in March 2019 for the majority of the following delineation wells, which are analyzed in an addendum report. Exceptions to this include well MW-30D where sampling began in September 2019 and wells MW-40D with the first sample event conducted in May 2020. The results of those findings are discussed in the Groundwater Monitoring Report prepared by Geosyntec:

- **Delineation wells:** MW-5, MW-6, MW-7, MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, MW-30D, MW-40D

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Groundwater Statistician and Founder of Groundwater Stats Consulting.

The CCR program consists of the following constituents:

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS;
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium.

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% nondetects follows this letter. A substitution of the most recent reporting limit is used for nondetect data. Mercury was not detected during the Scan event in March 2020; therefore, no statistical analyses were required for these constituents.

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. No values were flagged as outliers (Figure C).

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Statistical Methods – Appendix III Parameters:

- Interwell Prediction Limits combined with 1-of-2 resamples for: boron, calcium, chloride, fluoride, pH, sulfate, and TDS

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In 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.

Statistical Analysis of Appendix III Parameters – March 2020

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through March 2020 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance.

When the March 2020 compliance data from downgradient wells were compared to interwell prediction limits, several exceedances were noted. A summary table of these findings is provided along with the prediction limits (Figure D).

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site which is an indication of natural variability in groundwater unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing trends:

- Boron: HGWC-8 and HGWC-9
- Sulfate: HGWA-3 (upgradient)

Decreasing trends:

- Calcium: HGWC-12
- Chloride: HGWC-12
- Sulfate: HGWC-12
- TDS: HGWC-12

Statistical Analysis of Appendix IV Parameters – March 2020

Interwell tolerance limits were used to calculate the site-specific background limits from pooled upgradient well data for Appendix IV constituents (Figure F). Note that the tolerance limit for combined radium 226 + 228 increased slightly during this event compared to the Fall 2019 event due to the most recent reported concentration in upgradient well HGWA-1. The background limit, however, remains below the established maximum contaminant level of 5 pCi/L which is used as the Groundwater Protection Standard as discussed below. If the radium concentrations at this well do not remain at the current reported concentration, this value may be flagged as an outlier in the future and deselected prior to construction of tolerance limits.

Parametric tolerance limits are used when data follow a normal or transformed-normal distribution. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4- .10(6)(a).

As described in 40 CFR §257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified levels have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR Rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above Georgia EPD Rule requirements and the CCR Rule, State and Federal GWPS were established for statistical comparison of Appendix IV constituents for the March 2020 sample event (Figures G and H, respectively).

To complete the statistical comparison to GWPS, State and Federal confidence intervals were constructed for the Appendix IV constituents in accordance with the federal and state requirements in each downgradient well (Figures I and J, respectively). The Sanitas software was used to calculate the tolerance limits and the confidence intervals. The confidence intervals were compared to the GWPS established using the CCR Rules for the Federal requirements and the Georgia EPD Rules 391-3-4-.10(6)(a) for the State requirements. Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. Summaries of the confidence intervals follow this letter. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. Exceedances were noted for the following well/constituent pairs:

Federal:

- Arsenic: HGWC-13
- Molybdenum: HGWC-8

State:

- Arsenic: HGWC-13
- Lithium: HGWC-13
- Molybdenum: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, and HGWC-13

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Hammond AP-1. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew T. Collins
Project Manager

Kristina L. Rayner
Groundwater Statistician

100% Nondetect Well-Constituent Pairs

Date: 6/2/2020 6:03 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Antimony (mg/L)

HGWA-2, HGWC-10, HGWC-11, HGWC-12, HGWC-7, HGWC-8

Arsenic (mg/L)

HGWC-10, HGWC-8

Beryllium (mg/L)

HGWA-1, HGWA-3, HGWC-10, HGWC-12, HGWC-9

Cadmium (mg/L)

HGWA-1, HGWA-3, HGWC-13

Cobalt (mg/L)

HGWA-3

Lithium (mg/L)

HGWC-10, HGWC-11

Mercury (mg/L)

HGWA-3, HGWC-12, HGWC-7, HGWC-8

Molybdenum (mg/L)

HGWA-1, HGWA-2, HGWA-3

Selenium (mg/L)

HGWA-1, HGWA-2, HGWA-3, HGWC-7

Thallium (mg/L)

HGWA-1, HGWA-3, HGWC-10, HGWC-7, HGWC-9

Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:35 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-10	0.0592	n/a	4/1/2020	0.23	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-11	0.0592	n/a	3/31/2020	0.17	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-12	0.0592	n/a	3/26/2020	1.6	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-13	0.0592	n/a	3/30/2020	1.8	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-7	0.0592	n/a	3/27/2020	1.2	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-8	0.0592	n/a	3/27/2020	2.4	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-9	0.0592	n/a	3/31/2020	2.2	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	HGWC-12	138	n/a	3/26/2020	145	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-13	138	n/a	3/30/2020	234	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-9	138	n/a	3/31/2020	182	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-12	20.4	n/a	3/26/2020	48	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-13	20.4	n/a	3/30/2020	75.1	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-7	20.4	n/a	3/27/2020	48.3	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-8	20.4	n/a	3/27/2020	79.8	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-9	20.4	n/a	3/31/2020	105	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-13	0.36	n/a	3/30/2020	0.44	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-8	0.36	n/a	3/27/2020	0.46	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-11	85.9	n/a	3/31/2020	283	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-12	85.9	n/a	3/26/2020	182	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-13	85.9	n/a	3/30/2020	393	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-7	85.9	n/a	3/27/2020	109	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-8	85.9	n/a	3/27/2020	173	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-9	85.9	n/a	3/31/2020	185	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-11	483.4	n/a	3/31/2020	565	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-12	483.4	n/a	3/26/2020	533	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-13	483.4	n/a	3/30/2020	895	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-8	483.4	n/a	3/27/2020	541	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-9	483.4	n/a	3/31/2020	1010	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2

Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:35 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-10**	**0.0592**	**n/a**	**4/1/2020**	**0.23**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-11**	**0.0592**	**n/a**	**3/31/2020**	**0.17**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-12**	**0.0592**	**n/a**	**3/26/2020**	**1.6**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-13**	**0.0592**	**n/a**	**3/30/2020**	**1.8**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-7**	**0.0592**	**n/a**	**3/27/2020**	**1.2**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-8**	**0.0592**	**n/a**	**3/27/2020**	**2.4**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-9**	**0.0592**	**n/a**	**3/31/2020**	**2.2**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Calcium (mg/L)	HGWC-10	138	n/a	4/1/2020	96.2	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-11	138	n/a	3/31/2020	124	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-12**	**138**	**n/a**	**3/26/2020**	**145**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-13**	**138**	**n/a**	**3/30/2020**	**234**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-7	138	n/a	3/27/2020	119	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-8	138	n/a	3/27/2020	133	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-9**	**138**	**n/a**	**3/31/2020**	**182**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-10	20.4	n/a	4/1/2020	5.4	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-11	20.4	n/a	3/31/2020	3.2	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-12**	**20.4**	**n/a**	**3/26/2020**	**48**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-13**	**20.4**	**n/a**	**3/30/2020**	**75.1**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-7**	**20.4**	**n/a**	**3/27/2020**	**48.3**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-8**	**20.4**	**n/a**	**3/27/2020**	**79.8**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-9**	**20.4**	**n/a**	**3/31/2020**	**105**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-10	0.36	n/a	4/1/2020	0.12	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-11	0.36	n/a	3/31/2020	0.19	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-12	0.36	n/a	3/26/2020	0.17	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**HGWC-13**	**0.36**	**n/a**	**3/30/2020**	**0.44**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-7	0.36	n/a	3/27/2020	0.059	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**HGWC-8**	**0.36**	**n/a**	**3/27/2020**	**0.46**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-9	0.36	n/a	3/31/2020	0.074	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-10	7.47	4.9	4/1/2020	6.84	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-11	7.47	4.9	3/31/2020	5.7	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-12	7.47	4.9	3/26/2020	6.99	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-13	7.47	4.9	3/30/2020	6.91	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-7	7.47	4.9	3/27/2020	7.05	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-8	7.47	4.9	3/27/2020	6.95	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-9	7.47	4.9	3/31/2020	7.07	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-10	85.9	n/a	4/1/2020	59	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-11**	**85.9**	**n/a**	**3/31/2020**	**283**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-12**	**85.9**	**n/a**	**3/26/2020**	**182**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-13**	**85.9**	**n/a**	**3/30/2020**	**393**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-7**	**85.9**	**n/a**	**3/27/2020**	**109**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-8**	**85.9**	**n/a**	**3/27/2020**	**173**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-9**	**85.9**	**n/a**	**3/31/2020**	**185**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-10	483.4	n/a	4/1/2020	290	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-11**	**483.4**	**n/a**	**3/31/2020**	**565**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-12**	**483.4**	**n/a**	**3/26/2020**	**533**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-13**	**483.4**	**n/a**	**3/30/2020**	**895**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-7	483.4	n/a	3/27/2020	413	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-8**	**483.4**	**n/a**	**3/27/2020**	**541**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-9**	**483.4**	**n/a**	**3/31/2020**	**1010**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWA-2 (bg)**	**0.001791**	**45**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-7**	**0.06141**	**48**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-8**	**0.3688**	**66**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-9**	**0.2649**	**60**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	**HGWC-12**	**-24.12**	**-64**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Chloride (mg/L)	**HGWC-12**	**-32.73**	**-63**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	**HGWA-3 (bg)**	**2.216**	**57**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	**HGWC-12**	**-41.21**	**-67**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-12**	**-150.4**	**-73**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**

Appendix III Trend Tests - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	0.0007668	9	44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	**HGWA-2 (bg)**	**0.001791**	**45**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	HGWA-3 (bg)	-0.0007135	-19	-44	No	14	14.29	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-10	0.03857	7	44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-11	-0.3864	-35	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-12	-0.2033	-25	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-13	-0.3844	-43	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	**HGWC-7**	**0.06141**	**48**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-8**	**0.3688**	**66**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-9**	**0.2649**	**60**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	HGWA-1 (bg)	6.687	43	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWA-2 (bg)	-0.1393	-1	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWA-3 (bg)	3.531	39	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	**HGWC-12**	**-24.12**	**-64**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	HGWC-13	-5.685	-14	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWC-9	1.628	15	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-1 (bg)	1.469	22	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-2 (bg)	-0.1372	-27	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-3 (bg)	0	-4	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	**HGWC-12**	**-32.73**	**-63**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Chloride (mg/L)	HGWC-13	-15.35	-27	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-7	0.6016	9	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-8	-7.504	-26	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-9	-10.22	-42	-44	No	14	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-1 (bg)	-0.002837	-12	-58	No	17	11.76	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-2 (bg)	0	29	58	No	17	58.82	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-3 (bg)	0.04945	43	58	No	17	35.29	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWC-13	0.01508	9	58	No	17	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWC-8	-0.05579	-47	-58	No	17	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWA-1 (bg)	8.572	44	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWA-2 (bg)	1.136	35	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	**HGWA-3 (bg)**	**2.216**	**57**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	HGWC-11	-25.17	-29	-44	No	14	7.143	n/a	n/a	0.02	NP
Sulfate (mg/L)	**HGWC-12**	**-41.21**	**-67**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	HGWC-13	-21.73	-15	-44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-7	5.935	40	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-8	-17.75	-29	-44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-9	-5.703	-23	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	19.47	27	44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	-3.376	-14	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	2.137	9	44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-11	-48.64	-37	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	**HGWC-12**	**-150.4**	**-73**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Total Dissolved Solids (mg/L)	HGWC-13	-76.14	-19	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-8	-48.91	-33	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-9	-43.42	-13	-44	No	14	0	n/a	n/a	0.02	NP

Tolerance Limit Summary Table - Appendix IV

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	42	n/a	n/a	95.24	n/a	n/a	0.116	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.005	n/a	48	n/a	n/a	62.5	n/a	n/a	0.08526	NP Inter(normality)
Barium (mg/L)	n/a	0.14	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Beryllium (mg/L)	n/a	0.003	n/a	42	n/a	n/a	73.81	n/a	n/a	0.116	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Chromium (mg/L)	n/a	0.01	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.038	n/a	42	n/a	n/a	64.29	n/a	n/a	0.116	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	4.36	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Fluoride (mg/L)	n/a	0.36	n/a	51	n/a	n/a	35.29	n/a	n/a	0.0731	NP Inter(normality)
Lead (mg/L)	n/a	0.005	n/a	39	n/a	n/a	76.92	n/a	n/a	0.1353	NP Inter(NDs)
Lithium (mg/L)	n/a	0.03	n/a	48	n/a	n/a	33.33	n/a	n/a	0.08526	NP Inter(normality)
Mercury (mg/L)	n/a	0.0005	n/a	33	n/a	n/a	93.94	n/a	n/a	0.184	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Selenium (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Thallium (mg/L)	n/a	0.001	n/a	48	n/a	n/a	97.92	n/a	n/a	0.08526	NP Inter(NDs)

PLANT HAMMOND AP-1 GWPS - FEDERAL				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

PLANT HAMMOND AP-1 GWPS - STATE				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

Federal Confidence Intervals - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.1**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-13	0.003	0.00036	0.006	No	14	0.002249	0.001236	71.43	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	14	0.002624	0.0009553	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	16	0.003596	0.001721	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004743	0.003007	0.01	No	16	0.003875	0.001334	12.5	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	16	0.004806	0.000775	93.75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	16	0.004182	0.00176	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-10	0.09345	0.06746	2	No	16	0.08046	0.01998	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.0567	0.03003	2	No	16	0.04464	0.02253	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.1191	0.09136	2	No	16	0.106	0.02153	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	HGWC-13	0.09723	0.07422	2	No	16	0.08573	0.01768	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.0763	0.06833	2	No	16	0.07231	0.006127	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.083	0.059	2	No	16	0.07094	0.01183	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1251	0.1057	2	No	16	0.1154	0.01489	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	14	0.001765	0.00148	57.14	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	14	0.002169	0.001364	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	14	0.002791	0.0007812	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.000074	0.004	No	14	0.002791	0.000782	92.86	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	14	0.001308	0.001237	50	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	14	0.001985	0.001023	78.57	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	14	0.001839	0.001086	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	14	0.001836	0.00109	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	14	0.0004693	0.0007112	7.143	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	14	0.001991	0.001012	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	14	0.01071	0.002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	14	0.008636	0.003467	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	14	0.008779	0.003132	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	14	0.008642	0.003452	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	14	0.01307	0.01699	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0007	0.1	No	14	0.008657	0.003414	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	14	0.009323	0.002534	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	14	0.003186	0.002179	57.14	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002981	0.001145	0.038	No	14	0.002154	0.001439	14.29	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	14	0.002	0.001305	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004525	0.002576	0.038	No	14	0.003551	0.001376	7.143	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	14	0.001736	0.001851	21.43	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	14	0.002262	0.0008313	7.143	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	14	0.001361	0.00159	14.29	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.073	0.6078	5	No	16	0.8403	0.3572	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.177	0.5568	5	No	16	0.8669	0.4767	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.193	0.5889	5	No	16	0.8911	0.4645	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	0.9448	0.5122	5	No	16	0.7285	0.3325	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.095	0.5383	5	No	16	0.8466	0.4901	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.992	0.6657	5	No	16	0.8288	0.2507	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.9154	0.4914	5	No	16	0.7034	0.3259	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2769	0.1136	4	No	17	0.2077	0.1438	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4908	0.2966	4	No	17	0.3937	0.155	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4613	0.1992	4	No	17	0.3584	0.2623	5.882	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	HGWC-13	0.7524	0.4945	4	No	17	0.6235	0.2058	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.2219	0.1016	4	No	17	0.1738	0.1211	11.76	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.7057	0.4885	4	No	17	0.6041	0.1872	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.329	0.1203	4	No	17	0.2246	0.1665	11.76	None	No	0.01	Param.
Lead (mg/L)	HGWC-10	0.005	0.00005	0.015	No	12	0.004587	0.001429	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00021	0.015	No	12	0.003408	0.002352	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.00043	0.015	No	12	0.004207	0.001853	83.33	None	No	0.01	NP (NDs)

Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	HGWC-13	0.005	0.0001	0.015	No	12	0.003776	0.002215	75	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.015	No	12	0.002578	0.002533	50	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.00013	0.015	No	12	0.004594	0.001406	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.015	No	12	0.002969	0.002511	58.33	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01122	0.00787	0.04	No	16	0.009544	0.002573	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-13	0.03965	0.03113	0.04	No	16	0.03539	0.006548	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-7	0.003	0.002	0.04	No	16	0.003819	0.005662	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0029	0.0024	0.04	No	16	0.004038	0.005595	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.04	No	16	0.005481	0.005228	6.25	None	No	0.01	NP (normality)
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.1	No	16	0.003906	0.001685	68.75	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-11	0.02519	0.01381	0.1	No	16	0.0195	0.008742	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-12	0.05044	0.0457	0.1	No	16	0.04807	0.003647	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-13	0.03625	0.02928	0.1	No	16	0.03277	0.005358	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-7	0.04021	0.03218	0.1	No	16	0.03619	0.006173	0	None	No	0.01	Param.
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.1**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-9	0.031	0.0229	0.1	No	16	0.05429	0.1128	0	None	No	0.01	NP (normality)
Selenium (mg/L)	HGWC-10	0.01	0.0023	0.05	No	16	0.008119	0.003403	75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01666	0.006477	0.05	No	16	0.01157	0.007826	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	16	0.009444	0.002225	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.00018	0.05	No	16	0.009386	0.002455	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	16	0.009525	0.0019	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	16	0.009606	0.001575	93.75	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	16	0.000885	0.0003142	87.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.000088	0.002	No	16	0.000664	0.0004489	62.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004405	0.0003417	0.002	No	16	0.0003911	0.00007591	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.000077	0.002	No	16	0.0006555	0.0004594	62.5	None	No	0.01	NP (NDs)

Confidence Interval Summary Table (State) - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**HGWC-13**	**0.03965**	**0.03113**	**0.03**	**Yes**	**16**	**0.03539**	**0.006548**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-11**	**0.02519**	**0.01381**	**0.01**	**Yes**	**16**	**0.0195**	**0.008742**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05044**	**0.0457**	**0.01**	**Yes**	**16**	**0.04807**	**0.003647**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03625**	**0.02928**	**0.01**	**Yes**	**16**	**0.03277**	**0.005358**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.04021**	**0.03218**	**0.01**	**Yes**	**16**	**0.03619**	**0.006173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.01**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0229**	**0.01**	**Yes**	**16**	**0.05429**	**0.1128**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Confidence Interval Summary Table (State) - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-10	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-11	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-12	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.00036	0.006	No	14	0.002249	0.001236	71.43	None	No	0.01	NP (normality)
Antimony (mg/L)	HGWC-7	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-8	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	14	0.002624	0.0009553	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-10	0.005	0.005	0.01	No	16	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	16	0.003596	0.001721	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004743	0.003007	0.01	No	16	0.003875	0.001334	12.5	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	16	0.004806	0.000775	93.75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-8	0.005	0.005	0.01	No	16	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	16	0.004182	0.00176	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-10	0.09345	0.06746	2	No	16	0.08046	0.01998	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.0567	0.03003	2	No	16	0.04464	0.02253	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.1191	0.09136	2	No	16	0.106	0.02153	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	HGWC-13	0.09723	0.07422	2	No	16	0.08573	0.01768	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.0763	0.06833	2	No	16	0.07231	0.006127	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.083	0.059	2	No	16	0.07094	0.01183	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1251	0.1057	2	No	16	0.1154	0.01489	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-10	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	14	0.001765	0.00148	57.14	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-12	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	14	0.002169	0.001364	71.43	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	14	0.002791	0.0007812	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.000074	0.004	No	14	0.002791	0.000782	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-9	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	14	0.001308	0.001237	50	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	14	0.001985	0.001023	78.57	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	14	0.001839	0.001086	71.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-13	0.0025	0.0025	0.005	No	14	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	14	0.001836	0.00109	71.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	14	0.0004693	0.0007112	7.143	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	14	0.001991	0.001012	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	14	0.01071	0.002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	14	0.008636	0.003467	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	14	0.008779	0.003132	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	14	0.008642	0.003452	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	14	0.01307	0.01699	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0007	0.1	No	14	0.008657	0.003414	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	14	0.009323	0.002534	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	14	0.003186	0.002179	57.14	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-11	0.002981	0.001145	0.038	No	14	0.002154	0.001439	14.29	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	14	0.002	0.001305	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004525	0.002576	0.038	No	14	0.003551	0.001376	7.143	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	14	0.001736	0.001851	21.43	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	14	0.002262	0.0008313	7.143	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	14	0.001361	0.00159	14.29	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.073	0.6078	5	No	16	0.8403	0.3572	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.177	0.5568	5	No	16	0.8669	0.4767	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.193	0.5889	5	No	16	0.8911	0.4645	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	0.9448	0.5122	5	No	16	0.7285	0.3325	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.095	0.5383	5	No	16	0.8466	0.4901	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.992	0.6657	5	No	16	0.8288	0.2507	0	None	No	0.01	Param.

Confidence Interval Summary Table (State) - All Results

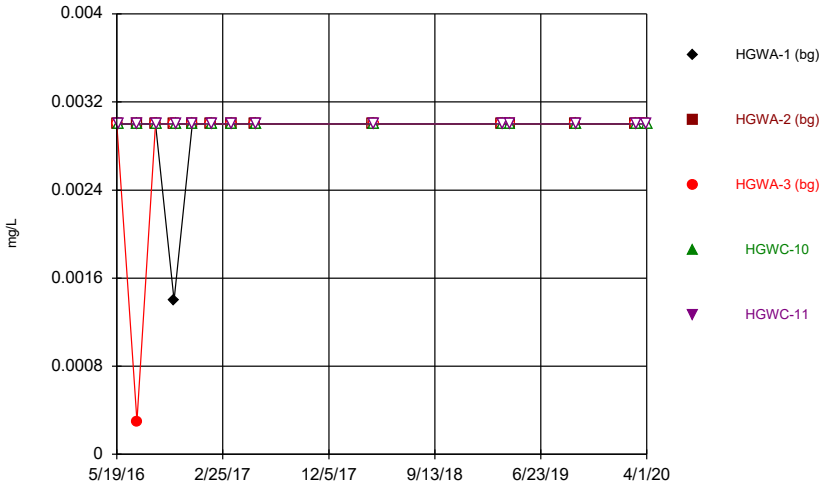
Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.9154	0.4914	5	No	16	0.7034	0.3259	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.3162	0.1346	4	No	17	0.2254	0.1449	11.76	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4908	0.2966	4	No	17	0.3937	0.155	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4843	0.211	4	No	17	0.3672	0.2574	5.882	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-13	0.7524	0.4945	4	No	17	0.6235	0.2058	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.2525	0.11	4	No	17	0.1915	0.1275	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.7057	0.4885	4	No	17	0.6041	0.1872	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.346	0.1386	4	No	17	0.2423	0.1655	11.76	None	No	0.01	Param.
Lead (mg/L)	HGWC-10	0.005	0.00005	0.005	No	12	0.004587	0.001429	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00021	0.005	No	12	0.003408	0.002352	66.67	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-12	0.005	0.00043	0.005	No	12	0.004207	0.001853	83.33	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.005	No	12	0.003776	0.002215	75	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.005	No	12	0.002578	0.002533	50	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.00013	0.005	No	12	0.004594	0.001406	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.005	No	12	0.002969	0.002511	58.33	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-10	0.03	0.03	0.03	No	16	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-11	0.03	0.03	0.03	No	16	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01122	0.00787	0.03	No	16	0.009544	0.002573	0	None	No	0.01	Param.
Lithium (mg/L)	**HGWC-13**	**0.03965**	**0.03113**	**0.03**	**Yes**	**16**	**0.03539**	**0.006548**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	HGWC-7	0.003	0.002	0.03	No	16	0.004131	0.006909	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0029	0.0024	0.03	No	16	0.00435	0.006844	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.03	No	16	0.005794	0.006473	6.25	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-10	0.0005	0.0005	0.002	No	11	0.0004591	0.0001357	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-11	0.0005	0.0005	0.002	No	11	0.0004591	0.0001357	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-12	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-13	0.0005	0.00005	0.002	No	11	0.0004173	0.0001841	81.82	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-7	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-8	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-9	0.0005	0.0005	0.002	No	11	0.0004582	0.0001387	90.91	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	HGWC-10	0.01	0.0014	0.01	No	16	0.007344	0.004073	68.75	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**HGWC-11**	**0.02519**	**0.01381**	**0.01**	**Yes**	**16**	**0.0195**	**0.008742**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05044**	**0.0457**	**0.01**	**Yes**	**16**	**0.04807**	**0.003647**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03625**	**0.02928**	**0.01**	**Yes**	**16**	**0.03277**	**0.005358**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.04021**	**0.03218**	**0.01**	**Yes**	**16**	**0.03619**	**0.006173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.01**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0229**	**0.01**	**Yes**	**16**	**0.05429**	**0.1128**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Selenium (mg/L)	HGWC-10	0.01	0.0023	0.05	No	16	0.008119	0.003403	75	None	No	0.01	NP (normality)
Selenium (mg/L)	HGWC-11	0.01666	0.006477	0.05	No	16	0.01157	0.007826	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	16	0.009444	0.002225	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.00018	0.05	No	16	0.009386	0.002455	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-7	0.01	0.01	0.05	No	16	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	16	0.009525	0.0019	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	16	0.009606	0.001575	93.75	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-10	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	16	0.000885	0.0003142	87.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.000088	0.002	No	16	0.000664	0.0004489	62.5	None	No	0.01	NP (normality)
Thallium (mg/L)	HGWC-13	0.0004405	0.0003417	0.002	No	16	0.0003911	0.00007591	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-7	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-8	0.001	0.000077	0.002	No	16	0.0006555	0.0004594	62.5	None	No	0.01	NP (normality)
Thallium (mg/L)	HGWC-9	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)

FIGURE A.

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony Analysis Run 6/2/2020 4:07 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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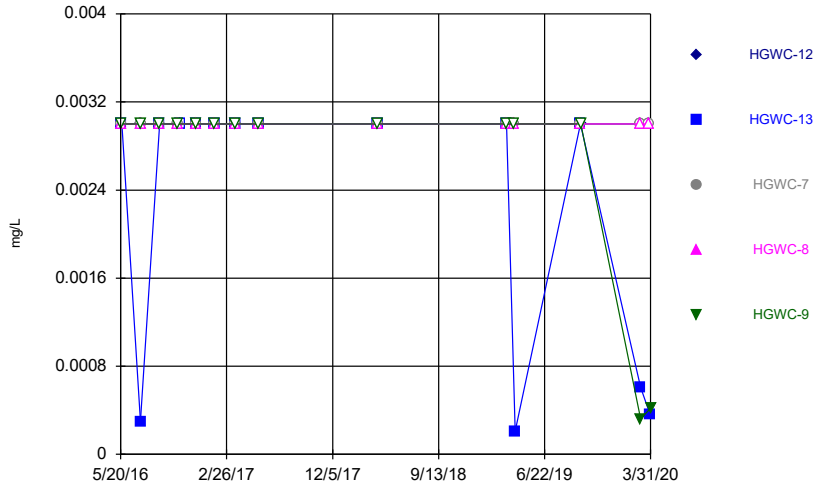

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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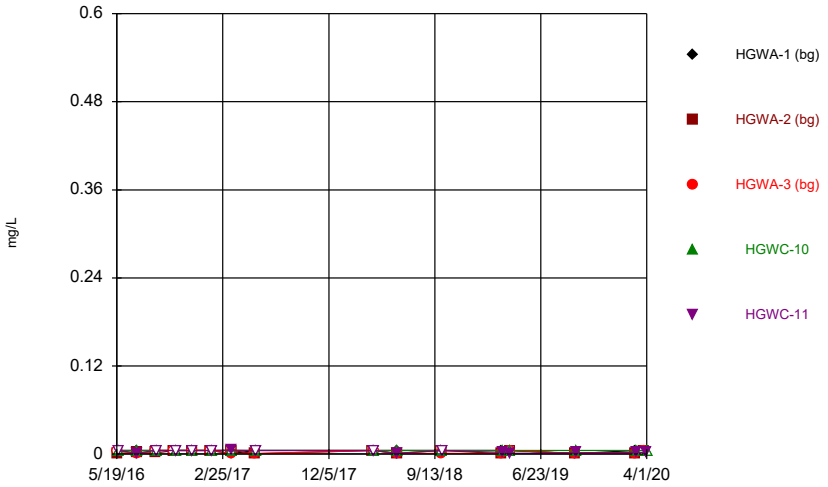

Constituent: Arsenic Analysis Run 6/2/2020 4:07 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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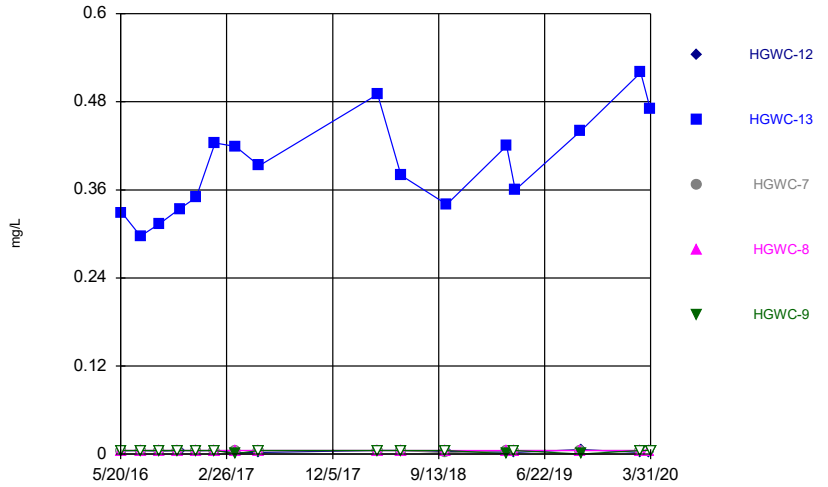

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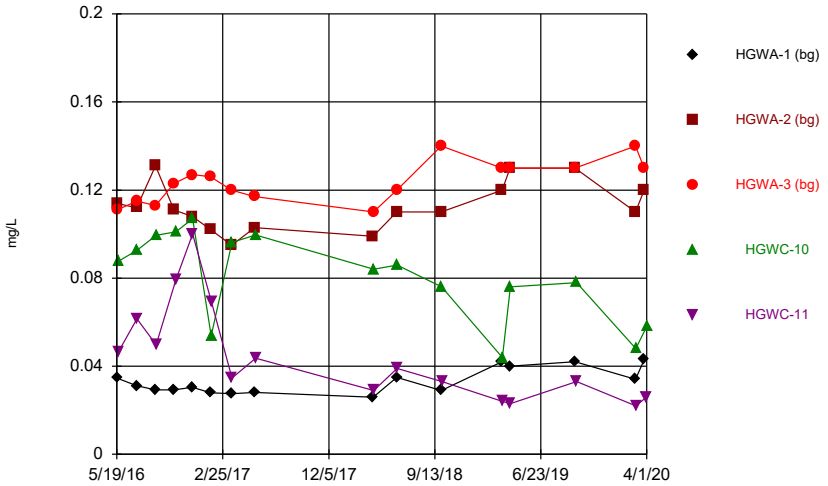
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



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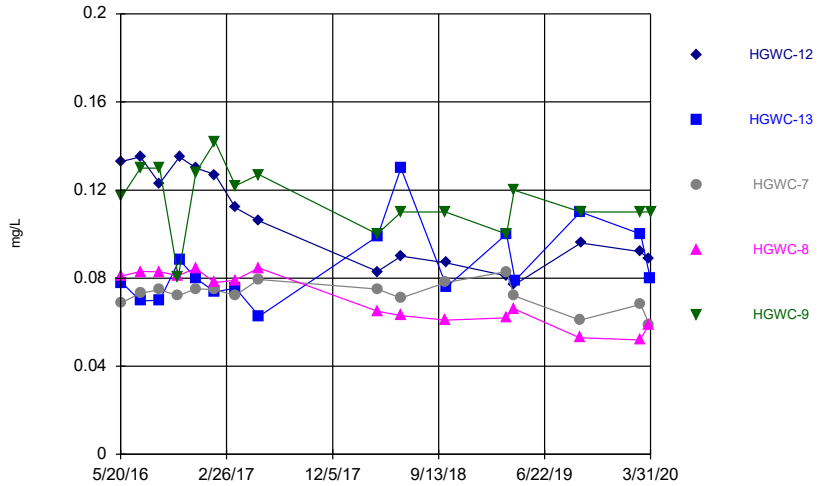
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



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Plant Hammond Client: Southern Company Data: Hammond AP-1

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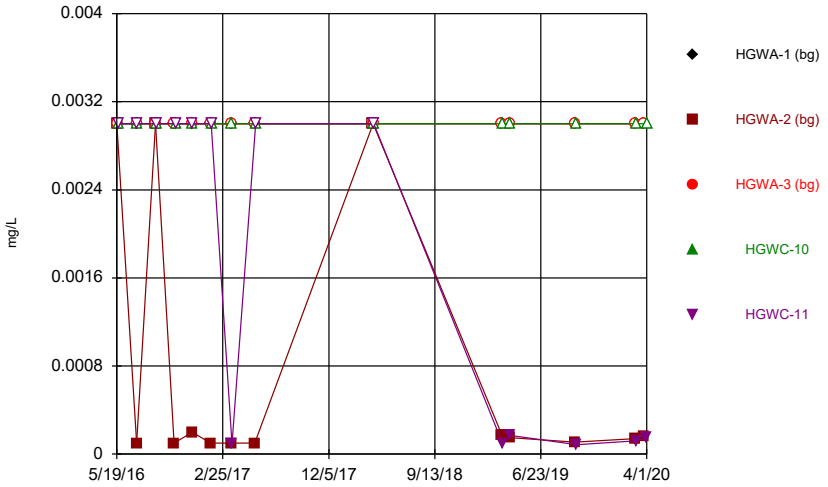

Constituent: Beryllium Analysis Run 6/2/2020 4:07 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

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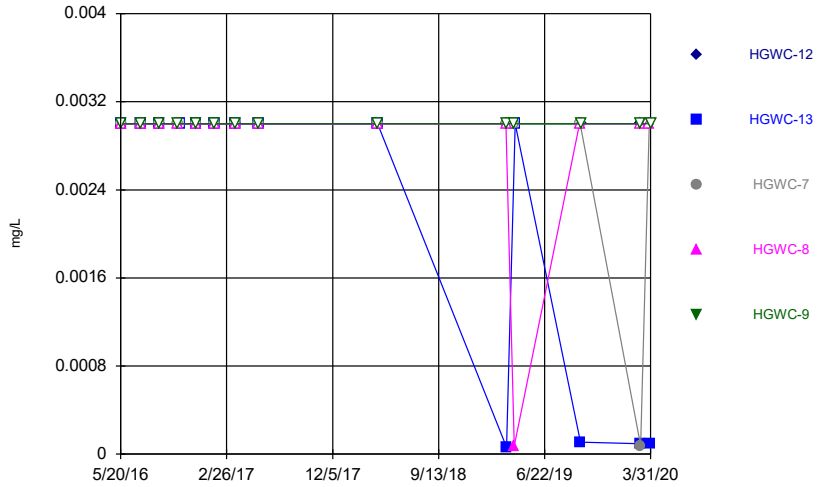

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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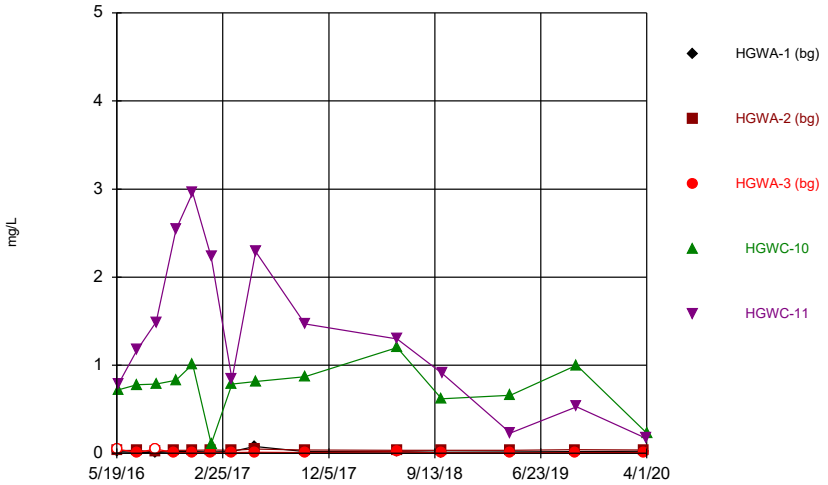

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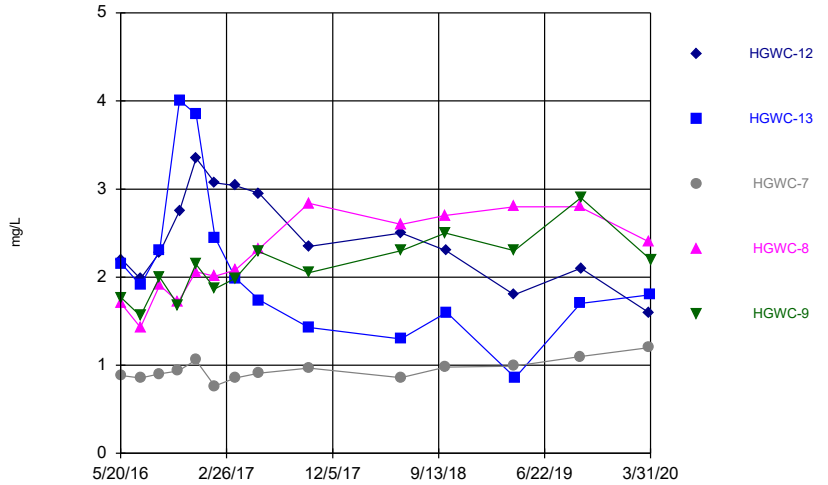
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



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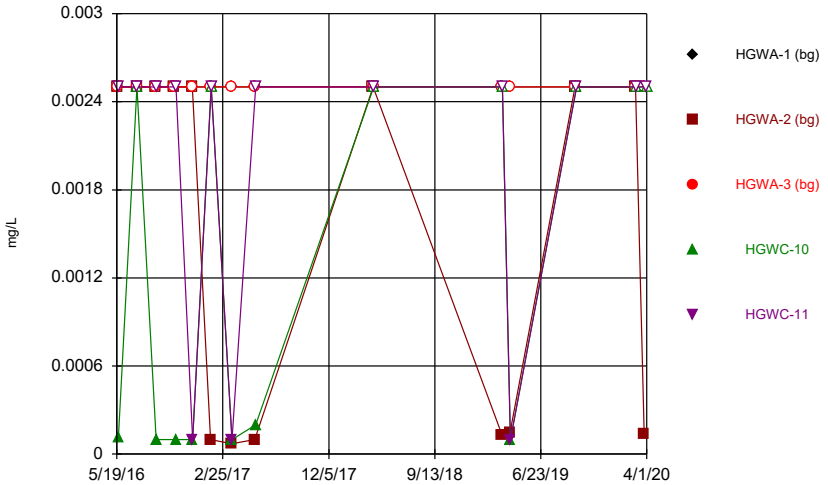

Constituent: Cadmium Analysis Run 6/2/2020 4:07 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
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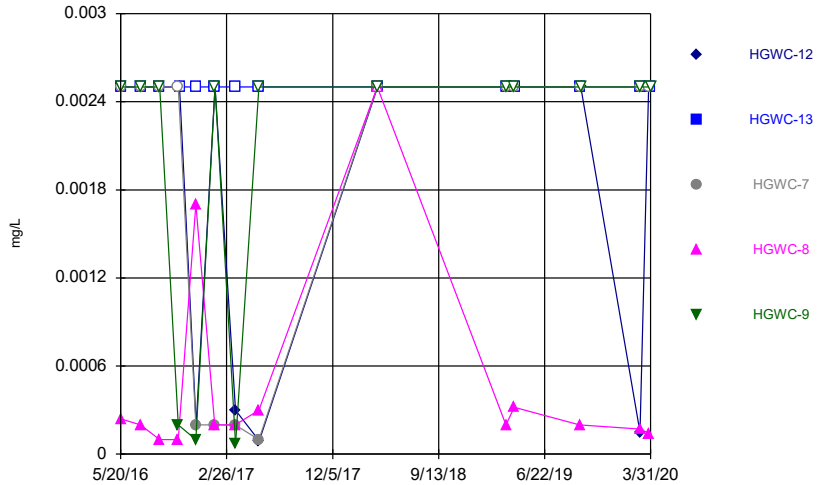
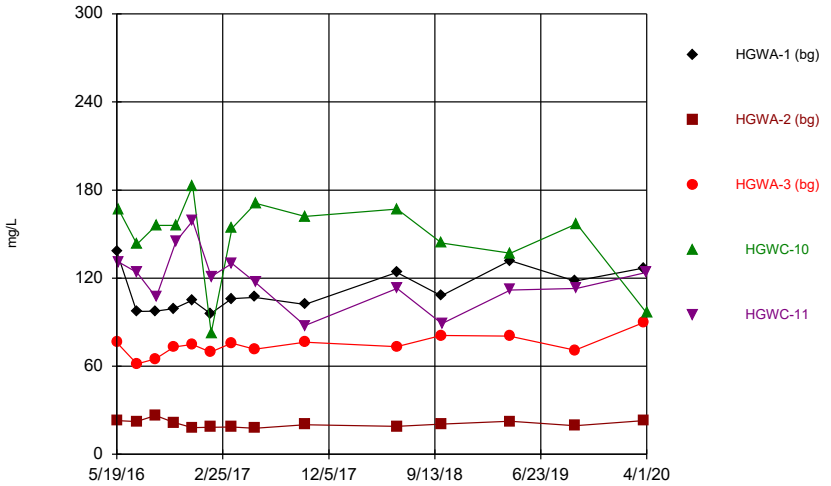


Constituent: Cadmium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series

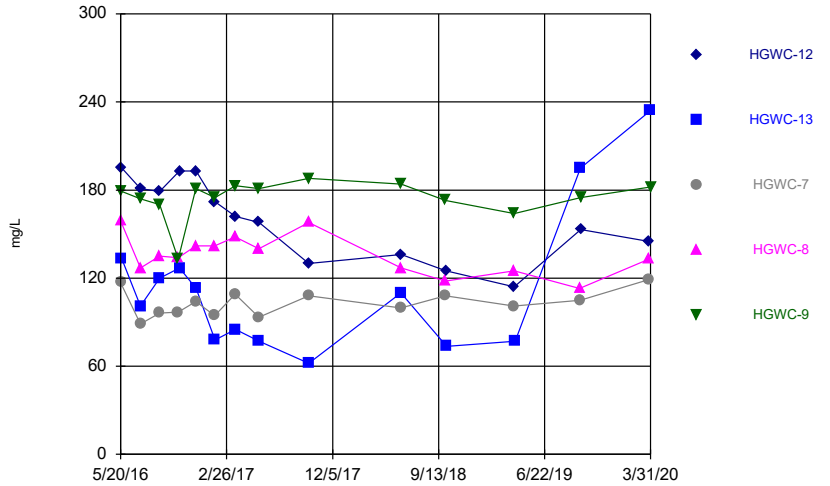


Constituent: Calcium Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



Constituent: Calcium Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

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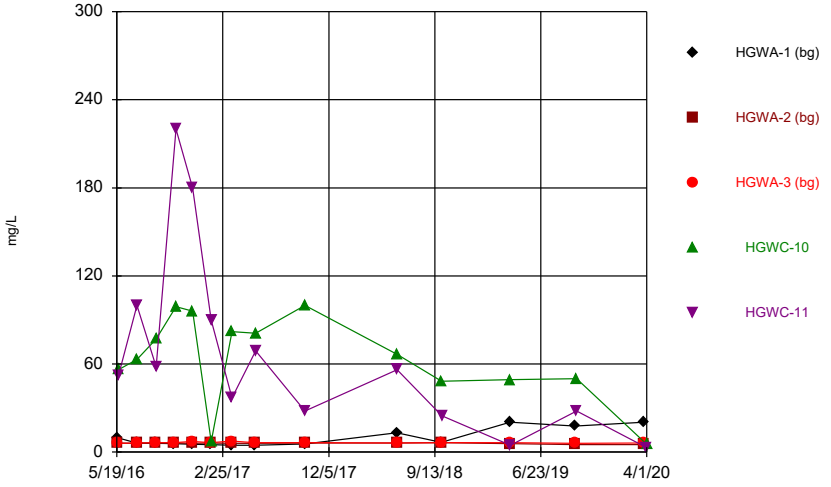
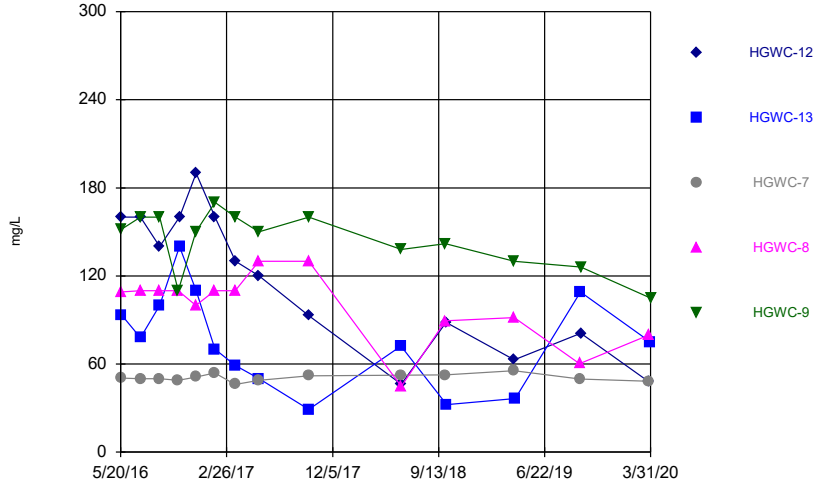


Constituent: Chloride Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



Constituent: Chloride Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
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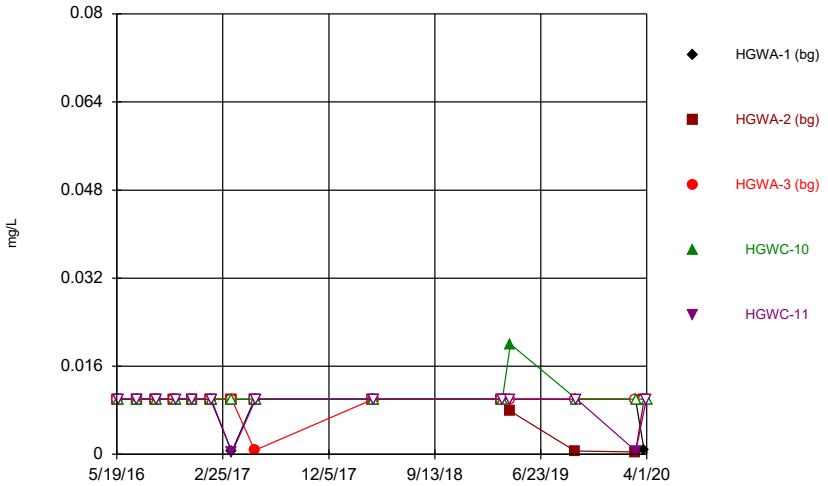
Time Series



Constituent: Chromium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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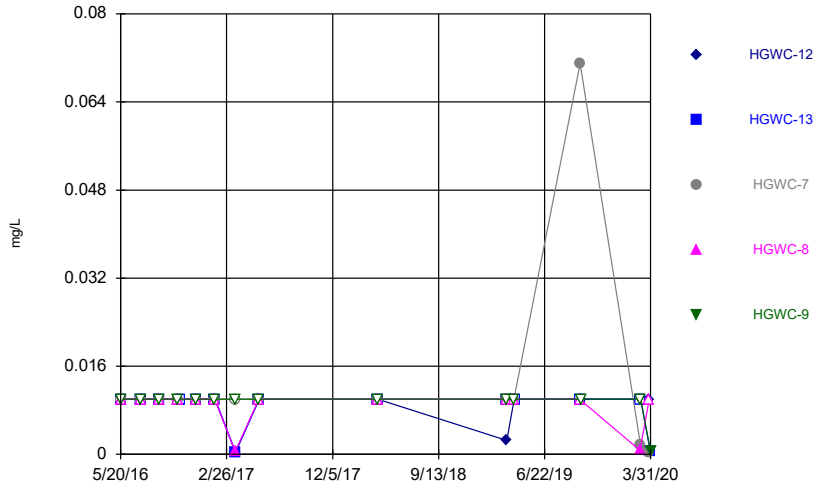

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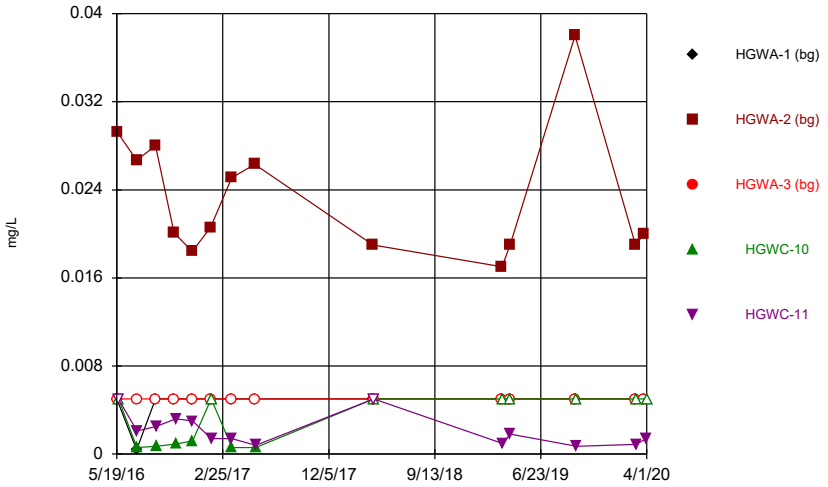

Constituent: Cobalt Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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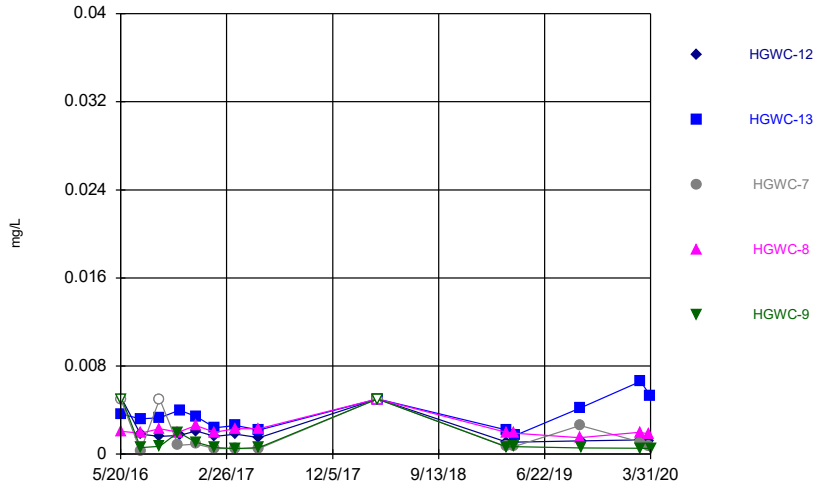
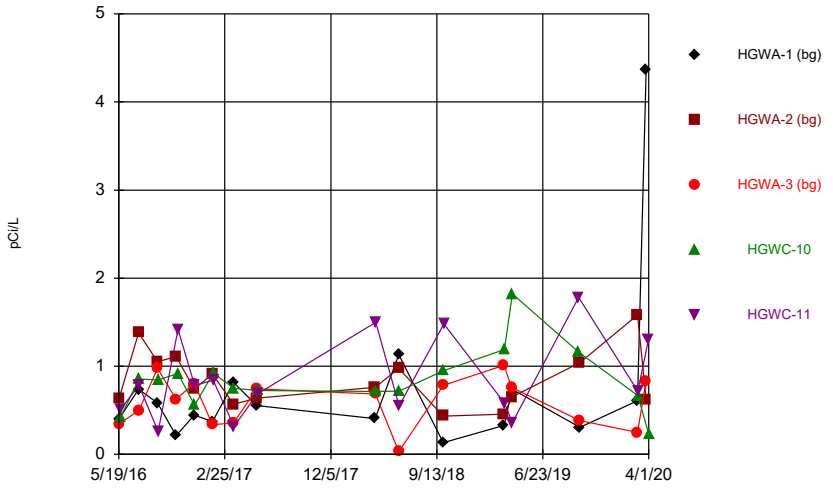


Constituent: Cobalt Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series

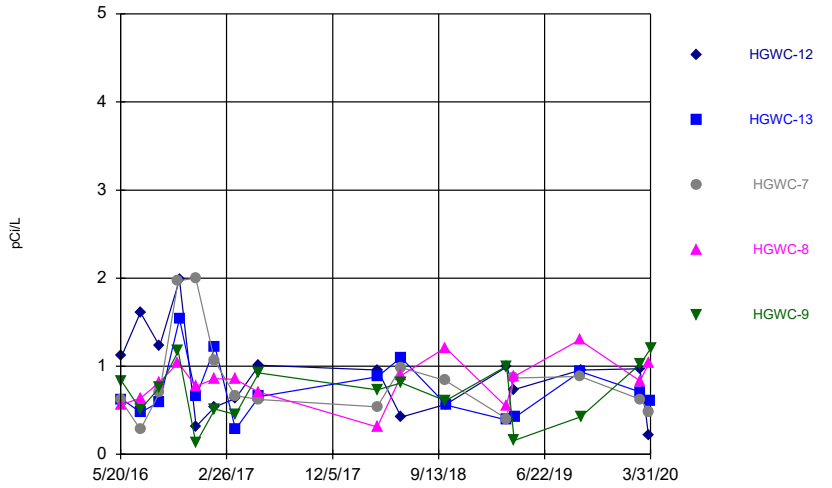


Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



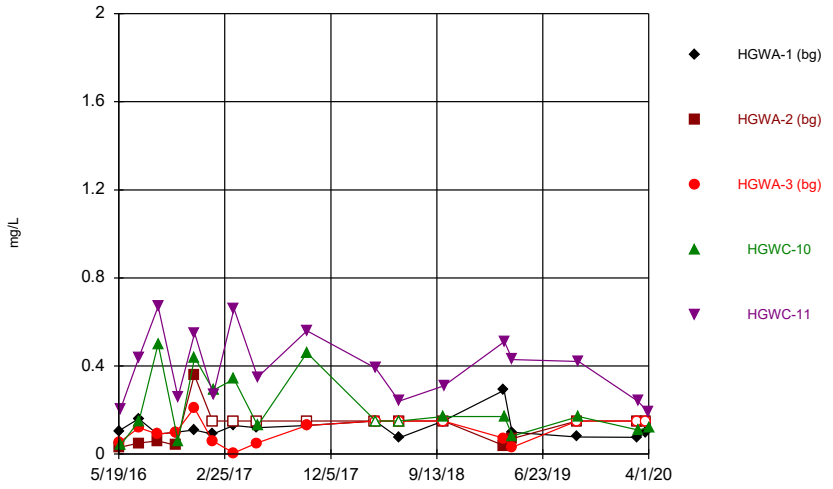
Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



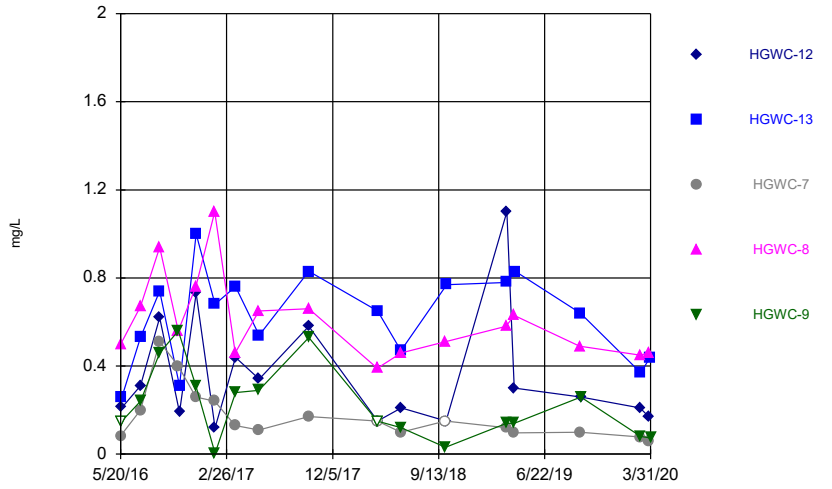
Constituent: Fluoride Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series

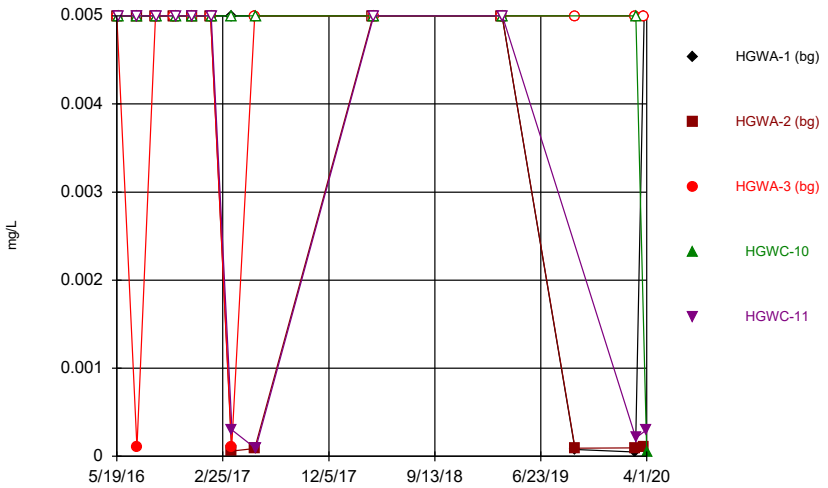


Constituent: Fluoride Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

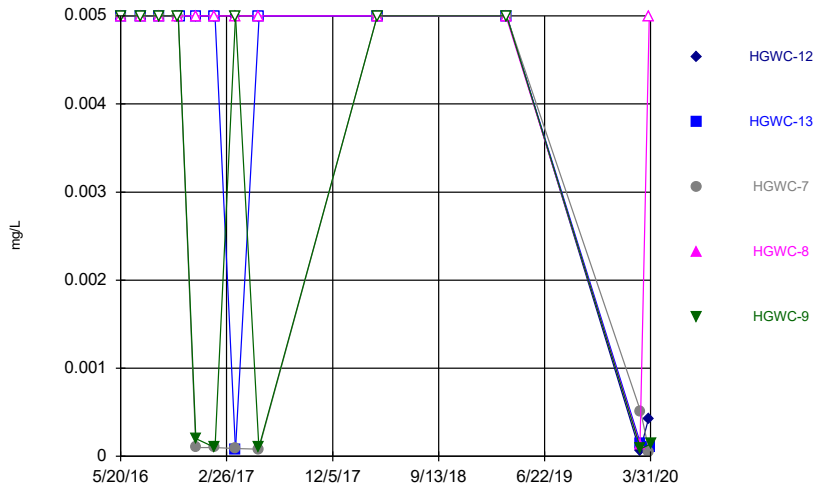
Time Series



Constituent: Lead Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

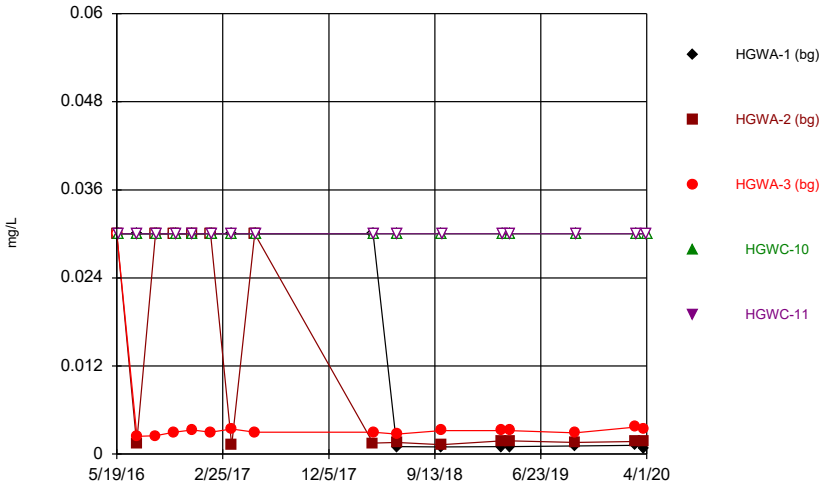
Time Series



Constituent: Lead Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

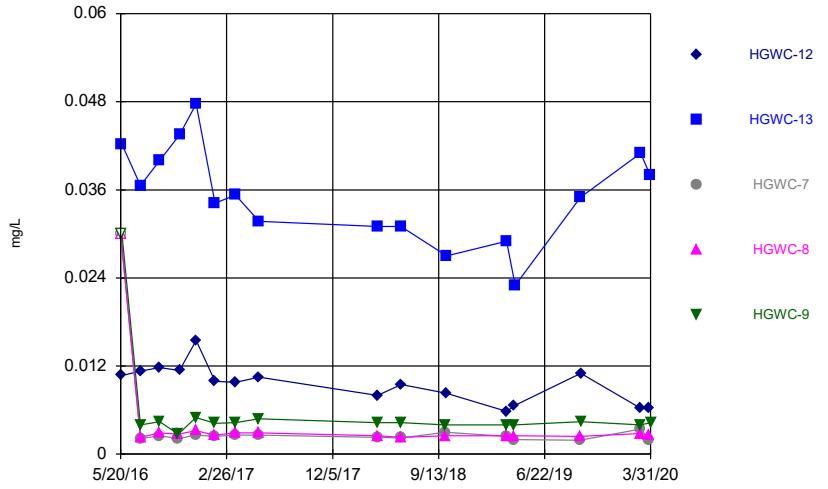
Time Series



Constituent: Lithium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

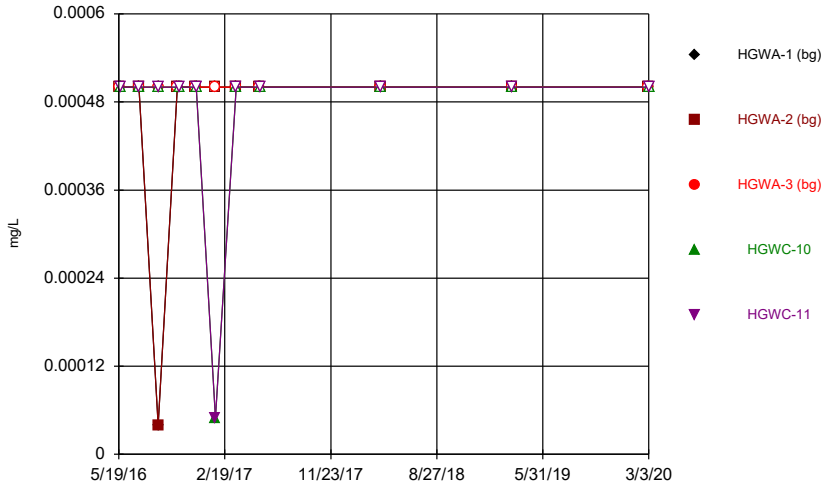
Time Series



Constituent: Lithium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

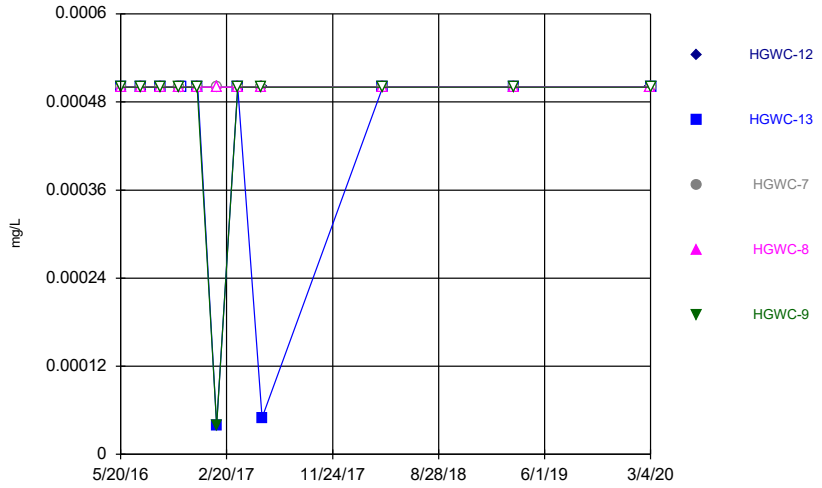
Time Series



Constituent: Mercury Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

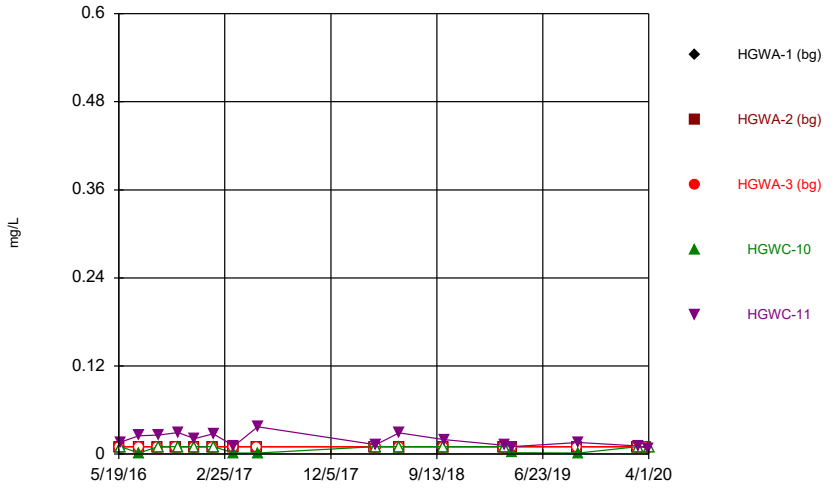
Time Series



Constituent: Mercury Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

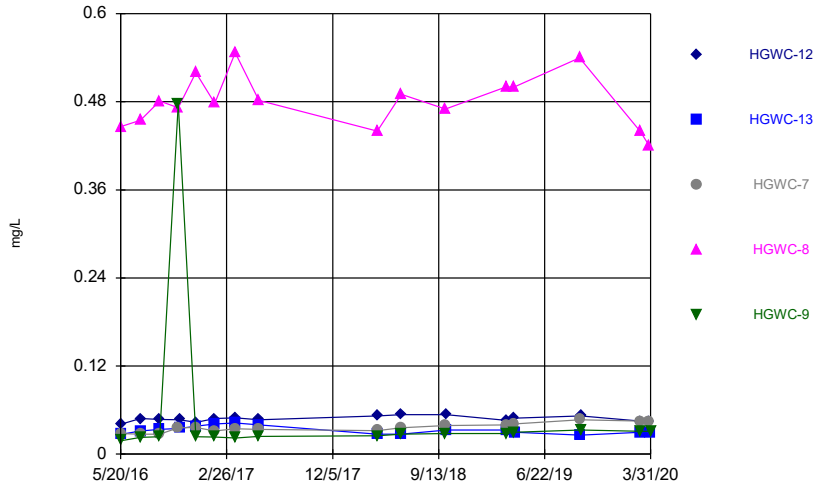
Time Series



Constituent: Molybdenum Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

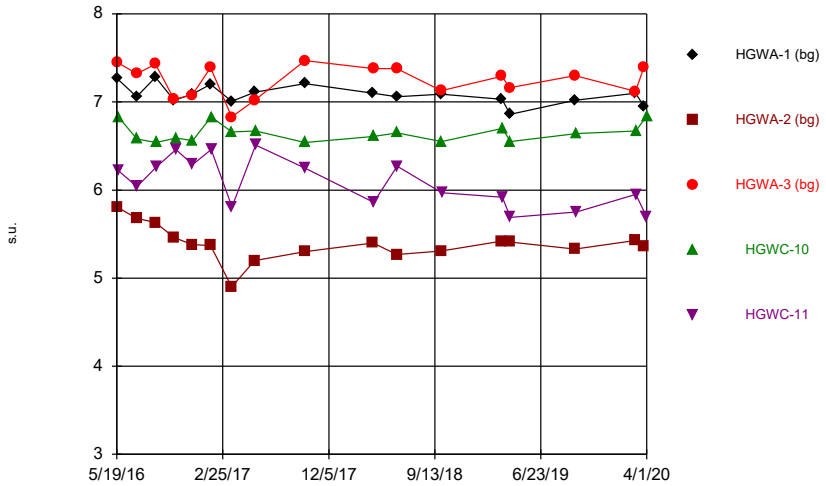
Time Series



Constituent: Molybdenum Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series

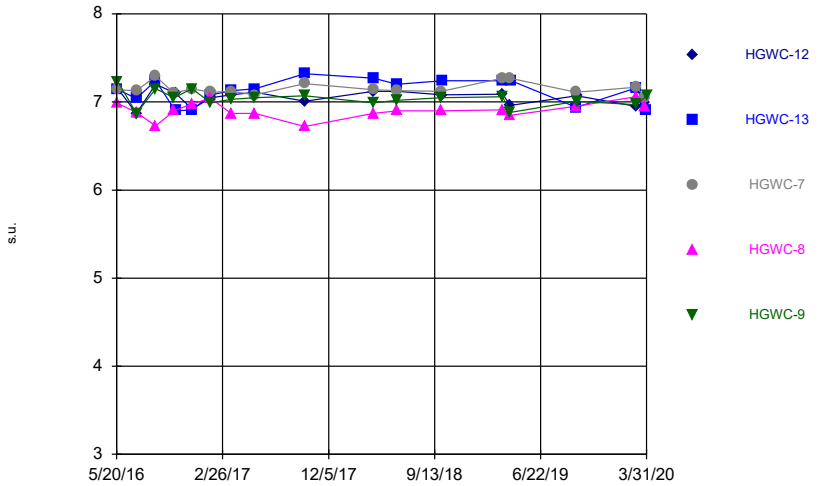


Constituent: pH Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series

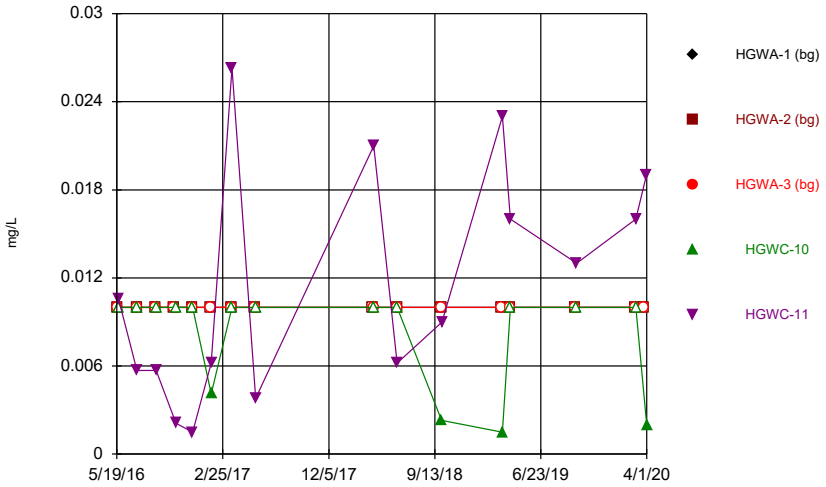


Constituent: pH Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

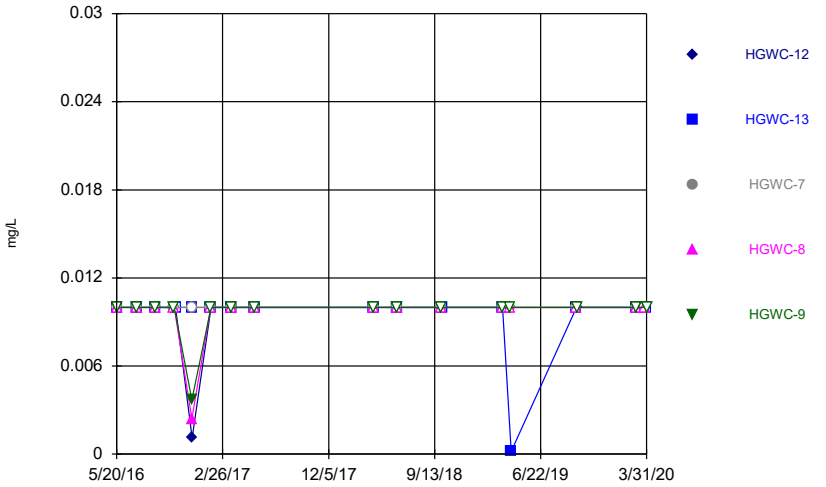


Constituent: Selenium Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

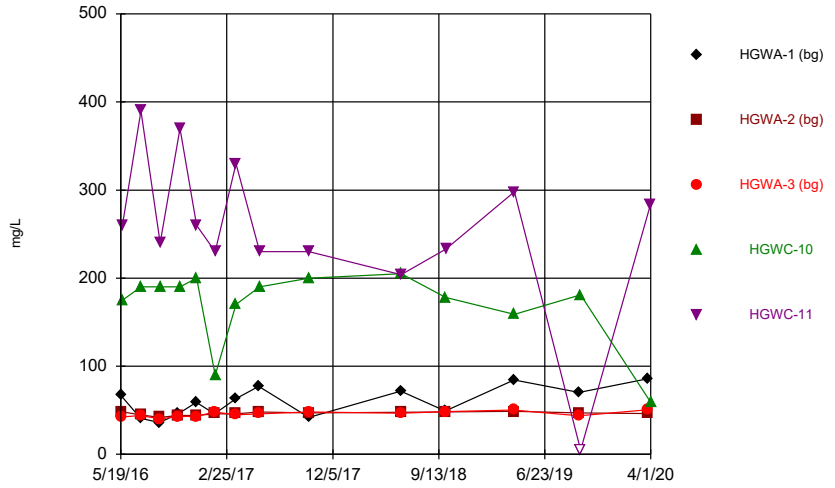


Constituent: Selenium Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

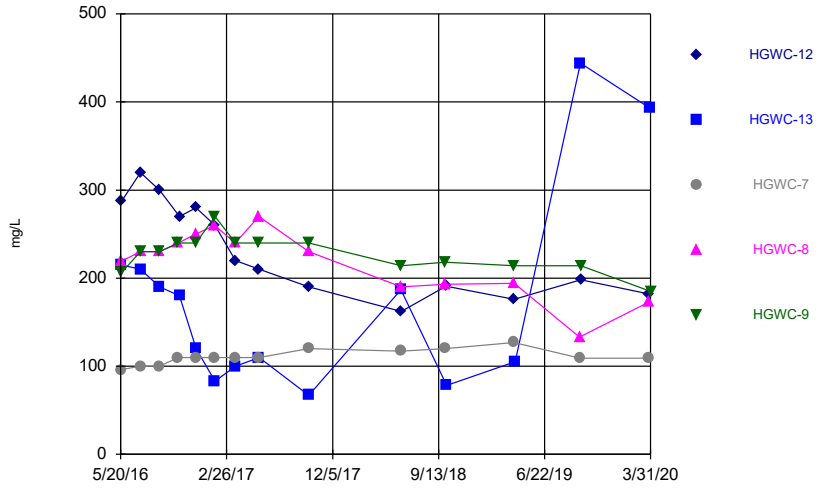
Time Series



Constituent: Sulfate Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

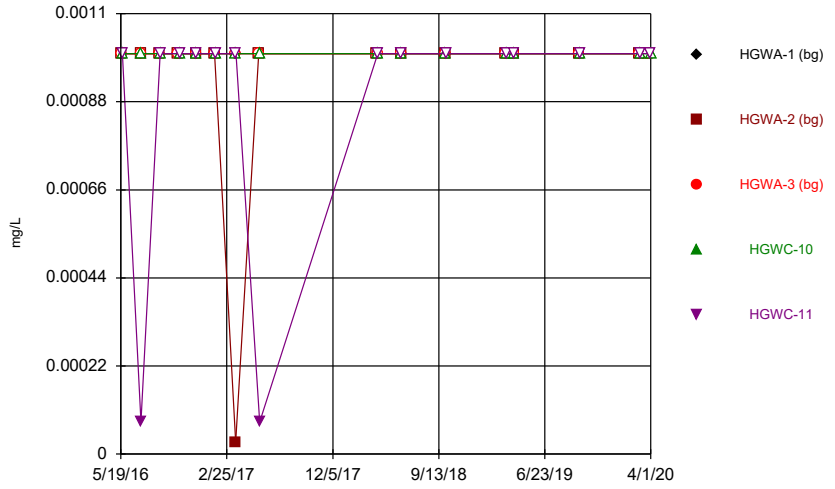
Time Series



Constituent: Sulfate Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

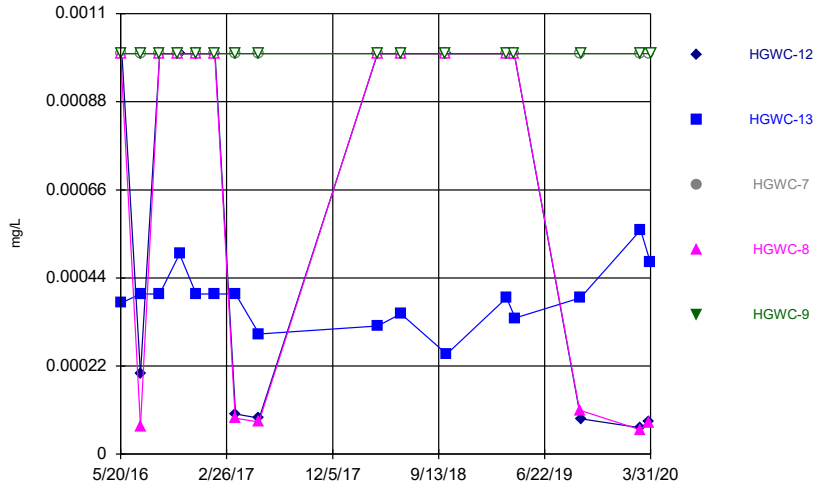
Time Series



Constituent: Thallium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

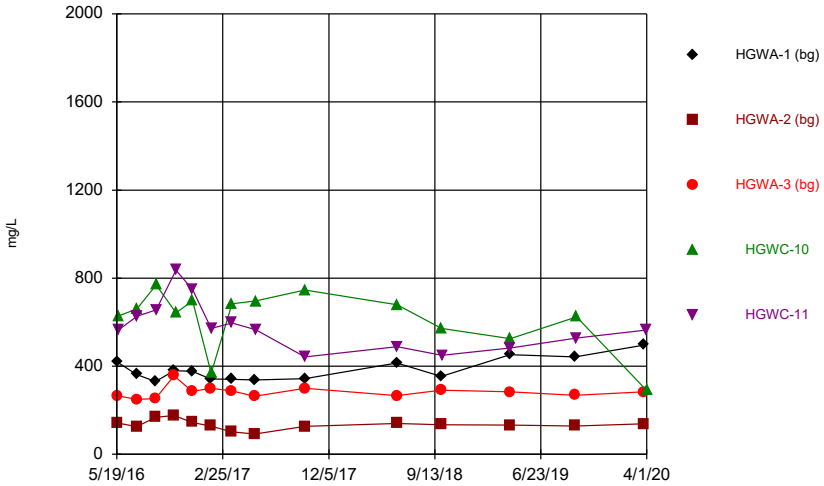
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 6/2/2020 4:08 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Time Series

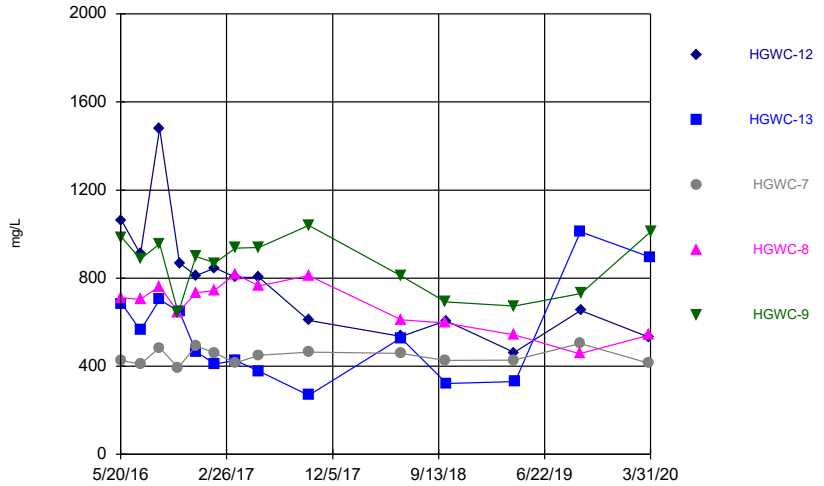


Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:08 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Time Series

Constituent: Antimony (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.003	<0.003	<0.003		
5/23/2016				<0.003	<0.003
7/11/2016	<0.003	<0.003			
7/12/2016			0.0003 (J)	<0.003	<0.003
8/30/2016	<0.003	<0.003	<0.003		
9/1/2016				<0.003	<0.003
10/19/2016	0.0014 (J)	<0.003	<0.003		
10/24/2016				<0.003	<0.003
12/6/2016	<0.003	<0.003	<0.003		
12/7/2016				<0.003	<0.003
1/24/2017	<0.003	<0.003	<0.003		
1/26/2017				<0.003	<0.003
3/21/2017	<0.003	<0.003	<0.003		
3/22/2017				<0.003	<0.003
5/22/2017	<0.003	<0.003	<0.003		
5/24/2017				<0.003	<0.003
4/2/2018	<0.003	<0.003			
4/3/2018			<0.003		
4/4/2018				<0.003	<0.003
3/12/2019	<0.003	<0.003	<0.003		
3/13/2019				<0.003	<0.003
4/1/2019			<0.003		
4/2/2019	<0.003	<0.003			
4/3/2019				<0.003	<0.003
9/23/2019	<0.003	<0.003	<0.003		
9/27/2019				<0.003	<0.003
3/2/2020	<0.003	<0.003	<0.003		
3/3/2020				<0.003	<0.003
3/25/2020	<0.003	<0.003	<0.003		
3/31/2020					<0.003
4/1/2020				<0.003	

Time Series

Constituent: Antimony (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.003	<0.003	
5/23/2016	<0.003	<0.003			<0.003
7/12/2016	<0.003	0.0003 (J)	<0.003	<0.003	<0.003
9/1/2016	<0.003	<0.003	<0.003	<0.003	<0.003
10/20/2016			<0.003	<0.003	<0.003
10/24/2016	<0.003	<0.003			
12/6/2016			<0.003	<0.003	<0.003
12/7/2016	<0.003	<0.003			
1/25/2017			<0.003	<0.003	
1/26/2017	<0.003	<0.003			<0.003
3/21/2017			<0.003	<0.003	
3/22/2017	<0.003	<0.003			<0.003
5/23/2017			<0.003	<0.003	<0.003
5/24/2017	<0.003	<0.003			
4/3/2018			<0.003	<0.003	<0.003
4/4/2018	<0.003	<0.003			
3/12/2019				<0.003	
3/13/2019		<0.003	<0.003		<0.003
3/14/2019	<0.003				
4/2/2019			<0.003		
4/3/2019	<0.003			<0.003	<0.003
4/5/2019		0.00021 (J)			
9/24/2019				<0.003	
9/25/2019			<0.003		
9/26/2019		<0.003			
9/27/2019	<0.003				<0.003
3/3/2020	<0.003			<0.003	
3/4/2020		0.00061 (J)	<0.003		0.00032 (J)
3/26/2020	<0.003				
3/27/2020			<0.003	<0.003	
3/30/2020		0.00036 (J)			
3/31/2020					0.00042 (J)

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.005	0.00127 (J)	<0.005		
5/23/2016				<0.005	<0.005
7/11/2016	<0.005	0.002 (J)			
7/12/2016			0.0008 (J)	<0.005	0.0015 (J)
8/30/2016	<0.005	0.0017 (J)	<0.005		
9/1/2016				<0.005	<0.005
10/19/2016	<0.005	<0.005	<0.005		
10/24/2016				<0.005	<0.005
12/6/2016	<0.005	<0.005	<0.005		
12/7/2016				<0.005	<0.005
1/24/2017	<0.005	<0.005	<0.005		
1/26/2017				<0.005	<0.005
3/21/2017	0.0005 (J)	<0.005	0.0007 (J)		
3/22/2017				<0.005	0.0053
5/22/2017	<0.005	0.0006 (J)	0.0006 (J)		
5/24/2017				<0.005	<0.005
4/2/2018	<0.005	<0.005			
4/3/2018			<0.005		
4/4/2018				<0.005	<0.005
6/4/2018	<0.005	0.00088 (J)	0.0008 (J)		
6/5/2018				<0.005	0.0012 (J)
10/1/2018	<0.005	<0.005	0.0011 (J)		
10/2/2018				<0.005	
10/3/2018					<0.005
3/12/2019	<0.005	0.00069 (J)	0.00063 (J)		
3/13/2019				<0.005	0.0024 (J)
4/1/2019			<0.005		
4/2/2019	<0.005	<0.005			
4/3/2019				<0.005	0.00094 (J)
9/23/2019	0.00046 (J)	0.00067 (J)	0.0011 (J)		
9/27/2019				<0.005	0.0018 (J)
3/2/2020	<0.005	0.00043 (J)	0.0004 (J)		
3/3/2020				<0.005	0.0022 (J)
3/25/2020	<0.005	<0.005	<0.005		
3/31/2020					0.0022 (J)
4/1/2020				<0.005	

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.005	<0.005	
5/23/2016	0.0046 (J)	0.329			<0.005
7/12/2016	0.005	0.297	<0.005	<0.005	<0.005
9/1/2016	0.0043 (J)	0.314	<0.005	<0.005	<0.005
10/20/2016			<0.005	<0.005	<0.005
10/24/2016	0.0049 (J)	0.334			
12/6/2016			<0.005	<0.005	<0.005
12/7/2016	0.0046 (J)	0.35			
1/25/2017			<0.005	<0.005	
1/26/2017	<0.005	0.424			<0.005
3/21/2017			<0.005	<0.005	
3/22/2017	0.0019 (J)	0.419			0.0008 (J)
5/23/2017			<0.005	<0.005	<0.005
5/24/2017	0.0022 (J)	0.393			
4/3/2018			<0.005	<0.005	<0.005
4/4/2018	<0.005	0.49			
6/5/2018		0.38	<0.005		
6/6/2018	0.0048 (J)			<0.005	<0.005
10/2/2018			0.0019 (J)	<0.005	<0.005
10/3/2018	0.0037 (J)				
10/5/2018		0.34			
3/12/2019				<0.005	
3/13/2019		0.42	<0.005		0.00075 (J)
3/14/2019	0.0026 (J)				
4/2/2019			<0.005		
4/3/2019	0.0022 (J)			<0.005	<0.005
4/5/2019		0.36			
9/24/2019				<0.005	
9/25/2019			<0.005		
9/26/2019		0.44			
9/27/2019	0.0061				0.00037 (J)
3/3/2020	0.0023 (J)			<0.005	
3/4/2020		0.52	<0.005		<0.005
3/26/2020	0.0028 (J)				
3/27/2020			<0.005	<0.005	
3/30/2020		0.47			
3/31/2020					<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	0.0346	0.114	0.111		
5/23/2016				0.0877	0.0466
7/11/2016	0.0311	0.112			
7/12/2016			0.115	0.0926	0.0616
8/30/2016	0.0293	0.131	0.113		
9/1/2016				0.0994	0.0497
10/19/2016	0.0293	0.111	0.123		
10/24/2016				0.101	0.0794
12/6/2016	0.0304	0.108	0.127		
12/7/2016				0.107	0.1
1/24/2017	0.028	0.102	0.126		
1/26/2017				0.0538	0.0696
3/21/2017	0.0275	0.095	0.12		
3/22/2017				0.0962	0.0346
5/22/2017	0.0281	0.103	0.117		
5/24/2017				0.0996	0.0437
4/2/2018	0.026	0.099			
4/3/2018			0.11		
4/4/2018				0.084	0.029
6/4/2018	0.035	0.11	0.12		
6/5/2018				0.086	0.039
10/1/2018	0.029	0.11	0.14		
10/2/2018				0.076	
10/3/2018					0.033
3/12/2019	0.042	0.12	0.13		
3/13/2019				0.044	0.024
4/1/2019			0.13		
4/2/2019	0.04	0.13			
4/3/2019				0.076	0.023
9/23/2019	0.042	0.13	0.13		
9/27/2019				0.078	0.033
3/2/2020	0.034	0.11	0.14		
3/3/2020				0.048	0.022
3/25/2020	0.043	0.12	0.13		
3/31/2020					0.026
4/1/2020				0.058	

Time Series

Constituent: Barium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			0.0687	0.0808	
5/23/2016	0.133	0.0779			0.117
7/12/2016	0.135	0.0697	0.0731	0.083	0.13
9/1/2016	0.123	0.07	0.0747	0.0829	0.13
10/20/2016			0.072	0.0811	0.0806
10/24/2016	0.135	0.0882			
12/6/2016			0.0752	0.0845	0.128
12/7/2016	0.13	0.0798			
1/25/2017			0.0747	0.078	
1/26/2017	0.127	0.0738			0.142
3/21/2017			0.0722	0.0791	
3/22/2017	0.112	0.0755			0.122
5/23/2017			0.0794	0.0846	0.127
5/24/2017	0.106	0.0627			
4/3/2018			0.075	0.065	0.1
4/4/2018	0.083	0.099			
6/5/2018		0.13	0.071		
6/6/2018	0.09			0.063	0.11
10/2/2018			0.078	0.061	0.11
10/3/2018	0.087				
10/5/2018		0.076			
3/12/2019				0.062	
3/13/2019		0.1	0.083		0.1
3/14/2019	0.081				
4/2/2019			0.072		
4/3/2019	0.077			0.066	0.12
4/5/2019		0.079			
9/24/2019				0.053	
9/25/2019			0.061		
9/26/2019		0.11			
9/27/2019	0.096				0.11
3/3/2020	0.092			0.052	
3/4/2020		0.1	0.068		0.11
3/26/2020	0.089				
3/27/2020			0.059	0.059	
3/30/2020		0.08			
3/31/2020					0.11

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.003	<0.003	<0.003		
5/23/2016				<0.003	<0.003
7/11/2016	<0.003	0.0001 (J)			
7/12/2016			<0.003	<0.003	<0.003
8/30/2016	<0.003	<0.003	<0.003		
9/1/2016				<0.003	<0.003
10/19/2016	<0.003	0.0001 (J)	<0.003		
10/24/2016				<0.003	<0.003
12/6/2016	<0.003	0.0002 (J)	<0.003		
12/7/2016				<0.003	<0.003
1/24/2017	<0.003	0.0001 (J)	<0.003		
1/26/2017				<0.003	<0.003
3/21/2017	<0.003	0.0001 (J)	<0.003		
3/22/2017				<0.003	9E-05 (J)
5/22/2017	<0.003	0.0001 (J)	<0.003		
5/24/2017				<0.003	<0.003
4/2/2018	<0.003	<0.003			
4/3/2018			<0.003		
4/4/2018				<0.003	<0.003
3/12/2019	<0.003	0.00017 (J)	<0.003		
3/13/2019				<0.003	0.0001 (J)
4/1/2019			<0.003		
4/2/2019	<0.003	0.00015 (J)			
4/3/2019				<0.003	0.00017 (J)
9/23/2019	<0.003	0.00011 (J)	<0.003		
9/27/2019				<0.003	8.6E-05 (J)
3/2/2020	<0.003	0.00014 (J)	<0.003		
3/3/2020				<0.003	0.00012 (J)
3/25/2020	<0.003	0.00016 (J)	<0.003		
3/31/2020					0.00015 (J)
4/1/2020				<0.003	

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.003	<0.003	
5/23/2016	<0.003	<0.003			<0.003
7/12/2016	<0.003	<0.003	<0.003	<0.003	<0.003
9/1/2016	<0.003	<0.003	<0.003	<0.003	<0.003
10/20/2016			<0.003	<0.003	<0.003
10/24/2016	<0.003	<0.003			
12/6/2016			<0.003	<0.003	<0.003
12/7/2016	<0.003	<0.003			
1/25/2017			<0.003	<0.003	
1/26/2017	<0.003	<0.003			<0.003
3/21/2017			<0.003	<0.003	
3/22/2017	<0.003	<0.003			<0.003
5/23/2017			<0.003	<0.003	<0.003
5/24/2017	<0.003	<0.003			
4/3/2018			<0.003	<0.003	<0.003
4/4/2018	<0.003	<0.003			
3/12/2019				<0.003	
3/13/2019		6.2E-05 (J)	<0.003		<0.003
3/14/2019	<0.003				
4/2/2019			<0.003		
4/3/2019	<0.003			7.4E-05 (J)	<0.003
4/5/2019		<0.003			
9/24/2019				<0.003	
9/25/2019			<0.003		
9/26/2019		0.00011 (J)			
9/27/2019	<0.003				<0.003
3/3/2020	<0.003			<0.003	
3/4/2020		9.3E-05 (J)	7.7E-05 (J)		<0.003
3/26/2020	<0.003				
3/27/2020			<0.003	<0.003	
3/30/2020		9.9E-05 (J)			
3/31/2020					<0.003

Time Series

Constituent: Boron (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	0.0214 (J)	0.0321 (J)	<0.1		
5/23/2016				0.72	0.787
7/11/2016	0.0142 (J)	0.0337 (J)			
7/12/2016			0.0074 (J)	0.778	1.17
8/30/2016	0.0074 (J)	0.0173 (J)	<0.1		
9/1/2016				0.786	1.49
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)		
10/24/2016				0.831	2.54
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)		
12/7/2016				1.01	2.96
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)		
1/26/2017				0.108	2.23
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)		
3/22/2017				0.788	0.84
5/22/2017	0.0782	0.0475	0.0131 (J)		
5/24/2017				0.814	2.29
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)	0.871	1.47
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)		
6/5/2018				1.2	1.3
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)		
10/2/2018				0.62	
10/3/2018					0.91
4/1/2019			0.0066 (J)		
4/2/2019	0.016 (J)	0.034 (J)			
4/3/2019				0.66	0.23
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)		
9/27/2019				1	0.53
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)		
3/31/2020					0.17
4/1/2020				0.23	

Time Series

Constituent: Boron (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			0.885	1.71	
5/23/2016	2.2	2.15			1.76
7/12/2016	1.98	1.91	0.857	1.43	1.56
9/1/2016	2.28	2.3	0.904	1.91	2
10/20/2016			0.936	1.72	1.68
10/24/2016	2.75	4.01			
12/6/2016			1.06	2.06	2.15
12/7/2016	3.35	3.85			
1/25/2017			0.764	2.01	
1/26/2017	3.07	2.45			1.87
3/21/2017			0.857	2.08	
3/22/2017	3.04	1.99			1.99
5/23/2017			0.91	2.32	2.29
5/24/2017	2.95	1.74			
10/3/2017	2.35	1.43	0.967	2.84	2.05
6/5/2018		1.3	0.86		
6/6/2018	2.5			2.6	2.3
10/2/2018			0.98	2.7	2.5
10/3/2018	2.3				
10/5/2018		1.6			
4/2/2019			0.99		
4/3/2019	1.8			2.8	2.3
4/5/2019		0.86 (J)			
9/24/2019				2.8	
9/25/2019			1.1		
9/26/2019		1.7			
9/27/2019	2.1				2.9
3/26/2020	1.6				
3/27/2020			1.2	2.4	
3/30/2020		1.8			
3/31/2020					2.2

Time Series

Constituent: Cadmium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.0025	<0.0025	<0.0025		
5/23/2016				0.000115 (J)	<0.0025
7/11/2016	<0.0025	<0.0025			
7/12/2016			<0.0025	<0.0025	<0.0025
8/30/2016	<0.0025	<0.0025	<0.0025		
9/1/2016				0.0001 (J)	<0.0025
10/19/2016	<0.0025	<0.0025	<0.0025		
10/24/2016				0.0001 (J)	<0.0025
12/6/2016	<0.0025	<0.0025	<0.0025		
12/7/2016				0.0001 (J)	0.0001 (J)
1/24/2017	<0.0025	0.0001 (J)	<0.0025		
1/26/2017				<0.0025	<0.0025
3/21/2017	<0.0025	7E-05 (J)	<0.0025		
3/22/2017				0.0001 (J)	0.0001 (J)
5/22/2017	<0.0025	0.0001 (J)	<0.0025		
5/24/2017				0.0002 (J)	<0.0025
4/2/2018	<0.0025	<0.0025			
4/3/2018			<0.0025		
4/4/2018				<0.0025	<0.0025
3/12/2019	<0.0025	0.00013 (J)	<0.0025		
3/13/2019				<0.0025	<0.0025
4/1/2019			<0.0025		
4/2/2019	<0.0025	0.00015 (J)			
4/3/2019				0.0001 (J)	9.6E-05 (J)
9/23/2019	<0.0025	<0.0025	<0.0025		
9/27/2019				<0.0025	<0.0025
3/2/2020	<0.0025	<0.0025	<0.0025		
3/3/2020				<0.0025	<0.0025
3/25/2020	<0.0025	0.00014 (J)	<0.0025		
3/31/2020					<0.0025
4/1/2020				<0.0025	

Time Series

Constituent: Cadmium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.0025	0.00024 (J)	
5/23/2016	<0.0025	<0.0025			<0.0025
7/12/2016	<0.0025	<0.0025	<0.0025	0.0002 (J)	<0.0025
9/1/2016	<0.0025	<0.0025	<0.0025	0.0001 (J)	<0.0025
10/20/2016			<0.0025	0.0001 (J)	0.0002 (J)
10/24/2016	<0.0025	<0.0025			
12/6/2016			0.0002 (J)	0.0017	0.0001 (J)
12/7/2016	0.0002 (J)	<0.0025			
1/25/2017			0.0002 (J)	0.0002 (J)	
1/26/2017	<0.0025	<0.0025			<0.0025
3/21/2017			0.0002 (J)	0.0002 (J)	
3/22/2017	0.0003 (J)	<0.0025			7E-05 (J)
5/23/2017			0.0001 (J)	0.0003 (J)	<0.0025
5/24/2017	9E-05 (J)	<0.0025			
4/3/2018			<0.0025	<0.0025	<0.0025
4/4/2018	<0.0025	<0.0025			
3/12/2019				0.0002 (J)	
3/13/2019		<0.0025	<0.0025		<0.0025
3/14/2019	<0.0025				
4/2/2019			<0.0025		
4/3/2019	<0.0025			0.00032 (J)	<0.0025
4/5/2019		<0.0025			
9/24/2019				0.0002 (J)	
9/25/2019			<0.0025		
9/26/2019		<0.0025			
9/27/2019	<0.0025				<0.0025
3/3/2020	0.00015 (J)			0.00017 (J)	
3/4/2020		<0.0025	<0.0025		<0.0025
3/26/2020	<0.0025				
3/27/2020			<0.0025	0.00014 (J)	
3/30/2020		<0.0025			
3/31/2020					<0.0025

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	138	22.9	76.2		
5/23/2016				167	131
7/11/2016	97.2	22.3			
7/12/2016			61.5	143	124
8/30/2016	97.5	26.4	65.1		
9/1/2016				156	107
10/19/2016	99.2	21.7	73.2		
10/24/2016				156	145
12/6/2016	105	18.2	74.9		
12/7/2016				183	159
1/24/2017	95.7	18.5	69.6		
1/26/2017				82.6	121
3/21/2017	106	18.6	75.7		
3/22/2017				154	130
5/22/2017	107	17.8	71.5		
5/24/2017				171	117
10/3/2017	102	20.2	76.3	162	87.7
6/4/2018	124	19.1	73.4		
6/5/2018				167	113
10/1/2018	108	20.5 (J)	80.9		
10/2/2018				144	
10/3/2018					89
4/1/2019			80.5		
4/2/2019	132	22.5 (J)			
4/3/2019				137	112
9/23/2019	118	19.5	71		
9/27/2019				157	113
3/25/2020	127	23	89.8		
3/31/2020					124
4/1/2020				96.2	

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			117	159	
5/23/2016	195	133			179
7/12/2016	181	101	88.8	127	174
9/1/2016	179	120	96.3	135	170
10/20/2016			96.9	134	133
10/24/2016	193	127			
12/6/2016			104	142	181
12/7/2016	193	113			
1/25/2017			94.5	142	
1/26/2017	172	77.9			175
3/21/2017			109	148	
3/22/2017	162	85.1			183
5/23/2017			93.3	140	181
5/24/2017	158	77.1			
10/3/2017	130	62	108	158	188
6/5/2018		110	99.8		
6/6/2018	136			127	184
10/2/2018			108	118	173
10/3/2018	125				
10/5/2018		73.6			
4/2/2019			101		
4/3/2019	114			125	164
4/5/2019		77.1			
9/24/2019				113	
9/25/2019			105		
9/26/2019		195			
9/27/2019	153				175
3/26/2020	145				
3/27/2020			119	133	
3/30/2020		234			
3/31/2020					182

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	9.94	6.14	5.93		
5/23/2016				56.1	51.9
7/11/2016	6.3	5.9			
7/12/2016			6.2	63	100
8/30/2016	6	6.2	6.4		
9/1/2016				77	58
10/19/2016	5.8	6.1	6.5		
10/24/2016				99	220
12/6/2016	5.4	6	7.2		
12/7/2016				96	180
1/24/2017	5.2	6.1	6.4		
1/26/2017				7	90
3/21/2017	4.6	5.9	7.5		
3/22/2017				82	37
5/22/2017	4.6	5.9	6.5		
5/24/2017				81	69
10/3/2017	5.6	6.3	6.5	100	28
6/4/2018	13.1	6.1	6.3		
6/5/2018				66.6	56.1
10/1/2018	6.6	6.4	6.4		
10/2/2018				48.3	
10/3/2018					24.8
4/1/2019			6.5		
4/2/2019	20.3	5.8			
4/3/2019				49.3	4.6
9/23/2019	17.7	5.1	5.9		
9/27/2019				49.9	27.9
3/25/2020	20.4	5.2	6.1		
3/31/2020					3.2
4/1/2020				5.4	

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			50.4	109	
5/23/2016	160	93.2			152
7/12/2016	160	78	50	110	160
9/1/2016	140	100	50	110	160
10/20/2016			49	110	110
10/24/2016	160	140			
12/6/2016			51	100	150
12/7/2016	190	110			
1/25/2017			54	110	
1/26/2017	160	70			170
3/21/2017			46	110	
3/22/2017	130	59			160
5/23/2017			49	130	150
5/24/2017	120	50			
10/3/2017	93	29	52	130	160
6/5/2018		72.3	52.3		
6/6/2018	46.4			44.8	138
10/2/2018			52.6	89.4	142
10/3/2018	88.4				
10/5/2018		32.3			
4/2/2019			55.5		
4/3/2019	62.8			91.6	130
4/5/2019		36.4			
9/24/2019				60.2	
9/25/2019			49.8		
9/26/2019		109			
9/27/2019	81				126
3/26/2020	48				
3/27/2020			48.3	79.8	
3/30/2020		75.1			
3/31/2020					105

Time Series

Constituent: Chromium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.01	<0.01	<0.01		
5/23/2016				<0.01	<0.01
7/11/2016	<0.01	<0.01			
7/12/2016			<0.01	<0.01	<0.01
8/30/2016	<0.01	<0.01	<0.01		
9/1/2016				<0.01	<0.01
10/19/2016	<0.01	<0.01	<0.01		
10/24/2016				<0.01	<0.01
12/6/2016	<0.01	<0.01	<0.01		
12/7/2016				<0.01	<0.01
1/24/2017	<0.01	<0.01	<0.01		
1/26/2017				<0.01	<0.01
3/21/2017	0.0005 (J)	<0.01	<0.01		
3/22/2017				<0.01	0.0003 (J)
5/22/2017	<0.01	<0.01	0.0007 (J)		
5/24/2017				<0.01	<0.01
4/2/2018	<0.01	<0.01			
4/3/2018			<0.01		
4/4/2018				<0.01	<0.01
3/12/2019	<0.01	<0.01	<0.01		
3/13/2019				<0.01	<0.01
4/1/2019			<0.01		
4/2/2019	<0.01	0.0079 (J)			
4/3/2019				0.02	<0.01
9/23/2019	<0.01	0.00058 (J)	<0.01		
9/27/2019				<0.01	<0.01
3/2/2020	<0.01	0.00041 (J)	<0.01		
3/3/2020				<0.01	0.00061 (J)
3/25/2020	0.00072 (J)	<0.01	<0.01		
3/31/2020					<0.01
4/1/2020				<0.01	

Time Series

Constituent: Chromium (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.01	<0.01	
5/23/2016	<0.01	<0.01			<0.01
7/12/2016	<0.01	<0.01	<0.01	<0.01	<0.01
9/1/2016	<0.01	<0.01	<0.01	<0.01	<0.01
10/20/2016			<0.01	<0.01	<0.01
10/24/2016	<0.01	<0.01			
12/6/2016			<0.01	<0.01	<0.01
12/7/2016	<0.01	<0.01			
1/25/2017			<0.01	<0.01	
1/26/2017	<0.01	<0.01			<0.01
3/21/2017			<0.01	0.0005 (J)	
3/22/2017	0.0004 (J)	0.0004 (J)			<0.01
5/23/2017			<0.01	<0.01	<0.01
5/24/2017	<0.01	<0.01			
4/3/2018			<0.01	<0.01	<0.01
4/4/2018	<0.01	<0.01			
3/12/2019				<0.01	
3/13/2019		<0.01	<0.01		<0.01
3/14/2019	0.0025 (J)				
4/2/2019			<0.01		
4/3/2019	<0.01			<0.01	<0.01
4/5/2019		<0.01			
9/24/2019				<0.01	
9/25/2019			0.071		
9/26/2019		<0.01			
9/27/2019	<0.01				<0.01
3/3/2020	<0.01			0.0007 (J)	
3/4/2020		<0.01	0.0016 (J)		<0.01
3/26/2020	<0.01				
3/27/2020			0.0004 (J)	<0.01	
3/30/2020		0.00059 (J)			
3/31/2020					0.00052 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.005	0.0293	<0.005		
5/23/2016				<0.005	<0.005
7/11/2016	0.0004 (J)	0.0267			
7/12/2016			<0.005	0.0006 (J)	0.0021 (J)
8/30/2016	<0.005	0.028	<0.005		
9/1/2016				0.0007 (J)	0.0025 (J)
10/19/2016	<0.005	0.0201	<0.005		
10/24/2016				0.0009 (J)	0.0032 (J)
12/6/2016	<0.005	0.0184	<0.005		
12/7/2016				0.0012 (J)	0.003 (J)
1/24/2017	<0.005	0.0206	<0.005		
1/26/2017				<0.005	0.0014 (J)
3/21/2017	<0.005	0.0251	<0.005		
3/22/2017				0.0006 (J)	0.0014 (J)
5/22/2017	<0.005	0.0263	<0.005		
5/24/2017				0.0006 (J)	0.0008 (J)
4/2/2018	<0.005	0.019			
4/3/2018			<0.005		
4/4/2018				<0.005	<0.005
3/12/2019	<0.005	0.017	<0.005		
3/13/2019				<0.005	0.00098 (J)
4/1/2019			<0.005		
4/2/2019	<0.005	0.019			
4/3/2019				<0.005	0.0018 (J)
9/23/2019	<0.005	0.038	<0.005		
9/27/2019				<0.005	0.00071 (J)
3/2/2020	<0.005	0.019	<0.005		
3/3/2020				<0.005	0.00087 (J)
3/25/2020	<0.005	0.02	<0.005		
3/31/2020					0.0014 (J)
4/1/2020				<0.005	

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.005	0.00207 (J)	
5/23/2016	<0.005	0.00361 (J)			<0.005
7/12/2016	0.0018 (J)	0.0032 (J)	0.0003 (J)	0.0019 (J)	0.0006 (J)
9/1/2016	0.0016 (J)	0.0033 (J)	<0.005	0.0023 (J)	0.0007 (J)
10/20/2016			0.0008 (J)	0.002 (J)	0.002 (J)
10/24/2016	0.0017 (J)	0.004 (J)			
12/6/2016			0.0009 (J)	0.0026 (J)	0.0011 (J)
12/7/2016	0.0021 (J)	0.0034 (J)			
1/25/2017			0.0005 (J)	0.002 (J)	
1/26/2017	0.0016 (J)	0.0024 (J)			0.0006 (J)
3/21/2017			0.0005 (J)	0.0023 (J)	
3/22/2017	0.0018 (J)	0.0026 (J)			0.0005 (J)
5/23/2017			0.0005 (J)	0.0023 (J)	0.0006 (J)
5/24/2017	0.0015 (J)	0.0022 (J)			
4/3/2018			<0.005	<0.005	<0.005
4/4/2018	<0.005	<0.005			
3/12/2019				0.002 (J)	
3/13/2019		0.0022 (J)	0.00067 (J)		0.00065 (J)
3/14/2019	0.0011 (J)				
4/2/2019			0.00069 (J)		
4/3/2019	0.0011 (J)			0.0019 (J)	0.00069 (J)
4/5/2019		0.0017 (J)			
9/24/2019				0.0015 (J)	
9/25/2019			0.0026 (J)		
9/26/2019		0.0042 (J)			
9/27/2019	0.0012 (J)				0.00057 (J)
3/3/2020	0.0013 (J)			0.002 (J)	
3/4/2020		0.0066	0.0011 (J)		0.00053 (J)
3/26/2020	0.0012 (J)				
3/27/2020			0.00074 (J)	0.0018 (J)	
3/30/2020		0.0053			
3/31/2020					0.00051 (J)

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	0.397 (U)	0.627 (U)	0.342 (U)		
5/23/2016				0.419 (U)	0.509 (U)
7/11/2016	0.738 (U)	1.38			
7/12/2016			0.499 (U)	0.855	0.784 (U)
8/30/2016	0.581 (U)	1.05 (U)	0.976 (U)		
9/1/2016				0.844 (U)	0.261 (U)
10/19/2016	0.213 (U)	1.11 (U)	0.626 (U)		
10/24/2016				0.917 (U)	1.42
12/6/2016	0.444 (U)	0.741 (U)	0.805 (U)		
12/7/2016				0.558 (U)	0.781 (U)
1/24/2017	0.373 (U)	0.908 (U)	0.336 (U)		
1/26/2017				0.922 (U)	0.842 (U)
3/21/2017	0.816 (U)	0.567 (U)	0.358 (U)		
3/22/2017				0.751 (U)	0.318 (U)
5/22/2017	0.554 (U)	0.638 (U)	0.744 (U)		
5/24/2017				0.725 (U)	0.687 (U)
4/2/2018	0.405 (U)	0.761 (U)			
4/3/2018			0.684 (U)		
4/4/2018				0.715 (U)	1.5
6/4/2018	1.13 (U)	0.975 (U)	0.0291 (U)		
6/5/2018				0.718 (U)	0.549 (U)
10/1/2018	0.132 (U)	0.434 (U)	0.781 (U)		
10/2/2018				0.948	
10/3/2018					1.48
3/12/2019	0.327 (U)	0.454 (U)	1.01 (U)		
3/13/2019				1.19 (U)	0.584 (U)
4/1/2019			0.76 (U)		
4/2/2019	0.739 (U)	0.651 (U)			
4/3/2019				1.82 (U)	0.36 (U)
9/27/2019				1.16 (U)	1.78
9/30/2019	0.306 (U)	1.04 (U)	0.384 (U)		
3/2/2020	0.61 (U)	1.58	0.249 (U)		
3/3/2020				0.667 (U)	0.716 (U)
3/25/2020	4.36	0.621 (U)	0.833 (U)		
3/31/2020					1.3 (U)
4/1/2020				0.235 (U)	

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			0.62 (U)	0.56 (U)	
5/23/2016	1.12	0.625 (U)			0.826 (U)
7/12/2016	1.61	0.478 (U)	0.283 (U)	0.636 (U)	0.511 (U)
9/1/2016	1.23	0.595 (U)	0.703 (U)	0.818 (U)	0.762 (U)
10/20/2016			1.97	1.04 (U)	1.17
10/24/2016	1.98	1.54			
12/6/2016			2	0.771 (U)	0.126 (U)
12/7/2016	0.319 (U)	0.657 (U)			
1/25/2017			1.06 (U)	0.859 (U)	
1/26/2017	0.54 (U)	1.22			0.515 (U)
3/21/2017			0.668 (U)	0.851 (U)	
3/22/2017	0.635 (U)	0.285 (U)			0.451 (U)
5/23/2017			0.621 (U)	0.705 (U)	0.924 (U)
5/24/2017	1.01	0.655 (U)			
4/3/2018			0.538 (U)	0.311 (U)	0.732 (U)
4/4/2018	0.956	0.882 (U)			
6/5/2018		1.1 (U)	0.985 (U)		
6/6/2018	0.424 (U)			0.896 (U)	0.813 (U)
10/2/2018			0.837 (U)	1.21	0.61 (U)
10/3/2018	0.57 (U)				
10/5/2018		0.558 (U)			
3/12/2019				0.544 (U)	
3/13/2019		0.39 (U)	0.403 (U)		1 (U)
3/14/2019	0.992 (U)				
4/2/2019			0.865 (U)		
4/3/2019	0.734 (U)			0.885 (U)	0.156 (U)
4/5/2019		0.422 (U)			
9/24/2019				1.3	
9/25/2019			0.884 (U)		
9/26/2019		0.939 (U)			
9/27/2019	0.958 (U)				0.428 (U)
3/3/2020	0.971 (U)			0.835 (U)	
3/4/2020		0.708 (U)	0.624 (U)		1.03
3/26/2020	0.209 (U)				
3/27/2020			0.485 (U)	1.04 (U)	
3/30/2020		0.602 (U)			
3/31/2020					1.2 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	0.105 (J)	0.0303 (J)	0.0513 (J)		
5/23/2016				0.0394 (J)	0.203 (J)
7/11/2016	0.16 (J)	0.05 (J)			
7/12/2016			0.12 (J)	0.15 (J)	0.44
8/30/2016	0.09 (J)	0.06 (J)	0.09 (J)		
9/1/2016				0.5	0.67
10/19/2016	0.1 (J)	0.04 (J)	0.1 (J)		
10/24/2016				0.06 (J)	0.26 (J)
12/6/2016	0.11 (J)	0.36	0.21 (J)		
12/7/2016				0.44	0.55
1/24/2017	0.09 (J)	<0.3	0.06 (J)		
1/26/2017				0.29 (J)	0.27 (J)
3/21/2017	0.13 (J)	<0.3	0.005 (J)		
3/22/2017				0.34	0.66
5/22/2017	0.12 (J)	<0.3	0.05 (J)		
5/24/2017				0.13 (J)	0.35
10/3/2017	0.13 (J)	<0.3	0.13 (J)	0.46	0.56
4/2/2018	<0.3	<0.3			
4/3/2018			<0.3		
4/4/2018				<0.3	0.39
6/4/2018	0.074 (J)	<0.3	<0.3		
6/5/2018				<0.3	0.24 (J)
10/1/2018	<0.3	<0.3	<0.3		
10/2/2018				0.17 (J)	
10/3/2018					0.31
3/12/2019	0.29 (J)	0.038 (J)	0.072 (J)		
3/13/2019				0.17 (J)	0.51
4/1/2019			0.029 (J)		
4/2/2019	0.1 (J)	0.071 (J)			
4/3/2019				0.082 (J)	0.43
9/23/2019	0.078 (J)	<0.3	<0.3		
9/27/2019				0.17 (J)	0.42
3/2/2020	0.076 (J)	<0.3	<0.3		
3/3/2020				0.11 (J)	0.24 (J)
3/25/2020	0.098 (J)	<0.3	<0.3		
3/31/2020					0.19 (J)
4/1/2020				0.12 (J)	

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/2/2020 4:19 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			0.0828 (J)	0.499	
5/23/2016	0.212 (J)	0.2587 (J)			<0.3
7/12/2016	0.31	0.53	0.2 (J)	0.67	0.24 (J)
9/1/2016	0.62	0.74	0.51	0.94	0.46
10/20/2016			0.4	0.56	0.56
10/24/2016	0.19 (J)	0.31			
12/6/2016			0.26 (J)	0.76	0.31
12/7/2016	0.73	1			
1/25/2017			0.24 (J)	1.1	
1/26/2017	0.12 (J)	0.68			0.004 (J)
3/21/2017			0.13 (J)	0.46	
3/22/2017	0.44	0.76			0.28 (J)
5/23/2017			0.11 (J)	0.65	0.29 (J)
5/24/2017	0.34	0.54			
10/3/2017	0.58	0.83	0.17 (J)	0.66	0.53
4/3/2018			<0.3	0.39	<0.3
4/4/2018	<0.3	0.65			
6/5/2018		0.47	0.099 (J)		
6/6/2018	0.21 (J)			0.46	0.12 (J)
10/2/2018			<0.3	0.51	0.031 (J)
10/3/2018	0.15 (J)				
10/5/2018		0.77			
3/12/2019				0.58	
3/13/2019		0.78	0.12 (J)		0.14 (J)
3/14/2019	1.1				
4/2/2019			0.097 (J)		
4/3/2019	0.3 (J)			0.63	0.14 (J)
4/5/2019		0.83			
9/24/2019				0.49	
9/25/2019			0.1 (J)		
9/26/2019		0.64			
9/27/2019	0.26 (J)				0.26 (J)
3/3/2020	0.21 (J)			0.45	
3/4/2020		0.37	0.077 (J)		0.08 (J)
3/26/2020	0.17 (J)				
3/27/2020			0.059 (J)	0.46	
3/30/2020		0.44			
3/31/2020					0.074 (J)

Time Series

Constituent: Lead (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.005	<0.005	<0.005		
5/23/2016				<0.005	<0.005
7/11/2016	<0.005	<0.005			
7/12/2016			0.0001 (J)	<0.005	<0.005
8/30/2016	<0.005	<0.005	<0.005		
9/1/2016				<0.005	<0.005
10/19/2016	<0.005	<0.005	<0.005		
10/24/2016				<0.005	<0.005
12/6/2016	<0.005	<0.005	<0.005		
12/7/2016				<0.005	<0.005
1/24/2017	<0.005	<0.005	<0.005		
1/26/2017				<0.005	<0.005
3/21/2017	<0.005	6E-05 (J)	0.0001 (J)		
3/22/2017				<0.005	0.0003 (J)
5/22/2017	<0.005	9E-05 (J)	<0.005		
5/24/2017				<0.005	9E-05 (J)
4/2/2018	<0.005	<0.005			
4/3/2018			<0.005		
4/4/2018				<0.005	<0.005
3/12/2019	<0.005	<0.005	<0.005		
3/13/2019				<0.005	<0.005
9/23/2019	7.8E-05 (J)	9.2E-05 (J)	<0.005		
3/2/2020	4.8E-05 (J)	9.5E-05 (J)	<0.005		
3/3/2020				<0.005	0.00021 (J)
3/25/2020	<0.005	0.00011 (J)	<0.005		
3/31/2020					0.0003 (J)
4/1/2020				5E-05 (J)	

Time Series

Constituent: Lead (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.005	<0.005	
5/23/2016	<0.005	<0.005			<0.005
7/12/2016	<0.005	<0.005	<0.005	<0.005	<0.005
9/1/2016	<0.005	<0.005	<0.005	<0.005	<0.005
10/20/2016			<0.005	<0.005	<0.005
10/24/2016	<0.005	<0.005			
12/6/2016			0.0001 (J)	<0.005	0.0002 (J)
12/7/2016	<0.005	<0.005			
1/25/2017			0.0001 (J)	<0.005	
1/26/2017	<0.005	<0.005			0.0001 (J)
3/21/2017			9E-05 (J)	<0.005	
3/22/2017	<0.005	7E-05 (J)			<0.005
5/23/2017			8E-05 (J)	<0.005	0.0001 (J)
5/24/2017	<0.005	<0.005			
4/3/2018			<0.005	<0.005	<0.005
4/4/2018	<0.005	<0.005			
3/12/2019				<0.005	
3/13/2019		<0.005	<0.005		<0.005
3/14/2019	<0.005				
3/3/2020	5.6E-05 (J)			0.00013 (J)	
3/4/2020		0.00014 (J)	0.00051 (J)		8.4E-05 (J)
3/26/2020	0.00043 (J)				
3/27/2020			5.4E-05 (J)	<0.005	
3/30/2020		0.0001 (J)			
3/31/2020					0.00014 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.03	<0.03	<0.03		
5/23/2016				<0.03	<0.03
7/11/2016	<0.03	0.0014 (J)			
7/12/2016			0.0024 (J)	<0.03	<0.03
8/30/2016	<0.03	<0.03	0.0025 (J)		
9/1/2016				<0.03	<0.03
10/19/2016	<0.03	<0.03	0.003 (J)		
10/24/2016				<0.03	<0.03
12/6/2016	<0.03	<0.03	0.0033 (J)		
12/7/2016				<0.03	<0.03
1/24/2017	<0.03	<0.03	0.003 (J)		
1/26/2017				<0.03	<0.03
3/21/2017	<0.03	0.0012 (J)	0.0034 (J)		
3/22/2017				<0.03	<0.03
5/22/2017	<0.03	<0.03	0.003 (J)		
5/24/2017				<0.03	<0.03
4/2/2018	<0.03	0.0015 (J)			
4/3/2018			0.003 (J)		
4/4/2018				<0.03	<0.03
6/4/2018	0.001 (J)	0.0016 (J)	0.0027 (J)		
6/5/2018				<0.03	<0.03
10/1/2018	0.00099 (J)	0.0013 (J)	0.0032 (J)		
10/2/2018				<0.03	
10/3/2018					<0.03
3/12/2019	0.001 (J)	0.0018 (J)	0.0032 (J)		
3/13/2019				<0.03	<0.03
4/1/2019			0.0032 (J)		
4/2/2019	0.001 (J)	0.0018 (J)			
4/3/2019				<0.03	<0.03
9/23/2019	0.0011 (J)	0.0016 (J)	0.0029 (J)		
9/27/2019				<0.03	<0.03
3/2/2020	0.0012 (J)	0.0017 (J)	0.0037 (J)		
3/3/2020				<0.03	<0.03
3/25/2020	0.00083 (J)	0.0017 (J)	0.0035 (J)		
3/31/2020					<0.03
4/1/2020				<0.03	

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.03	<0.03	
5/23/2016	0.0107 (J)	0.0422 (J)			<0.03
7/12/2016	0.0113 (J)	0.0366 (J)	0.0021 (J)	0.0023 (J)	0.004 (J)
9/1/2016	0.0118 (J)	0.04 (J)	0.0025 (J)	0.0029 (J)	0.0044 (J)
10/20/2016			0.0021 (J)	0.0027 (J)	0.0027 (J)
10/24/2016	0.0114 (J)	0.0435 (J)			
12/6/2016			0.0026 (J)	0.0032 (J)	0.005 (J)
12/7/2016	0.0155 (J)	0.0477 (J)			
1/25/2017			0.0024 (J)	0.0026 (J)	
1/26/2017	0.0099 (J)	0.0342 (J)			0.0042 (J)
3/21/2017			0.0026 (J)	0.0029 (J)	
3/22/2017	0.0098 (J)	0.0353 (J)			0.0043 (J)
5/23/2017			0.0026 (J)	0.0029 (J)	0.0048 (J)
5/24/2017	0.0105 (J)	0.0317 (J)			
4/3/2018			0.0023 (J)	0.0025 (J)	0.0043 (J)
4/4/2018	0.008 (J)	0.031 (J)			
6/5/2018		0.031 (J)	0.0022 (J)		
6/6/2018	0.0095 (J)			0.0023 (J)	0.0043 (J)
10/2/2018			0.003 (J)	0.0025 (J)	0.004 (J)
10/3/2018	0.0083 (J)				
10/5/2018		0.027 (J)			
3/12/2019				0.0025 (J)	
3/13/2019		0.029 (J)	0.0024 (J)		0.004 (J)
3/14/2019	0.0058 (J)				
4/2/2019			0.002 (J)		
4/3/2019	0.0066 (J)			0.0025 (J)	0.004 (J)
4/5/2019		0.023 (J)			
9/24/2019				0.0024 (J)	
9/25/2019			0.0019 (J)		
9/26/2019		0.035			
9/27/2019	0.011 (J)				0.0044 (J)
3/3/2020	0.0063 (J)			0.0028 (J)	
3/4/2020		0.041	0.0034 (J)		0.004 (J)
3/26/2020	0.0063 (J)				
3/27/2020			0.002 (J)	0.0026 (J)	
3/30/2020		0.038			
3/31/2020					0.0043 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.0005	<0.0005	<0.0005		
5/23/2016				<0.0005	<0.0005
7/11/2016	<0.0005	<0.0005			
7/12/2016			<0.0005	<0.0005	<0.0005
8/30/2016	4E-05 (J)	4E-05 (J)	<0.0005		
9/1/2016				<0.0005	<0.0005
10/19/2016	<0.0005	<0.0005	<0.0005		
10/24/2016				<0.0005	<0.0005
12/6/2016	<0.0005	<0.0005	<0.0005		
12/7/2016				<0.0005	<0.0005
1/24/2017	<0.0005	<0.0005	<0.0005		
1/26/2017				5E-05 (J)	5E-05 (J)
3/21/2017	<0.0005	<0.0005	<0.0005		
3/22/2017				<0.0005	<0.0005
5/22/2017	<0.0005	<0.0005	<0.0005		
5/24/2017				<0.0005	<0.0005
4/2/2018	<0.0005	<0.0005			
4/3/2018			<0.0005		
4/4/2018				<0.0005	<0.0005
3/12/2019	<0.0005	<0.0005	<0.0005		
3/13/2019				<0.0005	<0.0005
3/2/2020	<0.0005	<0.0005	<0.0005		
3/3/2020				<0.0005	<0.0005

Time Series

Constituent: Mercury (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.0005	<0.0005	
5/23/2016	<0.0005	<0.0005			<0.0005
7/12/2016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
9/1/2016	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
10/20/2016			<0.0005	<0.0005	<0.0005
10/24/2016	<0.0005	<0.0005			
12/6/2016			<0.0005	<0.0005	<0.0005
12/7/2016	<0.0005	<0.0005			
1/25/2017			<0.0005	<0.0005	
1/26/2017	<0.0005	4E-05 (J)			4E-05 (J)
3/21/2017			<0.0005	<0.0005	
3/22/2017	<0.0005	<0.0005			<0.0005
5/23/2017			<0.0005	<0.0005	<0.0005
5/24/2017	<0.0005	5E-05 (J)			
4/3/2018			<0.0005	<0.0005	<0.0005
4/4/2018	<0.0005	<0.0005			
3/12/2019				<0.0005	
3/13/2019		<0.0005	<0.0005		<0.0005
3/14/2019	<0.0005				
3/3/2020	<0.0005			<0.0005	
3/4/2020		<0.0005	<0.0005		<0.0005

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.01	<0.01	<0.01		
5/23/2016				<0.01	0.0164
7/11/2016	<0.01	<0.01			
7/12/2016			<0.01	0.0013 (J)	0.0251
8/30/2016	<0.01	<0.01	<0.01		
9/1/2016				<0.01	0.0259
10/19/2016	<0.01	<0.01	<0.01		
10/24/2016				<0.01	0.0293
12/6/2016	<0.01	<0.01	<0.01		
12/7/2016				<0.01	0.0209
1/24/2017	<0.01	<0.01	<0.01		
1/26/2017				<0.01	0.0277
3/21/2017	<0.01	<0.01	<0.01		
3/22/2017				0.0013 (J)	0.011
5/22/2017	<0.01	<0.01	<0.01		
5/24/2017				0.0014 (J)	0.0373
4/2/2018	<0.01	<0.01			
4/3/2018			<0.01		
4/4/2018				<0.01	0.013
6/4/2018	<0.01	<0.01	<0.01		
6/5/2018				<0.01	0.029
10/1/2018	<0.01	<0.01	<0.01		
10/2/2018				<0.01	
10/3/2018					0.02
3/12/2019	<0.01	<0.01	<0.01		
3/13/2019				<0.01	0.012
4/1/2019			<0.01		
4/2/2019	<0.01	<0.01			
4/3/2019				0.0021 (J)	0.01
9/23/2019	<0.01	<0.01	<0.01		
9/27/2019				0.0014 (J)	0.016
3/2/2020	<0.01	<0.01	<0.01		
3/3/2020				<0.01	0.011
3/25/2020	<0.01	<0.01	<0.01		
3/31/2020					0.0074 (J)
4/1/2020				<0.01	

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			0.028	0.446	
5/23/2016	0.0413 (J)	0.027			0.0187
7/12/2016	0.0484	0.0316	0.0273	0.455	0.0229
9/1/2016	0.0474	0.0336	0.0274	0.481	0.0239
10/20/2016			0.036	0.472	0.477
10/24/2016	0.047	0.0352			
12/6/2016			0.0365	0.52	0.0236
12/7/2016	0.0432	0.0383			
1/25/2017			0.0317	0.478	
1/26/2017	0.0484	0.041			0.0234
3/21/2017			0.0346	0.547	
3/22/2017	0.0494	0.0426			0.0219
5/23/2017			0.0336	0.482	0.0242
5/24/2017	0.047	0.04			
4/3/2018			0.032	0.44	0.025
4/4/2018	0.052	0.027			
6/5/2018		0.027	0.036		
6/6/2018	0.054			0.49	0.027
10/2/2018			0.039	0.47	0.028
10/3/2018	0.054				
10/5/2018		0.033			
3/12/2019				0.5	
3/13/2019		0.033	0.04		0.028
3/14/2019	0.046				
4/2/2019			0.041		
4/3/2019	0.049			0.5	0.03
4/5/2019		0.03			
9/24/2019				0.54	
9/25/2019			0.047		
9/26/2019		0.026			
9/27/2019	0.052				0.033
3/3/2020	0.045			0.44	
3/4/2020		0.03	0.045		0.031
3/26/2020	0.045				
3/27/2020			0.044	0.42	
3/30/2020		0.029			
3/31/2020					0.031

Time Series

Constituent: pH (s.u.) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	7.27	5.81	7.45		
5/23/2016				6.83	6.22
7/11/2016	7.06	5.68			
7/12/2016			7.32	6.58	6.04
8/30/2016	7.28	5.63	7.43		
9/1/2016				6.54	6.26
10/19/2016	7.02	5.46	7.03		
10/24/2016				6.59	6.46
12/6/2016	7.09	5.38	7.08		
12/7/2016				6.56	6.29
1/24/2017	7.2	5.37	7.39		
1/26/2017				6.83	6.46
3/21/2017	7.01	4.9	6.83		
3/22/2017				6.66	5.81
5/22/2017	7.11	5.2	7.02		
5/24/2017				6.67	6.51
10/3/2017	7.21	5.3	7.47	6.54	6.25
4/2/2018	7.1	5.4			
4/3/2018			7.38		
4/4/2018				6.61	5.86
6/4/2018	7.06	5.27	7.38		
6/5/2018				6.65	6.27
10/1/2018	7.09	5.31	7.13		
10/2/2018				6.55	
10/3/2018					5.97
3/12/2019	7.03	5.42	7.29		
3/13/2019				6.7	5.92
4/1/2019			7.16		
4/2/2019	6.86	5.41			
4/3/2019				6.55	5.69
9/23/2019	7.02	5.33	7.3		
9/27/2019				6.64	5.75
3/2/2020	7.1	5.43	7.12		
3/3/2020				6.67	5.95
3/25/2020	6.95	5.36	7.4		
3/31/2020					5.7
4/1/2020				6.84	

Time Series

Constituent: pH (s.u.) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			7.14	6.99	
5/23/2016	7.15	7.14			7.23
7/12/2016	6.87	7.04	7.13	6.88	6.87
9/1/2016	7.2	7.24	7.29	6.73	7.15
10/20/2016			7.1	6.9	7.05
10/24/2016	7.1	6.9			
12/6/2016			7.15	6.98	7.15
12/7/2016	6.92	6.91			
1/25/2017			7.11	7.04	
1/26/2017	7.05	7.08			6.99
3/21/2017			7.12	6.87	
3/22/2017	7.08	7.13			7.03
5/23/2017			7.08	6.87	7.05
5/24/2017	7.11	7.15			
10/3/2017	7.01	7.32	7.21	6.72	7.07
4/3/2018			7.14	6.87	6.99
4/4/2018	7.12	7.27			
6/5/2018		7.2	7.13		
6/6/2018	7.12			6.9	7.02
10/2/2018			7.12	6.9	7.05
10/3/2018	7.08				
10/5/2018		7.24			
3/12/2019				6.91	
3/13/2019		7.24	7.27		7.06
3/14/2019	7.09				
4/2/2019			7.27		
4/3/2019	6.96			6.85	6.88
4/5/2019		7.24			
9/24/2019				6.95	
9/25/2019			7.11		
9/26/2019		6.94			
9/27/2019	7.07				7.01
3/3/2020	6.95			7.06	
3/4/2020		7.16	7.17		6.97
3/26/2020	6.99				
3/27/2020			7.05	6.95	
3/30/2020		6.91			
3/31/2020					7.07

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.01	<0.01	<0.01		
5/23/2016				<0.01	0.0106
7/11/2016	<0.01	<0.01			
7/12/2016			<0.01	<0.01	0.0057 (J)
8/30/2016	<0.01	<0.01	<0.01		
9/1/2016				<0.01	0.0057 (J)
10/19/2016	<0.01	<0.01	<0.01		
10/24/2016				<0.01	0.0021 (J)
12/6/2016	<0.01	<0.01	<0.01		
12/7/2016				<0.01	0.0015 (J)
1/24/2017	<0.01	<0.01	<0.01		
1/26/2017				0.0041 (J)	0.0062 (J)
3/21/2017	<0.01	<0.01	<0.01		
3/22/2017				<0.01	0.0263
5/22/2017	<0.01	<0.01	<0.01		
5/24/2017				<0.01	0.0038 (J)
4/2/2018	<0.01	<0.01			
4/3/2018			<0.01		
4/4/2018				<0.01	0.021
6/4/2018	<0.01	<0.01	<0.01		
6/5/2018				<0.01	0.0062 (J)
10/1/2018	<0.01	<0.01	<0.01		
10/2/2018				0.0023 (J)	
10/3/2018					0.009 (J)
3/12/2019	<0.01	<0.01	<0.01		
3/13/2019				0.0015 (J)	0.023
4/1/2019			<0.01		
4/2/2019	<0.01	<0.01			
4/3/2019				<0.01	0.016
9/23/2019	<0.01	<0.01	<0.01		
9/27/2019				<0.01	0.013
3/2/2020	<0.01	<0.01	<0.01		
3/3/2020				<0.01	0.016
3/25/2020	<0.01	<0.01	<0.01		
3/31/2020					0.019
4/1/2020				0.002 (J)	

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.01	<0.01	
5/23/2016	<0.01	<0.01			<0.01
7/12/2016	<0.01	<0.01	<0.01	<0.01	<0.01
9/1/2016	<0.01	<0.01	<0.01	<0.01	<0.01
10/20/2016			<0.01	<0.01	<0.01
10/24/2016	<0.01	<0.01			
12/6/2016			<0.01	0.0024 (J)	0.0037 (J)
12/7/2016	0.0011 (J)	<0.01			
1/25/2017			<0.01	<0.01	
1/26/2017	<0.01	<0.01			<0.01
3/21/2017			<0.01	<0.01	
3/22/2017	<0.01	<0.01			<0.01
5/23/2017			<0.01	<0.01	<0.01
5/24/2017	<0.01	<0.01			
4/3/2018			<0.01	<0.01	<0.01
4/4/2018	<0.01	<0.01			
6/5/2018		<0.01	<0.01		
6/6/2018	<0.01			<0.01	<0.01
10/2/2018			<0.01	<0.01	<0.01
10/3/2018	<0.01				
10/5/2018		<0.01			
3/12/2019				<0.01	
3/13/2019		<0.01	<0.01		<0.01
3/14/2019	<0.01				
4/2/2019			<0.01		
4/3/2019	<0.01			<0.01	<0.01
4/5/2019		0.00018 (J)			
9/24/2019				<0.01	
9/25/2019			<0.01		
9/26/2019		<0.01			
9/27/2019	<0.01				<0.01
3/3/2020	<0.01			<0.01	
3/4/2020		<0.01	<0.01		<0.01
3/26/2020	<0.01				
3/27/2020			<0.01	<0.01	
3/30/2020		<0.01			
3/31/2020					<0.01

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	66.9	48.6	42.3		
5/23/2016				175	260
7/11/2016	41	45			
7/12/2016			44	190	390
8/30/2016	36	42	40		
9/1/2016				190	240
10/19/2016	46	44	43		
10/24/2016				190	370
12/6/2016	59	44	43		
12/7/2016				200	260
1/24/2017	46	46	48		
1/26/2017				90	230
3/21/2017	63	46	45		
3/22/2017				170	330
5/22/2017	77	48	46		
5/24/2017				190	230
10/3/2017	42	47	48	200	230
6/4/2018	71.8	47.8	46.6		
6/5/2018				205	204
10/1/2018	49.1	48.1	48.6		
10/2/2018				178	
10/3/2018					233
4/1/2019			50.4		
4/2/2019	84.3	48.7			
4/3/2019				159	298
9/23/2019	70.2	47.2	43.9		
9/27/2019				181	<10
3/25/2020	85.9	46.3	50.5		
3/31/2020					283
4/1/2020				59	

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			96	219	
5/23/2016	288	215			207
7/12/2016	320	210	100	230	230
9/1/2016	300	190	100	230	230
10/20/2016			110	240	240
10/24/2016	270	180			
12/6/2016			110	250	240
12/7/2016	280	120			
1/25/2017			110	260	
1/26/2017	260	83			270
3/21/2017			110	240	
3/22/2017	220	100			240
5/23/2017			110	270	240
5/24/2017	210	110			
10/3/2017	190	67	120	230	240
6/5/2018		187	117		
6/6/2018	162			190	214
10/2/2018			120	193	218
10/3/2018	191				
10/5/2018		78.3			
4/2/2019			127		
4/3/2019	176			194	214
4/5/2019		105			
9/24/2019				133	
9/25/2019			109		
9/26/2019		444			
9/27/2019	198				214
3/26/2020	182				
3/27/2020			109	173	
3/30/2020		393			
3/31/2020					185

Time Series

Constituent: Thallium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	<0.001	<0.001	<0.001		
5/23/2016				<0.001	<0.001
7/11/2016	<0.001	<0.001			
7/12/2016			<0.001	<0.001	8E-05 (J)
8/30/2016	<0.001	<0.001	<0.001		
9/1/2016				<0.001	<0.001
10/19/2016	<0.001	<0.001	<0.001		
10/24/2016				<0.001	<0.001
12/6/2016	<0.001	<0.001	<0.001		
12/7/2016				<0.001	<0.001
1/24/2017	<0.001	<0.001	<0.001		
1/26/2017				<0.001	<0.001
3/21/2017	<0.001	3E-05 (J)	<0.001		
3/22/2017				<0.001	<0.001
5/22/2017	<0.001	<0.001	<0.001		
5/24/2017				<0.001	8E-05 (J)
4/2/2018	<0.001	<0.001			
4/3/2018			<0.001		
4/4/2018				<0.001	<0.001
6/4/2018	<0.001	<0.001	<0.001		
6/5/2018				<0.001	<0.001
10/1/2018	<0.001	<0.001	<0.001		
10/2/2018				<0.001	
10/3/2018					<0.001
3/12/2019	<0.001	<0.001	<0.001		
3/13/2019				<0.001	<0.001
4/1/2019			<0.001		
4/2/2019	<0.001	<0.001			
4/3/2019				<0.001	<0.001
9/23/2019	<0.001	<0.001	<0.001		
9/27/2019				<0.001	<0.001
3/2/2020	<0.001	<0.001	<0.001		
3/3/2020				<0.001	<0.001
3/25/2020	<0.001	<0.001	<0.001		
3/31/2020					<0.001
4/1/2020				<0.001	

Time Series

Constituent: Thallium (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			<0.001	<0.001	
5/23/2016	<0.001	0.000378 (J)			<0.001
7/12/2016	0.0002 (J)	0.0004 (J)	<0.001	7E-05 (J)	<0.001
9/1/2016	<0.001	0.0004 (J)	<0.001	<0.001	<0.001
10/20/2016			<0.001	<0.001	<0.001
10/24/2016	<0.001	0.0005 (J)			
12/6/2016			<0.001	<0.001	<0.001
12/7/2016	<0.001	0.0004 (J)			
1/25/2017			<0.001	<0.001	
1/26/2017	<0.001	0.0004 (J)			<0.001
3/21/2017			<0.001	9E-05 (J)	
3/22/2017	0.0001 (J)	0.0004 (J)			<0.001
5/23/2017			<0.001	8E-05 (J)	<0.001
5/24/2017	9E-05 (J)	0.0003 (J)			
4/3/2018			<0.001	<0.001	<0.001
4/4/2018	<0.001	0.00032 (J)			
6/5/2018		0.00035 (J)	<0.001		
6/6/2018	<0.001			<0.001	<0.001
10/2/2018			<0.001	<0.001	<0.001
10/3/2018	<0.001				
10/5/2018		0.00025 (J)			
3/12/2019				<0.001	
3/13/2019		0.00039 (J)	<0.001		<0.001
3/14/2019	<0.001				
4/2/2019			<0.001		
4/3/2019	<0.001			<0.001	<0.001
4/5/2019		0.00034 (J)			
9/24/2019				0.00011 (J)	
9/25/2019			<0.001		
9/26/2019		0.00039 (J)			
9/27/2019	8.8E-05 (J)				<0.001
3/3/2020	6.6E-05 (J)			6.1E-05 (J)	
3/4/2020		0.00056 (J)	<0.001		<0.001
3/26/2020	8E-05 (J)				
3/27/2020			<0.001	7.7E-05 (J)	
3/30/2020		0.00048 (J)			
3/31/2020					<0.001

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2020 4:20 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11
5/19/2016	421	143	267		
5/23/2016				629	564
7/11/2016	363	125			
7/12/2016			249	661	627
8/30/2016	330	168	254		
9/1/2016				769	656
10/19/2016	380	176	357		
10/24/2016				643	836
12/6/2016	377	145	285		
12/7/2016				697	748
1/24/2017	342	129	300		
1/26/2017				368	571
3/21/2017	340	103	288		
3/22/2017				683	597
5/22/2017	338	92	263		
5/24/2017				696	566
10/3/2017	343	127	300	746	443
6/4/2018	415	140	266		
6/5/2018				679	489
10/1/2018	354	135	291		
10/2/2018				572	
10/3/2018					449
4/1/2019			284		
4/2/2019	452	133			
4/3/2019				525	483
9/23/2019	442	129	268		
9/27/2019				624	528
3/25/2020	496	138	284		
3/31/2020					565
4/1/2020				290	

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2020 4:20 PM

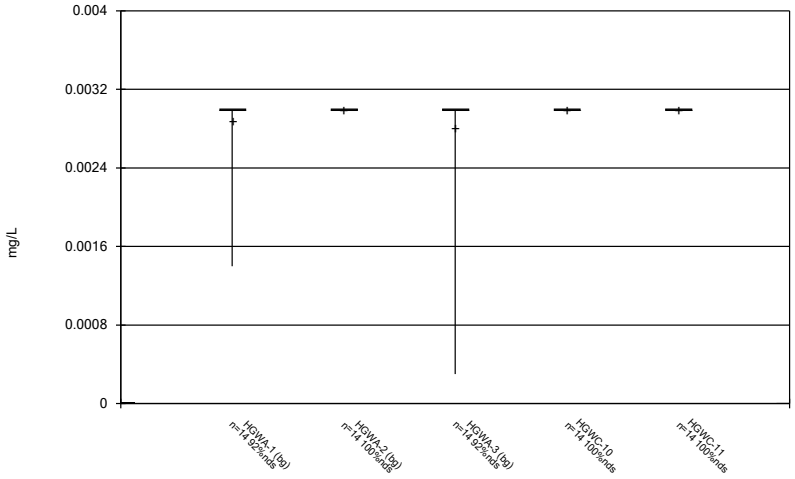
Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-12	HGWC-13	HGWC-7	HGWC-8	HGWC-9
5/20/2016			427	711	
5/23/2016	1060	683			984
7/12/2016	909	563	410	704	887
9/1/2016	1480	702	484	763	956
10/20/2016			393	644	642
10/24/2016	868	647			
12/6/2016			492	733	899
12/7/2016	811	465			
1/25/2017			461	744	
1/26/2017	846	411			869
3/21/2017			415	818	
3/22/2017	804	427			936
5/23/2017			450	765	939
5/24/2017	803	377			
10/3/2017	608	268	464	812	1040
6/5/2018		528	459		
6/6/2018	535			611	810
10/2/2018			426	597	693
10/3/2018	607				
10/5/2018		322			
4/2/2019			428		
4/3/2019	462			543	673
4/5/2019		331			
9/24/2019				457	
9/25/2019			503		
9/26/2019		1010			
9/27/2019	653				730
3/26/2020	533				
3/27/2020			413	541	
3/30/2020		895			
3/31/2020					1010

FIGURE B.

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

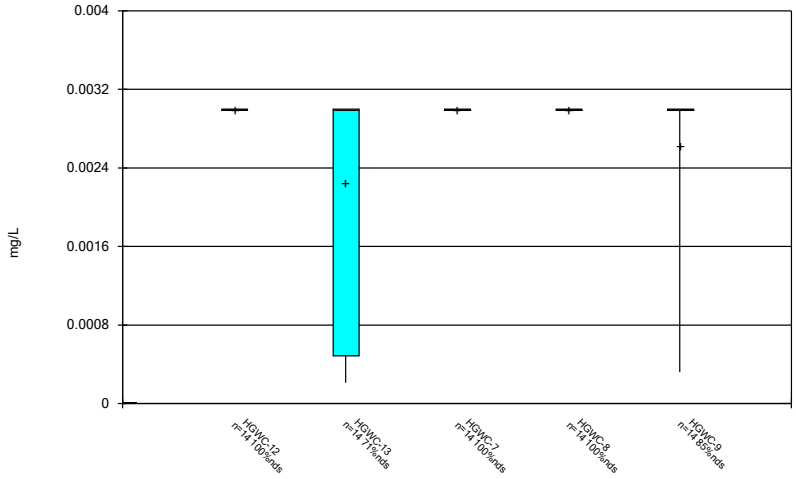


Constituent: Antimony Analysis Run 6/2/2020 4:24 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

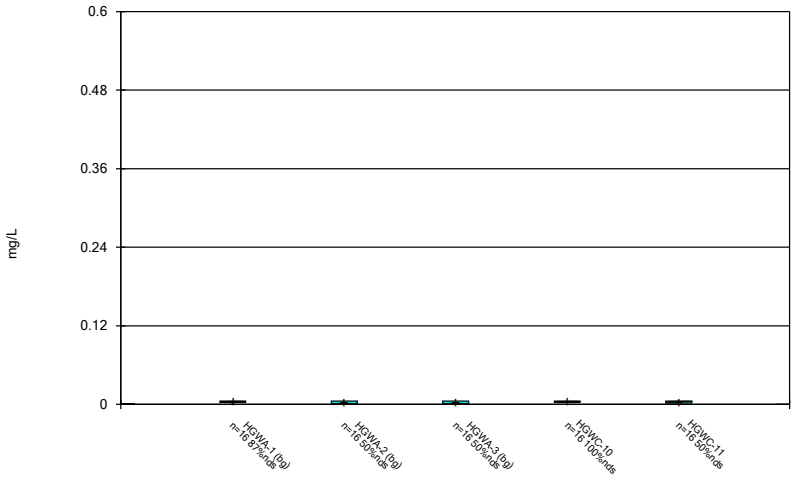


Constituent: Antimony Analysis Run 6/2/2020 4:24 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

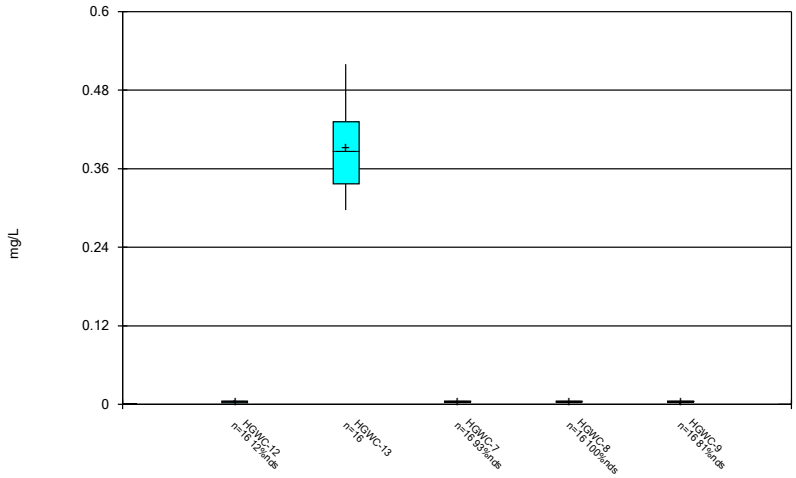


Constituent: Arsenic Analysis Run 6/2/2020 4:24 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

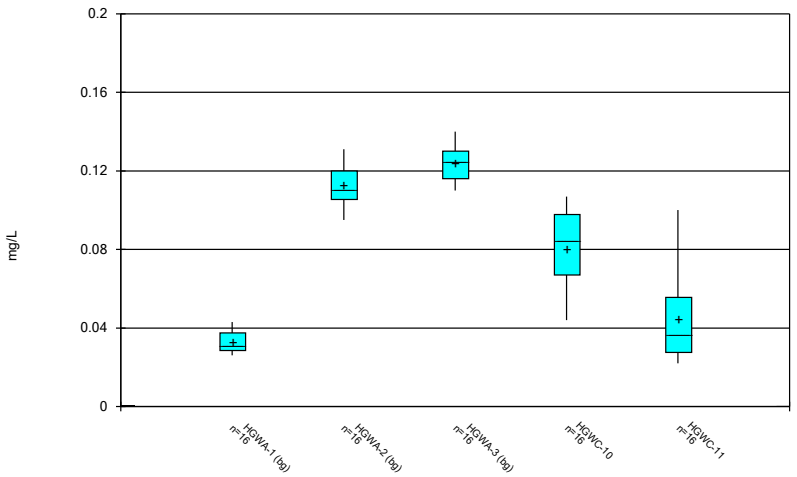
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 6/2/2020 4:24 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

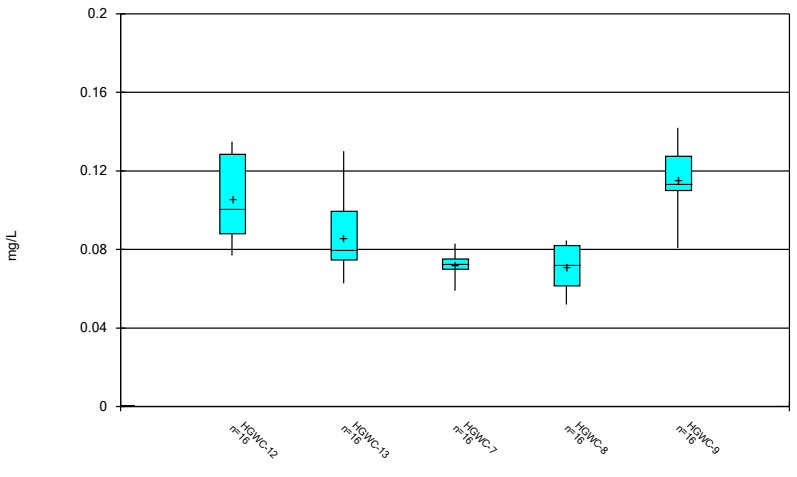


Constituent: Barium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

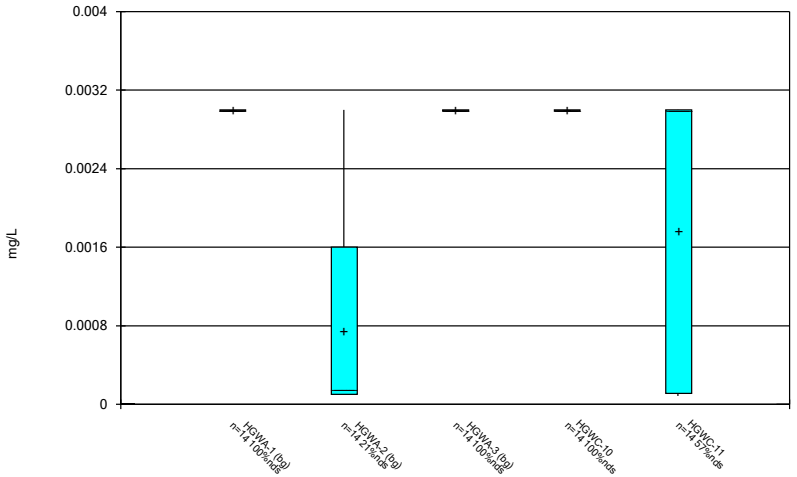


Constituent: Barium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

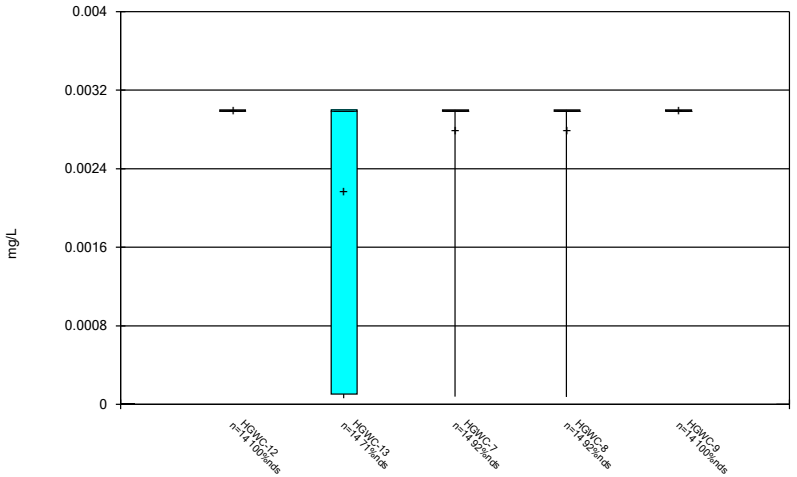


Constituent: Beryllium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

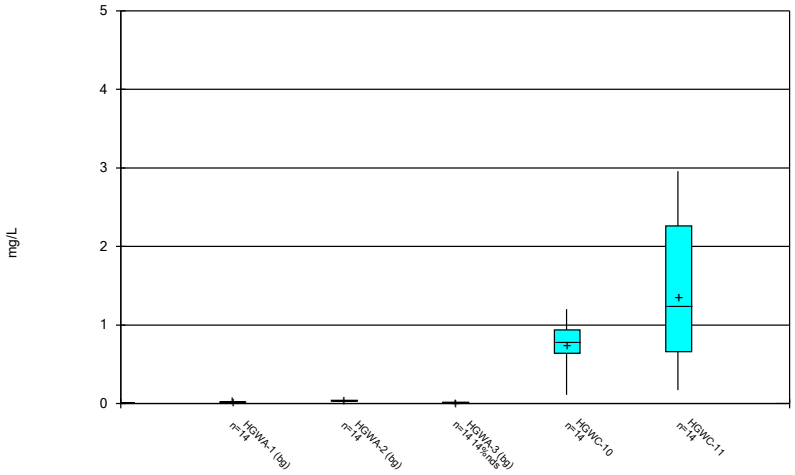
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

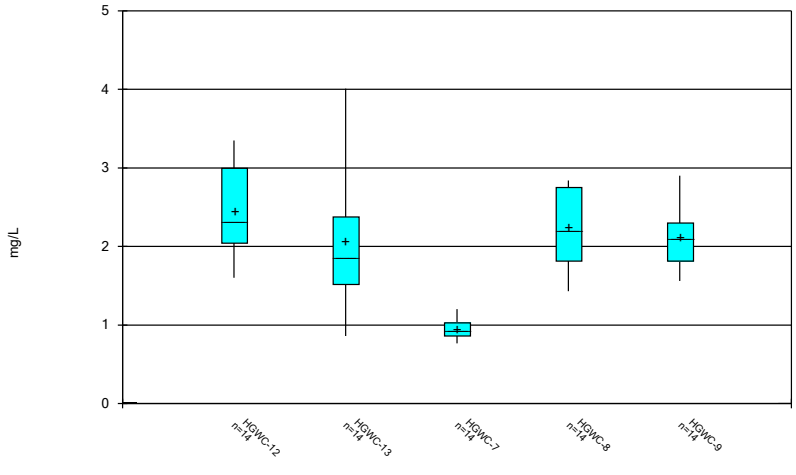


Constituent: Boron Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

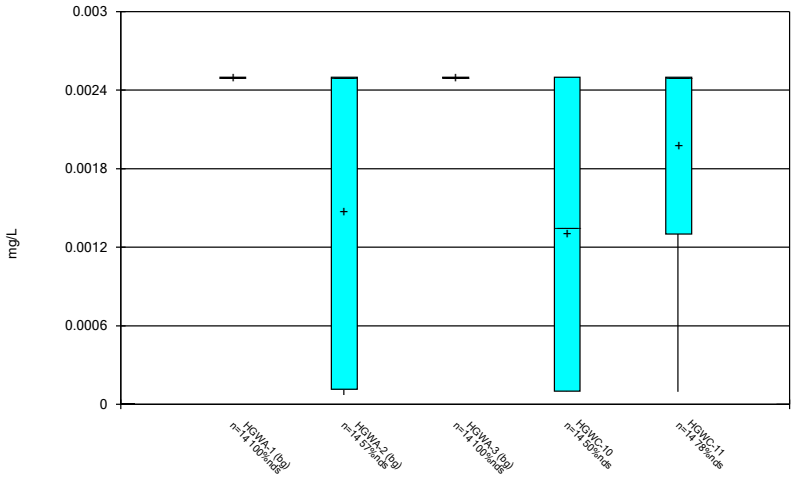


Constituent: Boron Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

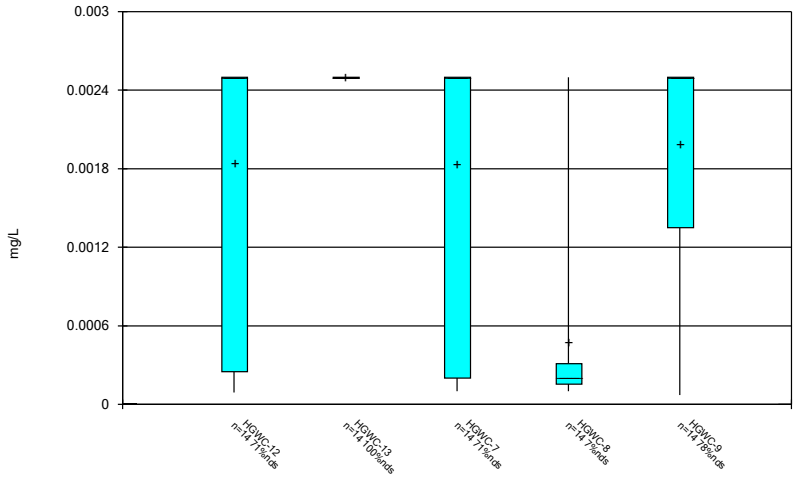


Constituent: Cadmium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

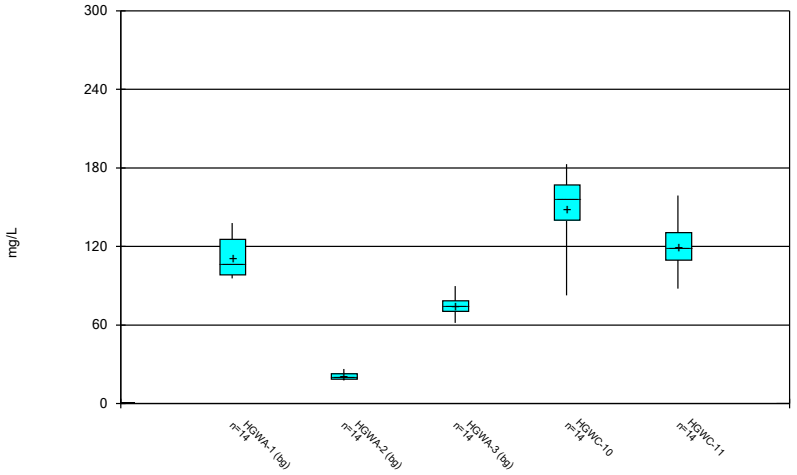
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

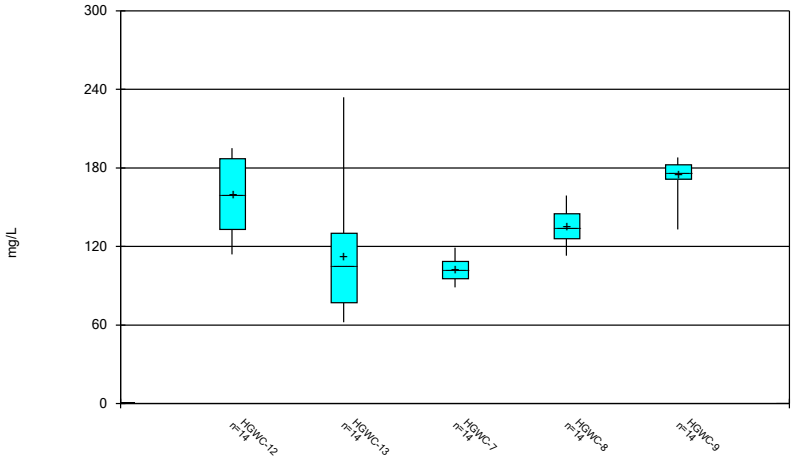


Constituent: Calcium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

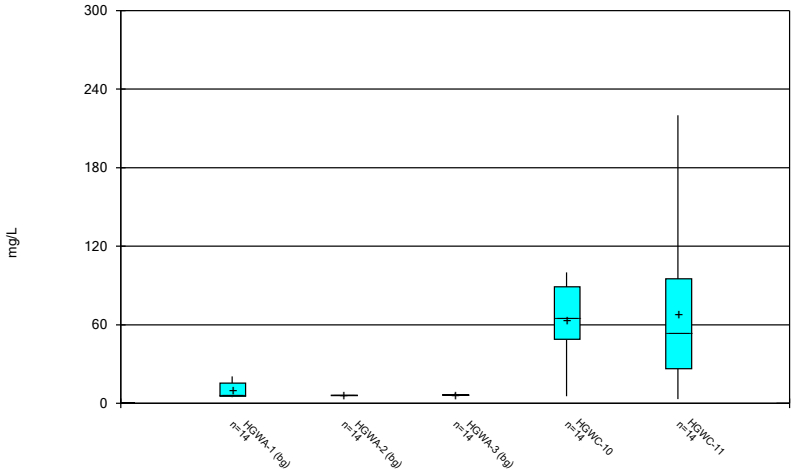


Constituent: Calcium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

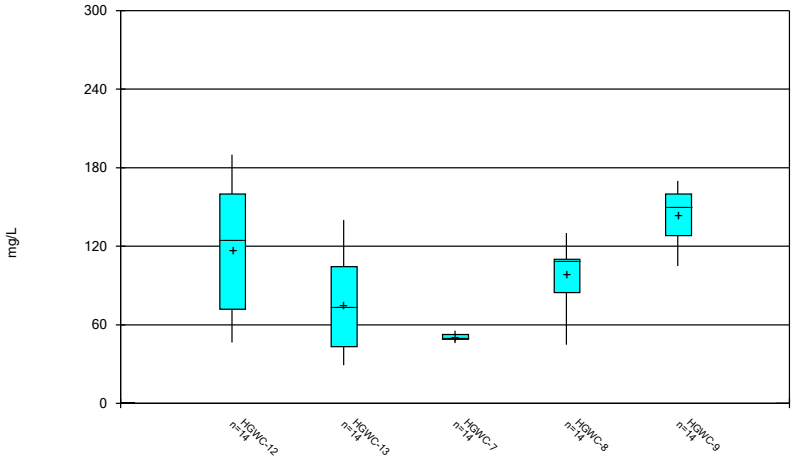


Constituent: Chloride Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

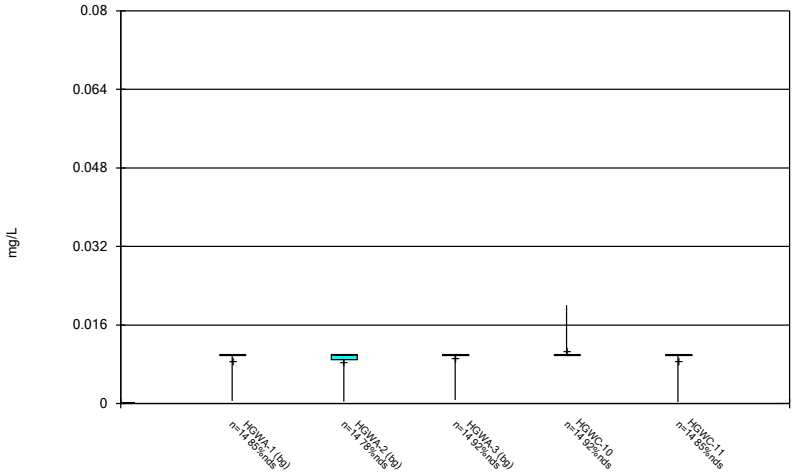
Box & Whiskers Plot



Constituent: Chloride Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

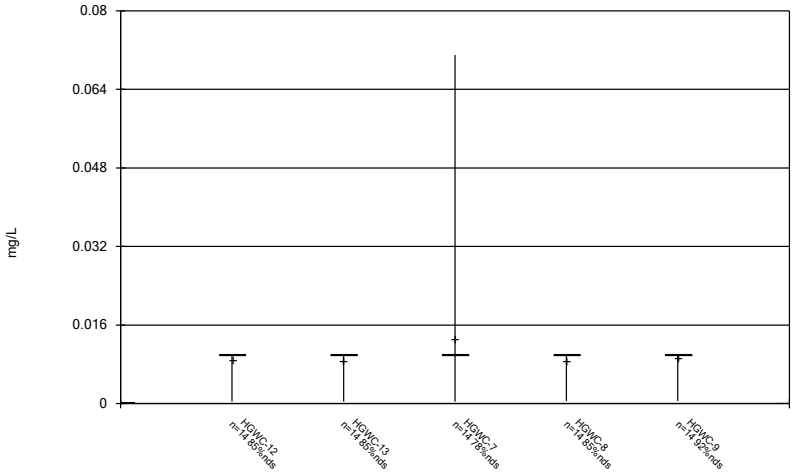


Constituent: Chromium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

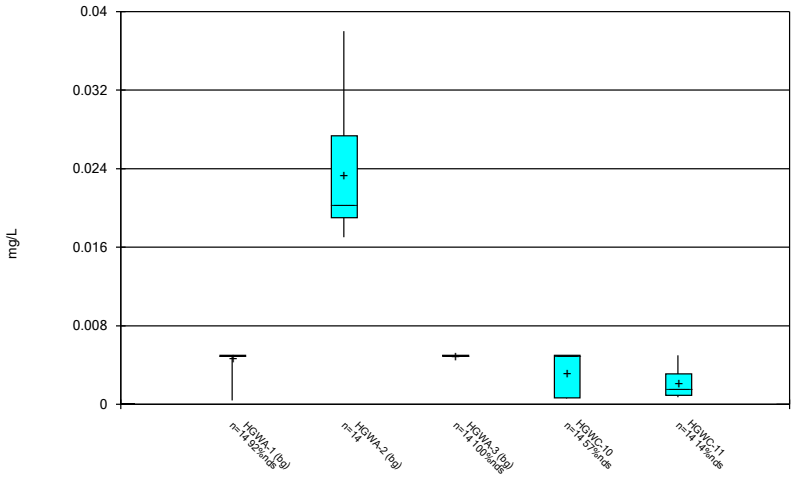


Constituent: Chromium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

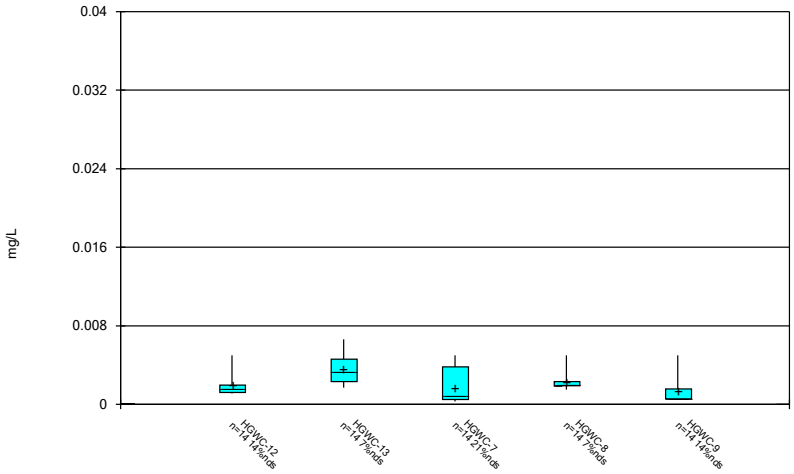


Constituent: Cobalt Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

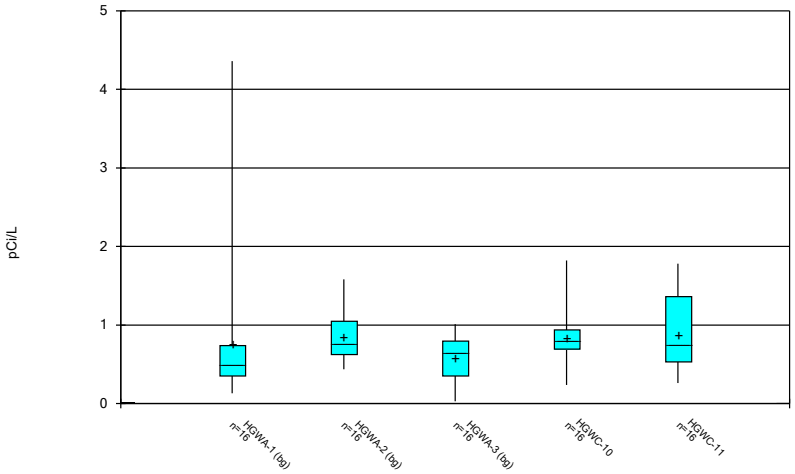
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

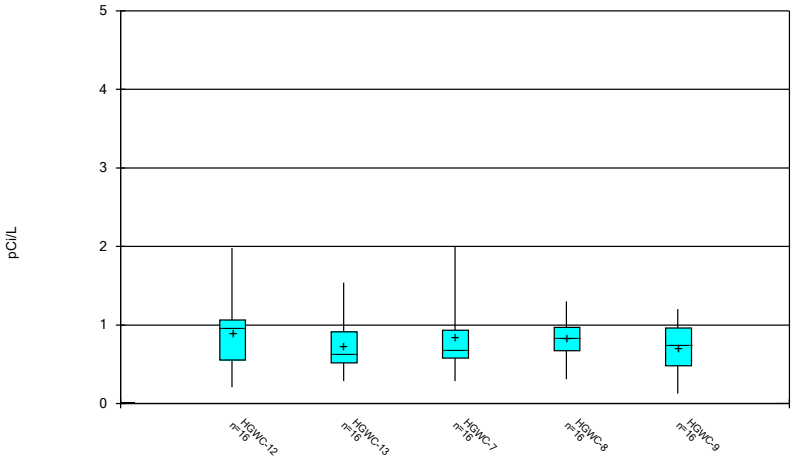
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

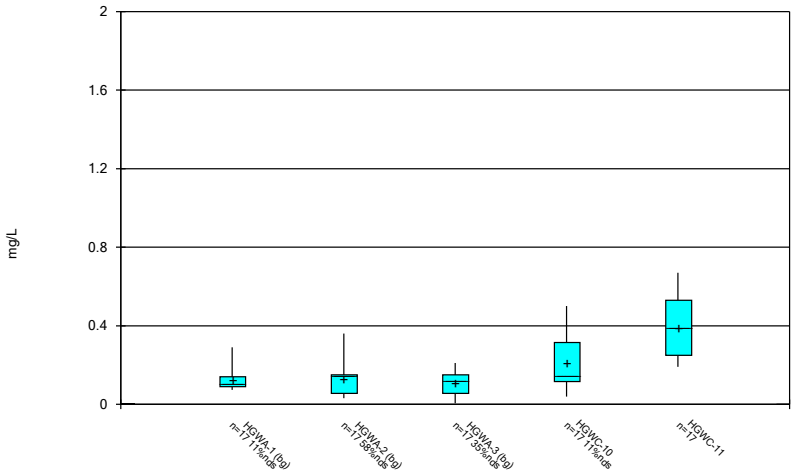
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

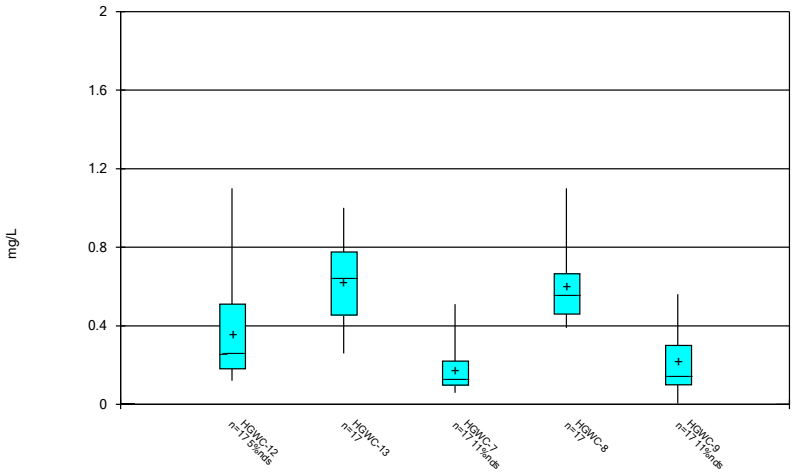
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

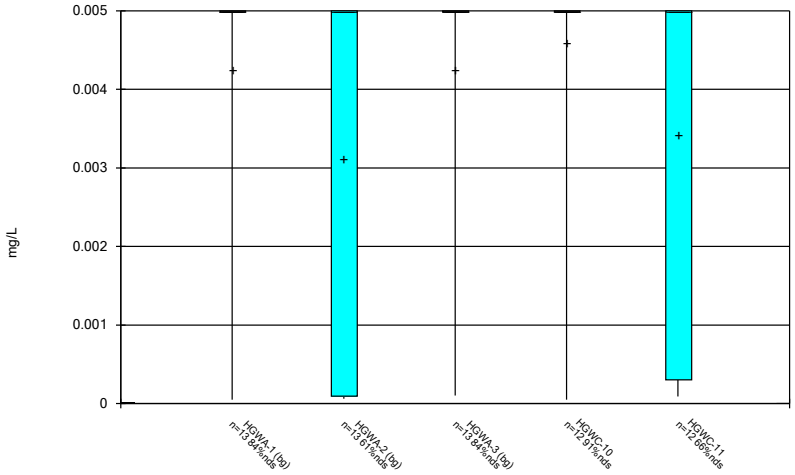
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

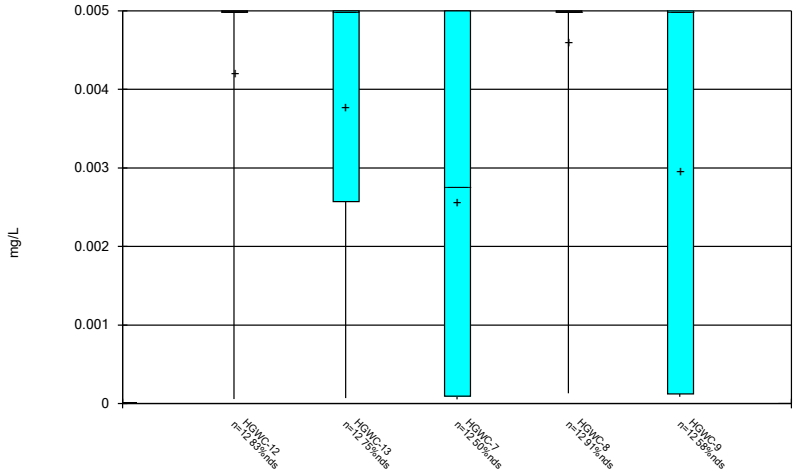


Constituent: Lead Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

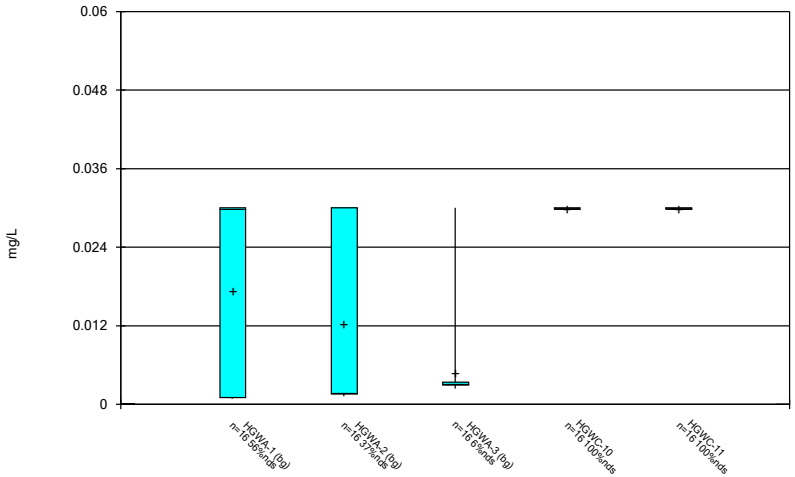


Constituent: Lead Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

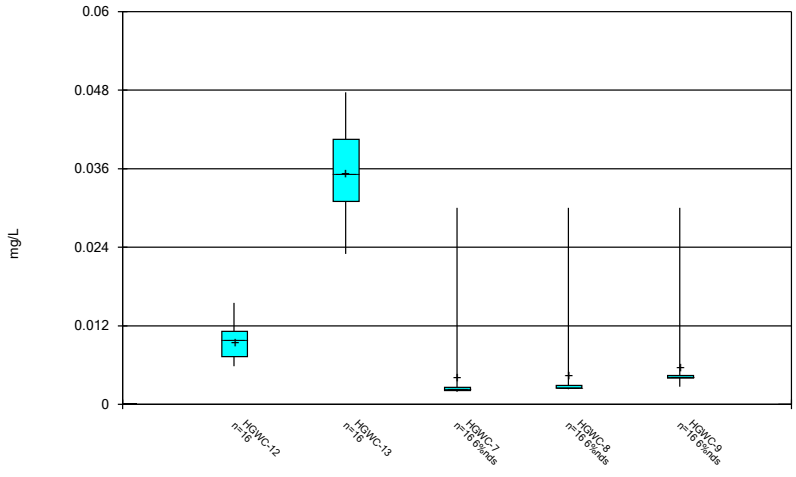


Constituent: Lithium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

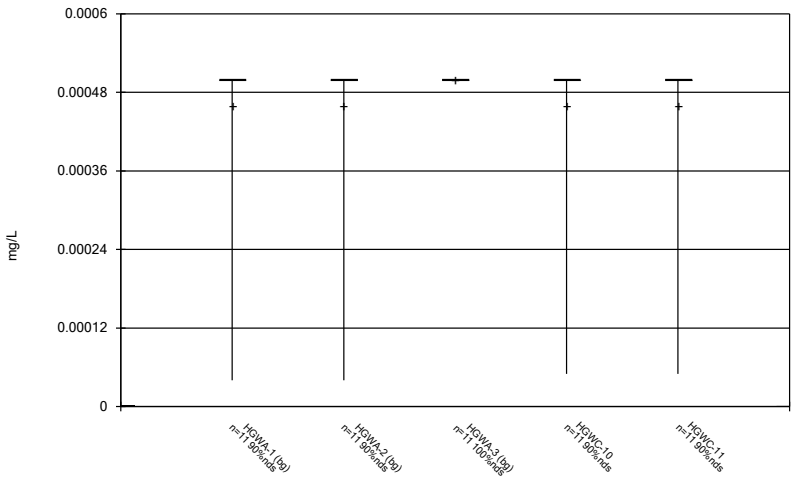
Box & Whiskers Plot



Constituent: Lithium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

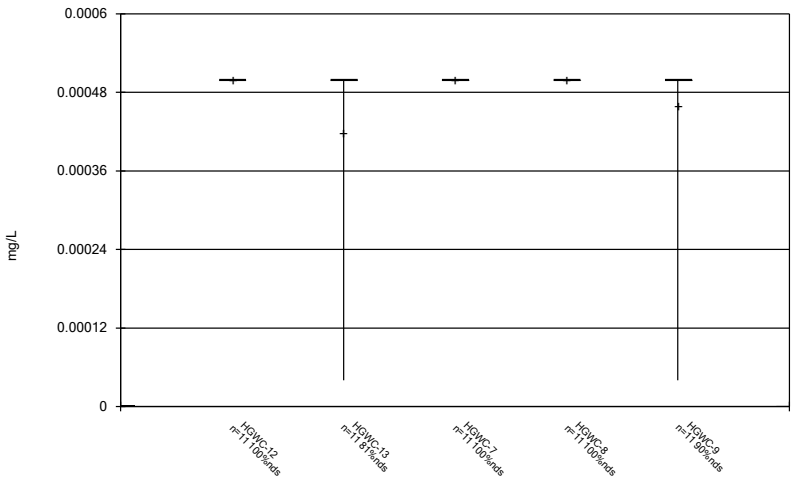


Constituent: Mercury Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

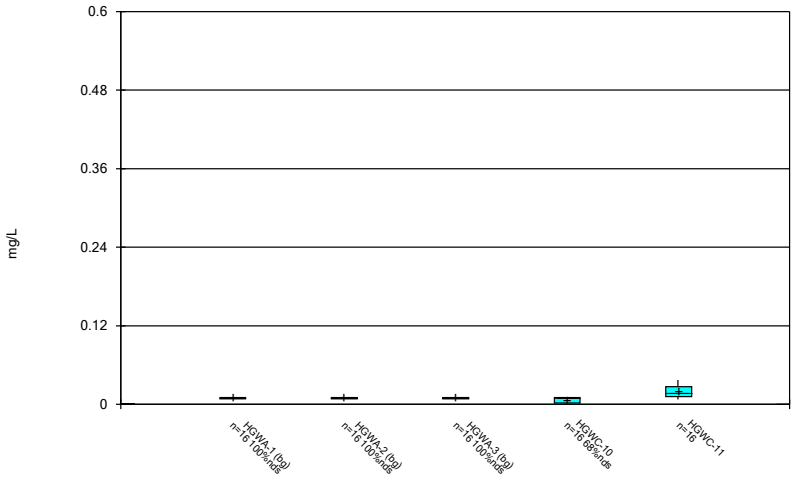


Constituent: Mercury Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

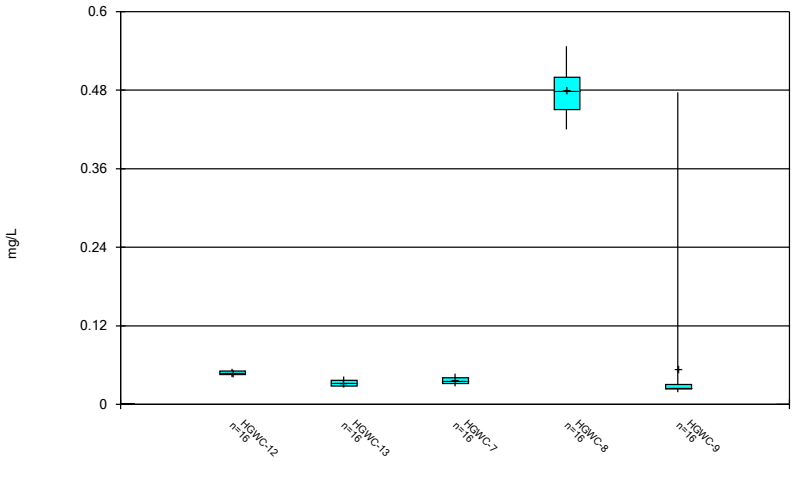


Constituent: Molybdenum Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

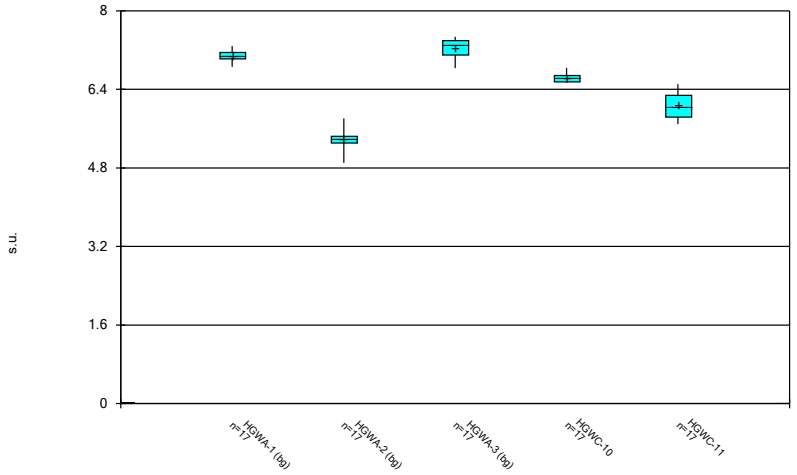


Constituent: Molybdenum Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

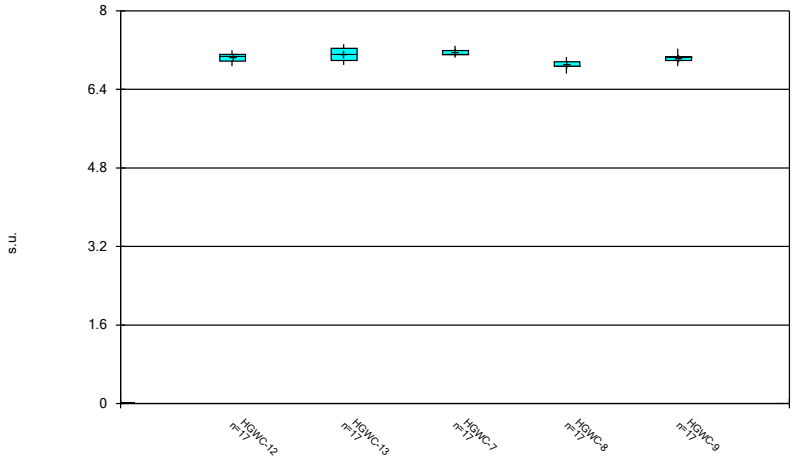


Constituent: pH Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

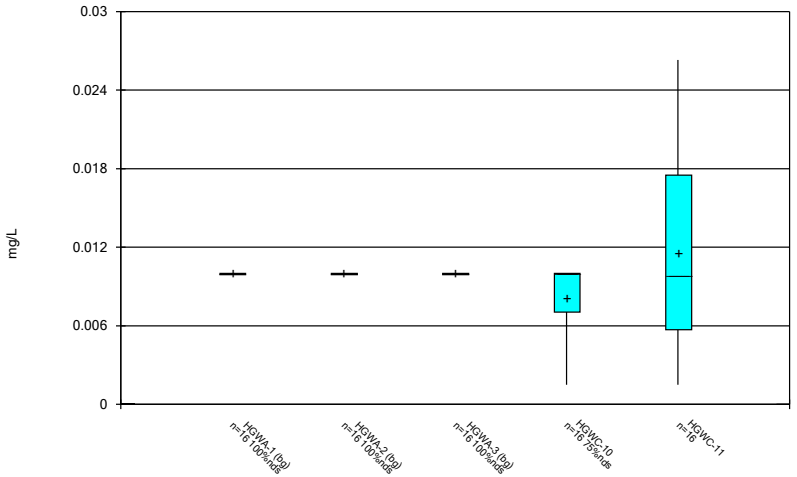


Constituent: pH Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

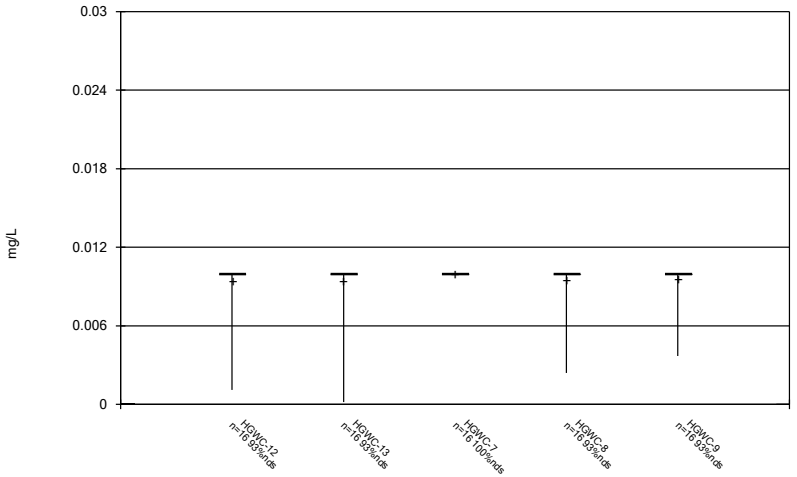


Constituent: Selenium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

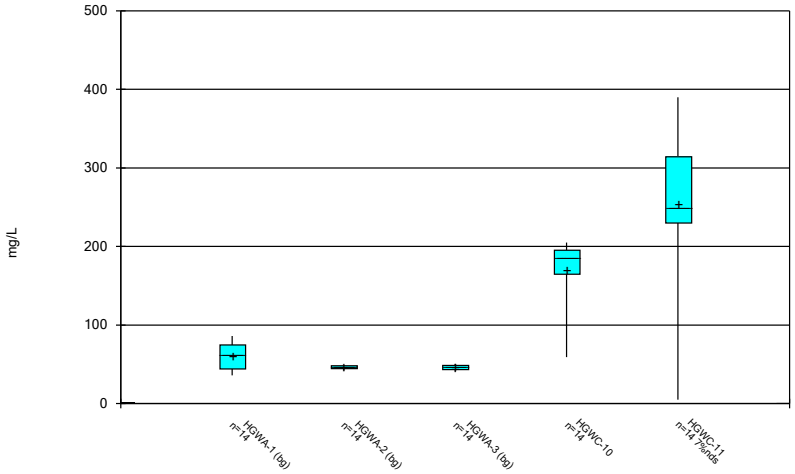
Box & Whiskers Plot



Constituent: Selenium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

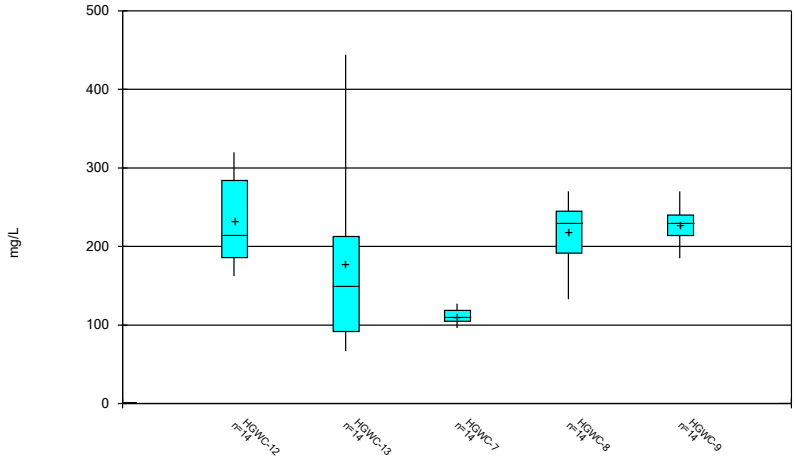


Constituent: Sulfate Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

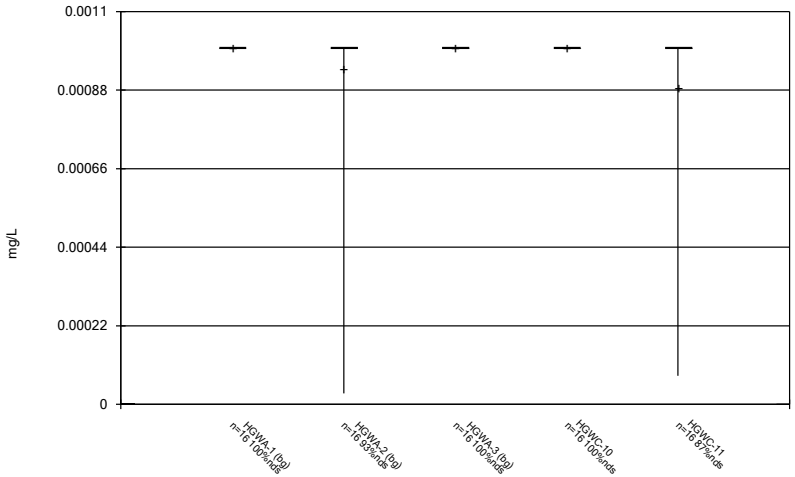


Constituent: Sulfate Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot

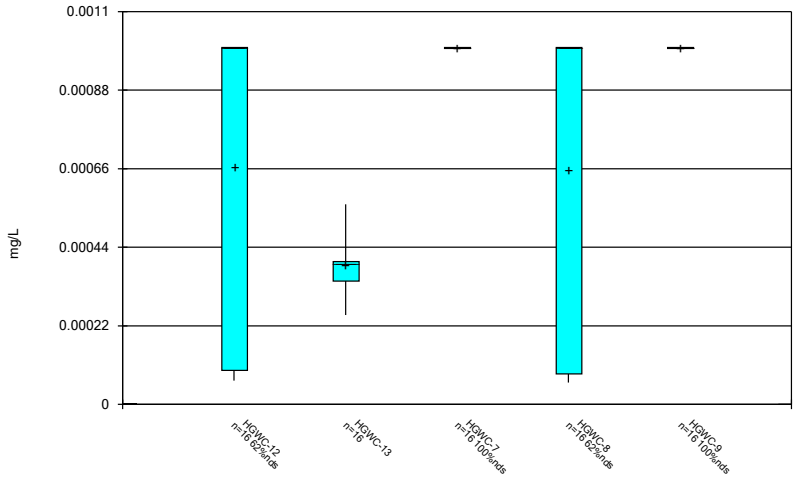


Constituent: Thallium Analysis Run 6/2/2020 4:25 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



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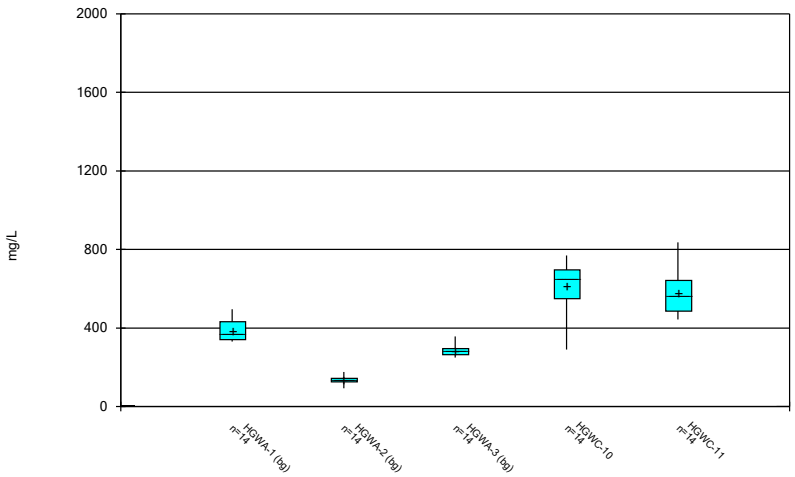
Plant Hammond Client: Southern Company Data: Hammond AP-1

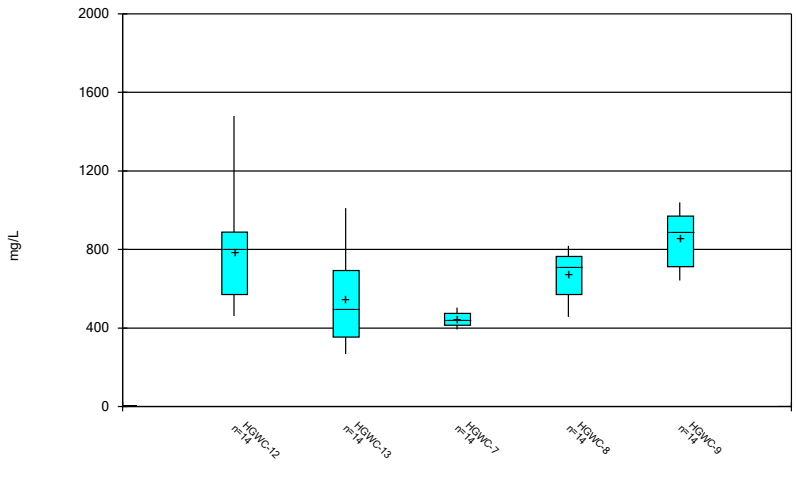
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:25 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE C.

Outlier Summary

Pirkey Landfill Client: Geosyntec Data: Pirkey Landfill Printed 4/29/2020, 1:56 PM

No values flagged as outliers

FIGURE D.

Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:35 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-10	0.0592	n/a	4/1/2020	0.23	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-11	0.0592	n/a	3/31/2020	0.17	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-12	0.0592	n/a	3/26/2020	1.6	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-13	0.0592	n/a	3/30/2020	1.8	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-7	0.0592	n/a	3/27/2020	1.2	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-8	0.0592	n/a	3/27/2020	2.4	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-9	0.0592	n/a	3/31/2020	2.2	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	HGWC-12	138	n/a	3/26/2020	145	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-13	138	n/a	3/30/2020	234	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-9	138	n/a	3/31/2020	182	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-12	20.4	n/a	3/26/2020	48	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-13	20.4	n/a	3/30/2020	75.1	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-7	20.4	n/a	3/27/2020	48.3	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-8	20.4	n/a	3/27/2020	79.8	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-9	20.4	n/a	3/31/2020	105	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-13	0.36	n/a	3/30/2020	0.44	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-8	0.36	n/a	3/27/2020	0.46	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-11	85.9	n/a	3/31/2020	283	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-12	85.9	n/a	3/26/2020	182	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-13	85.9	n/a	3/30/2020	393	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-7	85.9	n/a	3/27/2020	109	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-8	85.9	n/a	3/27/2020	173	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-9	85.9	n/a	3/31/2020	185	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-11	483.4	n/a	3/31/2020	565	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-12	483.4	n/a	3/26/2020	533	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-13	483.4	n/a	3/30/2020	895	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-8	483.4	n/a	3/27/2020	541	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-9	483.4	n/a	3/31/2020	1010	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2

Interwell Prediction Limits - All Results

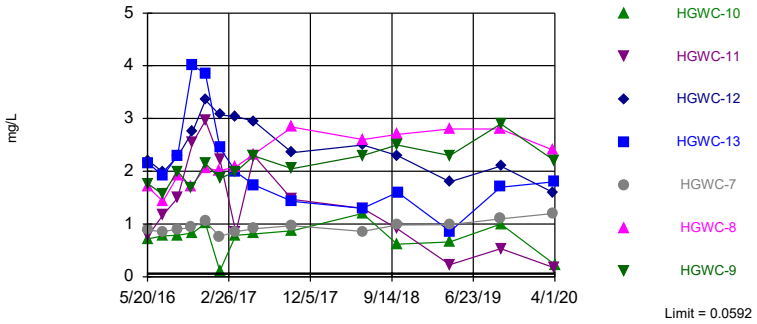
Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:35 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-10**	**0.0592**	**n/a**	**4/1/2020**	**0.23**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-11**	**0.0592**	**n/a**	**3/31/2020**	**0.17**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-12**	**0.0592**	**n/a**	**3/26/2020**	**1.6**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-13**	**0.0592**	**n/a**	**3/30/2020**	**1.8**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-7**	**0.0592**	**n/a**	**3/27/2020**	**1.2**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-8**	**0.0592**	**n/a**	**3/27/2020**	**2.4**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-9**	**0.0592**	**n/a**	**3/31/2020**	**2.2**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Calcium (mg/L)	HGWC-10	138	n/a	4/1/2020	96.2	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-11	138	n/a	3/31/2020	124	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-12**	**138**	**n/a**	**3/26/2020**	**145**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-13**	**138**	**n/a**	**3/30/2020**	**234**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-7	138	n/a	3/27/2020	119	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-8	138	n/a	3/27/2020	133	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-9**	**138**	**n/a**	**3/31/2020**	**182**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-10	20.4	n/a	4/1/2020	5.4	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-11	20.4	n/a	3/31/2020	3.2	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-12**	**20.4**	**n/a**	**3/26/2020**	**48**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-13**	**20.4**	**n/a**	**3/30/2020**	**75.1**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-7**	**20.4**	**n/a**	**3/27/2020**	**48.3**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-8**	**20.4**	**n/a**	**3/27/2020**	**79.8**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-9**	**20.4**	**n/a**	**3/31/2020**	**105**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-10	0.36	n/a	4/1/2020	0.12	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-11	0.36	n/a	3/31/2020	0.19	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-12	0.36	n/a	3/26/2020	0.17	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**HGWC-13**	**0.36**	**n/a**	**3/30/2020**	**0.44**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-7	0.36	n/a	3/27/2020	0.059	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**HGWC-8**	**0.36**	**n/a**	**3/27/2020**	**0.46**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-9	0.36	n/a	3/31/2020	0.074	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-10	7.47	4.9	4/1/2020	6.84	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-11	7.47	4.9	3/31/2020	5.7	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-12	7.47	4.9	3/26/2020	6.99	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-13	7.47	4.9	3/30/2020	6.91	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-7	7.47	4.9	3/27/2020	7.05	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-8	7.47	4.9	3/27/2020	6.95	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	HGWC-9	7.47	4.9	3/31/2020	7.07	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-10	85.9	n/a	4/1/2020	59	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-11**	**85.9**	**n/a**	**3/31/2020**	**283**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-12**	**85.9**	**n/a**	**3/26/2020**	**182**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-13**	**85.9**	**n/a**	**3/30/2020**	**393**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-7**	**85.9**	**n/a**	**3/27/2020**	**109**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-8**	**85.9**	**n/a**	**3/27/2020**	**173**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-9**	**85.9**	**n/a**	**3/31/2020**	**185**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-10	483.4	n/a	4/1/2020	290	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-11**	**483.4**	**n/a**	**3/31/2020**	**565**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-12**	**483.4**	**n/a**	**3/26/2020**	**533**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-13**	**483.4**	**n/a**	**3/30/2020**	**895**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-7	483.4	n/a	3/27/2020	413	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-8**	**483.4**	**n/a**	**3/27/2020**	**541**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-9**	**483.4**	**n/a**	**3/31/2020**	**1010**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**

Exceeds Limit: HGWC-10, HGWC-11, HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=0.1482, Std. Dev.=0.04839, n=42, 4.762% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.922. Kappa = 1.966 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

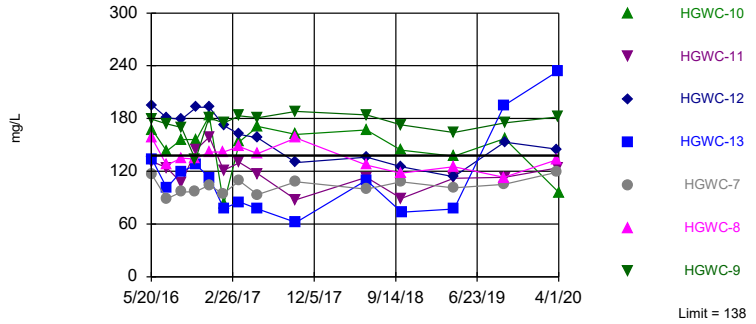
Constituent: Boron Analysis Run 6/2/2020 4:32 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: HGWC-12, HGWC-13, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 7 points to limit.

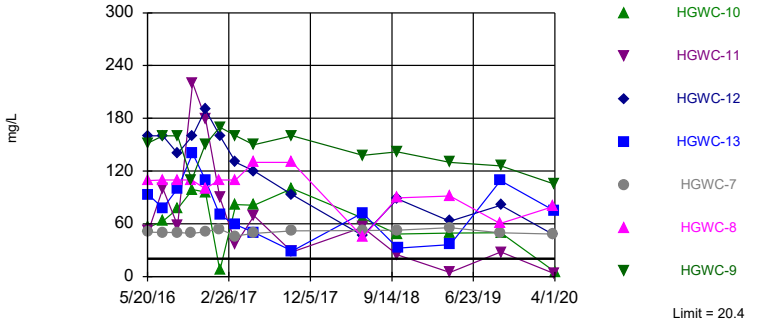
Constituent: Calcium Analysis Run 6/2/2020 4:32 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 7 points to limit.

Constituent: Chloride Analysis Run 6/2/2020 4:32 PM View: Appendix III

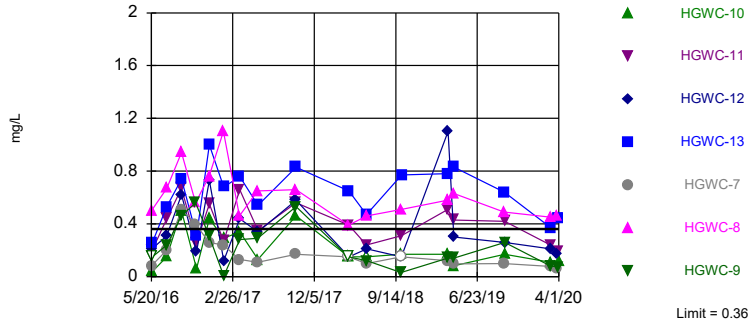
Plant Hammond Client: Southern Company Data: Hammond AP-1

Hollow symbols indicate censored values.

Exceeds Limit: HGWC-13, HGWC-8

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 51 background values. 35.29% NDs. Annual per-constituent alpha = 0.009975. Individual comparison alpha = 0.0007158 (1 of 2). Comparing 7 points to limit.

Constituent: Fluoride Analysis Run 6/2/2020 4:32 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-11	HGWC-12	HGWC-10	HGWC-9
5/19/2016	0.0214 (J)	0.0321 (J)	<0.1						
5/20/2016				1.71	0.885				
5/23/2016						0.787	2.2	0.72	1.76
7/11/2016	0.0142 (J)	0.0337 (J)							
7/12/2016			0.0074 (J)	1.43	0.857	1.17	1.98	0.778	1.56
8/30/2016	0.0074 (J)	0.0173 (J)	<0.1						
9/1/2016				1.91	0.904	1.49	2.28	0.786	2
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)						
10/20/2016				1.72	0.936				1.68
10/24/2016						2.54	2.75	0.831	
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)	2.06	1.06				2.15
12/7/2016						2.96	3.35	1.01	
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)						
1/25/2017				2.01	0.764				
1/26/2017						2.23	3.07	0.108	1.87
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)	2.08	0.857				
3/22/2017						0.84	3.04	0.788	1.99
5/22/2017	0.0782	0.0475	0.0131 (J)						
5/23/2017				2.32	0.91				2.29
5/24/2017						2.29	2.95	0.814	
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)	2.84	0.967	1.47	2.35	0.871	2.05
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)						
6/5/2018					0.86	1.3		1.2	
6/6/2018				2.6			2.5		2.3
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)						
10/2/2018				2.7	0.98			0.62	2.5
10/3/2018						0.91	2.3		
10/5/2018									
4/1/2019			0.0066 (J)						
4/2/2019	0.016 (J)	0.034 (J)			0.99				
4/3/2019				2.8		0.23	1.8	0.66	2.3
4/5/2019									
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)						
9/24/2019				2.8					
9/25/2019					1.1				
9/26/2019									
9/27/2019						0.53	2.1	1	2.9
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)						
3/26/2020							1.6		
3/27/2020				2.4	1.2				
3/30/2020									
3/31/2020						0.17			2.2
4/1/2020								0.23	

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	2.15
7/11/2016	
7/12/2016	1.91
8/30/2016	
9/1/2016	2.3
10/19/2016	
10/20/2016	
10/24/2016	4.01
12/6/2016	
12/7/2016	3.85
1/24/2017	
1/25/2017	
1/26/2017	2.45
3/21/2017	
3/22/2017	1.99
5/22/2017	
5/23/2017	
5/24/2017	1.74
10/3/2017	1.43
6/4/2018	
6/5/2018	1.3
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	1.6
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	0.86 (J)
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	1.7
9/27/2019	
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	1.8
3/31/2020	
4/1/2020	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-11	HGWC-12	HGWC-10	HGWC-9
5/19/2016	138	22.9	76.2						
5/20/2016				159	117				
5/23/2016						131	195	167	179
7/11/2016	97.2	22.3							
7/12/2016			61.5	127	88.8	124	181	143	174
8/30/2016	97.5	26.4	65.1						
9/1/2016				135	96.3	107	179	156	170
10/19/2016	99.2	21.7	73.2						
10/20/2016				134	96.9				133
10/24/2016						145	193	156	
12/6/2016	105	18.2	74.9	142	104				181
12/7/2016						159	193	183	
1/24/2017	95.7	18.5	69.6						
1/25/2017				142	94.5				
1/26/2017						121	172	82.6	175
3/21/2017	106	18.6	75.7	148	109				
3/22/2017						130	162	154	183
5/22/2017	107	17.8	71.5						
5/23/2017				140	93.3				181
5/24/2017						117	158	171	
10/3/2017	102	20.2	76.3	158	108	87.7	130	162	188
6/4/2018	124	19.1	73.4						
6/5/2018					99.8	113		167	
6/6/2018				127			136		184
10/1/2018	108	20.5 (J)	80.9						
10/2/2018				118	108			144	173
10/3/2018						89	125		
10/5/2018									
4/1/2019			80.5						
4/2/2019	132	22.5 (J)			101				
4/3/2019				125		112	114	137	164
4/5/2019									
9/23/2019	118	19.5	71						
9/24/2019				113					
9/25/2019					105				
9/26/2019									
9/27/2019						113	153	157	175
3/25/2020	127	23	89.8						
3/26/2020							145		
3/27/2020				133	119				
3/30/2020									
3/31/2020						124			182
4/1/2020								96.2	

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	133
7/11/2016	
7/12/2016	101
8/30/2016	
9/1/2016	120
10/19/2016	
10/20/2016	
10/24/2016	127
12/6/2016	
12/7/2016	113
1/24/2017	
1/25/2017	
1/26/2017	77.9
3/21/2017	
3/22/2017	85.1
5/22/2017	
5/23/2017	
5/24/2017	77.1
10/3/2017	62
6/4/2018	
6/5/2018	110
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	73.6
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	77.1
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	195
9/27/2019	
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	234
3/31/2020	
4/1/2020	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-11	HGWC-12	HGWC-10	HGWC-9
5/19/2016	9.94	6.14	5.93						
5/20/2016				109	50.4				
5/23/2016						51.9	160	56.1	152
7/11/2016	6.3	5.9							
7/12/2016			6.2	110	50	100	160	63	160
8/30/2016	6	6.2	6.4						
9/1/2016				110	50	58	140	77	160
10/19/2016	5.8	6.1	6.5						
10/20/2016				110	49				110
10/24/2016						220	160	99	
12/6/2016	5.4	6	7.2	100	51				150
12/7/2016						180	190	96	
1/24/2017	5.2	6.1	6.4						
1/25/2017				110	54				
1/26/2017						90	160	7	170
3/21/2017	4.6	5.9	7.5	110	46				
3/22/2017						37	130	82	160
5/22/2017	4.6	5.9	6.5						
5/23/2017				130	49				150
5/24/2017						69	120	81	
10/3/2017	5.6	6.3	6.5	130	52	28	93	100	160
6/4/2018	13.1	6.1	6.3						
6/5/2018					52.3	56.1		66.6	
6/6/2018				44.8			46.4		138
10/1/2018	6.6	6.4	6.4						
10/2/2018				89.4	52.6			48.3	142
10/3/2018						24.8	88.4		
10/5/2018									
4/1/2019			6.5						
4/2/2019	20.3	5.8			55.5				
4/3/2019				91.6		4.6	62.8	49.3	130
4/5/2019									
9/23/2019	17.7	5.1	5.9						
9/24/2019				60.2					
9/25/2019					49.8				
9/26/2019									
9/27/2019						27.9	81	49.9	126
3/25/2020	20.4	5.2	6.1						
3/26/2020							48		
3/27/2020				79.8	48.3				
3/30/2020									
3/31/2020						3.2			105
4/1/2020								5.4	

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	93.2
7/11/2016	
7/12/2016	78
8/30/2016	
9/1/2016	100
10/19/2016	
10/20/2016	
10/24/2016	140
12/6/2016	
12/7/2016	110
1/24/2017	
1/25/2017	
1/26/2017	70
3/21/2017	
3/22/2017	59
5/22/2017	
5/23/2017	
5/24/2017	50
10/3/2017	29
6/4/2018	
6/5/2018	72.3
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	32.3
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	36.4
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	109
9/27/2019	
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	75.1
3/31/2020	
4/1/2020	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-7	HGWC-8	HGWC-10	HGWC-9	HGWC-11	HGWC-12
5/19/2016	0.105 (J)	0.0513 (J)	0.0303 (J)						
5/20/2016				0.0828 (J)	0.499				
5/23/2016						0.0394 (J)	<0.3	0.203 (J)	0.212 (J)
7/11/2016	0.16 (J)		0.05 (J)						
7/12/2016		0.12 (J)		0.2 (J)	0.67	0.15 (J)	0.24 (J)	0.44	0.31
8/30/2016	0.09 (J)	0.09 (J)	0.06 (J)						
9/1/2016				0.51	0.94	0.5	0.46	0.67	0.62
10/19/2016	0.1 (J)	0.1 (J)	0.04 (J)						
10/20/2016				0.4	0.56		0.56		
10/24/2016						0.06 (J)		0.26 (J)	0.19 (J)
12/6/2016	0.11 (J)	0.21 (J)	0.36	0.26 (J)	0.76		0.31		
12/7/2016						0.44		0.55	0.73
1/24/2017	0.09 (J)	0.06 (J)	<0.3						
1/25/2017				0.24 (J)	1.1				
1/26/2017						0.29 (J)	0.004 (J)	0.27 (J)	0.12 (J)
3/21/2017	0.13 (J)	0.005 (J)	<0.3	0.13 (J)	0.46				
3/22/2017						0.34	0.28 (J)	0.66	0.44
5/22/2017	0.12 (J)	0.05 (J)	<0.3						
5/23/2017				0.11 (J)	0.65		0.29 (J)		
5/24/2017						0.13 (J)		0.35	0.34
10/3/2017	0.13 (J)	0.13 (J)	<0.3	0.17 (J)	0.66	0.46	0.53	0.56	0.58
4/2/2018	<0.3		<0.3						
4/3/2018		<0.3		<0.3	0.39		<0.3		
4/4/2018						<0.3		0.39	<0.3
6/4/2018	0.074 (J)	<0.3	<0.3						
6/5/2018				0.099 (J)		<0.3		0.24 (J)	
6/6/2018					0.46		0.12 (J)		0.21 (J)
10/1/2018	<0.3	<0.3	<0.3						
10/2/2018				<0.3	0.51	0.17 (J)	0.031 (J)		
10/3/2018								0.31	0.15 (J)
10/5/2018									
3/12/2019	0.29 (J)	0.072 (J)	0.038 (J)		0.58				
3/13/2019				0.12 (J)		0.17 (J)	0.14 (J)	0.51	
3/14/2019									1.1
4/1/2019		0.029 (J)							
4/2/2019	0.1 (J)		0.071 (J)	0.097 (J)					
4/3/2019					0.63	0.082 (J)	0.14 (J)	0.43	0.3 (J)
4/5/2019									
9/23/2019	0.078 (J)	<0.3	<0.3						
9/24/2019					0.49				
9/25/2019				0.1 (J)					
9/26/2019									
9/27/2019						0.17 (J)	0.26 (J)	0.42	0.26 (J)
3/2/2020	0.076 (J)	<0.3	<0.3						
3/3/2020					0.45	0.11 (J)		0.24 (J)	0.21 (J)
3/4/2020				0.077 (J)			0.08 (J)		
3/25/2020	0.098 (J)	<0.3	<0.3						
3/26/2020									0.17 (J)
3/27/2020				0.059 (J)	0.46				
3/30/2020									
3/31/2020							0.074 (J)	0.19 (J)	
4/1/2020						0.12 (J)			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	0.2587 (J)
7/11/2016	
7/12/2016	0.53
8/30/2016	
9/1/2016	0.74
10/19/2016	
10/20/2016	
10/24/2016	0.31
12/6/2016	
12/7/2016	1
1/24/2017	
1/25/2017	
1/26/2017	0.68
3/21/2017	
3/22/2017	0.76
5/22/2017	
5/23/2017	
5/24/2017	0.54
10/3/2017	0.83
4/2/2018	
4/3/2018	
4/4/2018	0.65
6/4/2018	
6/5/2018	0.47
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	0.77
3/12/2019	
3/13/2019	0.78
3/14/2019	
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	0.83
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	0.64
9/27/2019	
3/2/2020	
3/3/2020	
3/4/2020	0.37
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	0.44
3/31/2020	
4/1/2020	

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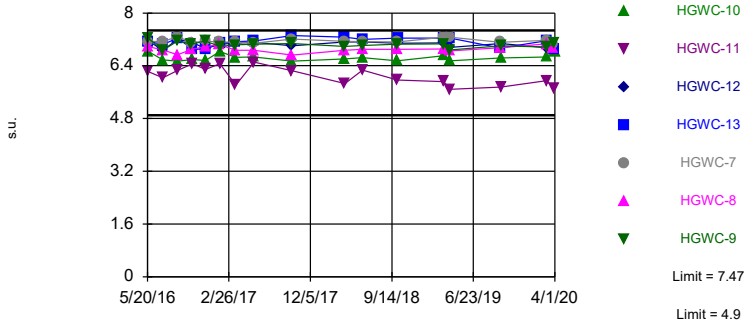
Within Limits

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 51 background values. Annual per-constituent alpha = 0.01995. Individual comparison alpha = 0.001432 (1 of 2). Comparing 7 points to limit.

Constituent: pH Analysis Run 6/2/2020 4:32 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

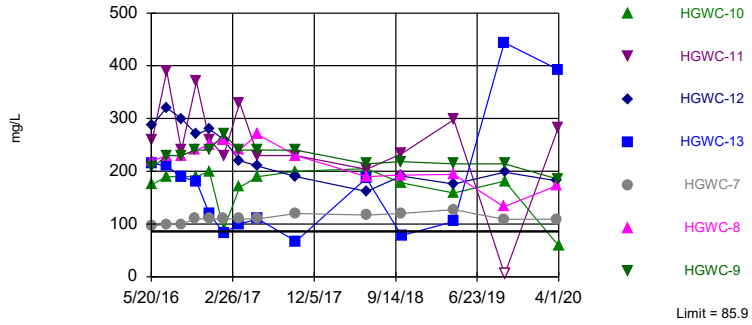
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Exceeds Limit: HGWC-11, HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 7 points to limit.

Constituent: Sulfate Analysis Run 6/2/2020 4:32 PM View: Appendix III

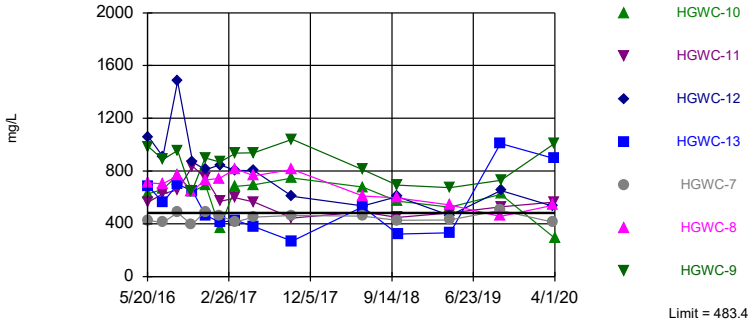
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-11, HGWC-12, HGWC-13, HGWC-8, HGWC-9

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=267.4, Std. Dev.=109.9, n=42. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9318, critical = 0.922. Kappa = 1.966 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:32 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

Prediction Limit

Constituent: pH (s.u.) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-7	HGWC-8	HGWC-10	HGWC-9	HGWC-11	HGWC-12
5/19/2016	7.27	7.45	5.81						
5/20/2016				7.14	6.99				
5/23/2016						6.83	7.23	6.22	7.15
7/11/2016	7.06		5.68						
7/12/2016		7.32		7.13	6.88	6.58	6.87	6.04	6.87
8/30/2016	7.28	7.43	5.63						
9/1/2016				7.29	6.73	6.54	7.15	6.26	7.2
10/19/2016	7.02	7.03	5.46						
10/20/2016				7.1	6.9		7.05		
10/24/2016						6.59		6.46	7.1
12/6/2016	7.09	7.08	5.38	7.15	6.98		7.15		
12/7/2016						6.56		6.29	6.92
1/24/2017	7.2	7.39	5.37						
1/25/2017				7.11	7.04				
1/26/2017						6.83	6.99	6.46	7.05
3/21/2017	7.01	6.83	4.9	7.12	6.87				
3/22/2017						6.66	7.03	5.81	7.08
5/22/2017	7.11	7.02	5.2						
5/23/2017				7.08	6.87		7.05		
5/24/2017						6.67		6.51	7.11
10/3/2017	7.21	7.47	5.3	7.21	6.72	6.54	7.07	6.25	7.01
4/2/2018	7.1		5.4						
4/3/2018		7.38		7.14	6.87		6.99		
4/4/2018						6.61		5.86	7.12
6/4/2018	7.06	7.38	5.27						
6/5/2018				7.13		6.65		6.27	
6/6/2018					6.9		7.02		7.12
10/1/2018	7.09	7.13	5.31						
10/2/2018				7.12	6.9	6.55	7.05		
10/3/2018								5.97	7.08
10/5/2018									
3/12/2019	7.03	7.29	5.42		6.91				
3/13/2019				7.27		6.7	7.06	5.92	
3/14/2019									7.09
4/1/2019		7.16							
4/2/2019	6.86		5.41	7.27					
4/3/2019					6.85	6.55	6.88	5.69	6.96
4/5/2019									
9/23/2019	7.02	7.3	5.33						
9/24/2019					6.95				
9/25/2019				7.11					
9/26/2019									
9/27/2019						6.64	7.01	5.75	7.07
3/2/2020	7.1	7.12	5.43						
3/3/2020					7.06	6.67		5.95	6.95
3/4/2020				7.17			6.97		
3/25/2020	6.95	7.4	5.36						
3/26/2020									6.99
3/27/2020				7.05	6.95				
3/30/2020									
3/31/2020							7.07	5.7	
4/1/2020						6.84			

Prediction Limit

Constituent: pH (s.u.) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	7.14
7/11/2016	
7/12/2016	7.04
8/30/2016	
9/1/2016	7.24
10/19/2016	
10/20/2016	
10/24/2016	6.9
12/6/2016	
12/7/2016	6.91
1/24/2017	
1/25/2017	
1/26/2017	7.08
3/21/2017	
3/22/2017	7.13
5/22/2017	
5/23/2017	
5/24/2017	7.15
10/3/2017	7.32
4/2/2018	
4/3/2018	
4/4/2018	7.27
6/4/2018	
6/5/2018	7.2
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	7.24
3/12/2019	
3/13/2019	7.24
3/14/2019	
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	7.24
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	6.94
9/27/2019	
3/2/2020	
3/3/2020	
3/4/2020	7.16
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	6.91
3/31/2020	
4/1/2020	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-11	HGWC-12	HGWC-10	HGWC-9
5/19/2016	66.9	48.6	42.3						
5/20/2016				219	96				
5/23/2016						260	288	175	207
7/11/2016	41	45							
7/12/2016			44	230	100	390	320	190	230
8/30/2016	36	42	40						
9/1/2016				230	100	240	300	190	230
10/19/2016	46	44	43						
10/20/2016				240	110				240
10/24/2016						370	270	190	
12/6/2016	59	44	43	250	110				240
12/7/2016						260	280	200	
1/24/2017	46	46	48						
1/25/2017				260	110				
1/26/2017						230	260	90	270
3/21/2017	63	46	45	240	110				
3/22/2017						330	220	170	240
5/22/2017	77	48	46						
5/23/2017				270	110				240
5/24/2017						230	210	190	
10/3/2017	42	47	48	230	120	230	190	200	240
6/4/2018	71.8	47.8	46.6						
6/5/2018					117	204		205	
6/6/2018				190			162		214
10/1/2018	49.1	48.1	48.6						
10/2/2018				193	120			178	218
10/3/2018						233	191		
10/5/2018									
4/1/2019			50.4						
4/2/2019	84.3	48.7			127				
4/3/2019				194		298	176	159	214
4/5/2019									
9/23/2019	70.2	47.2	43.9						
9/24/2019				133					
9/25/2019					109				
9/26/2019									
9/27/2019						<10	198	181	214
3/25/2020	85.9	46.3	50.5						
3/26/2020							182		
3/27/2020				173	109				
3/30/2020									
3/31/2020						283			185
4/1/2020								59	

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	215
7/11/2016	
7/12/2016	210
8/30/2016	
9/1/2016	190
10/19/2016	
10/20/2016	
10/24/2016	180
12/6/2016	
12/7/2016	120
1/24/2017	
1/25/2017	
1/26/2017	83
3/21/2017	
3/22/2017	100
5/22/2017	
5/23/2017	
5/24/2017	110
10/3/2017	67
6/4/2018	
6/5/2018	187
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	78.3
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	105
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	444
9/27/2019	
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	393
3/31/2020	
4/1/2020	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-11	HGWC-12	HGWC-10	HGWC-9
5/19/2016	421	143	267						
5/20/2016				711	427				
5/23/2016						564	1060	629	984
7/11/2016	363	125							
7/12/2016			249	704	410	627	909	661	887
8/30/2016	330	168	254						
9/1/2016				763	484	656	1480	769	956
10/19/2016	380	176	357						
10/20/2016				644	393				642
10/24/2016						836	868	643	
12/6/2016	377	145	285	733	492				899
12/7/2016						748	811	697	
1/24/2017	342	129	300						
1/25/2017				744	461				
1/26/2017						571	846	368	869
3/21/2017	340	103	288	818	415				
3/22/2017						597	804	683	936
5/22/2017	338	92	263						
5/23/2017				765	450				939
5/24/2017						566	803	696	
10/3/2017	343	127	300	812	464	443	608	746	1040
6/4/2018	415	140	266						
6/5/2018					459	489		679	
6/6/2018				611			535		810
10/1/2018	354	135	291						
10/2/2018				597	426			572	693
10/3/2018						449	607		
10/5/2018									
4/1/2019			284						
4/2/2019	452	133			428				
4/3/2019				543		483	462	525	673
4/5/2019									
9/23/2019	442	129	268						
9/24/2019				457					
9/25/2019					503				
9/26/2019									
9/27/2019						528	653	624	730
3/25/2020	496	138	284						
3/26/2020							533		
3/27/2020				541	413				
3/30/2020									
3/31/2020						565			1010
4/1/2020								290	

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2020 4:35 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13
5/19/2016	
5/20/2016	
5/23/2016	683
7/11/2016	
7/12/2016	563
8/30/2016	
9/1/2016	702
10/19/2016	
10/20/2016	
10/24/2016	647
12/6/2016	
12/7/2016	465
1/24/2017	
1/25/2017	
1/26/2017	411
3/21/2017	
3/22/2017	427
5/22/2017	
5/23/2017	
5/24/2017	377
10/3/2017	268
6/4/2018	
6/5/2018	528
6/6/2018	
10/1/2018	
10/2/2018	
10/3/2018	
10/5/2018	322
4/1/2019	
4/2/2019	
4/3/2019	
4/5/2019	331
9/23/2019	
9/24/2019	
9/25/2019	
9/26/2019	1010
9/27/2019	
3/25/2020	
3/26/2020	
3/27/2020	
3/30/2020	895
3/31/2020	
4/1/2020	

FIGURE E.

Appendix III Trend Tests - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWA-2 (bg)**	**0.001791**	**45**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-7**	**0.06141**	**48**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-8**	**0.3688**	**66**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-9**	**0.2649**	**60**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	**HGWC-12**	**-24.12**	**-64**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Chloride (mg/L)	**HGWC-12**	**-32.73**	**-63**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	**HGWA-3 (bg)**	**2.216**	**57**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	**HGWC-12**	**-41.21**	**-67**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-12**	**-150.4**	**-73**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**

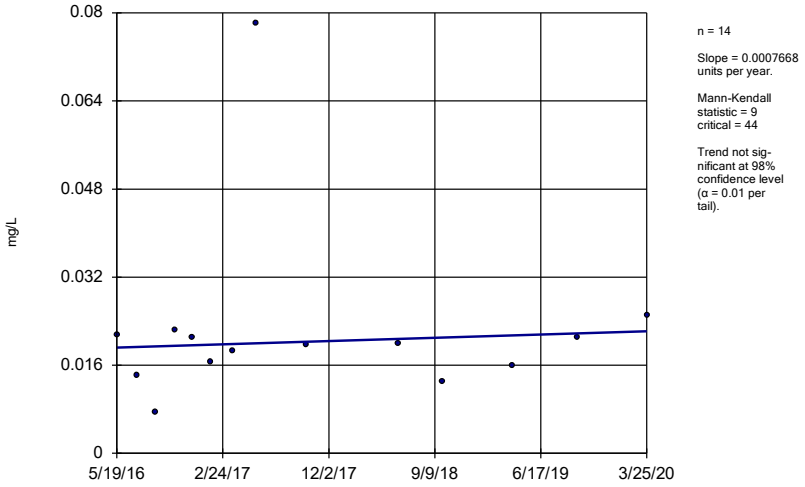
Appendix III Trend Tests - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 4:39 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	0.0007668	9	44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	**HGWA-2 (bg)**	**0.001791**	**45**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	HGWA-3 (bg)	-0.0007135	-19	-44	No	14	14.29	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-10	0.03857	7	44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-11	-0.3864	-35	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-12	-0.2033	-25	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	HGWC-13	-0.3844	-43	-44	No	14	0	n/a	n/a	0.02	NP
Boron (mg/L)	**HGWC-7**	**0.06141**	**48**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-8**	**0.3688**	**66**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Boron (mg/L)	**HGWC-9**	**0.2649**	**60**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	HGWA-1 (bg)	6.687	43	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWA-2 (bg)	-0.1393	-1	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWA-3 (bg)	3.531	39	44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	**HGWC-12**	**-24.12**	**-64**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Calcium (mg/L)	HGWC-13	-5.685	-14	-44	No	14	0	n/a	n/a	0.02	NP
Calcium (mg/L)	HGWC-9	1.628	15	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-1 (bg)	1.469	22	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-2 (bg)	-0.1372	-27	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWA-3 (bg)	0	-4	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	**HGWC-12**	**-32.73**	**-63**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Chloride (mg/L)	HGWC-13	-15.35	-27	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-7	0.6016	9	44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-8	-7.504	-26	-44	No	14	0	n/a	n/a	0.02	NP
Chloride (mg/L)	HGWC-9	-10.22	-42	-44	No	14	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-1 (bg)	-0.002837	-12	-58	No	17	11.76	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-2 (bg)	0	29	58	No	17	58.82	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWA-3 (bg)	0.04945	43	58	No	17	35.29	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWC-13	0.01508	9	58	No	17	0	n/a	n/a	0.02	NP
Fluoride (mg/L)	HGWC-8	-0.05579	-47	-58	No	17	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWA-1 (bg)	8.572	44	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWA-2 (bg)	1.136	35	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	**HGWA-3 (bg)**	**2.216**	**57**	**44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	HGWC-11	-25.17	-29	-44	No	14	7.143	n/a	n/a	0.02	NP
Sulfate (mg/L)	**HGWC-12**	**-41.21**	**-67**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Sulfate (mg/L)	HGWC-13	-21.73	-15	-44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-7	5.935	40	44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-8	-17.75	-29	-44	No	14	0	n/a	n/a	0.02	NP
Sulfate (mg/L)	HGWC-9	-5.703	-23	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	19.47	27	44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	-3.376	-14	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	2.137	9	44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-11	-48.64	-37	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	**HGWC-12**	**-150.4**	**-73**	**-44**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.02**	**NP**
Total Dissolved Solids (mg/L)	HGWC-13	-76.14	-19	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-8	-48.91	-33	-44	No	14	0	n/a	n/a	0.02	NP
Total Dissolved Solids (mg/L)	HGWC-9	-43.42	-13	-44	No	14	0	n/a	n/a	0.02	NP

Sen's Slope Estimator

HGWA-1 (bg)



n = 14

Slope = 0.0007668 units per year.

Mann-Kendall statistic = 9
critical = 44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

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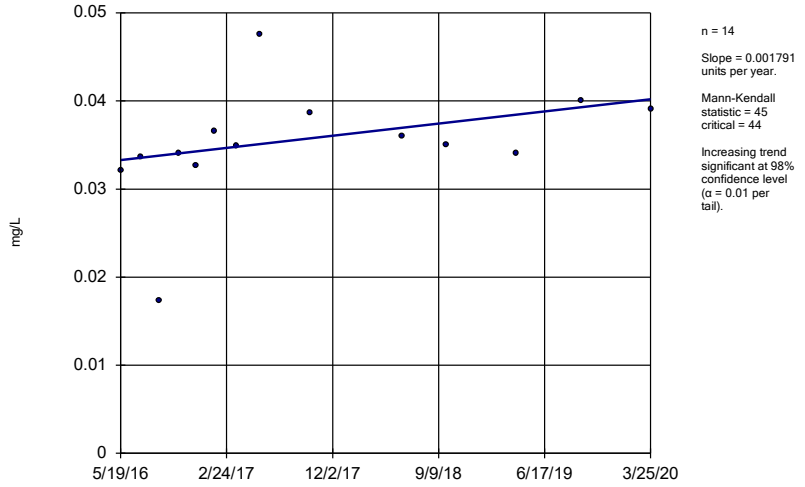
Sen's Slope Estimator

HGWA-2 (bg)



n = 14

Slope = 0.001791 units per year.

Mann-Kendall statistic = 45
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

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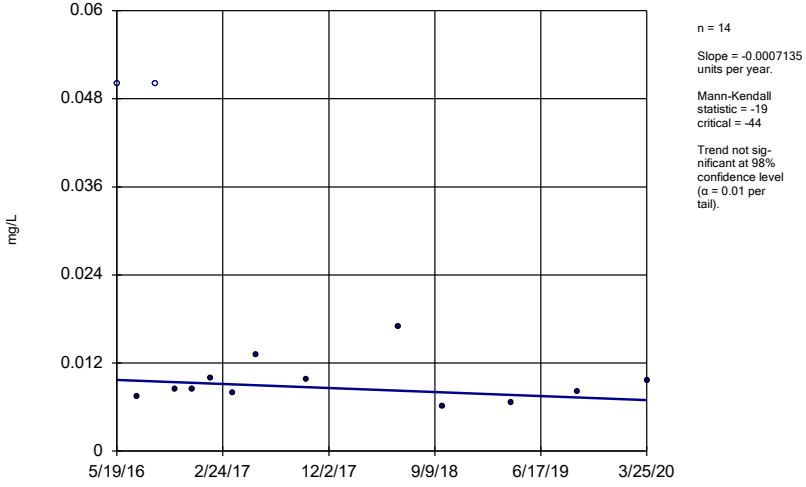
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-3 (bg)



n = 14

Slope = -0.0007135 units per year.

Mann-Kendall statistic = -19
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

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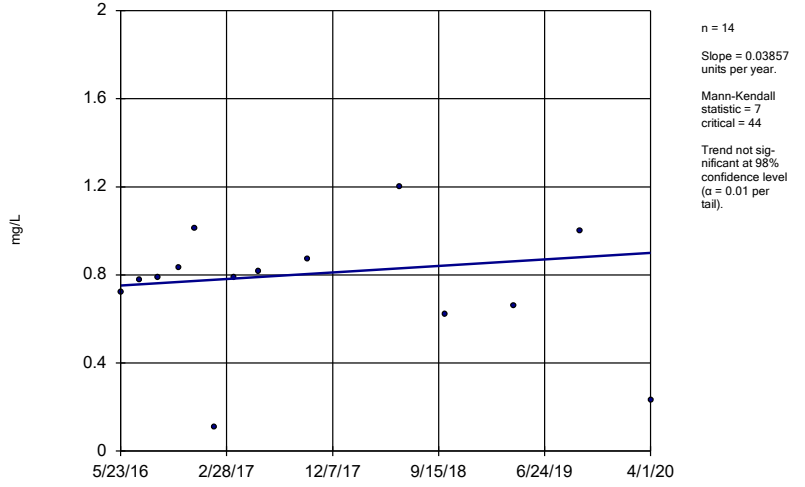
Sen's Slope Estimator

HGWC-10



n = 14

Slope = 0.03857 units per year.

Mann-Kendall statistic = 7
critical = 44

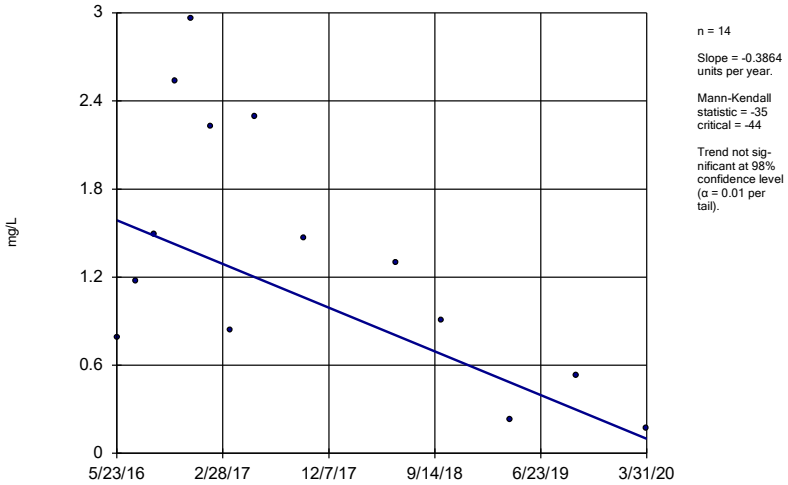
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-11



n = 14

Slope = -0.3864 units per year.

Mann-Kendall statistic = -35
critical = -44

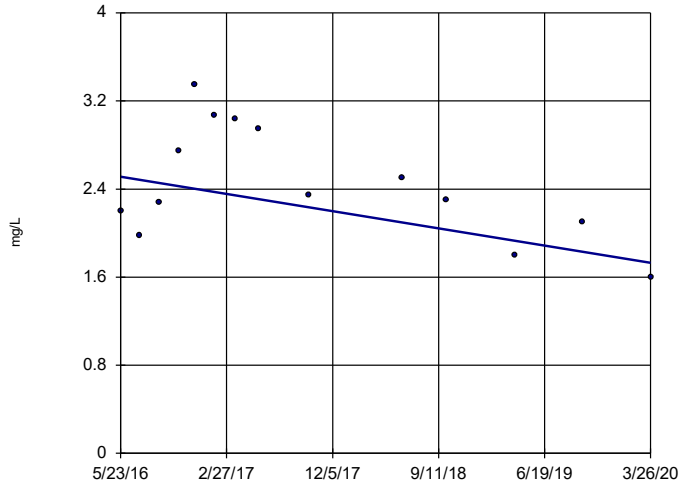
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 14

Slope = -0.2033 units per year.

Mann-Kendall statistic = -25
critical = -44

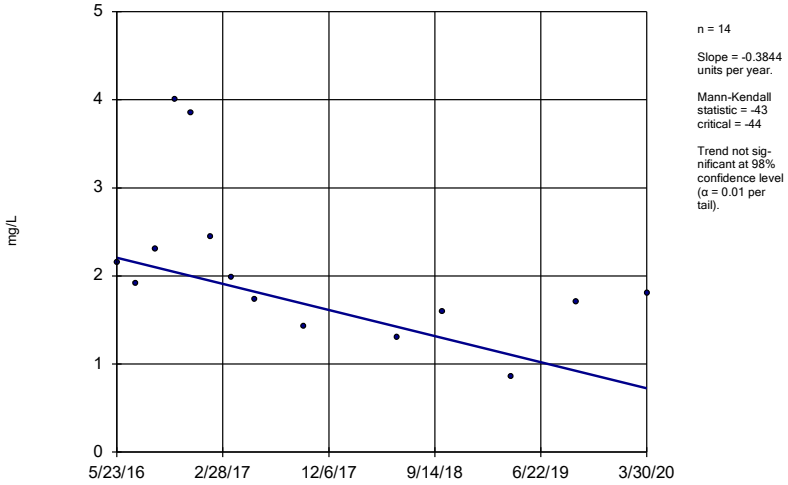
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 14

Slope = -0.3844 units per year.

Mann-Kendall statistic = -43
critical = -44

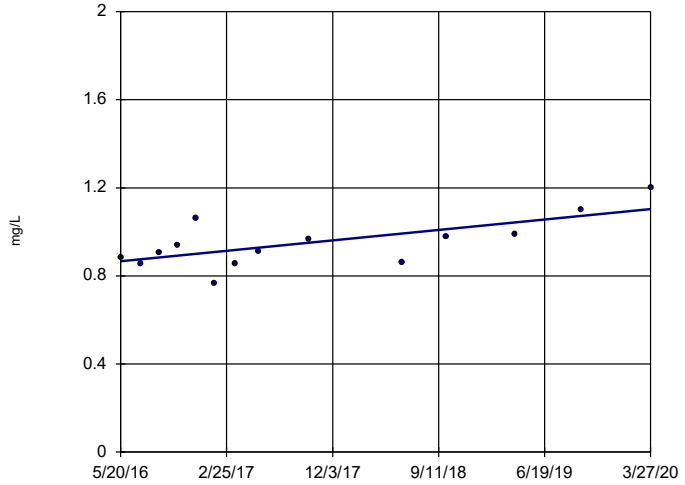
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 14

Slope = 0.06141 units per year.

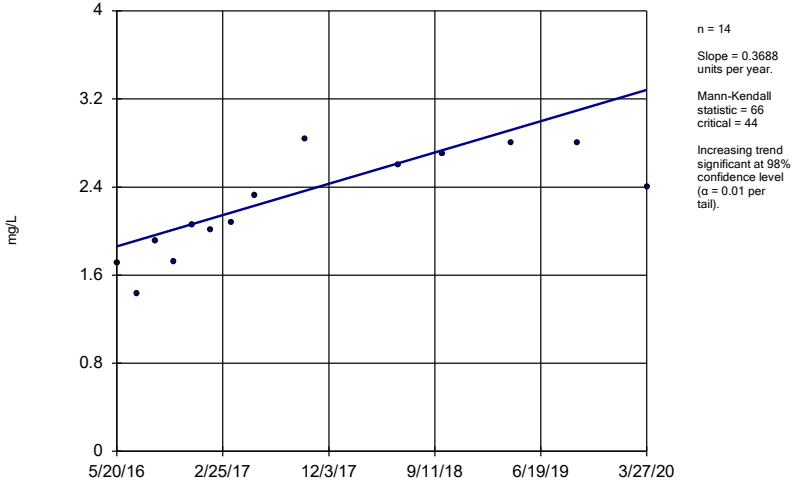
Mann-Kendall statistic = 48
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-8



n = 14

Slope = 0.3688 units per year.

Mann-Kendall statistic = 66
critical = 44

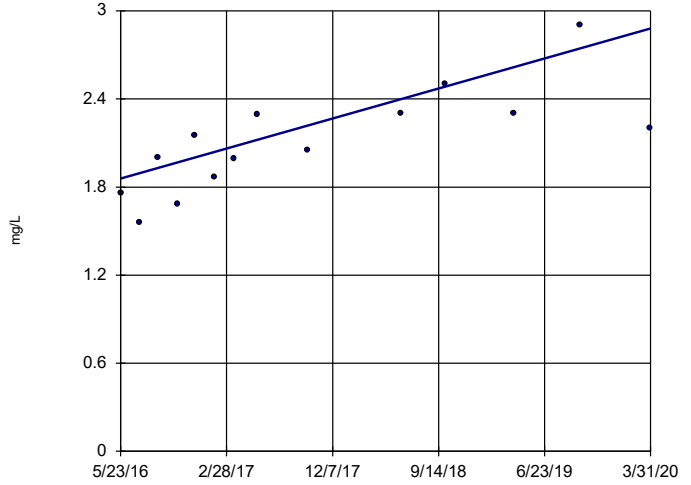
Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 14

Slope = 0.2649 units per year.

Mann-Kendall statistic = 60
critical = 44

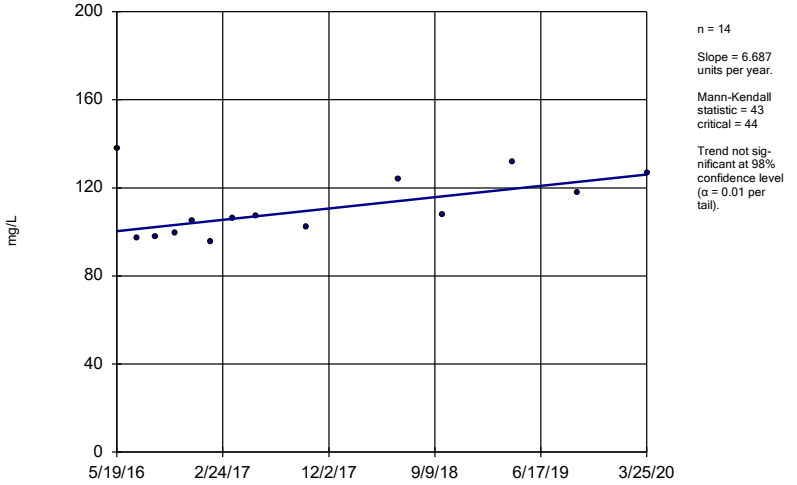
Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Boron Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 14

Slope = 6.687 units per year.

Mann-Kendall statistic = 43
critical = 44

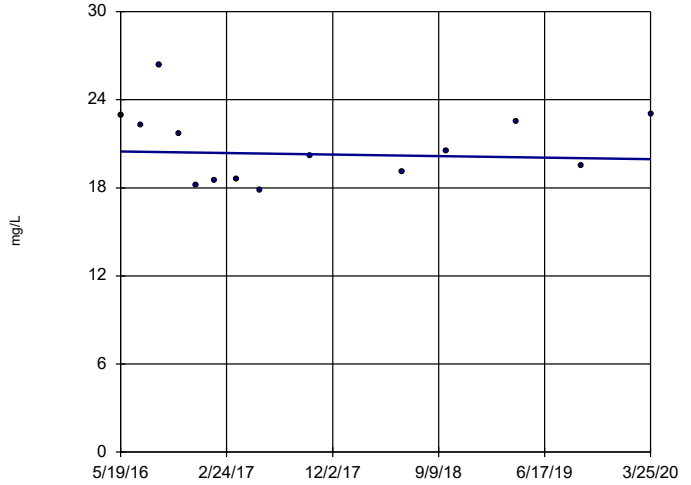
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 14

Slope = -0.1393 units per year.

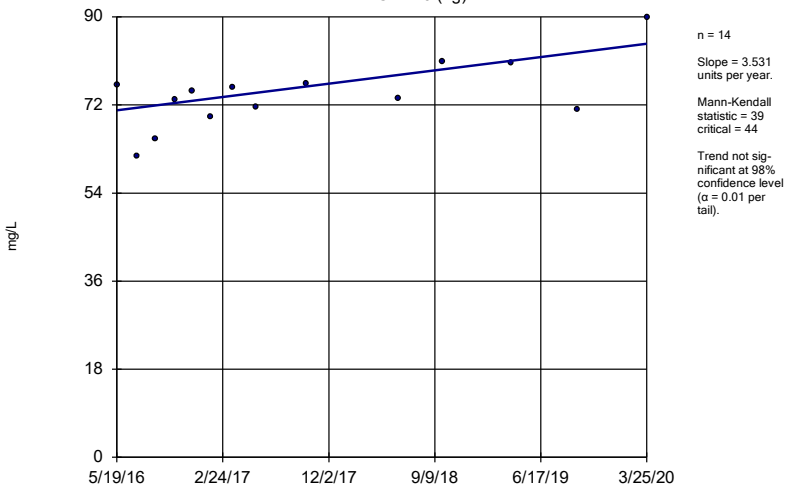
Mann-Kendall statistic = -1
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-3 (bg)



n = 14

Slope = 3.531 units per year.

Mann-Kendall statistic = 39 critical = 44

Trend not significant at 98% confidence level (α = 0.01 per tail).

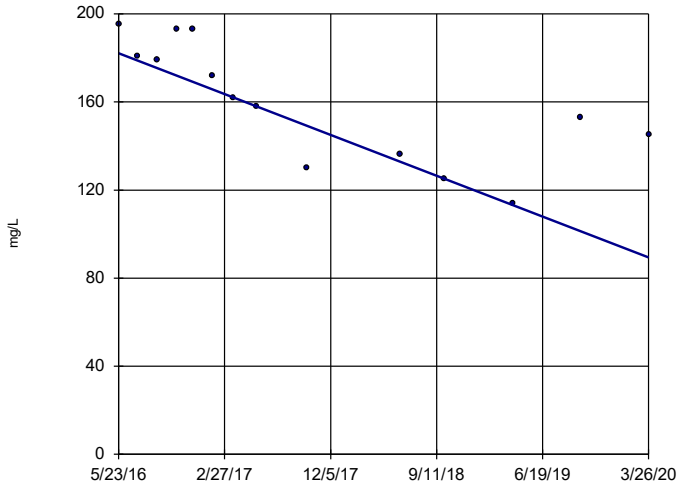
Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 14

Slope = -24.12 units per year.

Mann-Kendall statistic = -64 critical = -44

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

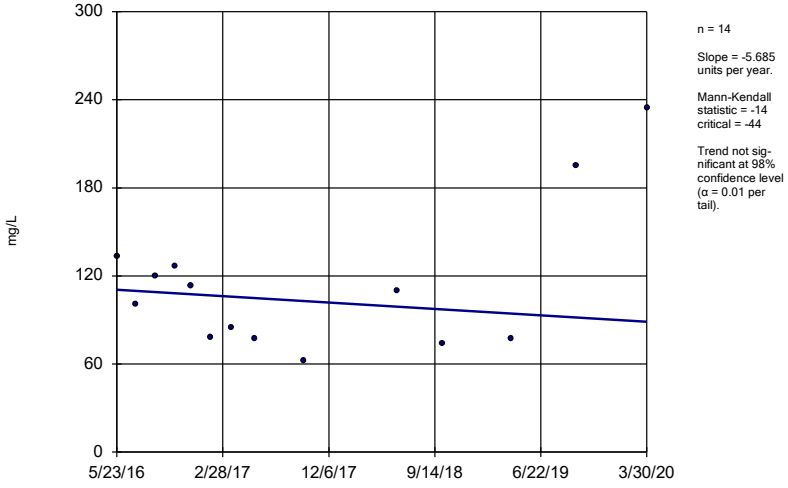
Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 14

Slope = -5.685 units per year.

Mann-Kendall statistic = -14 critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

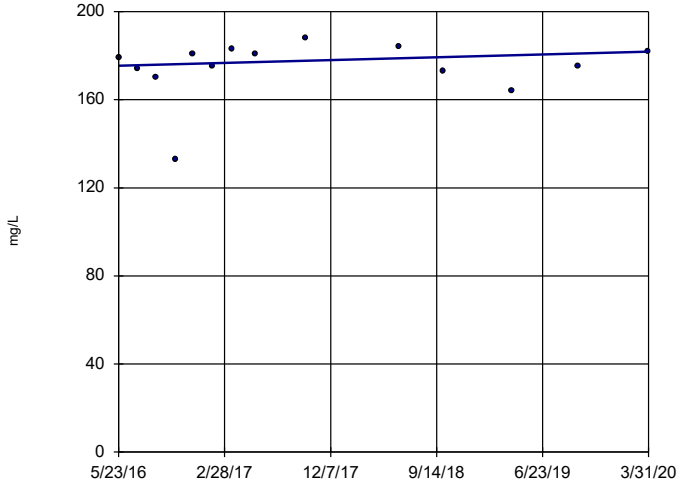
Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 14

Slope = 1.628 units per year.

Mann-Kendall statistic = 15 critical = 44

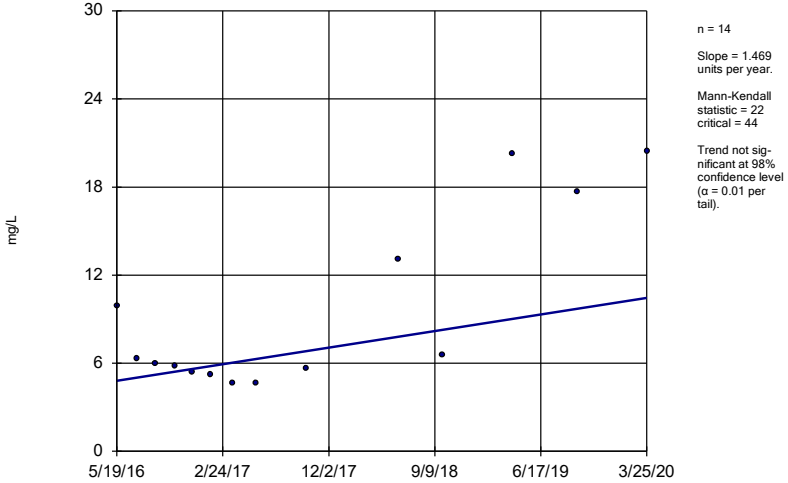
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Calcium Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-1 (bg)



n = 14

Slope = 1.469 units per year.

Mann-Kendall statistic = 22
critical = 44

Trend not significant at 98% confidence level (α = 0.01 per tail).

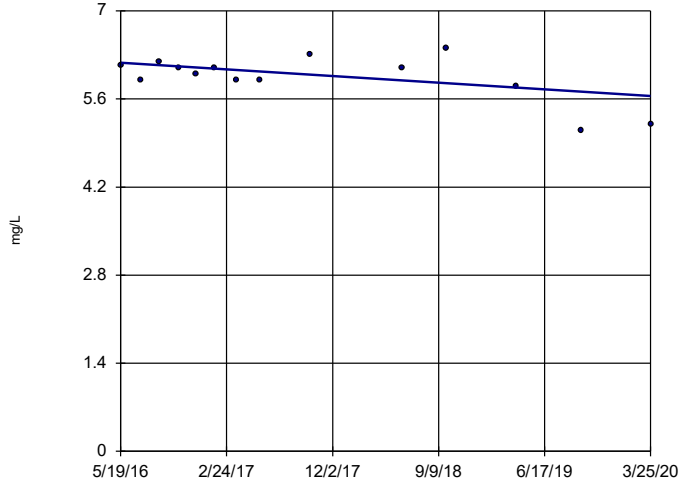
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 14

Slope = -0.1372 units per year.

Mann-Kendall statistic = -27
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

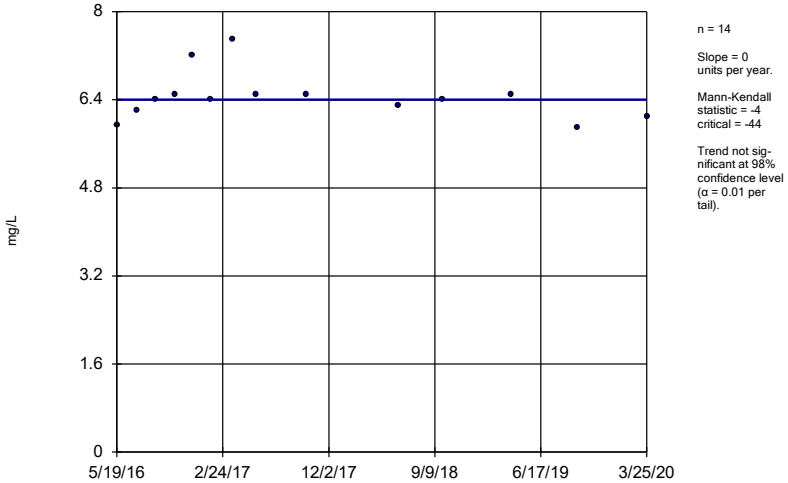
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -4
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

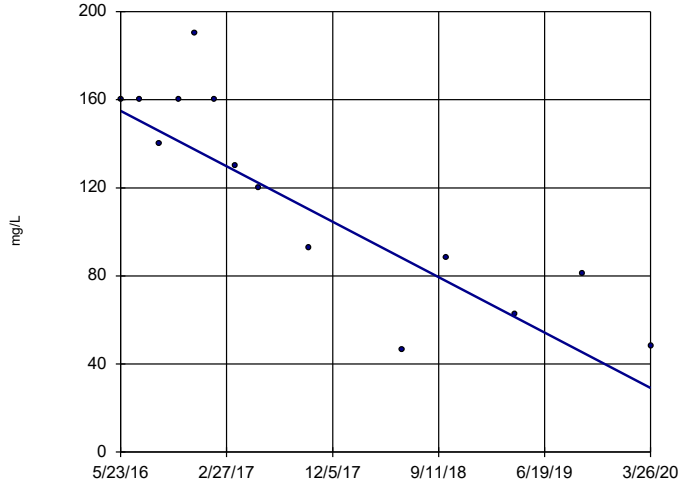
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 14

Slope = -32.73 units per year.

Mann-Kendall statistic = -63
critical = -44

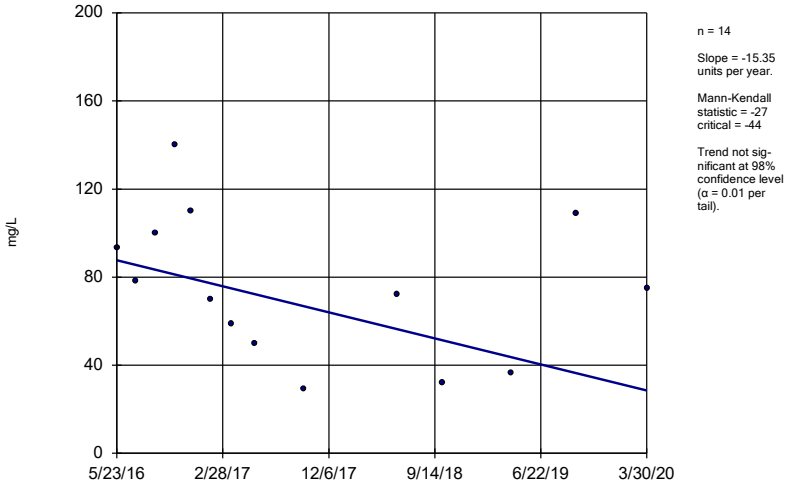
Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-13



n = 14

Slope = -15.35 units per year.

Mann-Kendall statistic = -27 critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

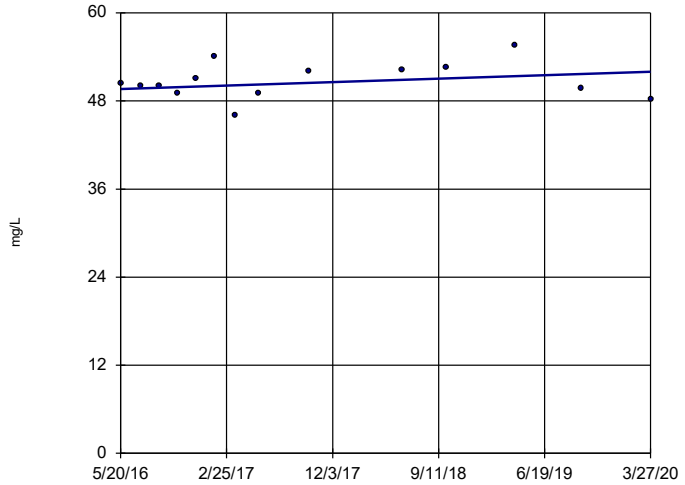
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 14

Slope = 0.6016 units per year.

Mann-Kendall statistic = 9 critical = 44

Trend not significant at 98% confidence level (α = 0.01 per tail).

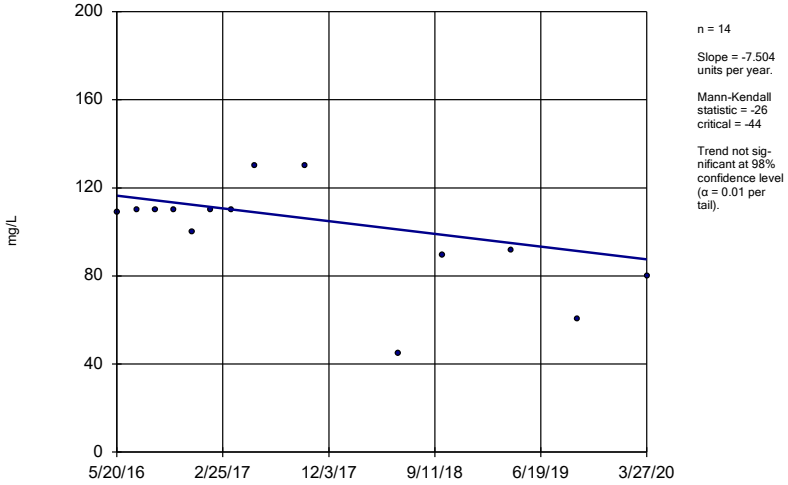
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-8



n = 14

Slope = -7.504 units per year.

Mann-Kendall statistic = -26 critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

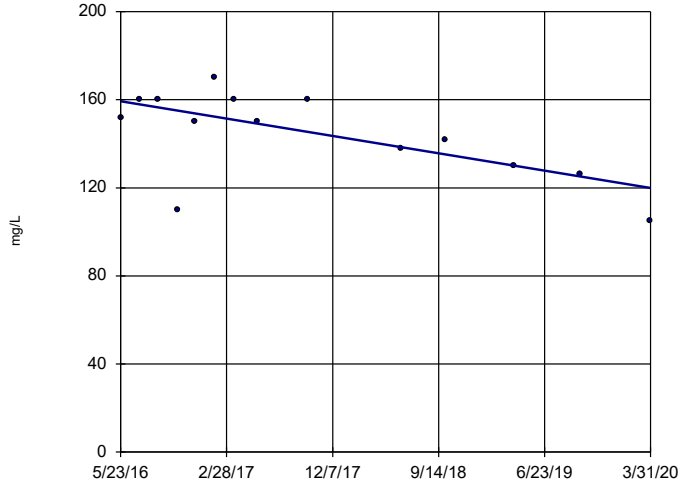
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 14

Slope = -10.22 units per year.

Mann-Kendall statistic = -42 critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

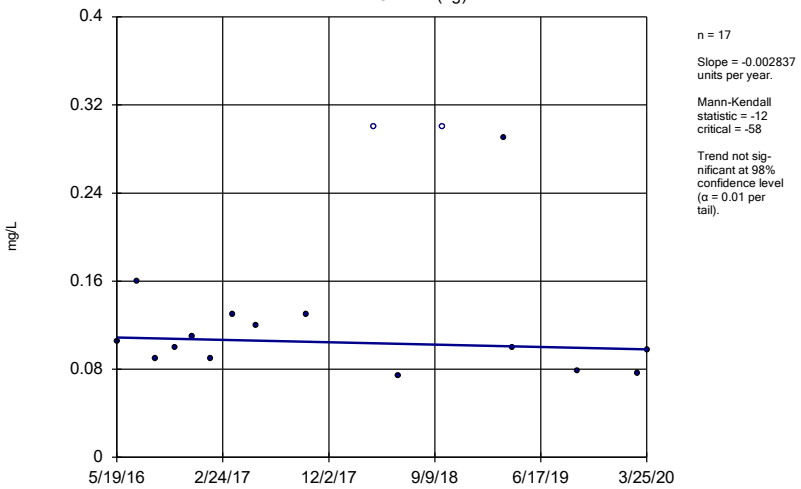
Constituent: Chloride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-1 (bg)



n = 17

Slope = -0.002837 units per year.

Mann-Kendall statistic = -12
critical = -58

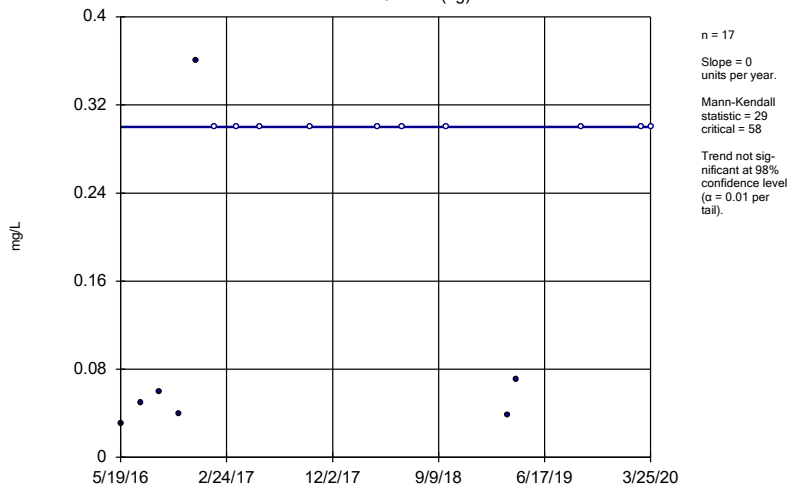
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Fluoride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-2 (bg)



n = 17

Slope = 0 units per year.

Mann-Kendall statistic = 29
critical = 58

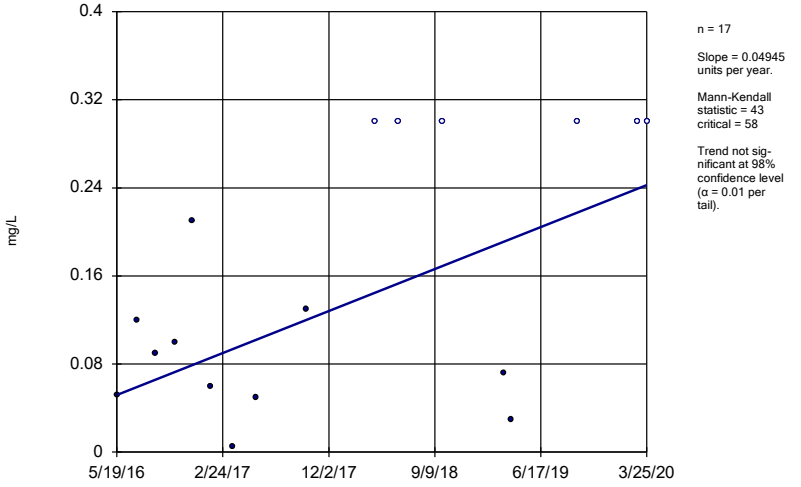
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Fluoride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-3 (bg)



n = 17

Slope = 0.04945 units per year.

Mann-Kendall statistic = 43
critical = 58

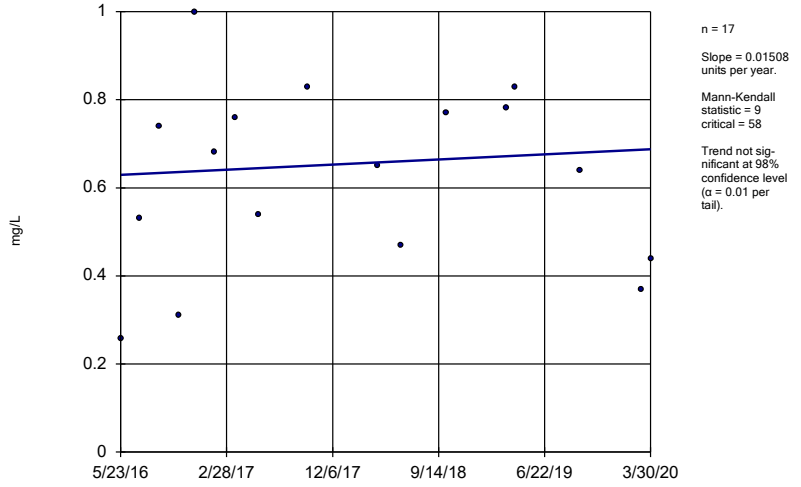
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Fluoride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 17

Slope = 0.01508 units per year.

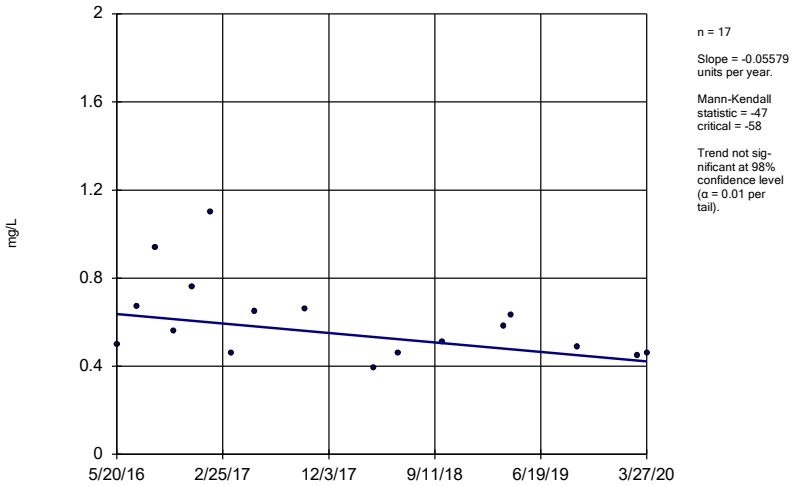
Mann-Kendall statistic = 9
critical = 58

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Fluoride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-8



n = 17

Slope = -0.05579 units per year.

Mann-Kendall statistic = -47
critical = -58

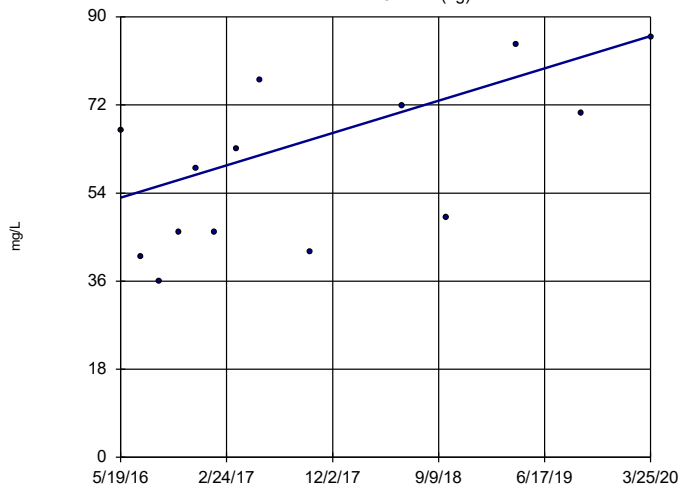
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Fluoride Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 14

Slope = 8.572 units per year.

Mann-Kendall statistic = 44
critical = 44

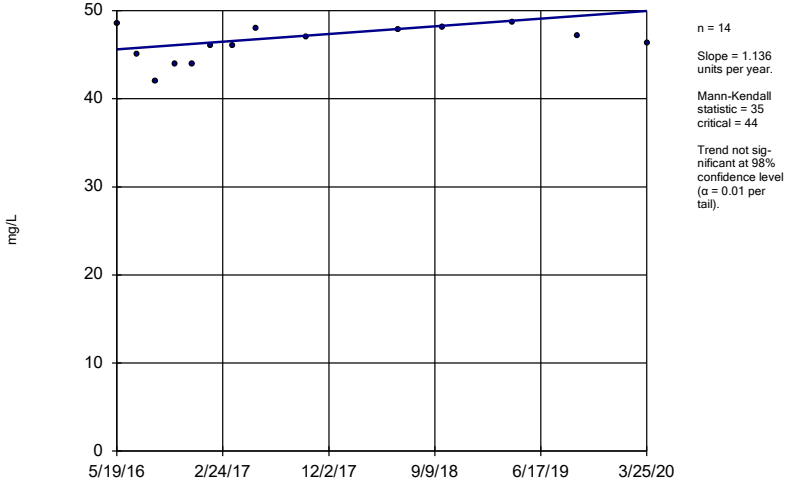
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 14

Slope = 1.136 units per year.

Mann-Kendall statistic = 35
critical = 44

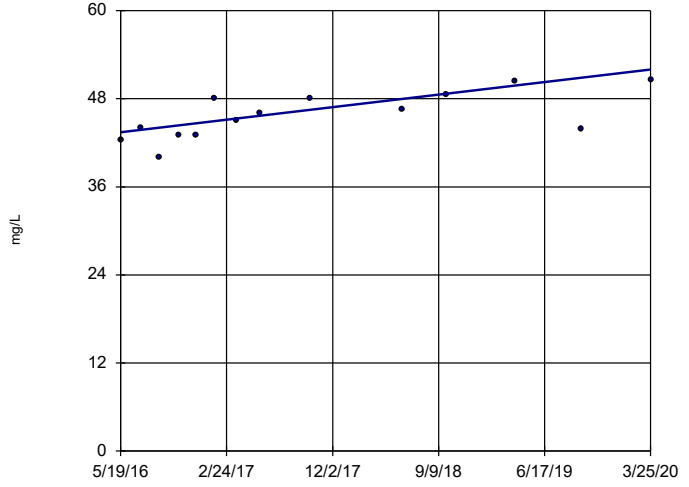
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 14

Slope = 2.216 units per year.

Mann-Kendall statistic = 57
critical = 44

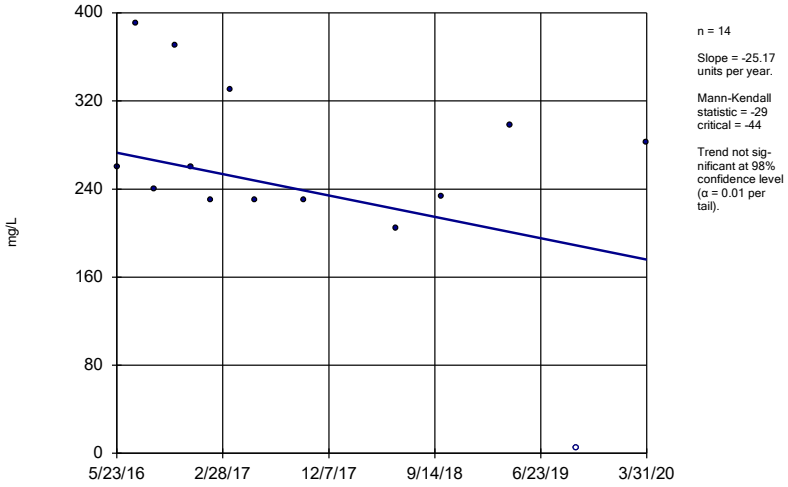
Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWC-11



n = 14

Slope = -25.17 units per year.

Mann-Kendall statistic = -29
critical = -44

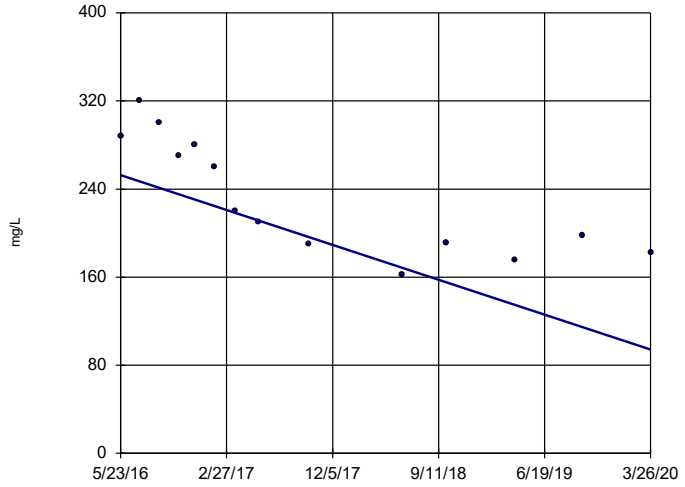
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 14

Slope = -41.21 units per year.

Mann-Kendall statistic = -67
critical = -44

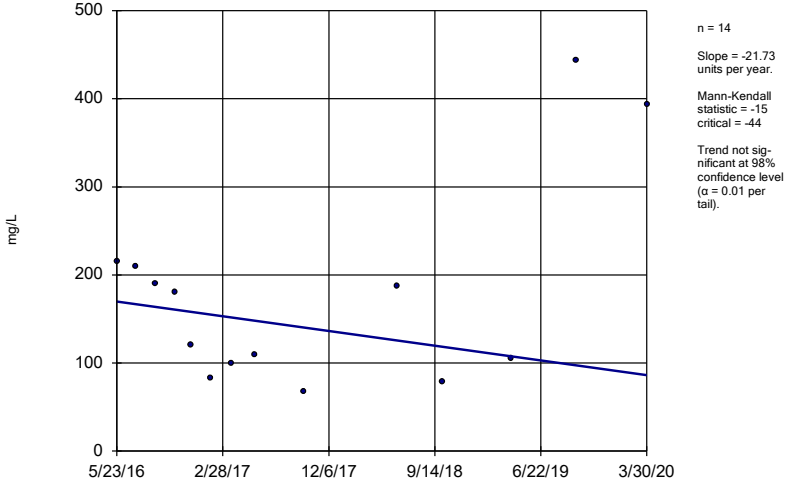
Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 14

Slope = -21.73 units per year.

Mann-Kendall statistic = -15
critical = -44

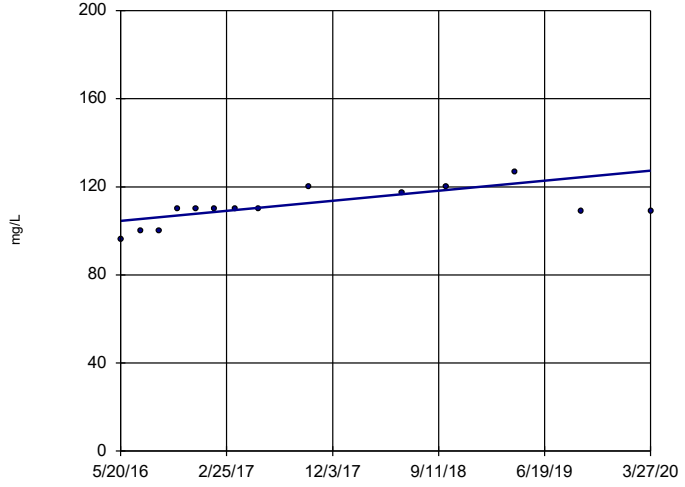
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 14

Slope = 5.935 units per year.

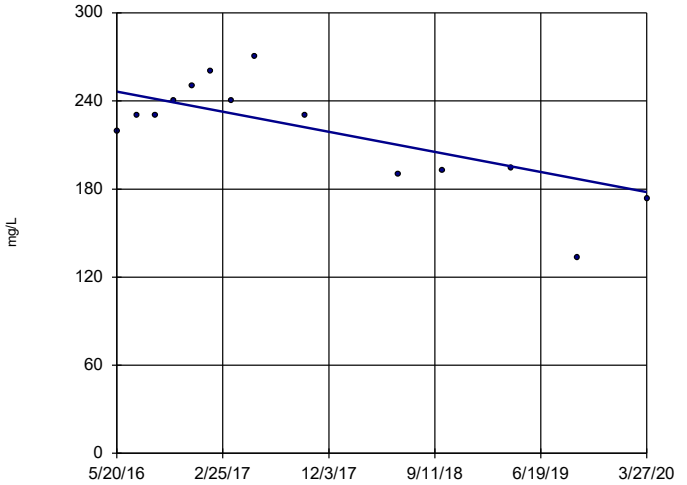
Mann-Kendall statistic = 40
critical = 44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-8



n = 14

Slope = -17.75 units per year.

Mann-Kendall statistic = -29
critical = -44

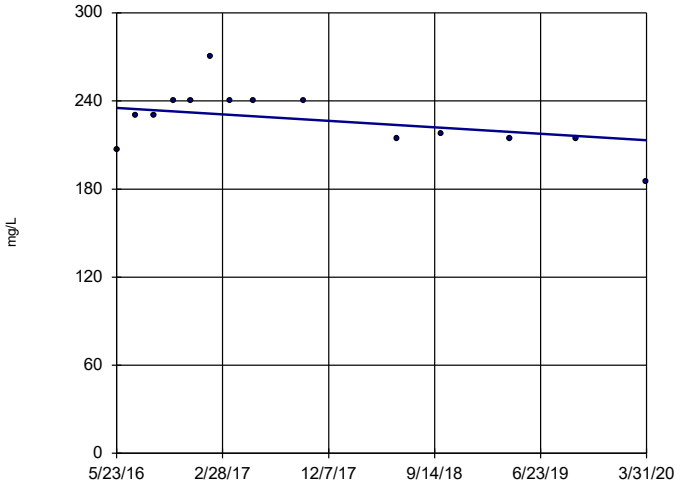
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 14

Slope = -5.703 units per year.

Mann-Kendall statistic = -23
critical = -44

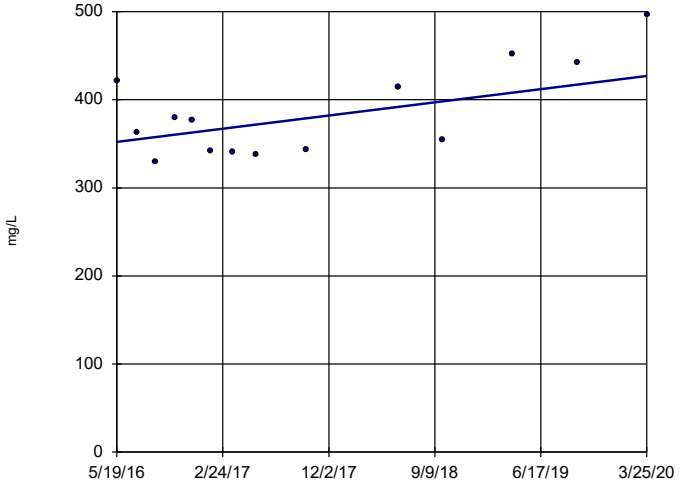
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Sulfate Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 14

Slope = 19.47 units per year.

Mann-Kendall statistic = 27
critical = 44

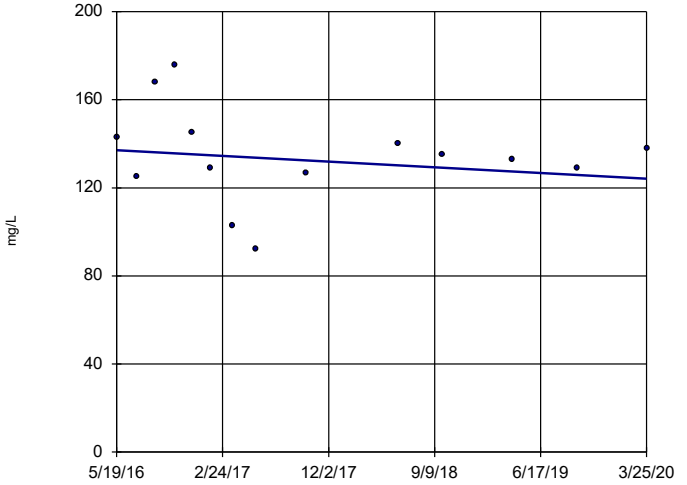
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 14

Slope = -3.376 units per year.

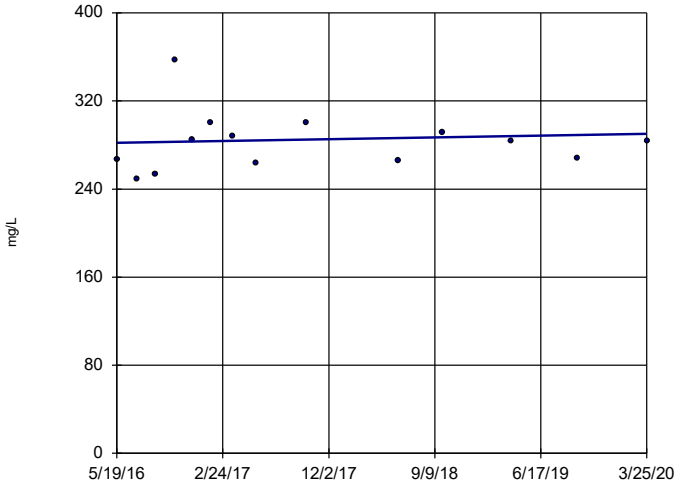
Mann-Kendall statistic = -14
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-3 (bg)



n = 14

Slope = 2.137 units per year.

Mann-Kendall statistic = 9
critical = 44

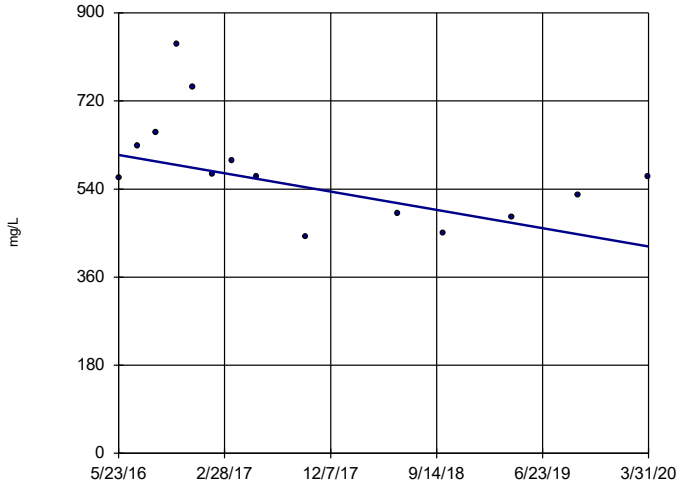
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-11



n = 14

Slope = -48.64 units per year.

Mann-Kendall statistic = -37
critical = -44

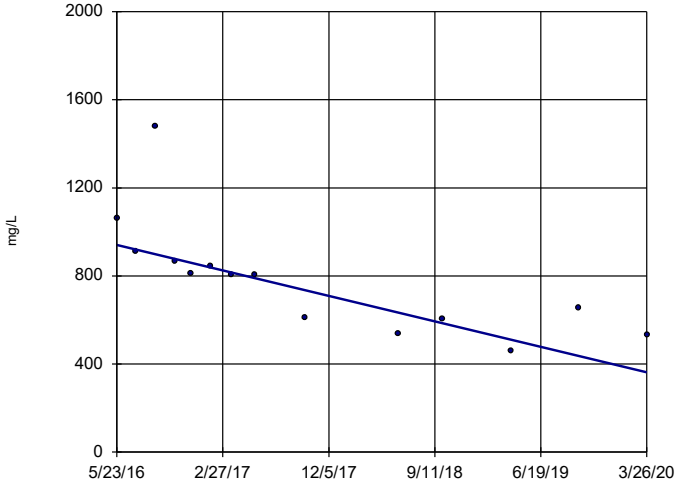
Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 14

Slope = -150.4 units per year.

Mann-Kendall statistic = -73
critical = -44

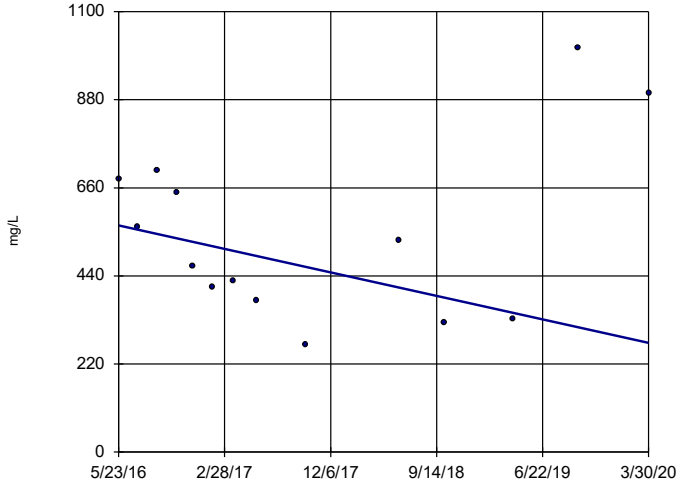
Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 14

Slope = -76.14 units per year.

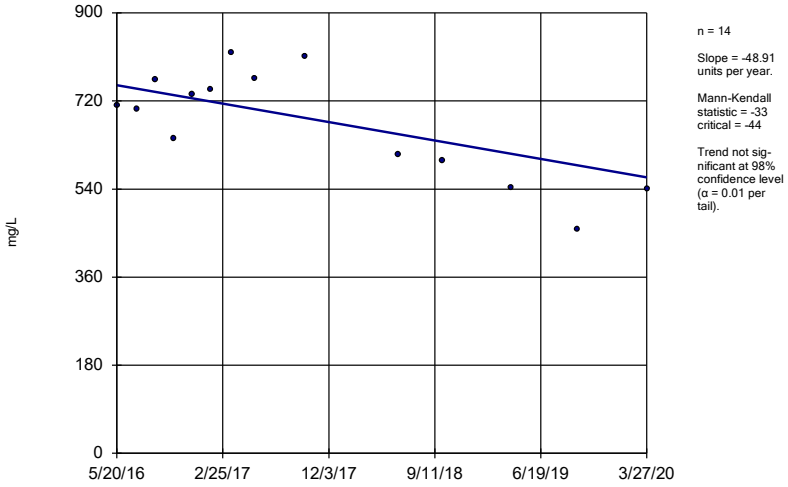
Mann-Kendall statistic = -19
critical = -44

Trend not significant at 98% confidence level (α = 0.01 per tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-8



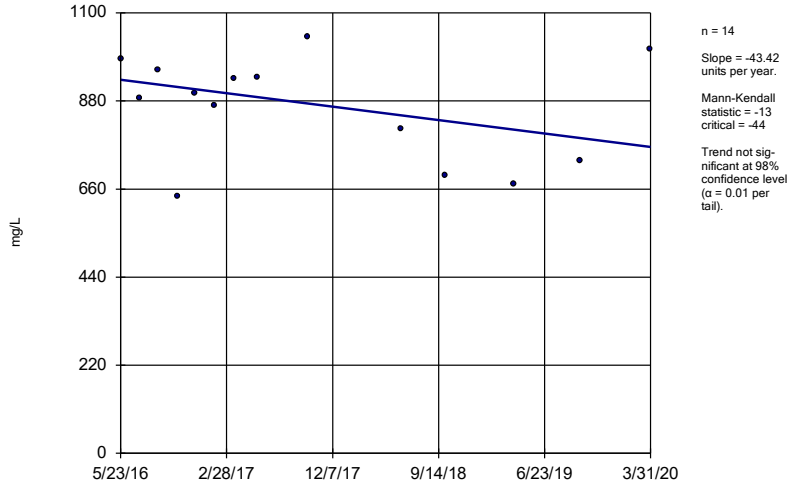
Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



Constituent: Total Dissolved Solids Analysis Run 6/2/2020 4:38 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE F.

Tolerance Limit Summary Table - Appendix IV

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	42	n/a	n/a	95.24	n/a	n/a	0.116	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.005	n/a	48	n/a	n/a	62.5	n/a	n/a	0.08526	NP Inter(normality)
Barium (mg/L)	n/a	0.14	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Beryllium (mg/L)	n/a	0.003	n/a	42	n/a	n/a	73.81	n/a	n/a	0.116	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Chromium (mg/L)	n/a	0.01	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.038	n/a	42	n/a	n/a	64.29	n/a	n/a	0.116	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	4.36	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Fluoride (mg/L)	n/a	0.36	n/a	51	n/a	n/a	35.29	n/a	n/a	0.0731	NP Inter(normality)
Lead (mg/L)	n/a	0.005	n/a	39	n/a	n/a	76.92	n/a	n/a	0.1353	NP Inter(NDs)
Lithium (mg/L)	n/a	0.03	n/a	48	n/a	n/a	33.33	n/a	n/a	0.08526	NP Inter(normality)
Mercury (mg/L)	n/a	0.0005	n/a	33	n/a	n/a	93.94	n/a	n/a	0.184	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Selenium (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Thallium (mg/L)	n/a	0.001	n/a	48	n/a	n/a	97.92	n/a	n/a	0.08526	NP Inter(NDs)

FIGURE G.

PLANT HAMMOND AP-1 GWPS - FEDERAL				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

FIGURE H.

PLANT HAMMOND AP-1 GWPS - STATE				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

FIGURE I.

Federal Confidence Intervals - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.1**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-13	0.003	0.00036	0.006	No	14	0.002249	0.001236	71.43	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	14	0.002624	0.0009553	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	16	0.003596	0.001721	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004743	0.003007	0.01	No	16	0.003875	0.001334	12.5	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	16	0.004806	0.000775	93.75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	16	0.004182	0.00176	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-10	0.09345	0.06746	2	No	16	0.08046	0.01998	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.0567	0.03003	2	No	16	0.04464	0.02253	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.1191	0.09136	2	No	16	0.106	0.02153	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	HGWC-13	0.09723	0.07422	2	No	16	0.08573	0.01768	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.0763	0.06833	2	No	16	0.07231	0.006127	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.083	0.059	2	No	16	0.07094	0.01183	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1251	0.1057	2	No	16	0.1154	0.01489	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	14	0.001765	0.00148	57.14	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	14	0.002169	0.001364	71.43	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	14	0.002791	0.0007812	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.000074	0.004	No	14	0.002791	0.000782	92.86	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	14	0.001308	0.001237	50	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	14	0.001985	0.001023	78.57	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	14	0.001839	0.001086	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	14	0.001836	0.00109	71.43	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	14	0.0004693	0.0007112	7.143	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	14	0.001991	0.001012	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	14	0.01071	0.002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	14	0.008636	0.003467	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	14	0.008779	0.003132	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	14	0.008642	0.003452	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	14	0.01307	0.01699	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0007	0.1	No	14	0.008657	0.003414	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	14	0.009323	0.002534	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	14	0.003186	0.002179	57.14	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002981	0.001145	0.038	No	14	0.002154	0.001439	14.29	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	14	0.002	0.001305	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004525	0.002576	0.038	No	14	0.003551	0.001376	7.143	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	14	0.001736	0.001851	21.43	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	14	0.002262	0.0008313	7.143	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	14	0.001361	0.00159	14.29	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.073	0.6078	5	No	16	0.8403	0.3572	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.177	0.5568	5	No	16	0.8669	0.4767	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.193	0.5889	5	No	16	0.8911	0.4645	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	0.9448	0.5122	5	No	16	0.7285	0.3325	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.095	0.5383	5	No	16	0.8466	0.4901	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.992	0.6657	5	No	16	0.8288	0.2507	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.9154	0.4914	5	No	16	0.7034	0.3259	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2769	0.1136	4	No	17	0.2077	0.1438	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4908	0.2966	4	No	17	0.3937	0.155	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4613	0.1992	4	No	17	0.3584	0.2623	5.882	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	HGWC-13	0.7524	0.4945	4	No	17	0.6235	0.2058	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.2219	0.1016	4	No	17	0.1738	0.1211	11.76	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.7057	0.4885	4	No	17	0.6041	0.1872	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.329	0.1203	4	No	17	0.2246	0.1665	11.76	None	No	0.01	Param.
Lead (mg/L)	HGWC-10	0.005	0.00005	0.015	No	12	0.004587	0.001429	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00021	0.015	No	12	0.003408	0.002352	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.00043	0.015	No	12	0.004207	0.001853	83.33	None	No	0.01	NP (NDs)

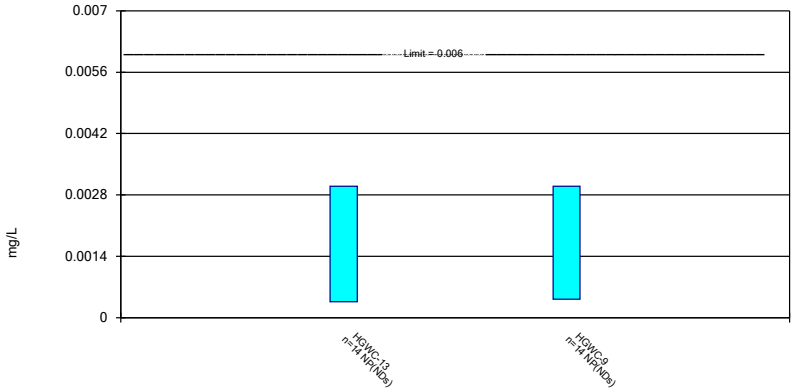
Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/2/2020, 5:52 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	HGWC-13	0.005	0.0001	0.015	No	12	0.003776	0.002215	75	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.015	No	12	0.002578	0.002533	50	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.00013	0.015	No	12	0.004594	0.001406	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.015	No	12	0.002969	0.002511	58.33	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01122	0.00787	0.04	No	16	0.009544	0.002573	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-13	0.03965	0.03113	0.04	No	16	0.03539	0.006548	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-7	0.003	0.002	0.04	No	16	0.003819	0.005662	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0029	0.0024	0.04	No	16	0.004038	0.005595	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.04	No	16	0.005481	0.005228	6.25	None	No	0.01	NP (normality)
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.1	No	16	0.003906	0.001685	68.75	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-11	0.02519	0.01381	0.1	No	16	0.0195	0.008742	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-12	0.05044	0.0457	0.1	No	16	0.04807	0.003647	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-13	0.03625	0.02928	0.1	No	16	0.03277	0.005358	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-7	0.04021	0.03218	0.1	No	16	0.03619	0.006173	0	None	No	0.01	Param.
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.1**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-9	0.031	0.0229	0.1	No	16	0.05429	0.1128	0	None	No	0.01	NP (normality)
Selenium (mg/L)	HGWC-10	0.01	0.0023	0.05	No	16	0.008119	0.003403	75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01666	0.006477	0.05	No	16	0.01157	0.007826	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	16	0.009444	0.002225	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.00018	0.05	No	16	0.009386	0.002455	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	16	0.009525	0.0019	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	16	0.009606	0.001575	93.75	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	16	0.000885	0.0003142	87.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.000088	0.002	No	16	0.000664	0.0004489	62.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004405	0.0003417	0.002	No	16	0.0003911	0.00007591	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.000077	0.002	No	16	0.0006555	0.0004594	62.5	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

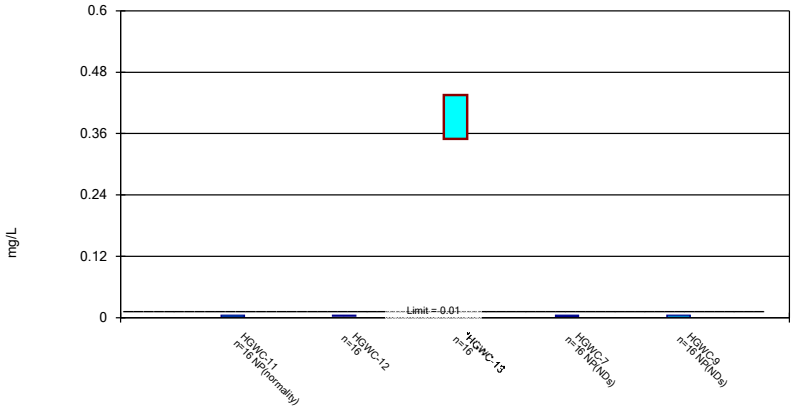
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

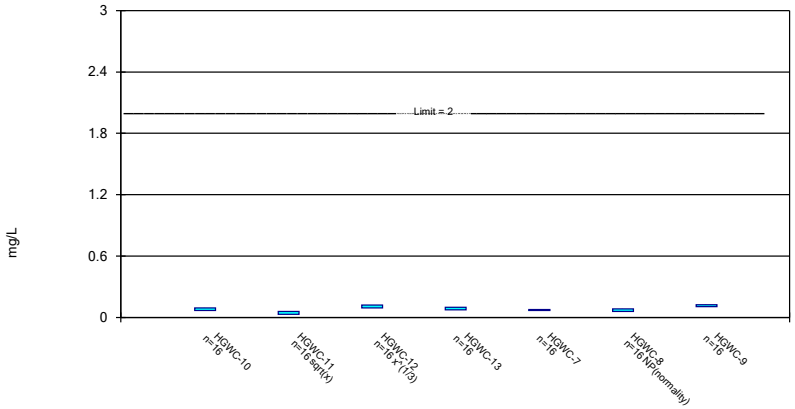
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

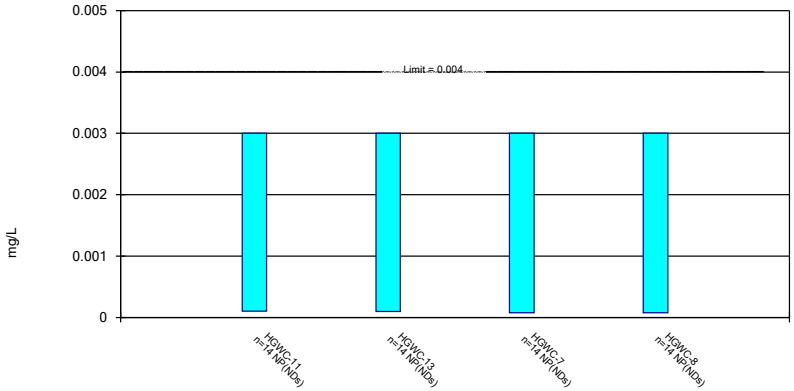
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

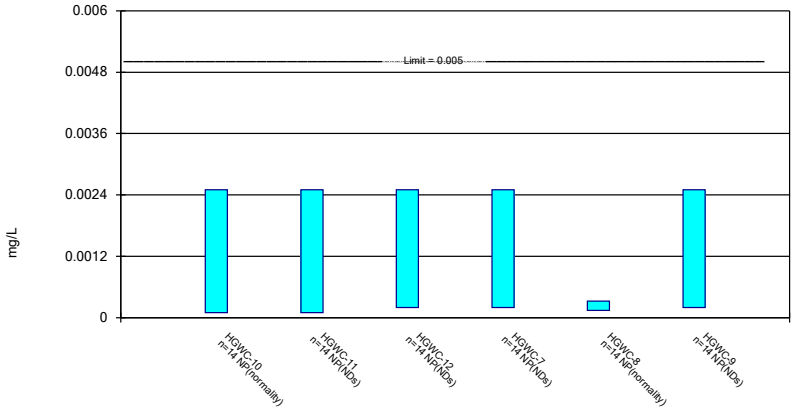
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

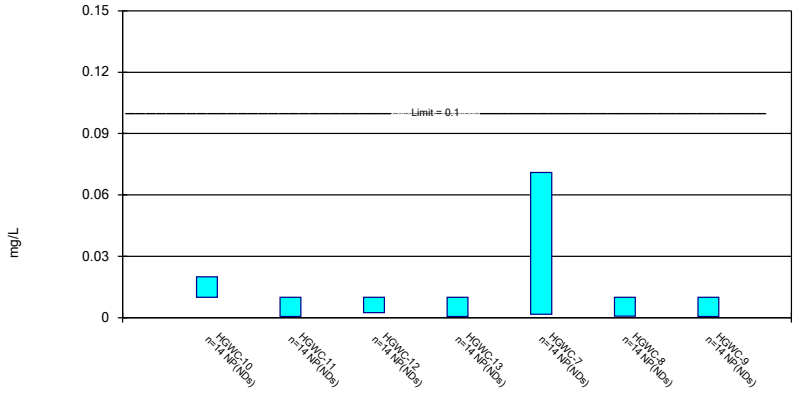


Constituent: Cadmium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

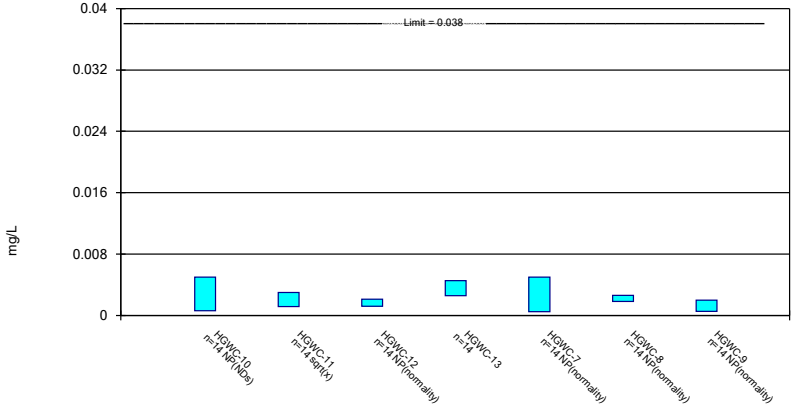


Constituent: Chromium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

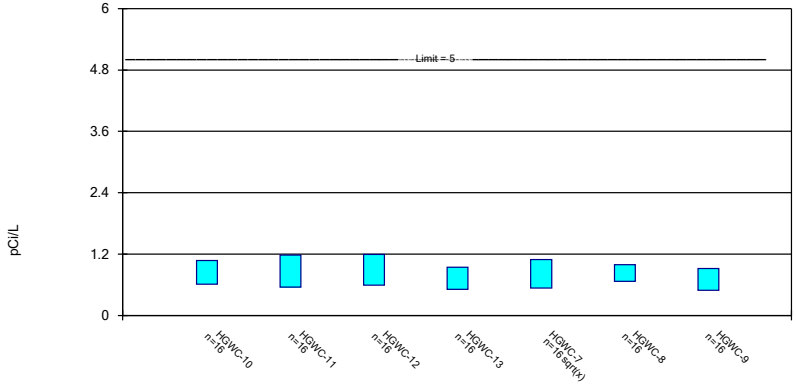


Constituent: Cobalt Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric Confidence Interval

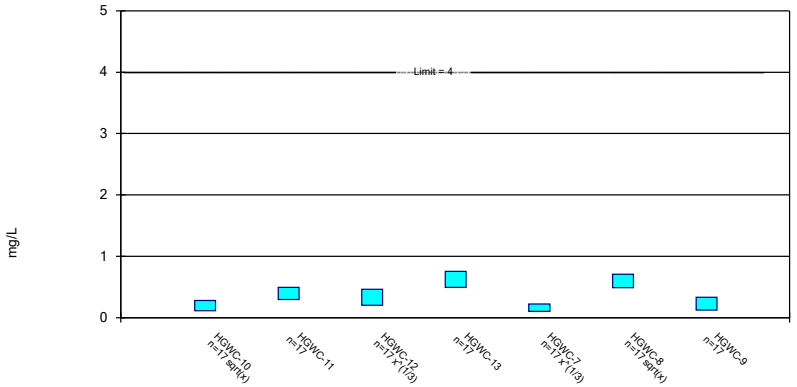
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

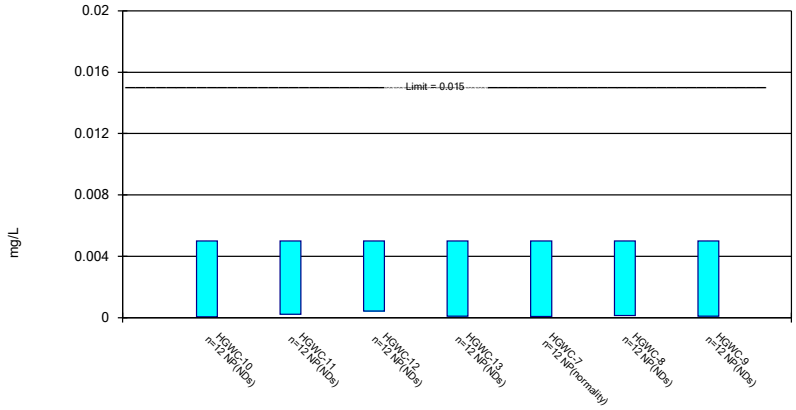
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

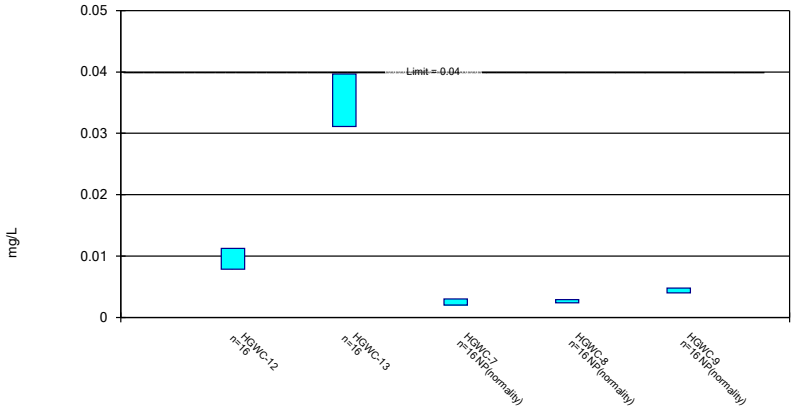
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

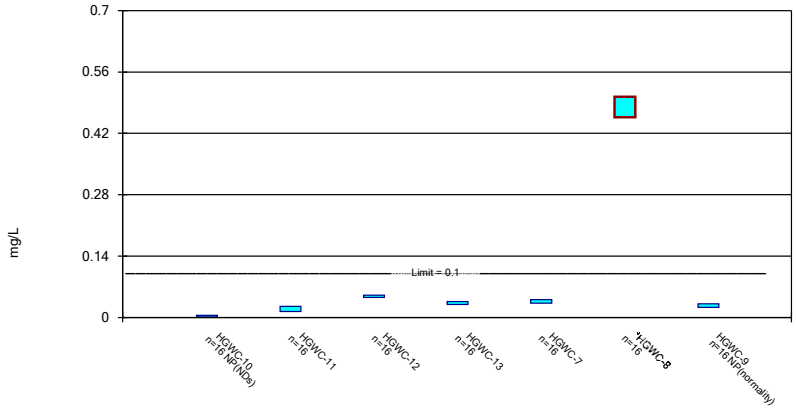
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

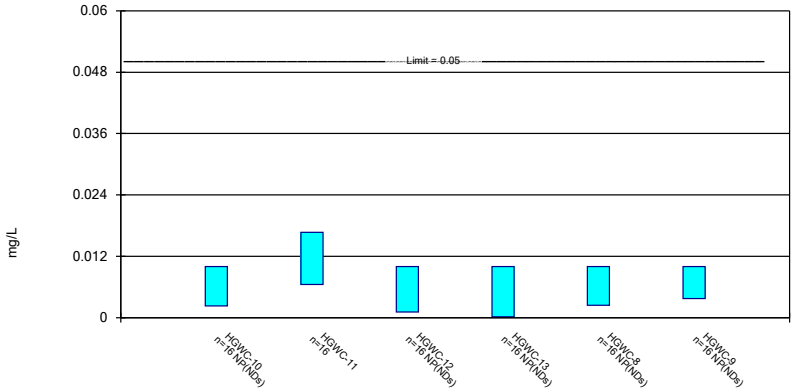
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

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.

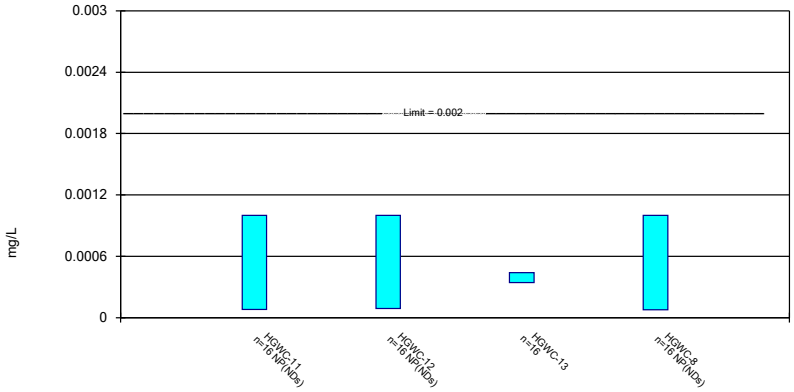


Constituent: Selenium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Thallium Analysis Run 6/2/2020 5:51 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE J.

Confidence Interval Summary Table (State) - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**HGWC-13**	**0.03965**	**0.03113**	**0.03**	**Yes**	**16**	**0.03539**	**0.006548**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-11**	**0.02519**	**0.01381**	**0.01**	**Yes**	**16**	**0.0195**	**0.008742**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05044**	**0.0457**	**0.01**	**Yes**	**16**	**0.04807**	**0.003647**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03625**	**0.02928**	**0.01**	**Yes**	**16**	**0.03277**	**0.005358**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.04021**	**0.03218**	**0.01**	**Yes**	**16**	**0.03619**	**0.006173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.01**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0229**	**0.01**	**Yes**	**16**	**0.05429**	**0.1128**	**0**	**None**	**No**	**0.01**	**NP (normality)**

Confidence Interval Summary Table (State) - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-10	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-11	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-12	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.00036	0.006	No	14	0.002249	0.001236	71.43	None	No	0.01	NP (normality)
Antimony (mg/L)	HGWC-7	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-8	0.003	0.003	0.006	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	14	0.002624	0.0009553	85.71	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-10	0.005	0.005	0.01	No	16	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	16	0.003596	0.001721	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004743	0.003007	0.01	No	16	0.003875	0.001334	12.5	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4353**	**0.3497**	**0.01**	**Yes**	**16**	**0.3925**	**0.06582**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	16	0.004806	0.000775	93.75	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-8	0.005	0.005	0.01	No	16	0.005	0	100	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	16	0.004182	0.00176	81.25	None	No	0.01	NP (NDs)
Barium (mg/L)	HGWC-10	0.09345	0.06746	2	No	16	0.08046	0.01998	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.0567	0.03003	2	No	16	0.04464	0.02253	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.1191	0.09136	2	No	16	0.106	0.02153	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	HGWC-13	0.09723	0.07422	2	No	16	0.08573	0.01768	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.0763	0.06833	2	No	16	0.07231	0.006127	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.083	0.059	2	No	16	0.07094	0.01183	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1251	0.1057	2	No	16	0.1154	0.01489	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-10	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	14	0.001765	0.00148	57.14	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-12	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	14	0.002169	0.001364	71.43	None	No	0.01	NP (normality)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	14	0.002791	0.0007812	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.000074	0.004	No	14	0.002791	0.000782	92.86	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-9	0.003	0.003	0.004	No	14	0.003	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	14	0.001308	0.001237	50	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	14	0.001985	0.001023	78.57	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	14	0.001839	0.001086	71.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-13	0.0025	0.0025	0.005	No	14	0.0025	0	100	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	14	0.001836	0.00109	71.43	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	14	0.0004693	0.0007112	7.143	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	14	0.001991	0.001012	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	14	0.01071	0.002673	92.86	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	14	0.008636	0.003467	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	14	0.008779	0.003132	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	14	0.008642	0.003452	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	14	0.01307	0.01699	78.57	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0007	0.1	No	14	0.008657	0.003414	85.71	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	14	0.009323	0.002534	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	14	0.003186	0.002179	57.14	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-11	0.002981	0.001145	0.038	No	14	0.002154	0.001439	14.29	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	14	0.002	0.001305	14.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004525	0.002576	0.038	No	14	0.003551	0.001376	7.143	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	14	0.001736	0.001851	21.43	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	14	0.002262	0.0008313	7.143	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	14	0.001361	0.00159	14.29	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.073	0.6078	5	No	16	0.8403	0.3572	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.177	0.5568	5	No	16	0.8669	0.4767	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.193	0.5889	5	No	16	0.8911	0.4645	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	0.9448	0.5122	5	No	16	0.7285	0.3325	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.095	0.5383	5	No	16	0.8466	0.4901	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.992	0.6657	5	No	16	0.8288	0.2507	0	None	No	0.01	Param.

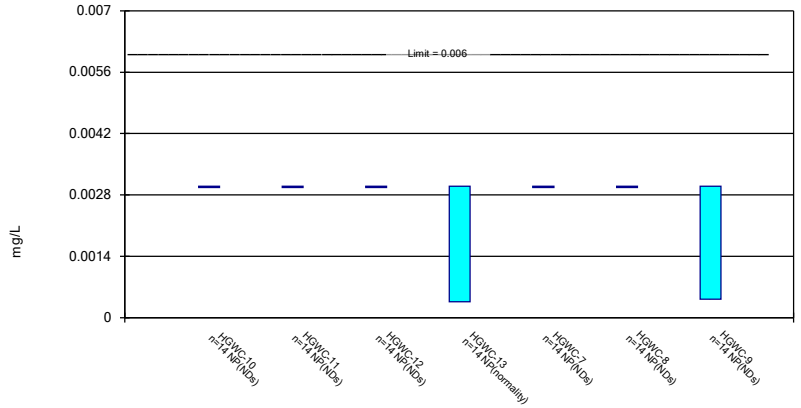
Confidence Interval Summary Table (State) - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:10 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.9154	0.4914	5	No	16	0.7034	0.3259	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.3162	0.1346	4	No	17	0.2254	0.1449	11.76	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4908	0.2966	4	No	17	0.3937	0.155	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4843	0.211	4	No	17	0.3672	0.2574	5.882	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-13	0.7524	0.4945	4	No	17	0.6235	0.2058	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.2525	0.11	4	No	17	0.1915	0.1275	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.7057	0.4885	4	No	17	0.6041	0.1872	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.346	0.1386	4	No	17	0.2423	0.1655	11.76	None	No	0.01	Param.
Lead (mg/L)	HGWC-10	0.005	0.00005	0.005	No	12	0.004587	0.001429	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00021	0.005	No	12	0.003408	0.002352	66.67	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-12	0.005	0.00043	0.005	No	12	0.004207	0.001853	83.33	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.005	No	12	0.003776	0.002215	75	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.005	No	12	0.002578	0.002533	50	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.00013	0.005	No	12	0.004594	0.001406	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.005	No	12	0.002969	0.002511	58.33	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-10	0.03	0.03	0.03	No	16	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-11	0.03	0.03	0.03	No	16	0.03	0	100	None	No	0.01	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01122	0.00787	0.03	No	16	0.009544	0.002573	0	None	No	0.01	Param.
Lithium (mg/L)	**HGWC-13**	**0.03965**	**0.03113**	**0.03**	**Yes**	**16**	**0.03539**	**0.006548**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	HGWC-7	0.003	0.002	0.03	No	16	0.004131	0.006909	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0029	0.0024	0.03	No	16	0.00435	0.006844	6.25	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.03	No	16	0.005794	0.006473	6.25	None	No	0.01	NP (normality)
Mercury (mg/L)	HGWC-10	0.0005	0.0005	0.002	No	11	0.0004591	0.0001357	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-11	0.0005	0.0005	0.002	No	11	0.0004591	0.0001357	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-12	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-13	0.0005	0.00005	0.002	No	11	0.0004173	0.0001841	81.82	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-7	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-8	0.0005	0.0005	0.002	No	11	0.0005	0	100	None	No	0.006	NP (NDs)
Mercury (mg/L)	HGWC-9	0.0005	0.0005	0.002	No	11	0.0004582	0.0001387	90.91	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	HGWC-10	0.01	0.0014	0.01	No	16	0.007344	0.004073	68.75	None	No	0.01	NP (normality)
Molybdenum (mg/L)	**HGWC-11**	**0.02519**	**0.01381**	**0.01**	**Yes**	**16**	**0.0195**	**0.008742**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05044**	**0.0457**	**0.01**	**Yes**	**16**	**0.04807**	**0.003647**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03625**	**0.02928**	**0.01**	**Yes**	**16**	**0.03277**	**0.005358**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.04021**	**0.03218**	**0.01**	**Yes**	**16**	**0.03619**	**0.006173**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.5034**	**0.4567**	**0.01**	**Yes**	**16**	**0.4801**	**0.03591**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0229**	**0.01**	**Yes**	**16**	**0.05429**	**0.1128**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Selenium (mg/L)	HGWC-10	0.01	0.0023	0.05	No	16	0.008119	0.003403	75	None	No	0.01	NP (normality)
Selenium (mg/L)	HGWC-11	0.01666	0.006477	0.05	No	16	0.01157	0.007826	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	16	0.009444	0.002225	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.00018	0.05	No	16	0.009386	0.002455	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-7	0.01	0.01	0.05	No	16	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	16	0.009525	0.0019	93.75	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	16	0.009606	0.001575	93.75	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-10	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	16	0.000885	0.0003142	87.5	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.000088	0.002	No	16	0.000664	0.0004489	62.5	None	No	0.01	NP (normality)
Thallium (mg/L)	HGWC-13	0.0004405	0.0003417	0.002	No	16	0.0003911	0.00007591	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-7	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-8	0.001	0.000077	0.002	No	16	0.0006555	0.0004594	62.5	None	No	0.01	NP (normality)
Thallium (mg/L)	HGWC-9	0.001	0.001	0.002	No	16	0.001	0	100	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

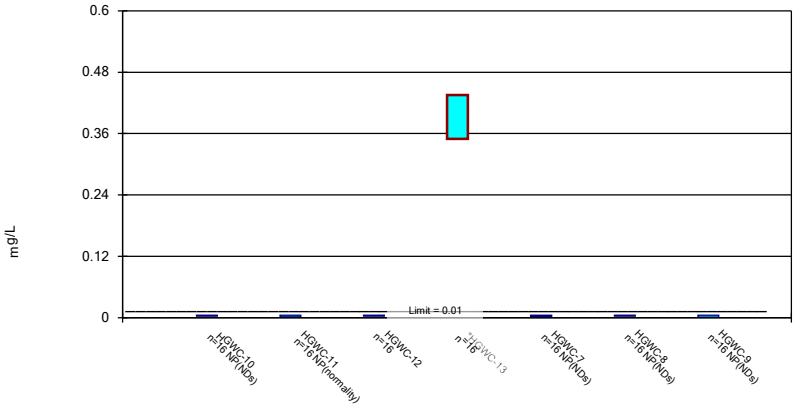
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 6/3/2020 3:08 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

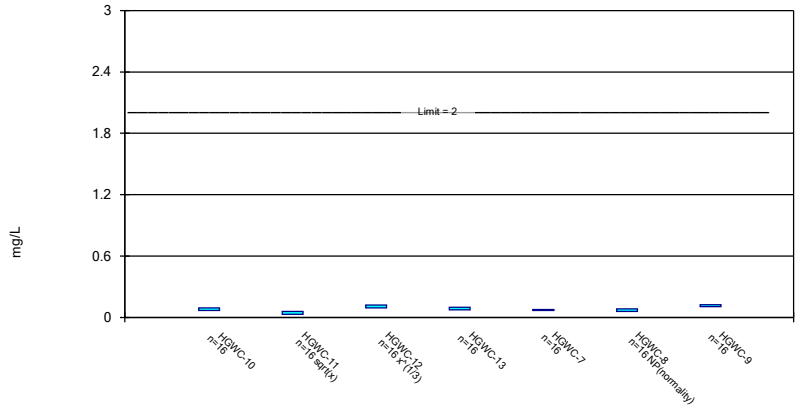
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/3/2020 3:08 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

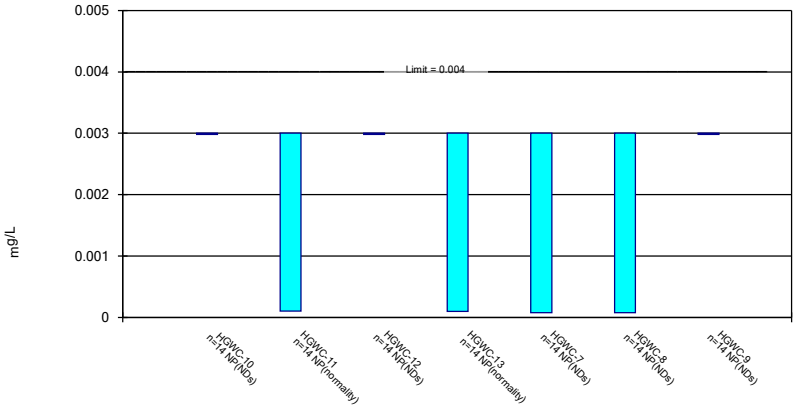
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 6/3/2020 3:08 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

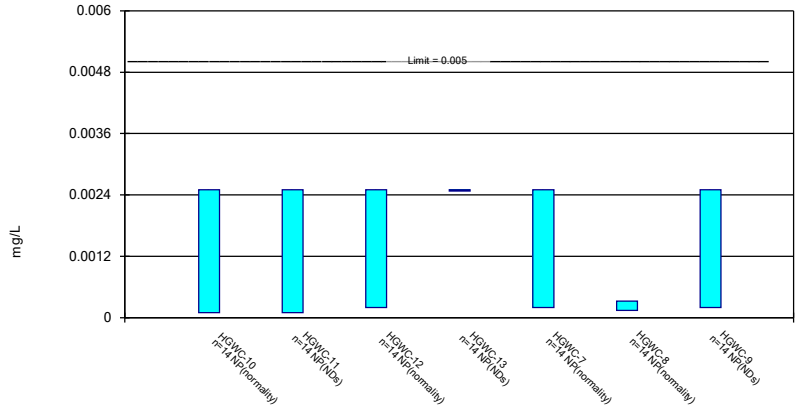
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 6/3/2020 3:08 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

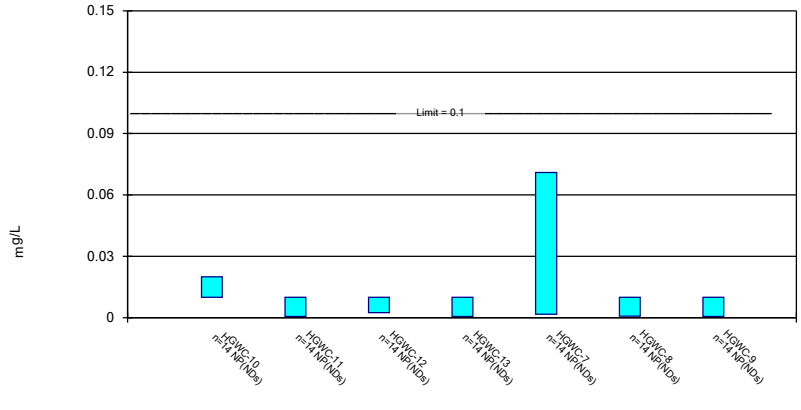


Constituent: Cadmium Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25a Sanitas software utilized by Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

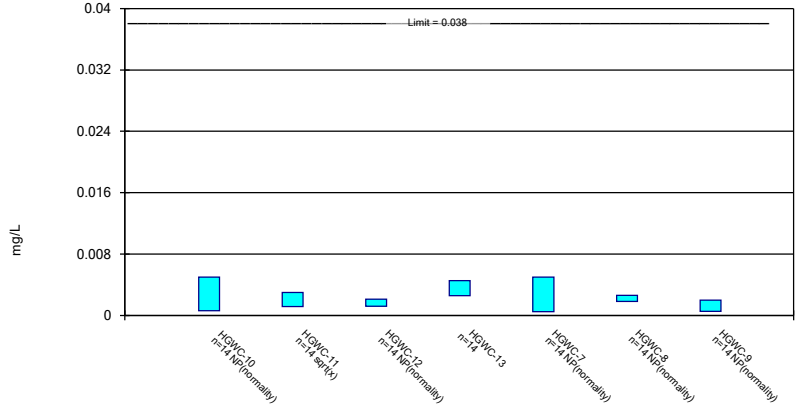


Constituent: Chromium Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25a Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

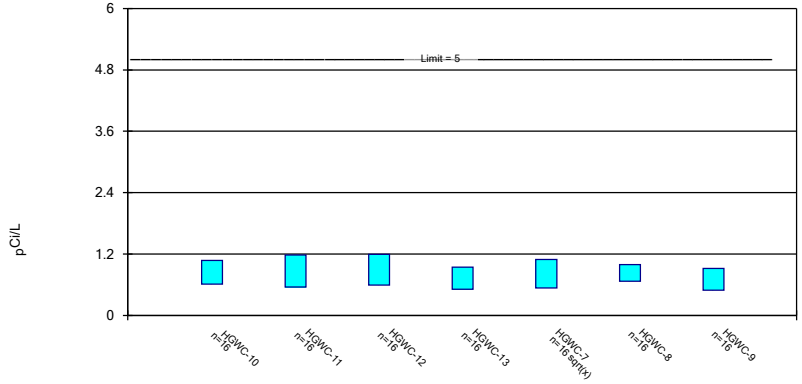


Constituent: Cobalt Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25a Sanitas software utilized by Groundwater Stats Consulting. UG

Parametric Confidence Interval

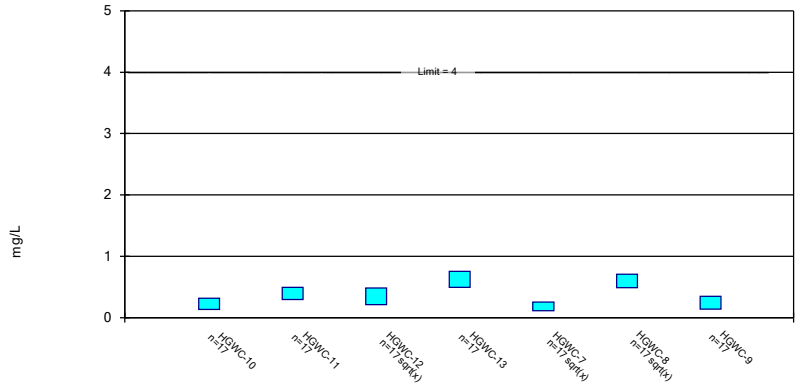
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - St
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

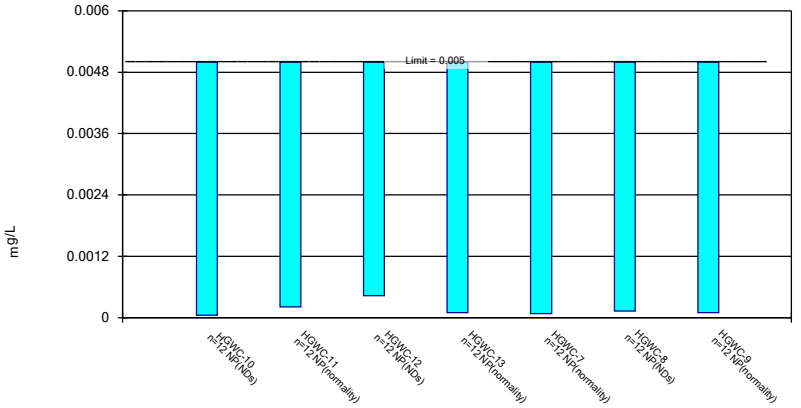
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

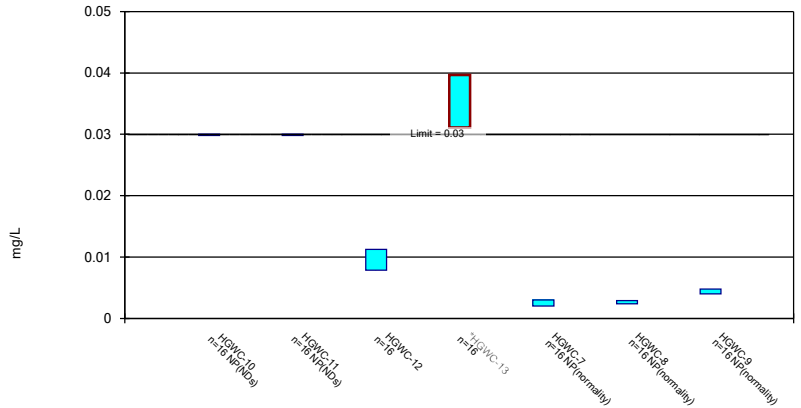
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

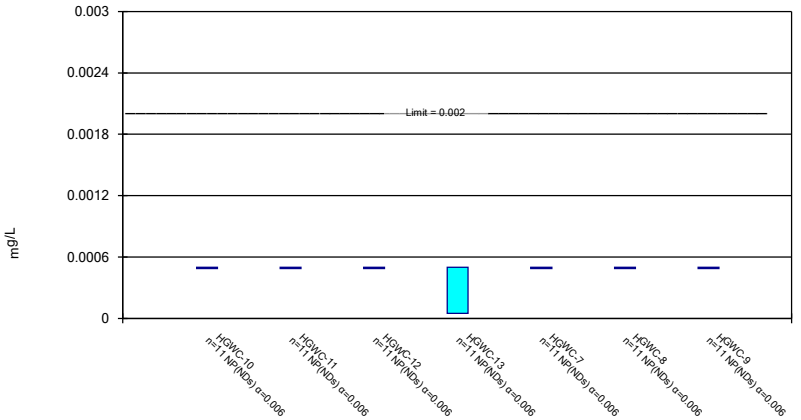
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

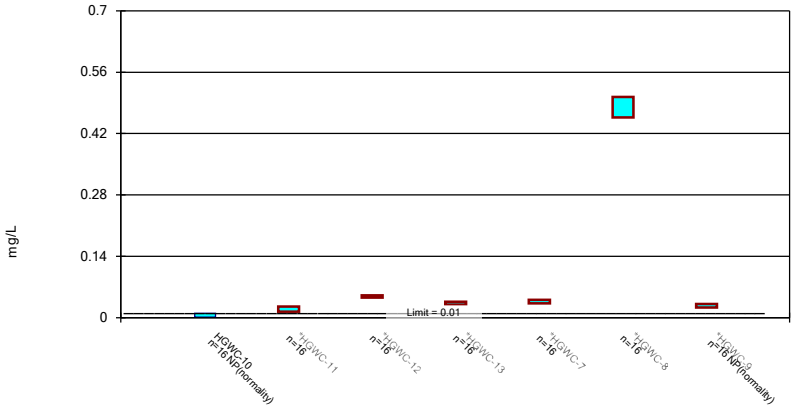
Compliance Limit is not exceeded.



Constituent: Mercury Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

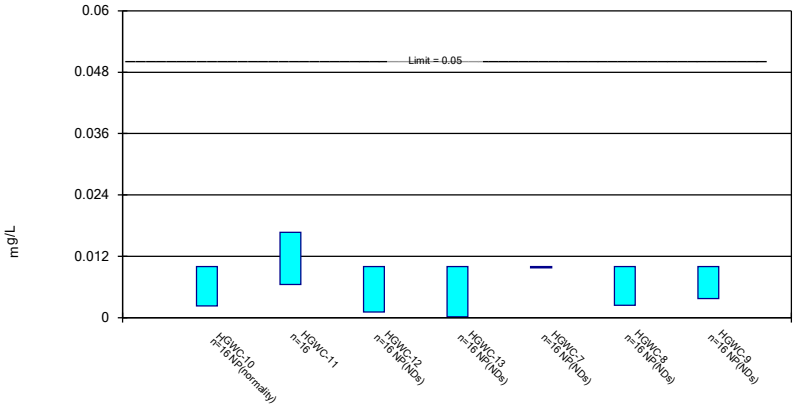
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

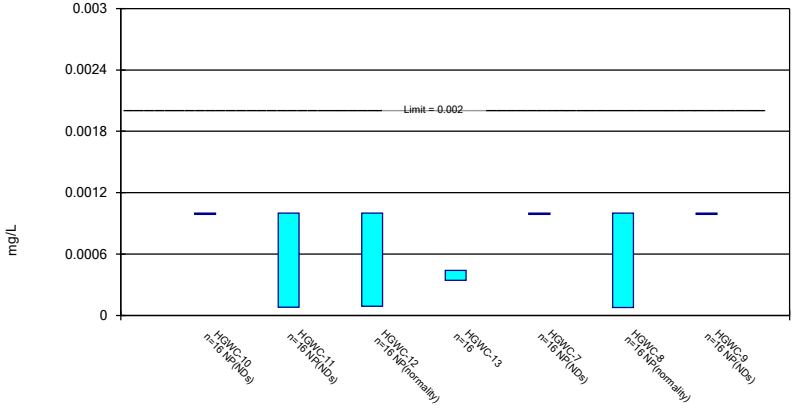
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

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.



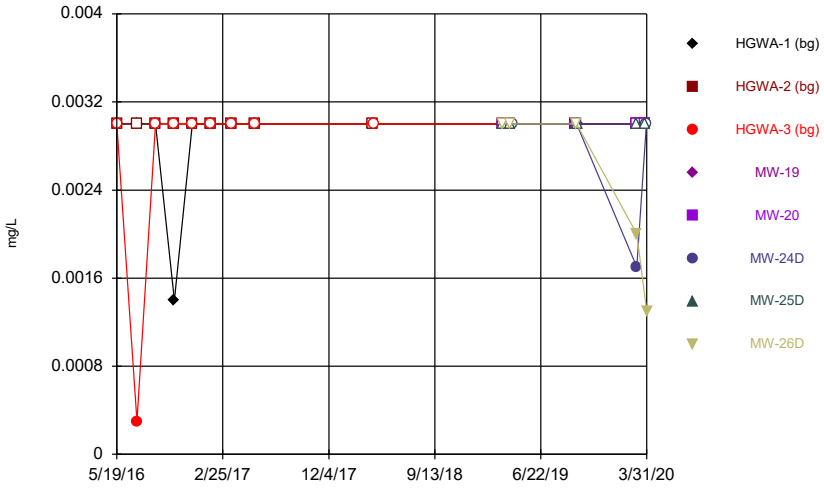
Constituent: Thallium Analysis Run 6/3/2020 3:09 PM View: Confidence Intervals - State
Plant Hammond Client: Southern Company Data: Hammond AP-1

ADDENDUM

FIGURE A.

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

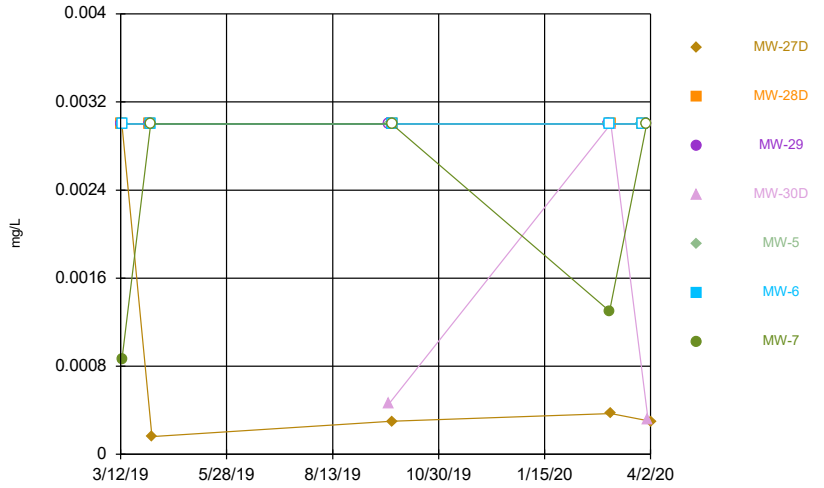
Time Series



Constituent: Antimony Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

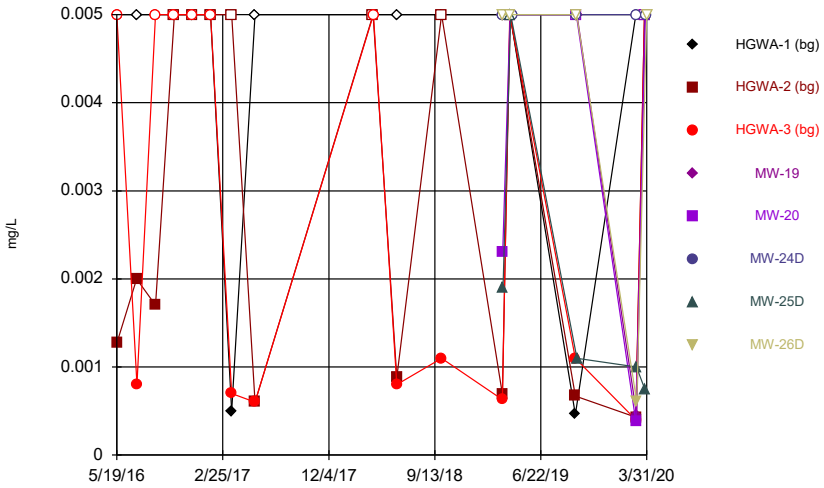
Time Series



Constituent: Antimony Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

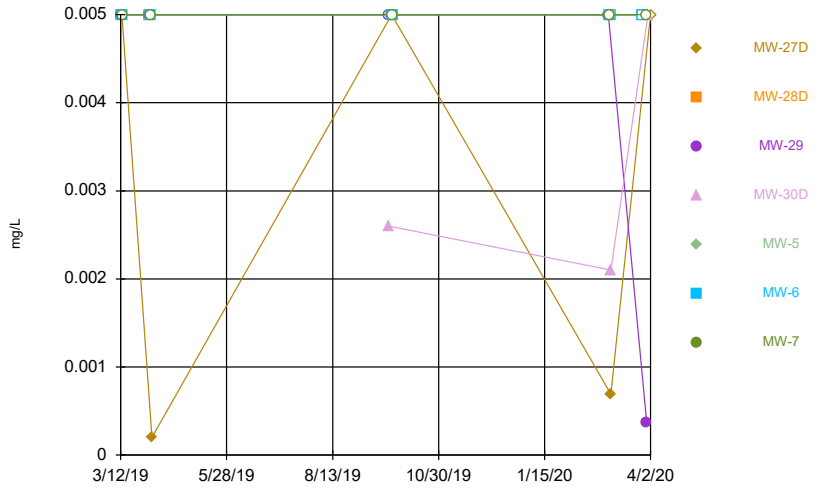
Time Series



Constituent: Arsenic Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

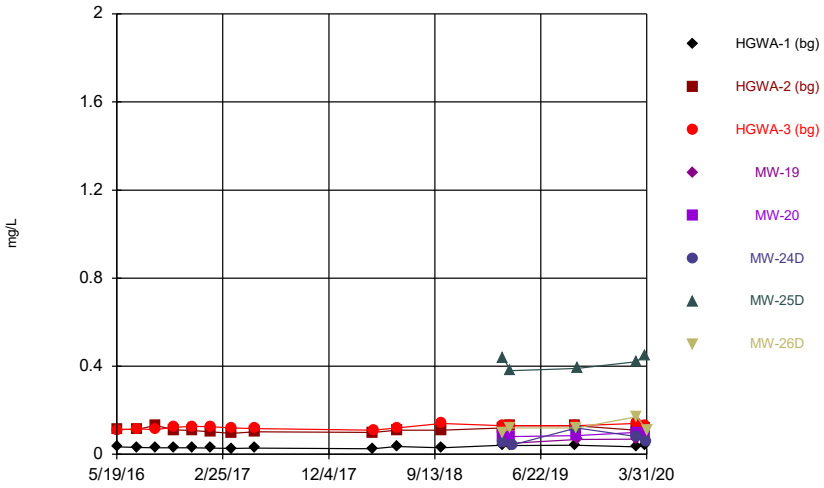
Time Series



Constituent: Arsenic Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

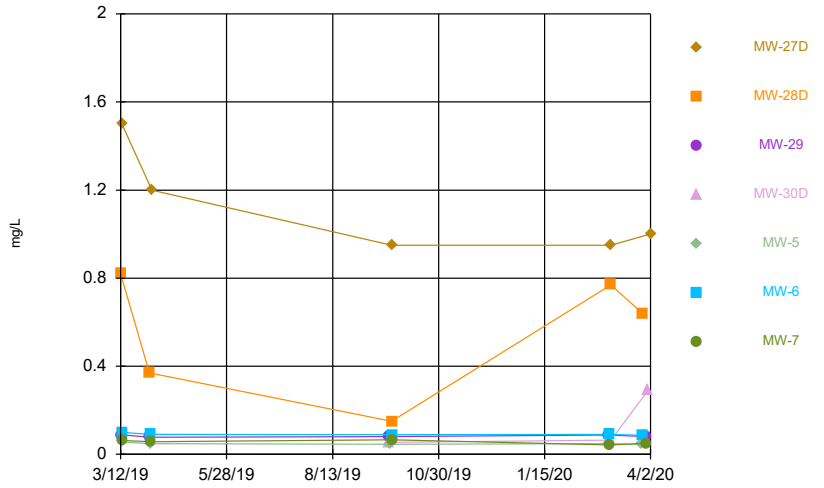
Time Series



Constituent: Barium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

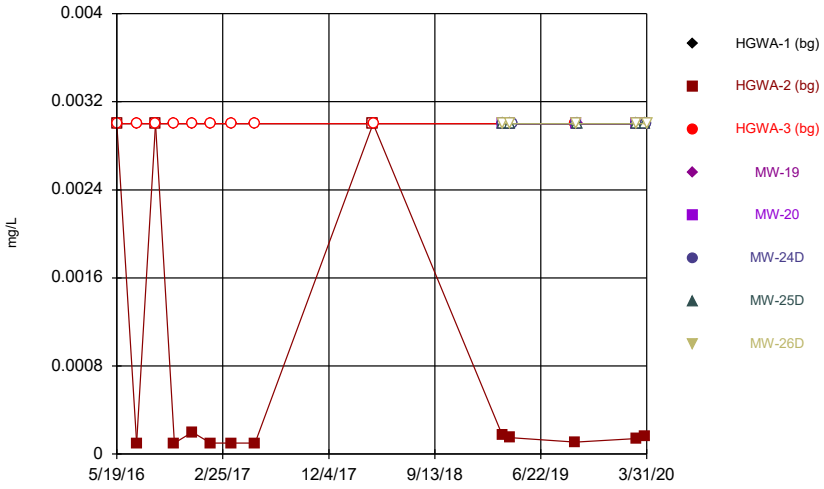
Time Series



Constituent: Barium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

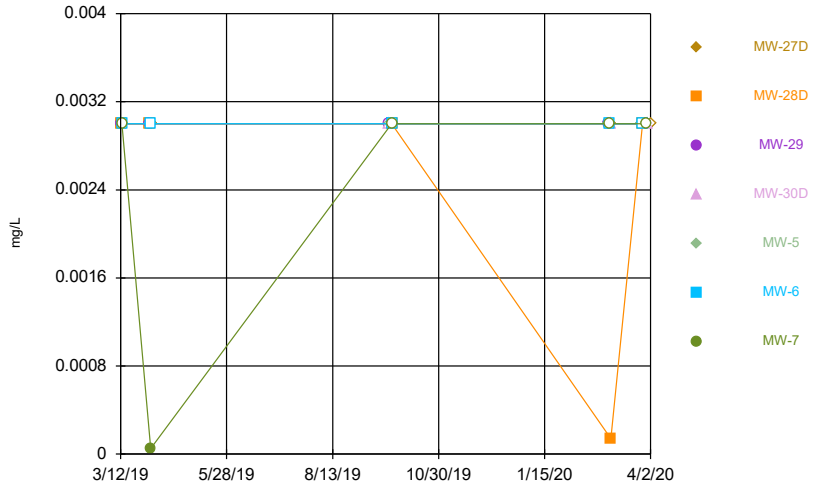
Time Series



Constituent: Beryllium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

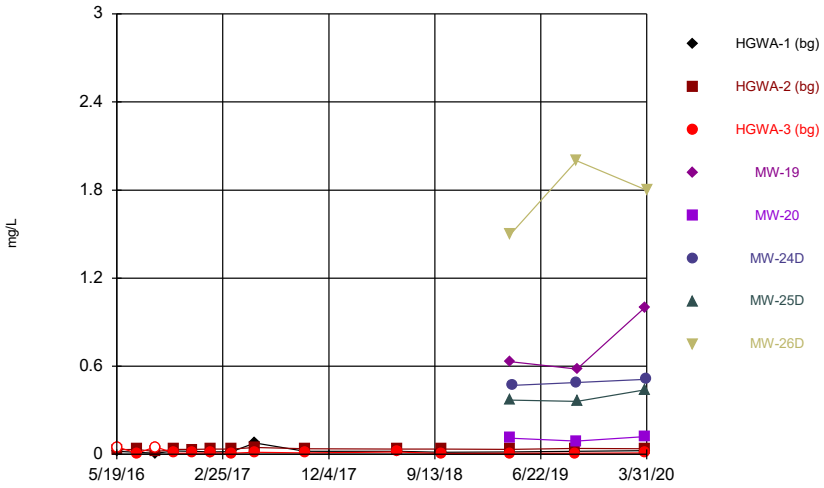
Time Series



Constituent: Beryllium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

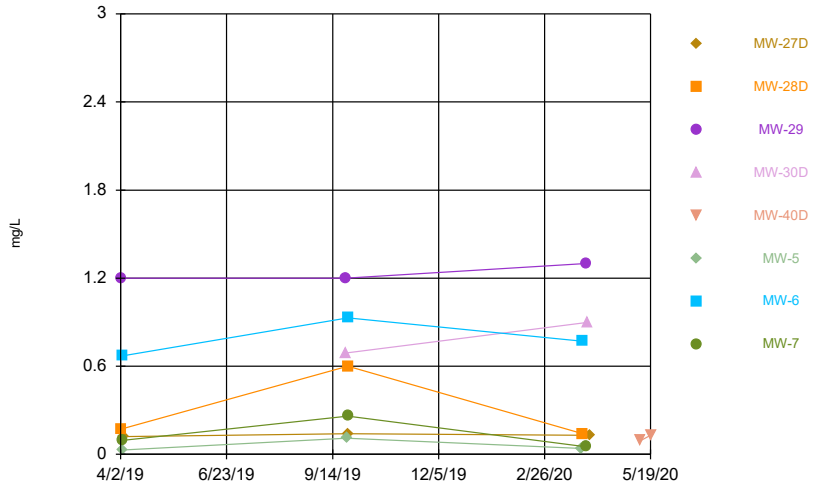
Time Series



Constituent: Boron Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

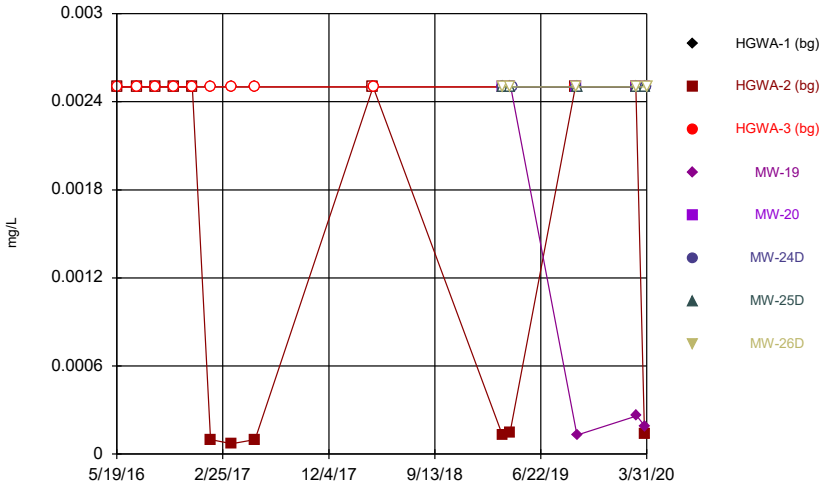
Time Series



Constituent: Boron Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

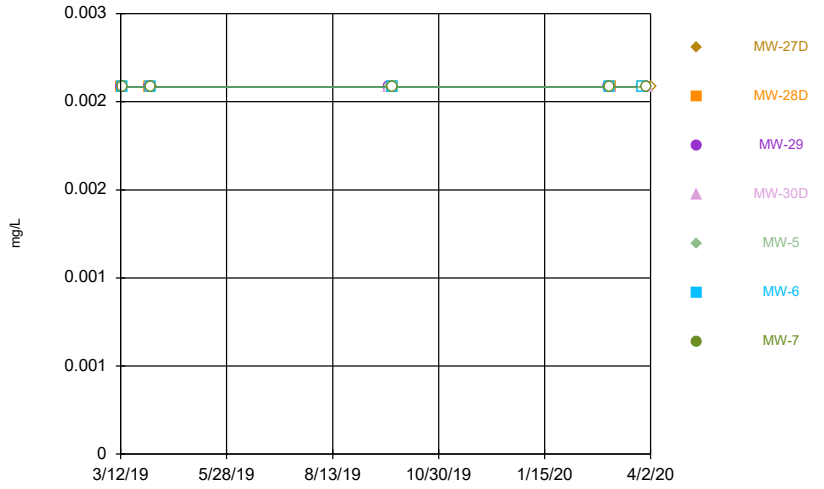
Time Series



Constituent: Cadmium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

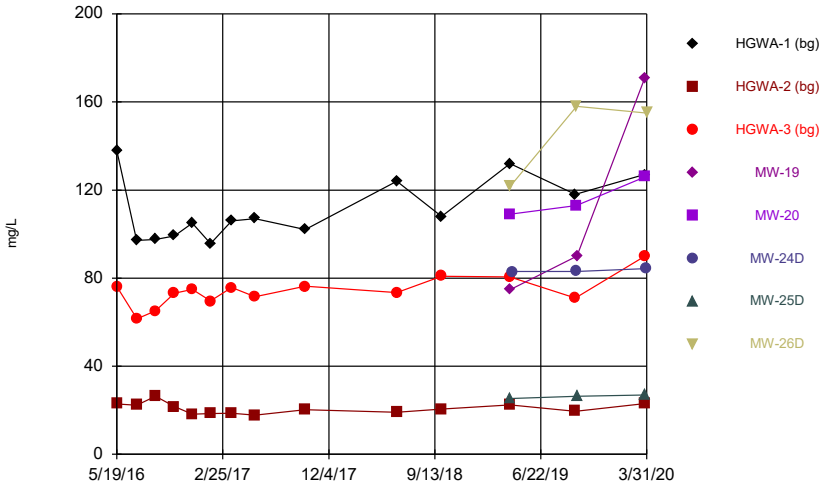
Time Series



Constituent: Cadmium Analysis Run 6/16/2020 10:38 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

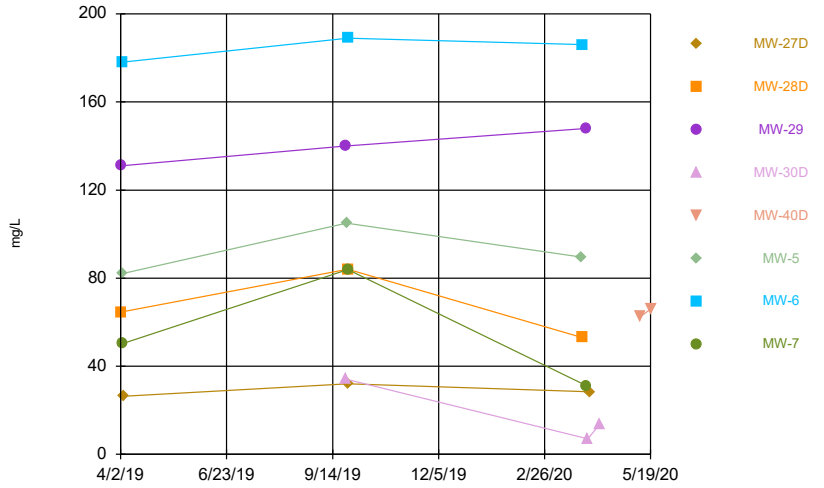
Time Series



Constituent: Calcium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

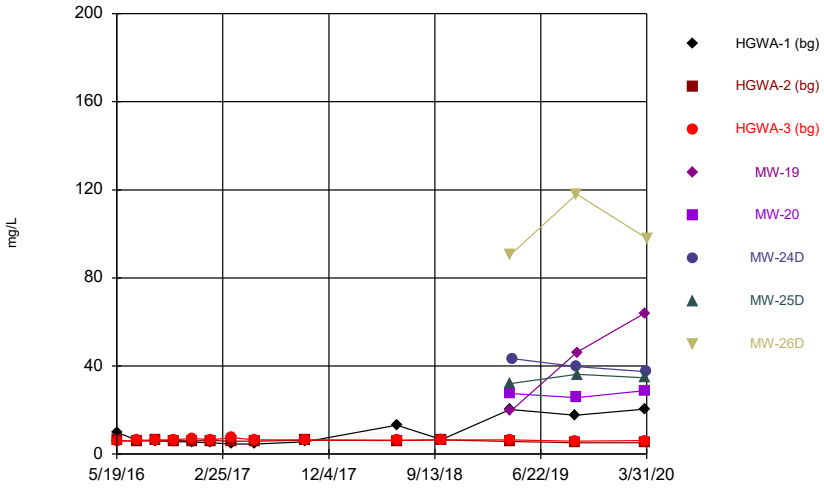
Time Series



Constituent: Calcium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

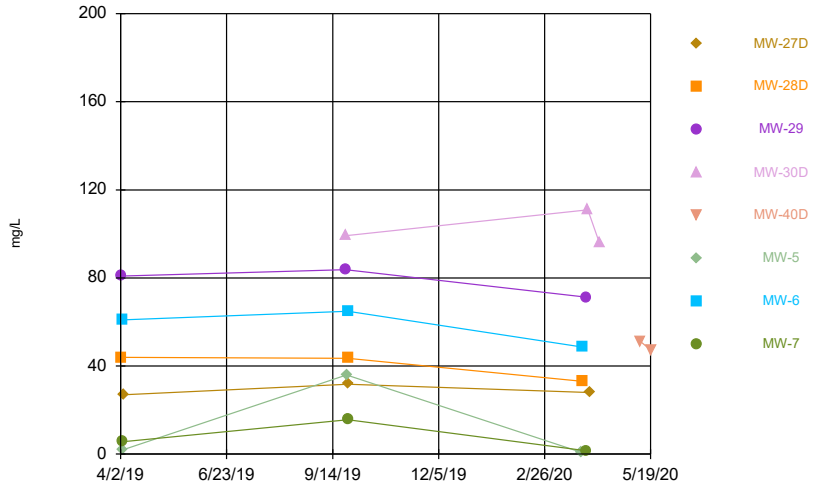
Time Series



Constituent: Chloride Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

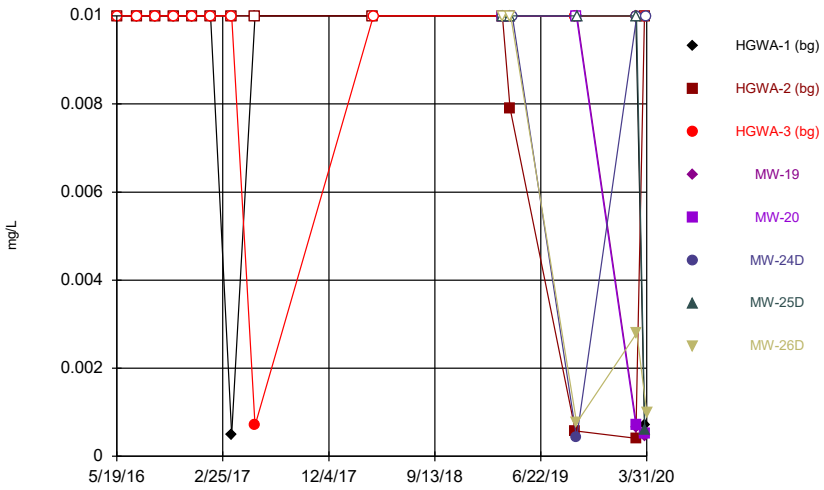
Time Series



Constituent: Chloride Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

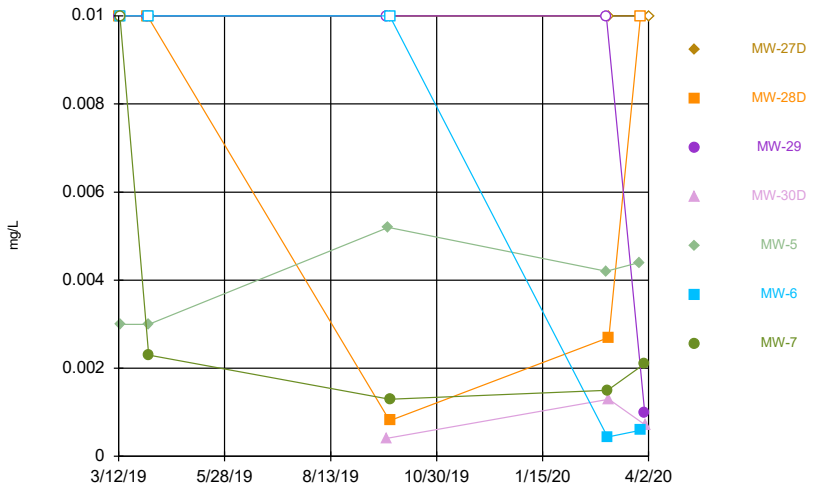
Time Series



Constituent: Chromium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

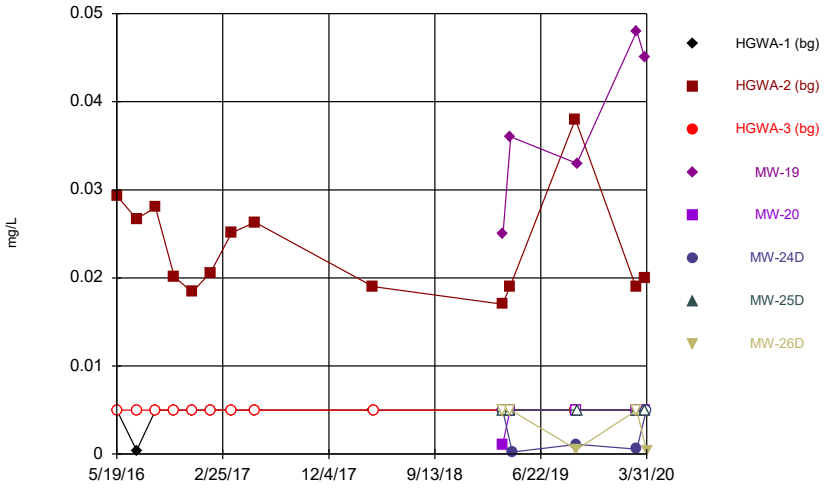
Time Series



Constituent: Chromium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

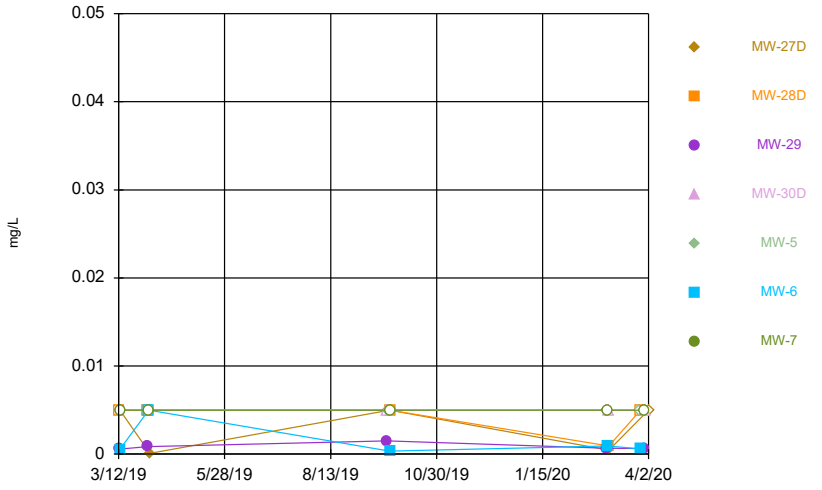
Time Series



Constituent: Cobalt Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

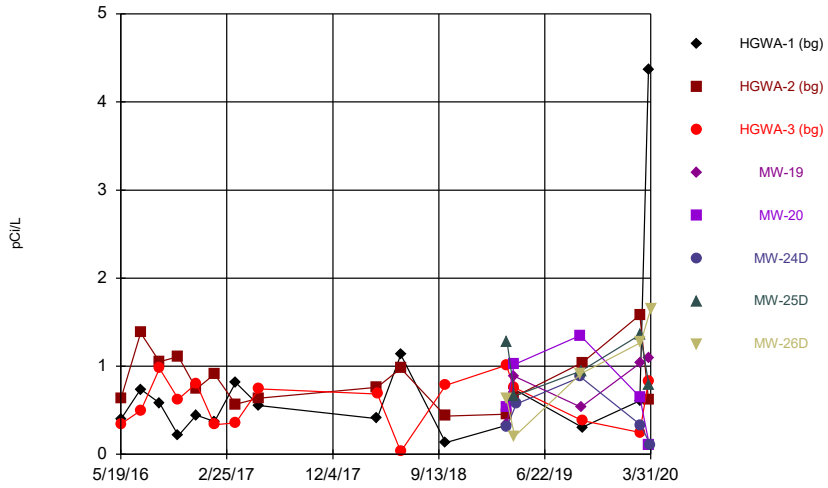
Time Series



Constituent: Cobalt Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

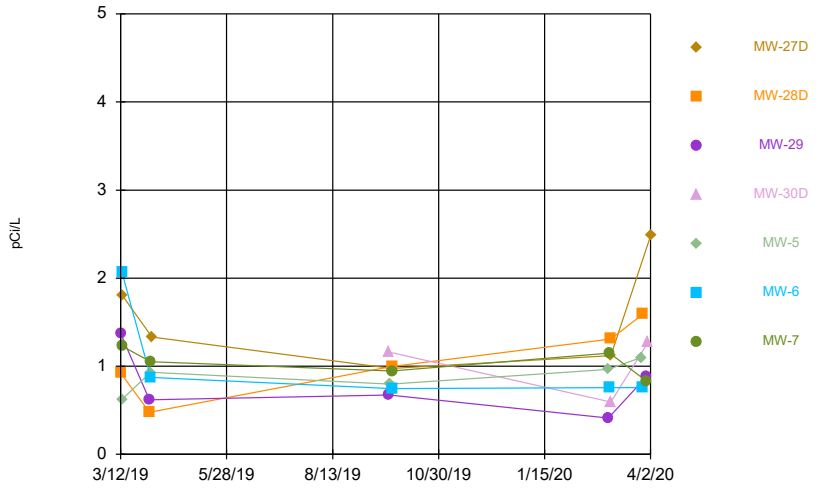
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

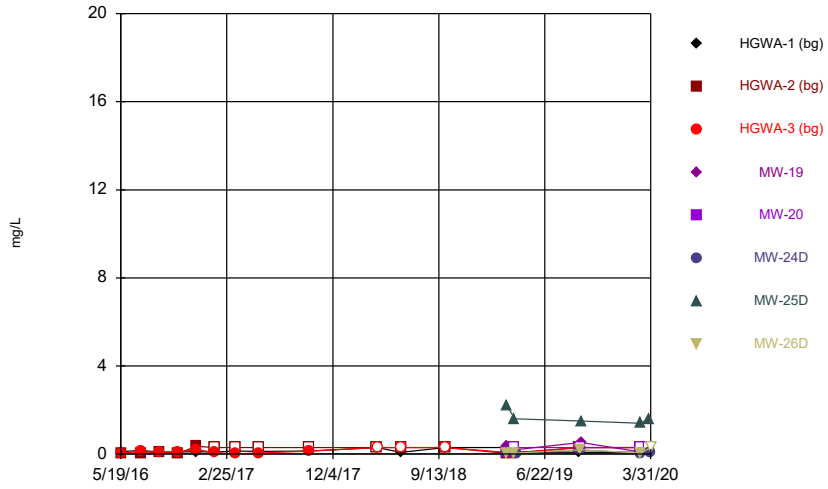
Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

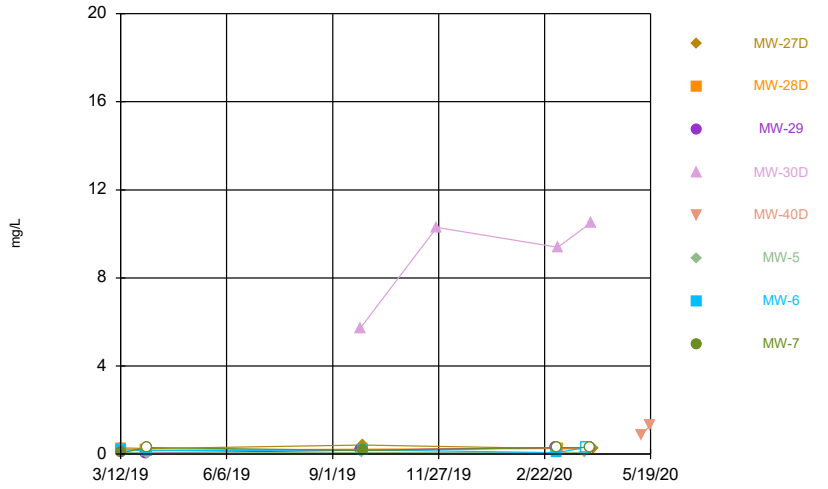
Time Series



Constituent: Fluoride Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

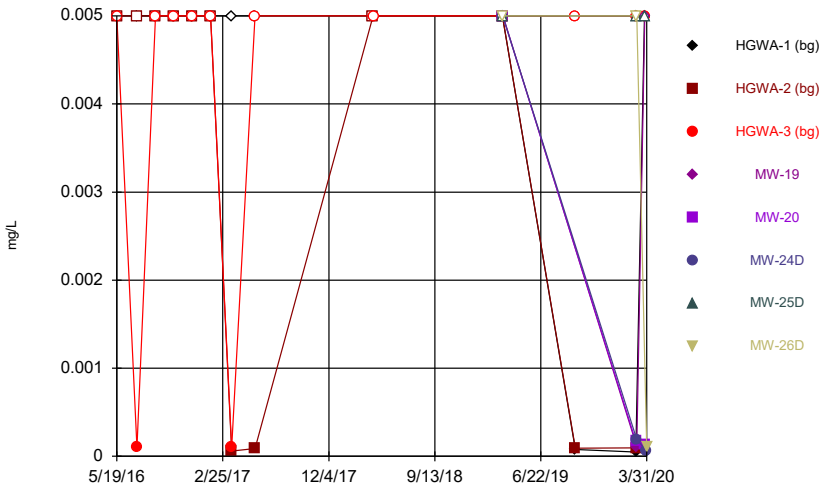
Time Series



Constituent: Fluoride Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

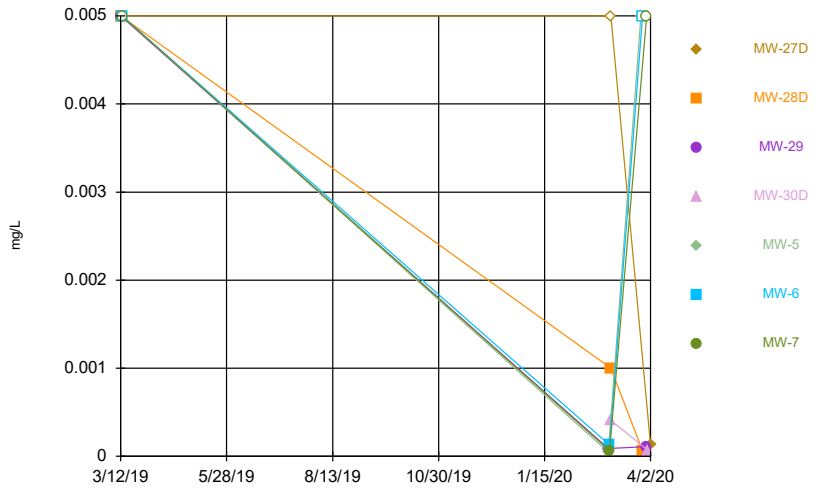
Time Series



Constituent: Lead Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

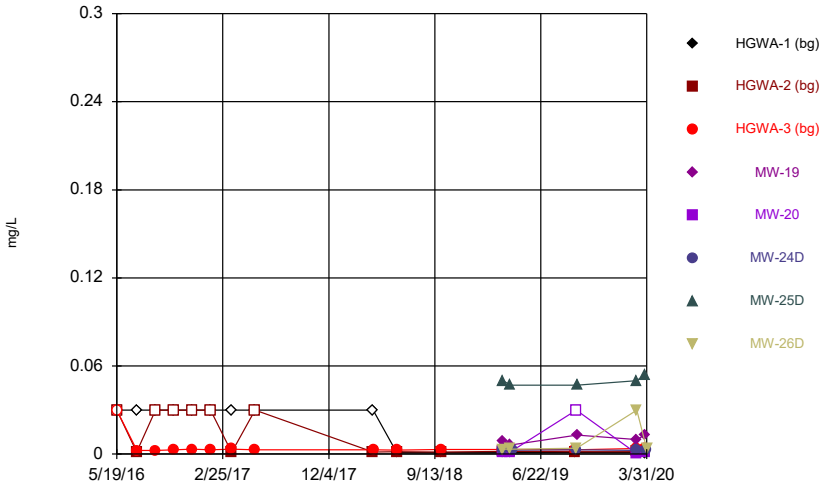
Time Series



Constituent: Lead Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

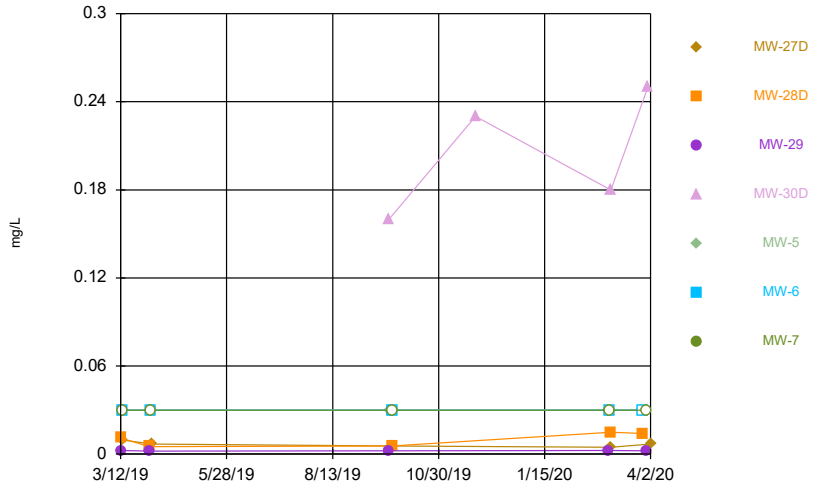
Time Series



Constituent: Lithium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

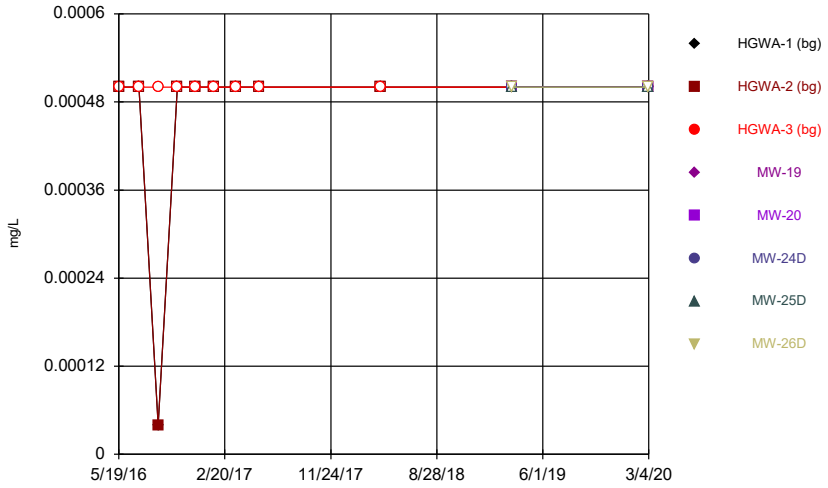
Time Series



Constituent: Lithium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

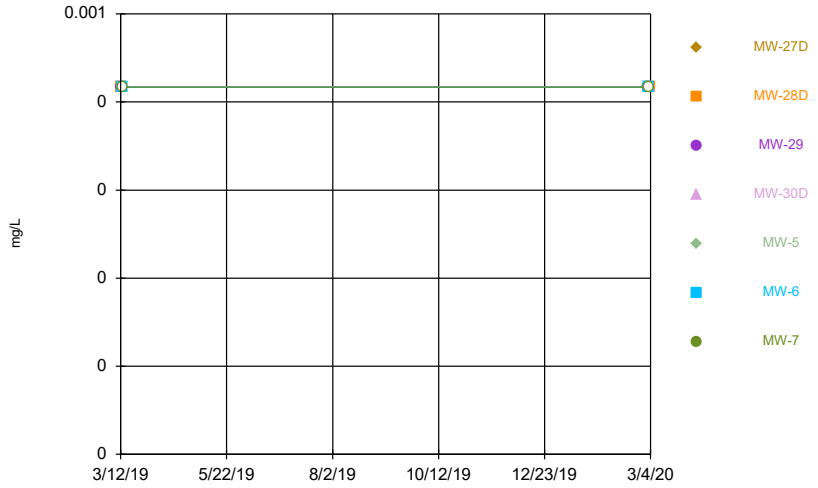
Time Series



Constituent: Mercury Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

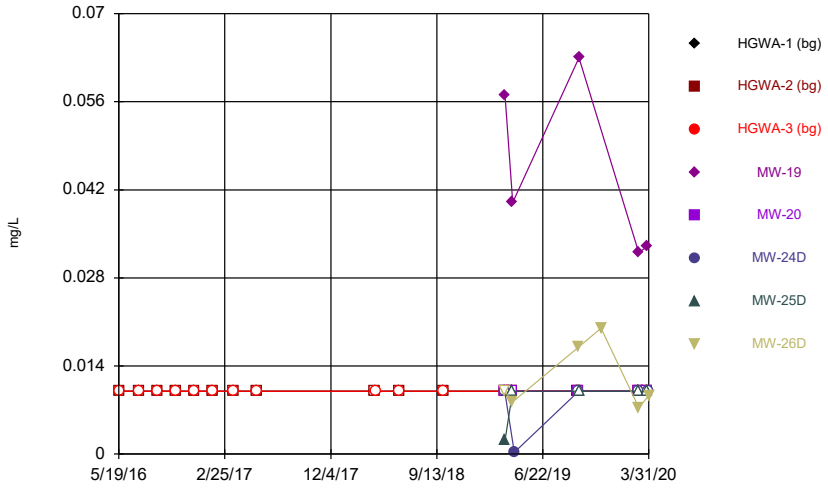
Time Series



Constituent: Mercury Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

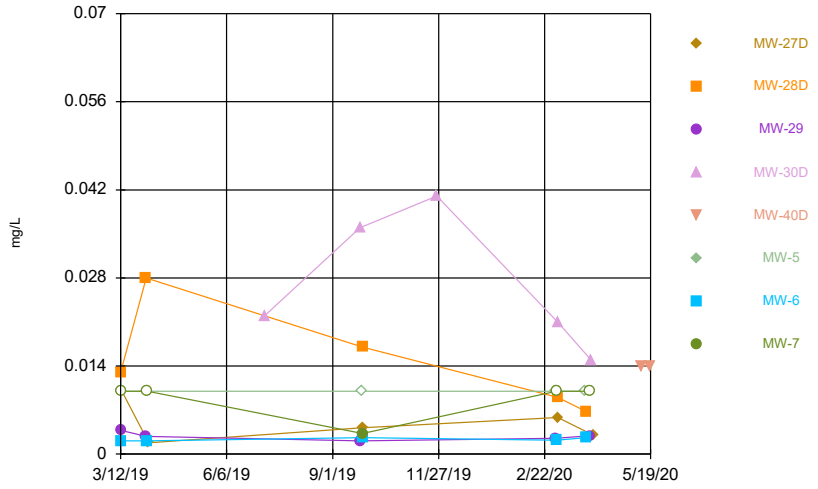
Time Series



Constituent: Molybdenum Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

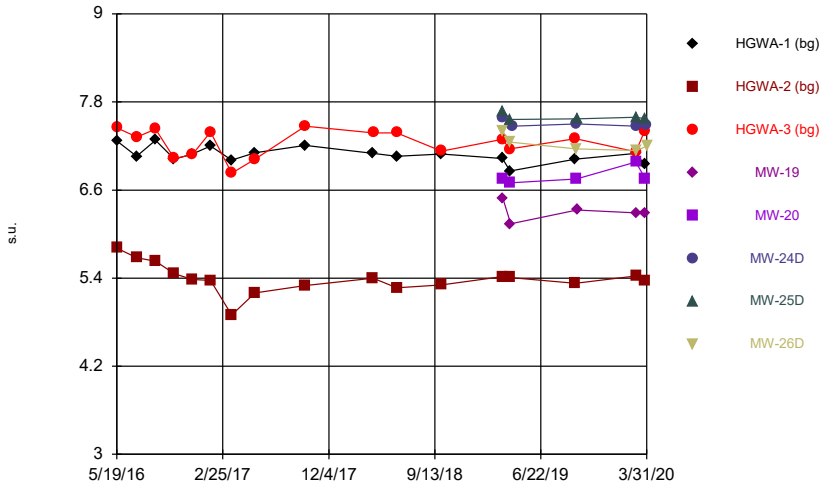
Time Series



Constituent: Molybdenum Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

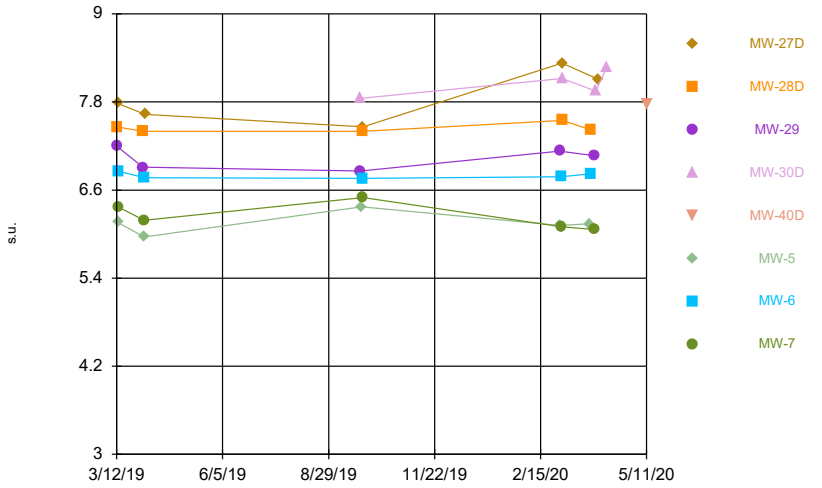
Time Series



Constituent: pH Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

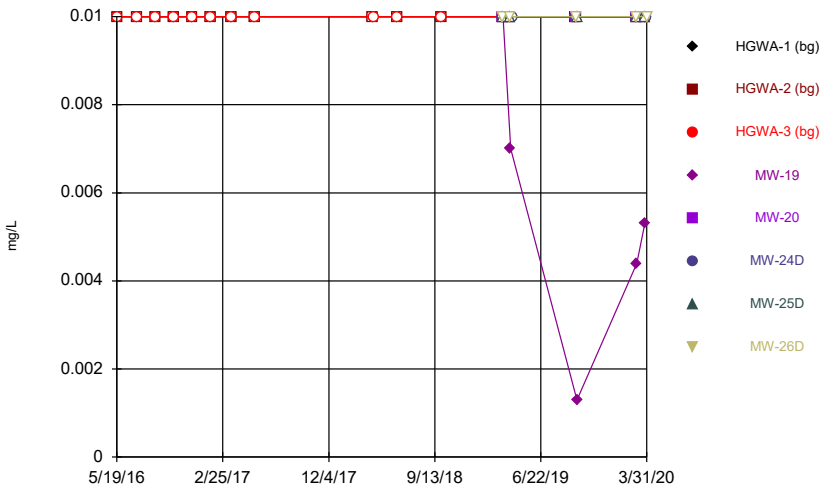
Time Series



Constituent: pH Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

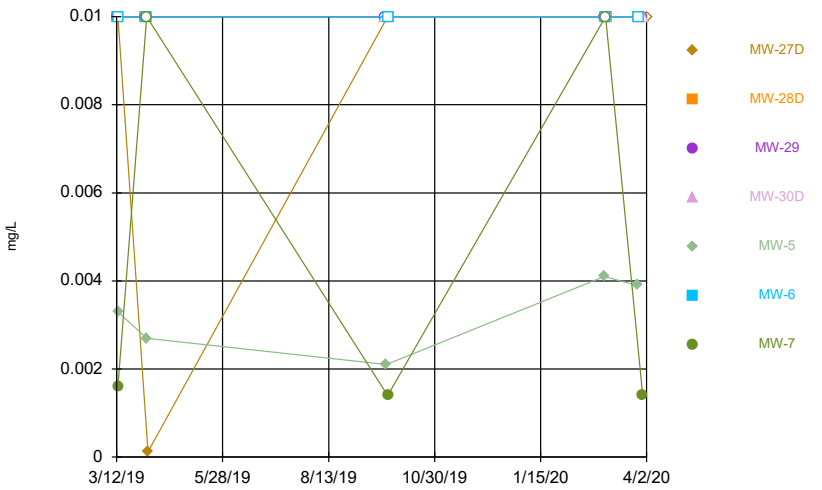
Time Series



Constituent: Selenium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

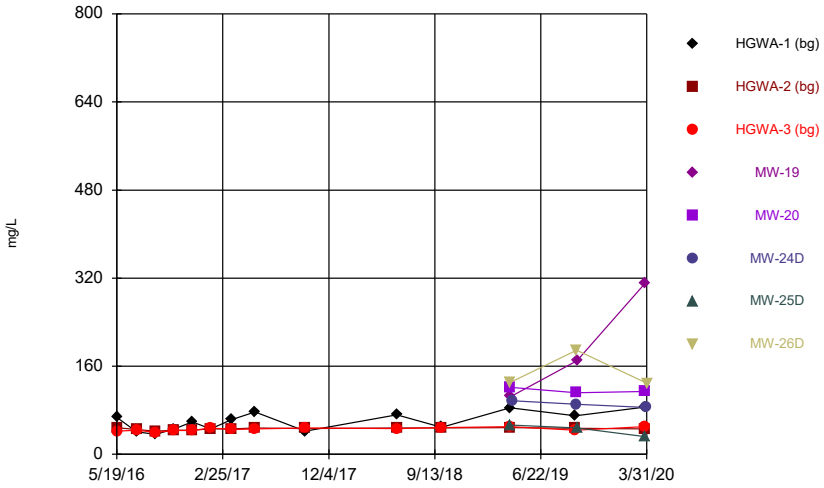
Time Series



Constituent: Selenium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

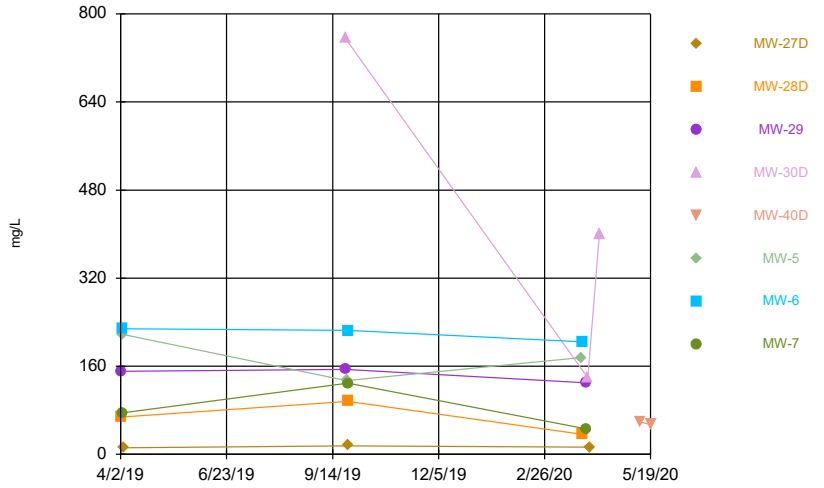
Time Series



Constituent: Sulfate Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

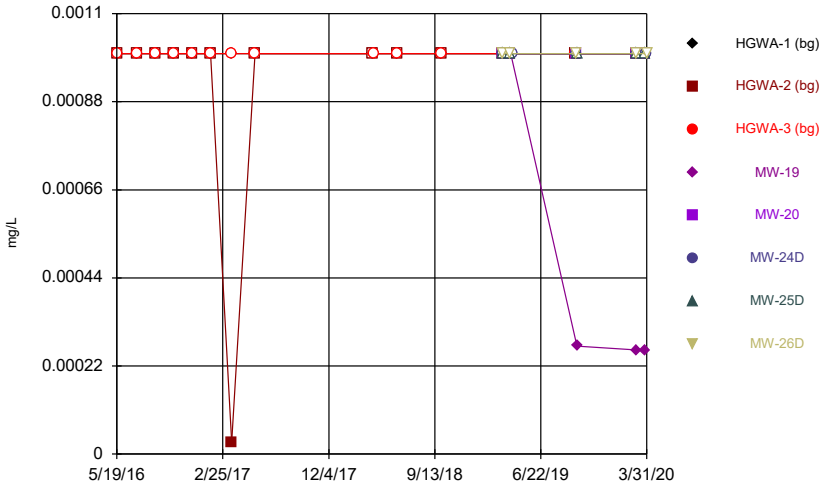
Time Series



Constituent: Sulfate Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

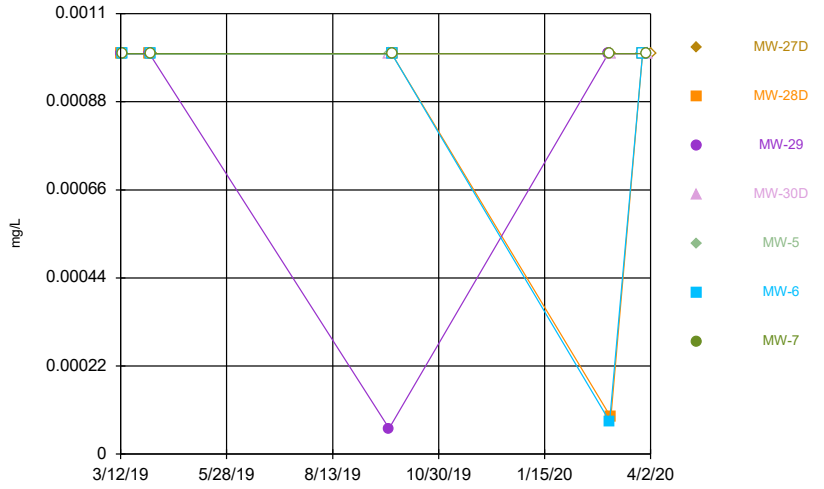
Time Series



Constituent: Thallium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

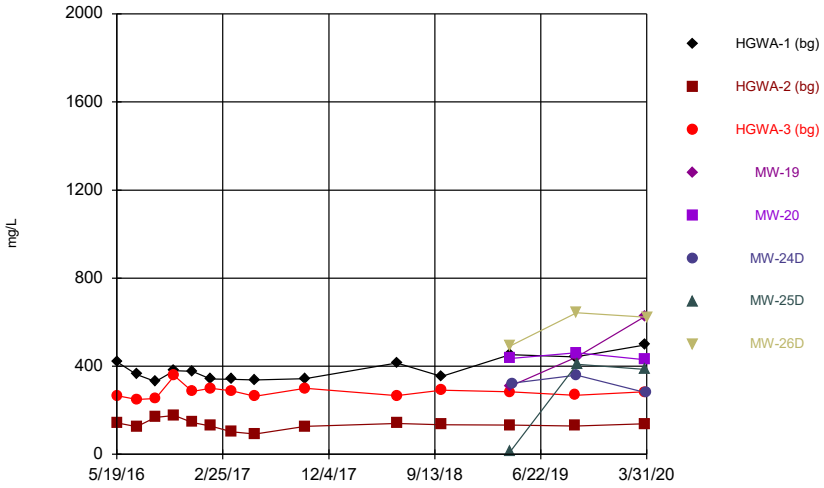
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

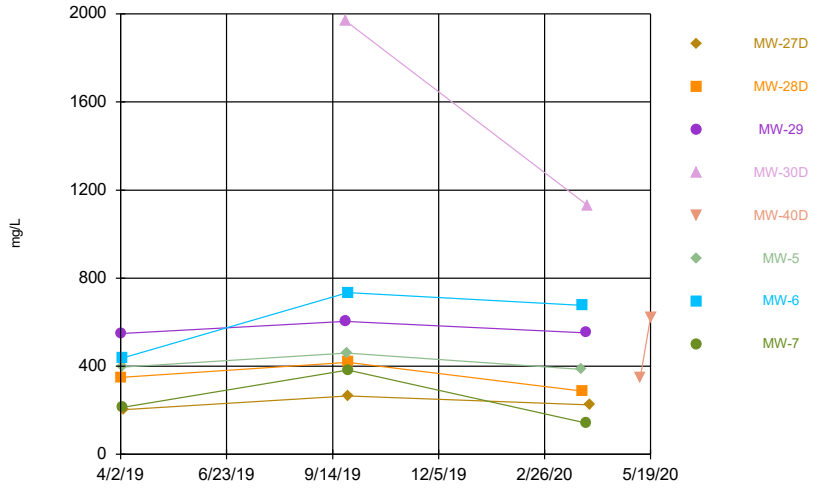
Time Series



Constituent: Total Dissolved Solids Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 6/16/2020 10:39 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Time Series

Constituent: Antimony (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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					
10/19/2016	0.0014 (J)	<0.003	<0.003					
12/6/2016	<0.003	<0.003	<0.003					
1/24/2017	<0.003	<0.003	<0.003					
3/21/2017	<0.003	<0.003	<0.003					
5/22/2017	<0.003	<0.003	<0.003					
4/2/2018	<0.003	<0.003						
4/3/2018			<0.003					
3/12/2019	<0.003	<0.003	<0.003					
3/13/2019					<0.003	<0.003		<0.003
3/14/2019				<0.003			<0.003	
4/1/2019			<0.003					
4/2/2019	<0.003	<0.003			<0.003			
4/3/2019				<0.003			<0.003	<0.003
4/8/2019						<0.003		
9/23/2019	<0.003	<0.003	<0.003					
9/25/2019					<0.003			
9/26/2019						<0.003		<0.003
9/27/2019				<0.003			<0.003	
3/2/2020	<0.003	<0.003	<0.003		<0.003			
3/3/2020							<0.003	
3/4/2020				<0.003		0.0017 (J)		0.002 (J)
3/25/2020	<0.003	<0.003	<0.003					
3/26/2020				<0.003			<0.003	
3/27/2020					<0.003			
3/30/2020						<0.003		
3/31/2020								0.0013 (J)

Time Series

Constituent: Antimony (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.003	<0.003				
3/13/2019	<0.003				<0.003	<0.003	0.00086 (J)
4/2/2019		<0.003	<0.003				
4/3/2019					<0.003	<0.003	<0.003
4/4/2019	0.00016 (J)						
9/24/2019			<0.003	0.00046 (J)			
9/25/2019					<0.003		
9/26/2019	0.0003 (J)	<0.003				<0.003	<0.003
3/2/2020			<0.003		<0.003		
3/3/2020						<0.003	0.0013 (J)
3/4/2020	0.00037 (J)	<0.003		<0.003			
3/26/2020					<0.003		
3/27/2020		<0.003				<0.003	
3/30/2020			<0.003				<0.003
3/31/2020				0.00032 (J)			
4/2/2020	0.0003 (J)						

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	0.0017 (J)	<0.005					
10/19/2016	<0.005	<0.005	<0.005					
12/6/2016	<0.005	<0.005	<0.005					
1/24/2017	<0.005	<0.005	<0.005					
3/21/2017	0.0005 (J)	<0.005	0.0007 (J)					
5/22/2017	<0.005	0.0006 (J)	0.0006 (J)					
4/2/2018	<0.005	<0.005						
4/3/2018			<0.005					
6/4/2018	<0.005	0.00088 (J)	0.0008 (J)					
10/1/2018	<0.005	<0.005	0.0011 (J)					
3/12/2019	<0.005	0.00069 (J)	0.00063 (J)					
3/13/2019					0.0023 (J)	<0.005		<0.005
3/14/2019				<0.005			0.0019 (J)	
4/1/2019			<0.005					
4/2/2019	<0.005	<0.005			<0.005			
4/3/2019				<0.005			<0.005	<0.005
4/8/2019						<0.005		
9/23/2019	0.00046 (J)	0.00067 (J)	0.0011 (J)					
9/25/2019					<0.005			
9/26/2019						<0.005		<0.005
9/27/2019				<0.005			0.0011 (J)	
3/2/2020	<0.005	0.00043 (J)	0.0004 (J)		0.00038 (J)			
3/3/2020							0.001 (J)	
3/4/2020				0.00045 (J)		<0.005		0.0006 (J)
3/25/2020	<0.005	<0.005	<0.005					
3/26/2020				<0.005			0.00075 (J)	
3/27/2020					<0.005			
3/30/2020						<0.005		
3/31/2020								<0.005

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.005	<0.005				
3/13/2019	<0.005				<0.005	<0.005	<0.005
4/2/2019		<0.005	<0.005				
4/3/2019					<0.005	<0.005	<0.005
4/4/2019	0.0002 (J)						
9/24/2019			<0.005	0.0026 (J)			
9/25/2019					<0.005		
9/26/2019	<0.005	<0.005				<0.005	<0.005
3/2/2020			<0.005		<0.005		
3/3/2020						<0.005	<0.005
3/4/2020	0.00069 (J)	<0.005		0.0021 (J)			
3/26/2020					<0.005		
3/27/2020		<0.005				<0.005	
3/30/2020			0.00037 (J)				<0.005
3/31/2020				<0.005			
4/2/2020	<0.005						

Time Series

Constituent: Barium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	0.131	0.113					
10/19/2016	0.0293	0.111	0.123					
12/6/2016	0.0304	0.108	0.127					
1/24/2017	0.028	0.102	0.126					
3/21/2017	0.0275	0.095	0.12					
5/22/2017	0.0281	0.103	0.117					
4/2/2018	0.026	0.099						
4/3/2018			0.11					
6/4/2018	0.035	0.11	0.12					
10/1/2018	0.029	0.11	0.14					
3/12/2019	0.042	0.12	0.13					
3/13/2019					0.087	0.053		0.099
3/14/2019				0.06			0.44	
4/1/2019			0.13					
4/2/2019	0.04	0.13			0.08			
4/3/2019				0.05			0.38	0.12
4/8/2019						0.043		
9/23/2019	0.042	0.13	0.13					
9/25/2019					0.085			
9/26/2019						0.12		0.12
9/27/2019				0.068			0.39	
3/2/2020	0.034	0.11	0.14		0.099			
3/3/2020							0.42	
3/4/2020				0.069		0.081		0.17
3/25/2020	0.043	0.12	0.13					
3/26/2020				0.067			0.45	
3/27/2020					0.093			
3/30/2020						0.056		
3/31/2020								0.11

Time Series

Constituent: Barium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		0.82	0.089				
3/13/2019	1.5				0.056	0.1	0.063
4/2/2019		0.37	0.078				
4/3/2019					0.049	0.09	0.058
4/4/2019	1.2						
9/24/2019			0.081	0.054			
9/25/2019					0.046		
9/26/2019	0.95	0.15				0.089	0.066
3/2/2020			0.088		0.049		
3/3/2020						0.09	0.043
3/4/2020	0.95	0.77		0.065			
3/26/2020					0.046		
3/27/2020		0.64				0.086	
3/30/2020			0.08				0.05
3/31/2020				0.29			
4/2/2020	1						

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	<0.003	<0.003	<0.003					
7/11/2016	<0.003	0.0001 (J)						
7/12/2016			<0.003					
8/30/2016	<0.003	<0.003	<0.003					
10/19/2016	<0.003	0.0001 (J)	<0.003					
12/6/2016	<0.003	0.0002 (J)	<0.003					
1/24/2017	<0.003	0.0001 (J)	<0.003					
3/21/2017	<0.003	0.0001 (J)	<0.003					
5/22/2017	<0.003	0.0001 (J)	<0.003					
4/2/2018	<0.003	<0.003						
4/3/2018			<0.003					
3/12/2019	<0.003	0.00017 (J)	<0.003					
3/13/2019					<0.003	<0.003		<0.003
3/14/2019				<0.003			<0.003	
4/1/2019			<0.003					
4/2/2019	<0.003	0.00015 (J)			<0.003			
4/3/2019				<0.003			<0.003	<0.003
4/8/2019						<0.003		
9/23/2019	<0.003	0.00011 (J)	<0.003					
9/25/2019					<0.003			
9/26/2019						<0.003		<0.003
9/27/2019				<0.003			<0.003	
3/2/2020	<0.003	0.00014 (J)	<0.003		<0.003			
3/3/2020							<0.003	
3/4/2020				<0.003		<0.003		<0.003
3/25/2020	<0.003	0.00016 (J)	<0.003					
3/26/2020				<0.003			<0.003	
3/27/2020					<0.003			
3/30/2020						<0.003		
3/31/2020								<0.003

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.003	<0.003				
3/13/2019	<0.003				<0.003	<0.003	<0.003
4/2/2019		<0.003	<0.003				
4/3/2019					<0.003	<0.003	5.1E-05 (J)
4/4/2019	<0.003						
9/24/2019			<0.003	<0.003			
9/25/2019					<0.003		
9/26/2019	<0.003	<0.003				<0.003	<0.003
3/2/2020			<0.003		<0.003		
3/3/2020						<0.003	<0.003
3/4/2020	<0.003	0.00014 (J)		<0.003			
3/26/2020					<0.003		
3/27/2020		<0.003				<0.003	
3/30/2020			<0.003				<0.003
3/31/2020				<0.003			
4/2/2020	<0.003						

Time Series

Constituent: Boron (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	0.0214 (J)	0.0321 (J)	<0.1					
7/11/2016	0.0142 (J)	0.0337 (J)						
7/12/2016			0.0074 (J)					
8/30/2016	0.0074 (J)	0.0173 (J)	<0.1					
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)					
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)					
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)					
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)					
5/22/2017	0.0782	0.0475	0.0131 (J)					
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)					
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)					
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)					
4/1/2019			0.0066 (J)					
4/2/2019	0.016 (J)	0.034 (J)			0.11			
4/3/2019				0.63			0.37	1.5
4/8/2019						0.47 (J)		
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)					
9/25/2019					0.091			
9/26/2019						0.49		2
9/27/2019				0.58			0.36	
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)					
3/26/2020				1			0.44	
3/27/2020					0.12			
3/30/2020						0.51		
3/31/2020								1.8

Time Series

Constituent: Boron (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
4/2/2019		0.17	1.2					
4/3/2019						0.03 (J)	0.67	0.094
4/4/2019	0.12 (J)							
9/24/2019			1.2	0.69				
9/25/2019						0.11		
9/26/2019	0.14	0.6					0.93	0.26
3/26/2020						0.041 (J)		
3/27/2020		0.14					0.77	
3/30/2020			1.3					0.051 (J)
3/31/2020				0.9				
4/2/2020	0.13							
5/11/2020					0.093 (J)			
5/19/2020					0.13			

Time Series

Constituent: Cadmium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	<0.0025	<0.0025	<0.0025					
7/11/2016	<0.0025	<0.0025						
7/12/2016			<0.0025					
8/30/2016	<0.0025	<0.0025	<0.0025					
10/19/2016	<0.0025	<0.0025	<0.0025					
12/6/2016	<0.0025	<0.0025	<0.0025					
1/24/2017	<0.0025	0.0001 (J)	<0.0025					
3/21/2017	<0.0025	7E-05 (J)	<0.0025					
5/22/2017	<0.0025	0.0001 (J)	<0.0025					
4/2/2018	<0.0025	<0.0025						
4/3/2018			<0.0025					
3/12/2019	<0.0025	0.00013 (J)	<0.0025					
3/13/2019					<0.0025	<0.0025		<0.0025
3/14/2019				<0.0025			<0.0025	
4/1/2019			<0.0025					
4/2/2019	<0.0025	0.00015 (J)			<0.0025			
4/3/2019				<0.0025			<0.0025	<0.0025
4/8/2019						<0.0025		
9/23/2019	<0.0025	<0.0025	<0.0025					
9/25/2019					<0.0025			
9/26/2019						<0.0025		<0.0025
9/27/2019				0.00013 (J)			<0.0025	
3/2/2020	<0.0025	<0.0025	<0.0025		<0.0025			
3/3/2020							<0.0025	
3/4/2020				0.00026 (J)		<0.0025		<0.0025
3/25/2020	<0.0025	0.00014 (J)	<0.0025					
3/26/2020				0.00019 (J)			<0.0025	
3/27/2020					<0.0025			
3/30/2020						<0.0025		
3/31/2020								<0.0025

Time Series

Constituent: Cadmium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.0025	<0.0025				
3/13/2019	<0.0025				<0.0025	<0.0025	<0.0025
4/2/2019		<0.0025	<0.0025				
4/3/2019					<0.0025	<0.0025	<0.0025
4/4/2019	<0.0025						
9/24/2019			<0.0025	<0.0025			
9/25/2019					<0.0025		
9/26/2019	<0.0025	<0.0025				<0.0025	<0.0025
3/2/2020			<0.0025		<0.0025		
3/3/2020						<0.0025	<0.0025
3/4/2020	<0.0025	<0.0025		<0.0025			
3/26/2020					<0.0025		
3/27/2020		<0.0025				<0.0025	
3/30/2020			<0.0025				<0.0025
3/31/2020				<0.0025			
4/2/2020	<0.0025						

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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					
10/19/2016	99.2	21.7	73.2					
12/6/2016	105	18.2	74.9					
1/24/2017	95.7	18.5	69.6					
3/21/2017	106	18.6	75.7					
5/22/2017	107	17.8	71.5					
10/3/2017	102	20.2	76.3					
6/4/2018	124	19.1	73.4					
10/1/2018	108	20.5 (J)	80.9					
4/1/2019			80.5					
4/2/2019	132	22.5 (J)			109			
4/3/2019				74.9			25.4	122
4/8/2019						83		
9/23/2019	118	19.5	71					
9/25/2019					113			
9/26/2019						83.1		158
9/27/2019				90			26.4	
3/25/2020	127	23	89.8					
3/26/2020				171			27	
3/27/2020					126			
3/30/2020						84.4		
3/31/2020								155

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
4/2/2019		64.6	131					
4/3/2019						82	178	50.2
4/4/2019	26.3							
9/24/2019			140	34.2				
9/25/2019						105		
9/26/2019	32.1	84					189	83.9
3/26/2020						89.6		
3/27/2020		53					186	
3/30/2020			148					31.1
3/31/2020				7.1				
4/2/2020	28.4							
4/9/2020				13.4				
5/11/2020					62.6			
5/19/2020					65.9			

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	6.2	6.4					
10/19/2016	5.8	6.1	6.5					
12/6/2016	5.4	6	7.2					
1/24/2017	5.2	6.1	6.4					
3/21/2017	4.6	5.9	7.5					
5/22/2017	4.6	5.9	6.5					
10/3/2017	5.6	6.3	6.5					
6/4/2018	13.1	6.1	6.3					
10/1/2018	6.6	6.4	6.4					
4/1/2019			6.5					
4/2/2019	20.3	5.8			27.5			
4/3/2019				19.5			32	90.6
4/8/2019						43.3		
9/23/2019	17.7	5.1	5.9					
9/25/2019					25.7			
9/26/2019						39.7		118
9/27/2019				46.2			36.2	
3/25/2020	20.4	5.2	6.1					
3/26/2020				64			34.6	
3/27/2020					28.8			
3/30/2020						37.4		
3/31/2020								98

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
4/2/2019		44	80.9					
4/3/2019						1.8	60.9	5.6
4/4/2019	26.9							
9/24/2019			83.8	99.2				
9/25/2019						35.9		
9/26/2019	31.8	43.5					64.9	15.6
3/26/2020						0.73 (J)		
3/27/2020		33					48.6	
3/30/2020			71.2					1.5
3/31/2020				111				
4/2/2020	27.9							
4/9/2020				96				
5/11/2020					51.2			
5/19/2020					47.3			

Time Series

Constituent: Chromium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	<0.01	<0.01					
10/19/2016	<0.01	<0.01	<0.01					
12/6/2016	<0.01	<0.01	<0.01					
1/24/2017	<0.01	<0.01	<0.01					
3/21/2017	0.0005 (J)	<0.01	<0.01					
5/22/2017	<0.01	<0.01	0.0007 (J)					
4/2/2018	<0.01	<0.01						
4/3/2018			<0.01					
3/12/2019	<0.01	<0.01	<0.01					
3/13/2019					<0.01	<0.01		<0.01
3/14/2019				<0.01			<0.01	
4/1/2019			<0.01					
4/2/2019	<0.01	0.0079 (J)			<0.01			
4/3/2019				<0.01			<0.01	<0.01
4/8/2019						<0.01		
9/23/2019	<0.01	0.00058 (J)	<0.01					
9/25/2019					<0.01			
9/26/2019						0.00042 (J)		0.00076 (J)
9/27/2019				<0.01			<0.01	
3/2/2020	<0.01	0.00041 (J)	<0.01		0.00071 (J)			
3/3/2020							<0.01	
3/4/2020				0.00066 (J)		<0.01		0.0028 (J)
3/25/2020	0.00072 (J)	<0.01	<0.01					
3/26/2020				0.00047 (J)			0.00061 (J)	
3/27/2020					0.00051 (J)			
3/30/2020						<0.01		
3/31/2020								0.001 (J)

Time Series

Constituent: Chromium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.01	<0.01				
3/13/2019	<0.01				0.003 (J)	<0.01	<0.01
4/2/2019		<0.01	<0.01				
4/3/2019					0.003 (J)	<0.01	0.0023 (J)
4/4/2019	<0.01						
9/24/2019			<0.01	0.00041 (J)			
9/25/2019					0.0052 (J)		
9/26/2019	<0.01	0.00081 (J)				<0.01	0.0013 (J)
3/2/2020			<0.01		0.0042 (J)		
3/3/2020						0.00044 (J)	0.0015 (J)
3/4/2020	<0.01	0.0027 (J)		0.0013 (J)			
3/26/2020					0.0044 (J)		
3/27/2020		<0.01				0.00059 (J)	
3/30/2020			0.001 (J)				0.0021 (J)
3/31/2020				0.0007 (J)			
4/2/2020	<0.01						

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	0.028	<0.005					
10/19/2016	<0.005	0.0201	<0.005					
12/6/2016	<0.005	0.0184	<0.005					
1/24/2017	<0.005	0.0206	<0.005					
3/21/2017	<0.005	0.0251	<0.005					
5/22/2017	<0.005	0.0263	<0.005					
4/2/2018	<0.005	0.019						
4/3/2018			<0.005					
3/12/2019	<0.005	0.017	<0.005					
3/13/2019					0.0011 (J)	<0.005		<0.005
3/14/2019				0.025			<0.005	
4/1/2019			<0.005					
4/2/2019	<0.005	0.019			<0.005			
4/3/2019				0.036			<0.005	<0.005
4/8/2019						0.00025 (J)		
9/23/2019	<0.005	0.038	<0.005					
9/25/2019					<0.005			
9/26/2019						0.0011 (J)		0.00053 (J)
9/27/2019				0.033			<0.005	
3/2/2020	<0.005	0.019	<0.005		<0.005			
3/3/2020							<0.005	
3/4/2020				0.048		0.00056 (J)		<0.005
3/25/2020	<0.005	0.02	<0.005					
3/26/2020				0.045			<0.005	
3/27/2020					<0.005			
3/30/2020						<0.005		
3/31/2020								0.0003 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.005	0.00057 (J)				
3/13/2019	<0.005				<0.005	0.00055 (J)	<0.005
4/2/2019		<0.005	0.00084 (J)				
4/3/2019					<0.005	<0.005	<0.005
4/4/2019	9.1E-05 (J)						
9/24/2019			0.0015 (J)	<0.005			
9/25/2019					<0.005		
9/26/2019	<0.005	<0.005				0.00036 (J)	<0.005
3/2/2020			0.00067 (J)		<0.005		
3/3/2020						0.00094 (J)	<0.005
3/4/2020	0.00045 (J)	0.00093 (J)		<0.005			
3/26/2020					<0.005		
3/27/2020		<0.005				0.00059 (J)	
3/30/2020			0.00063 (J)				<0.005
3/31/2020				<0.005			
4/2/2020	<0.005						

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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)	1.05 (U)	0.976 (U)					
10/19/2016	0.213 (U)	1.11 (U)	0.626 (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)					
3/21/2017	0.816 (U)	0.567 (U)	0.358 (U)					
5/22/2017	0.554 (U)	0.638 (U)	0.744 (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)					
10/1/2018	0.132 (U)	0.434 (U)	0.781 (U)					
3/12/2019	0.327 (U)	0.454 (U)	1.01 (U)					
3/13/2019					0.538 (U)	0.311 (U)		0.627 (U)
3/14/2019				0.347 (U)			1.28 (U)	
4/1/2019			0.76 (U)					
4/2/2019	0.739 (U)	0.651 (U)			1.02 (U)			
4/3/2019				0.884 (U)			0.662 (U)	0.205 (U)
4/8/2019						0.573 (U)		
9/25/2019					1.35 (U)			
9/26/2019						0.878 (U)		0.912 (U)
9/27/2019				0.534 (U)			0.945 (U)	
9/30/2019	0.306 (U)	1.04 (U)	0.384 (U)					
3/2/2020	0.61 (U)	1.58	0.249 (U)		0.653 (U)			
3/3/2020							1.36	
3/4/2020				1.04		0.333 (U)		1.27 (U)
3/25/2020	4.36	0.621 (U)	0.833 (U)					
3/26/2020				1.1 (U)			0.793 (U)	
3/27/2020					0.1 (U)			
3/30/2020						0.107 (U)		
3/31/2020								1.65

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		0.926 (U)	1.37				
3/13/2019	1.81				0.621 (U)	2.07	1.23
4/2/2019		0.479 (U)	0.62 (U)				
4/3/2019					0.932 (U)	0.872 (U)	1.05 (U)
4/4/2019	1.33						
9/24/2019			0.675 (U)	1.16			
9/25/2019					0.798 (U)		
9/26/2019	0.974 (U)	0.997 (U)				0.745 (U)	0.947 (U)
3/2/2020			0.413 (U)		0.964 (U)		
3/3/2020						0.757 (U)	1.15
3/4/2020	1.12	1.31		0.592 (U)			
3/26/2020					1.1		
3/27/2020		1.59				0.758 (U)	
3/30/2020			0.885 (U)				0.83 (U)
3/31/2020				1.27 (U)			
4/2/2020	2.48						

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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)	0.06 (J)	0.09 (J)					
10/19/2016	0.1 (J)	0.04 (J)	0.1 (J)					
12/6/2016	0.11 (J)	0.36	0.21 (J)					
1/24/2017	0.09 (J)	<0.3	0.06 (J)					
3/21/2017	0.13 (J)	<0.3	0.005 (J)					
5/22/2017	0.12 (J)	<0.3	0.05 (J)					
10/3/2017	0.13 (J)	<0.3	0.13 (J)					
4/2/2018	<0.3	<0.3						
4/3/2018			<0.3					
6/4/2018	0.074 (J)	<0.3	<0.3					
10/1/2018	<0.3	<0.3	<0.3					
3/12/2019	0.29 (J)	0.038 (J)	0.072 (J)					
3/13/2019					0.072 (J)	0.074 (J)		0.052 (J)
3/14/2019				0.35			2.2	
4/1/2019			0.029 (J)					
4/2/2019	0.1 (J)	0.071 (J)			<0.3			
4/3/2019				0.19 (J)			1.6	0.044 (J)
4/8/2019						0.048 (J)		
9/23/2019	0.078 (J)	<0.3	<0.3					
9/25/2019					<0.3			
9/26/2019						0.18 (J)		0.19 (J)
9/27/2019				0.53			1.5	
3/2/2020	0.076 (J)	<0.3	<0.3		<0.3			
3/3/2020							1.4	
3/4/2020				0.096 (J)		0.051 (J)		0.052 (J)
3/25/2020	0.098 (J)	<0.3	<0.3					
3/26/2020				0.12 (J)			1.6	
3/27/2020					<0.3			
3/30/2020						0.064 (J)		
3/31/2020								<0.3

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
3/12/2019		0.24 (J)	0.07 (J)					
3/13/2019	0.28 (J)					0.1 (J)	0.19 (J)	0.069 (J)
4/2/2019		0.18 (J)	0.045 (J)					
4/3/2019						0.049 (J)	0.15 (J)	<0.3
4/4/2019	0.26 (J)							
9/24/2019			0.18 (J)	5.7				
9/25/2019						0.076 (J)		
9/26/2019	0.42	0.22 (J)					0.19 (J)	0.17 (J)
11/26/2019				10.3				
3/2/2020			<0.3			0.065 (J)		
3/3/2020							0.062 (J)	<0.3
3/4/2020	0.25 (J)	0.26 (J)		9.4				
3/26/2020						0.082 (J)		
3/27/2020		0.26 (J)					<0.3	
3/30/2020			<0.3					<0.3
3/31/2020				10.5				
4/2/2020	0.24 (J)							
5/11/2020					0.88			
5/19/2020					1.3			

Time Series

Constituent: Lead (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	<0.005	<0.005	<0.005					
7/11/2016	<0.005	<0.005						
7/12/2016			0.0001 (J)					
8/30/2016	<0.005	<0.005	<0.005					
10/19/2016	<0.005	<0.005	<0.005					
12/6/2016	<0.005	<0.005	<0.005					
1/24/2017	<0.005	<0.005	<0.005					
3/21/2017	<0.005	6E-05 (J)	0.0001 (J)					
5/22/2017	<0.005	9E-05 (J)	<0.005					
4/2/2018	<0.005	<0.005						
4/3/2018			<0.005					
3/12/2019	<0.005	<0.005	<0.005					
3/13/2019					<0.005	<0.005		<0.005
3/14/2019				<0.005			<0.005	
9/23/2019	7.8E-05 (J)	9.2E-05 (J)	<0.005					
3/2/2020	4.8E-05 (J)	9.5E-05 (J)	<0.005		0.00017 (J)			
3/3/2020							<0.005	
3/4/2020				0.00011 (J)		0.00019 (J)		<0.005
3/25/2020	<0.005	0.00011 (J)	<0.005					
3/26/2020				<0.005			<0.005	
3/27/2020					0.00013 (J)			
3/30/2020						6.4E-05 (J)		
3/31/2020								0.0001 (J)

Time Series

Constituent: Lead (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.005	<0.005				
3/13/2019	<0.005				<0.005	<0.005	<0.005
3/2/2020			9E-05 (J)		4.7E-05 (J)		
3/3/2020						0.00013 (J)	6.2E-05 (J)
3/4/2020	<0.005	0.001 (J)		0.00041 (J)			
3/26/2020					<0.005		
3/27/2020		6.2E-05 (J)				<0.005	
3/30/2020			0.00011 (J)				<0.005
3/31/2020				6.7E-05 (J)			
4/2/2020	0.00013 (J)						

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	0.0025 (J)					
10/19/2016	<0.03	<0.03	0.003 (J)					
12/6/2016	<0.03	<0.03	0.0033 (J)					
1/24/2017	<0.03	<0.03	0.003 (J)					
3/21/2017	<0.03	0.0012 (J)	0.0034 (J)					
5/22/2017	<0.03	<0.03	0.003 (J)					
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)					
10/1/2018	0.00099 (J)	0.0013 (J)	0.0032 (J)					
3/12/2019	0.001 (J)	0.0018 (J)	0.0032 (J)					
3/13/2019					0.0016 (J)	0.0029 (J)		0.0033 (J)
3/14/2019				0.0089 (J)			0.05	
4/1/2019			0.0032 (J)					
4/2/2019	0.001 (J)	0.0018 (J)			0.0015 (J)			
4/3/2019				0.0061 (J)			0.047 (J)	0.0034 (J)
4/8/2019						0.0027 (J)		
9/23/2019	0.0011 (J)	0.0016 (J)	0.0029 (J)					
9/25/2019					<0.03			
9/26/2019						0.003 (J)		0.0041 (J)
9/27/2019				0.013 (J)			0.047	
3/2/2020	0.0012 (J)	0.0017 (J)	0.0037 (J)		0.00082 (J)			
3/3/2020							0.05	
3/4/2020				0.01 (J)		0.0026 (J)		0.03 (J)
3/25/2020	0.00083 (J)	0.0017 (J)	0.0035 (J)					
3/26/2020				0.013 (J)			0.054	
3/27/2020					0.0012 (J)			
3/30/2020						0.0027 (J)		
3/31/2020								0.0036 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		0.011 (J)	0.0024 (J)				
3/13/2019	0.0097 (J)				<0.03	<0.03	<0.03
4/2/2019		0.0052 (J)	0.0021 (J)				
4/3/2019					<0.03	<0.03	<0.03
4/4/2019	0.0069 (J)						
9/24/2019			0.0022 (J)	0.16			
9/25/2019					<0.03		
9/26/2019	0.0055 (J)	0.0055 (J)				<0.03	<0.03
11/26/2019				0.23			
3/2/2020			0.0025 (J)		<0.03		
3/3/2020						<0.03	<0.03
3/4/2020	0.0047 (J)	0.015 (J)		0.18			
3/26/2020					<0.03		
3/27/2020		0.014 (J)				<0.03	
3/30/2020			0.0023 (J)				<0.03
3/31/2020				0.25			
4/2/2020	0.0068 (J)						

Time Series

Constituent: Mercury (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	<0.0005	<0.0005	<0.0005					
7/11/2016	<0.0005	<0.0005						
7/12/2016			<0.0005					
8/30/2016	4E-05 (J)	4E-05 (J)	<0.0005					
10/19/2016	<0.0005	<0.0005	<0.0005					
12/6/2016	<0.0005	<0.0005	<0.0005					
1/24/2017	<0.0005	<0.0005	<0.0005					
3/21/2017	<0.0005	<0.0005	<0.0005					
5/22/2017	<0.0005	<0.0005	<0.0005					
4/2/2018	<0.0005	<0.0005						
4/3/2018			<0.0005					
3/12/2019	<0.0005	<0.0005	<0.0005					
3/13/2019					<0.0005	<0.0005		<0.0005
3/14/2019				<0.0005			<0.0005	
3/2/2020	<0.0005	<0.0005	<0.0005		<0.0005			
3/3/2020							<0.0005	
3/4/2020				<0.0005		<0.0005		<0.0005

Time Series

Constituent: Mercury (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.0005	<0.0005				
3/13/2019	<0.0005				<0.0005	<0.0005	<0.0005
3/2/2020			<0.0005		<0.0005		
3/3/2020						<0.0005	<0.0005
3/4/2020	<0.0005	<0.0005		<0.0005			

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	<0.01	<0.01					
10/19/2016	<0.01	<0.01	<0.01					
12/6/2016	<0.01	<0.01	<0.01					
1/24/2017	<0.01	<0.01	<0.01					
3/21/2017	<0.01	<0.01	<0.01					
5/22/2017	<0.01	<0.01	<0.01					
4/2/2018	<0.01	<0.01						
4/3/2018			<0.01					
6/4/2018	<0.01	<0.01	<0.01					
10/1/2018	<0.01	<0.01	<0.01					
3/12/2019	<0.01	<0.01	<0.01					
3/13/2019					<0.01	<0.01		<0.01
3/14/2019				0.057			0.0022 (J)	
4/1/2019			<0.01					
4/2/2019	<0.01	<0.01			<0.01			
4/3/2019				0.04			<0.01	0.0083 (J)
4/8/2019						0.00027 (J)		
9/23/2019	<0.01	<0.01	<0.01					
9/25/2019					<0.01			
9/26/2019						<0.01		0.017
9/27/2019				0.063			<0.01	
11/25/2019								0.02
3/2/2020	<0.01	<0.01	<0.01		<0.01			
3/3/2020							<0.01	
3/4/2020				0.032		<0.01		0.0074 (J)
3/25/2020	<0.01	<0.01	<0.01					
3/26/2020				0.033			<0.01	
3/27/2020					<0.01			
3/30/2020						<0.01		
3/31/2020								0.0093 (J)

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
3/12/2019		0.013	0.0038 (J)					
3/13/2019	<0.01					<0.01	0.0021 (J)	<0.01
4/2/2019		0.028	0.0028 (J)					
4/3/2019						<0.01	0.0021 (J)	<0.01
4/4/2019	0.0018 (J)							
7/8/2019				0.022				
9/24/2019			0.0021 (J)	0.036				
9/25/2019						<0.01		
9/26/2019	0.0042 (J)	0.017					0.0026 (J)	0.0033 (J)
11/26/2019				0.041				
3/2/2020			0.0025 (J)			<0.01		
3/3/2020							0.0022 (J)	<0.01
3/4/2020	0.0058 (J)	0.009 (J)		0.021				
3/26/2020						<0.01		
3/27/2020		0.0068 (J)					0.0026 (J)	
3/30/2020			0.0029 (J)					<0.01
3/31/2020				0.015				
4/2/2020	0.003 (J)							
5/11/2020					0.014			
5/19/2020					0.014			

Time Series

Constituent: pH (s.u.) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	5.63	7.43					
10/19/2016	7.02	5.46	7.03					
12/6/2016	7.09	5.38	7.08					
1/24/2017	7.2	5.37	7.39					
3/21/2017	7.01	4.9	6.83					
5/22/2017	7.11	5.2	7.02					
10/3/2017	7.21	5.3	7.47					
4/2/2018	7.1	5.4						
4/3/2018			7.38					
6/4/2018	7.06	5.27	7.38					
10/1/2018	7.09	5.31	7.13					
3/12/2019	7.03	5.42	7.29					
3/13/2019					6.75	7.58		7.4
3/14/2019				6.48			7.67	
4/1/2019			7.16					
4/2/2019	6.86	5.41			6.7			
4/3/2019				6.14			7.56	7.25
4/8/2019						7.47		
9/23/2019	7.02	5.33	7.3					
9/25/2019					6.75			
9/26/2019						7.5		7.16
9/27/2019				6.33			7.57	
3/2/2020	7.1	5.43	7.12		6.98			
3/3/2020							7.59	
3/4/2020				6.29		7.47		7.14
3/25/2020	6.95	5.36	7.4					
3/26/2020				6.28			7.57	
3/27/2020					6.75			
3/30/2020						7.49		
3/31/2020								7.2

Time Series

Constituent: pH (s.u.) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
3/12/2019		7.46	7.2					
3/13/2019	7.78					6.16	6.86	6.37
4/2/2019		7.4	6.91					
4/3/2019						5.96	6.77	6.19
4/4/2019	7.63							
9/24/2019			6.86	7.85				
9/25/2019						6.37		
9/26/2019	7.46	7.4					6.76	6.5
3/2/2020			7.13			6.12		
3/3/2020							6.78	6.1
3/4/2020	8.33	7.55		8.12				
3/26/2020						6.14		
3/27/2020		7.42					6.82	
3/30/2020			7.07					6.06
3/31/2020				7.95				
4/2/2020	8.11							
4/9/2020				8.27				
5/11/2020					7.77			

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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	<0.01	<0.01					
10/19/2016	<0.01	<0.01	<0.01					
12/6/2016	<0.01	<0.01	<0.01					
1/24/2017	<0.01	<0.01	<0.01					
3/21/2017	<0.01	<0.01	<0.01					
5/22/2017	<0.01	<0.01	<0.01					
4/2/2018	<0.01	<0.01						
4/3/2018			<0.01					
6/4/2018	<0.01	<0.01	<0.01					
10/1/2018	<0.01	<0.01	<0.01					
3/12/2019	<0.01	<0.01	<0.01					
3/13/2019					<0.01	<0.01		<0.01
3/14/2019				<0.01			<0.01	
4/1/2019			<0.01					
4/2/2019	<0.01	<0.01			<0.01			
4/3/2019				0.007 (J)			<0.01	<0.01
4/8/2019						<0.01		
9/23/2019	<0.01	<0.01	<0.01					
9/25/2019					<0.01			
9/26/2019						<0.01		<0.01
9/27/2019				0.0013 (J)			<0.01	
3/2/2020	<0.01	<0.01	<0.01		<0.01			
3/3/2020							<0.01	
3/4/2020				0.0044 (J)		<0.01		<0.01
3/25/2020	<0.01	<0.01	<0.01					
3/26/2020				0.0053 (J)			<0.01	
3/27/2020					<0.01			
3/30/2020						<0.01		
3/31/2020								<0.01

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.01	<0.01				
3/13/2019	<0.01				0.0033 (J)	<0.01	0.0016 (J)
4/2/2019		<0.01	<0.01				
4/3/2019					0.0027 (J)	<0.01	<0.01
4/4/2019	0.00012 (J)						
9/24/2019			<0.01	<0.01			
9/25/2019					0.0021 (J)		
9/26/2019	<0.01	<0.01				<0.01	0.0014 (J)
3/2/2020			<0.01		0.0041 (J)		
3/3/2020						<0.01	<0.01
3/4/2020	<0.01	<0.01		<0.01			
3/26/2020					0.0039 (J)		
3/27/2020		<0.01				<0.01	
3/30/2020			<0.01				0.0014 (J)
3/31/2020				<0.01			
4/2/2020	<0.01						

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	66.9	48.6	42.3					
7/11/2016	41	45						
7/12/2016			44					
8/30/2016	36	42	40					
10/19/2016	46	44	43					
12/6/2016	59	44	43					
1/24/2017	46	46	48					
3/21/2017	63	46	45					
5/22/2017	77	48	46					
10/3/2017	42	47	48					
6/4/2018	71.8	47.8	46.6					
10/1/2018	49.1	48.1	48.6					
4/1/2019			50.4					
4/2/2019	84.3	48.7			122			
4/3/2019				105			53	131
4/8/2019						97.3		
9/23/2019	70.2	47.2	43.9					
9/25/2019					112			
9/26/2019						91		189
9/27/2019				170			48	
3/25/2020	85.9	46.3	50.5					
3/26/2020				310			32.3	
3/27/2020					114			
3/30/2020						84.9		
3/31/2020								129

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
4/2/2019		67.7	151					
4/3/2019						218	228	75.3
4/4/2019	11.8							
9/24/2019			154	756				
9/25/2019						134		
9/26/2019	15.6	96.2					225	129
3/26/2020						176		
3/27/2020		36					204	
3/30/2020			130					46.2
3/31/2020				139				
4/2/2020	13.3							
4/9/2020				399				
5/11/2020					58.9			
5/19/2020					54			

Time Series

Constituent: Thallium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
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					
10/19/2016	<0.001	<0.001	<0.001					
12/6/2016	<0.001	<0.001	<0.001					
1/24/2017	<0.001	<0.001	<0.001					
3/21/2017	<0.001	3E-05 (J)	<0.001					
5/22/2017	<0.001	<0.001	<0.001					
4/2/2018	<0.001	<0.001						
4/3/2018			<0.001					
6/4/2018	<0.001	<0.001	<0.001					
10/1/2018	<0.001	<0.001	<0.001					
3/12/2019	<0.001	<0.001	<0.001					
3/13/2019					<0.001	<0.001		<0.001
3/14/2019				<0.001			<0.001	
4/1/2019			<0.001					
4/2/2019	<0.001	<0.001			<0.001			
4/3/2019				<0.001			<0.001	<0.001
4/8/2019						<0.001		
9/23/2019	<0.001	<0.001	<0.001					
9/25/2019					<0.001			
9/26/2019						<0.001		<0.001
9/27/2019				0.00027 (J)			<0.001	
3/2/2020	<0.001	<0.001	<0.001		<0.001			
3/3/2020							<0.001	
3/4/2020				0.00026 (J)		<0.001		<0.001
3/25/2020	<0.001	<0.001	<0.001					
3/26/2020				0.00026 (J)			<0.001	
3/27/2020					<0.001			
3/30/2020						<0.001		
3/31/2020								<0.001

Time Series

Constituent: Thallium (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6	MW-7
3/12/2019		<0.001	<0.001				
3/13/2019	<0.001				<0.001	<0.001	<0.001
4/2/2019		<0.001	<0.001				
4/3/2019					<0.001	<0.001	<0.001
4/4/2019	<0.001						
9/24/2019			6.4E-05 (J)	<0.001			
9/25/2019					<0.001		
9/26/2019	<0.001	<0.001				<0.001	<0.001
3/2/2020			<0.001		<0.001		
3/3/2020						8.2E-05 (J)	<0.001
3/4/2020	<0.001	9.2E-05 (J)		<0.001			
3/26/2020					<0.001		
3/27/2020		<0.001				<0.001	
3/30/2020			<0.001				<0.001
3/31/2020				<0.001			
4/2/2020	<0.001						

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	MW-19	MW-20	MW-24D	MW-25D	MW-26D
5/19/2016	421	143	267					
7/11/2016	363	125						
7/12/2016			249					
8/30/2016	330	168	254					
10/19/2016	380	176	357					
12/6/2016	377	145	285					
1/24/2017	342	129	300					
3/21/2017	340	103	288					
5/22/2017	338	92	263					
10/3/2017	343	127	300					
6/4/2018	415	140	266					
10/1/2018	354	135	291					
4/1/2019			284					
4/2/2019	452	133			435			
4/3/2019				310			15 (J)	493
4/8/2019						323		
9/23/2019	442	129	268					
9/25/2019					461			
9/26/2019						360		643
9/27/2019				442			409	
3/25/2020	496	138	284					
3/26/2020				626			385	
3/27/2020					429			
3/30/2020						280		
3/31/2020								623

Time Series

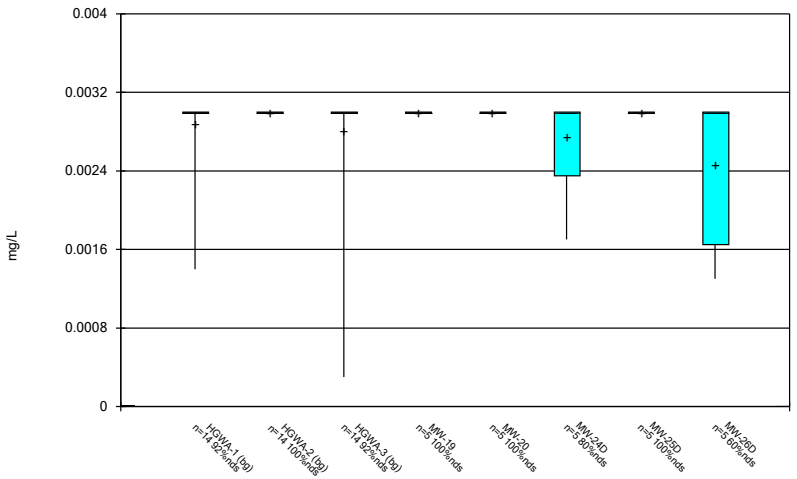
Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/16/2020 10:39 AM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5	MW-6	MW-7
4/2/2019		350	548					
4/3/2019						396	437	213
4/4/2019	203							
9/24/2019			603	1970				
9/25/2019						460		
9/26/2019	265	418					735	383
3/26/2020						385		
3/27/2020		287					676	
3/30/2020			552					142
3/31/2020				1130				
4/2/2020	224							
5/11/2020					350			
5/19/2020					621			

FIGURE B.

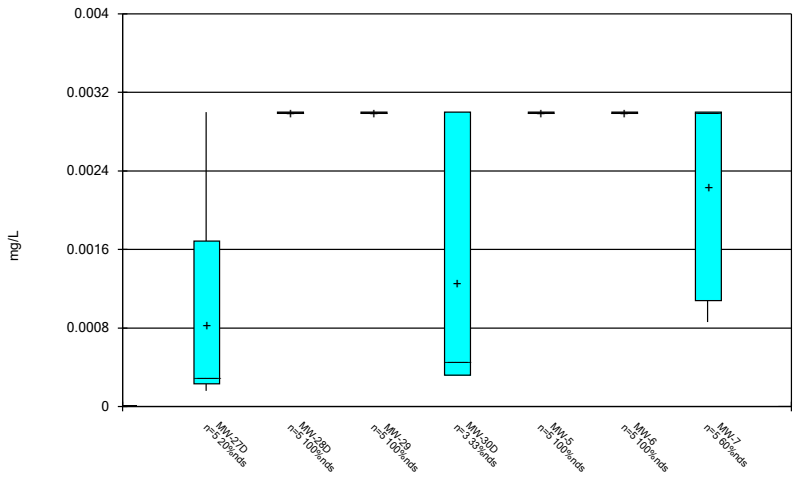
Box & Whiskers Plot



Constituent: Antimony Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

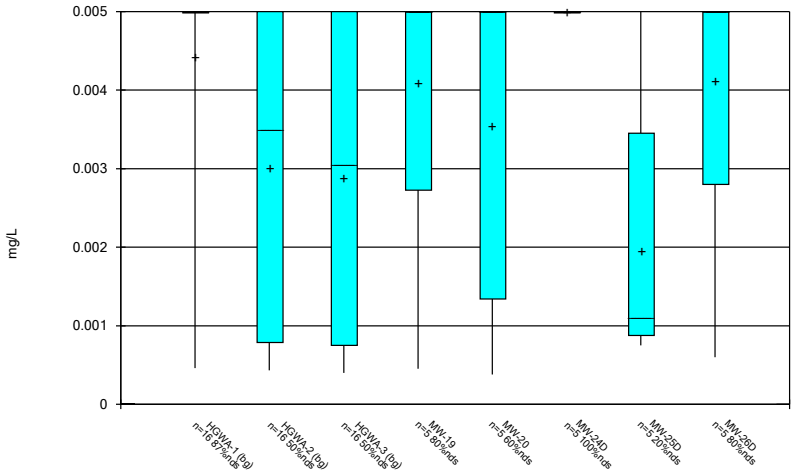
Box & Whiskers Plot



Constituent: Antimony Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

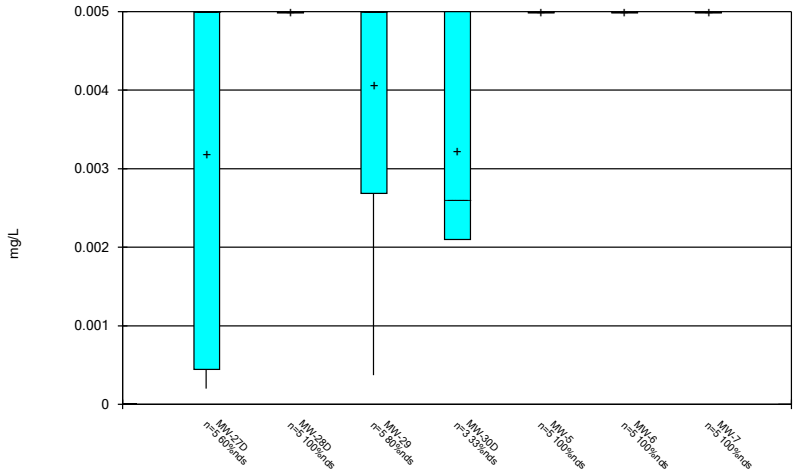
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

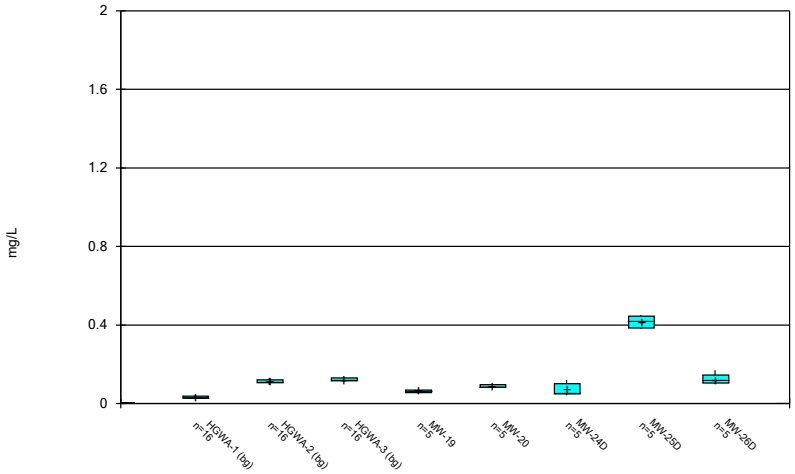
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Arsenic Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

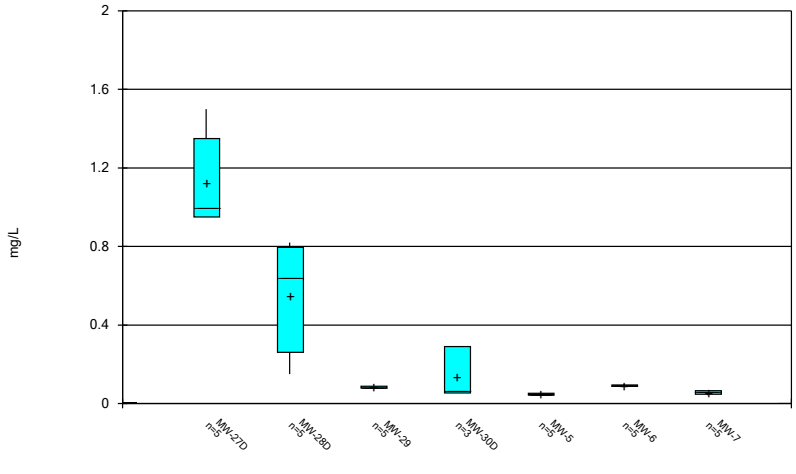
Box & Whiskers Plot



Constituent: Barium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

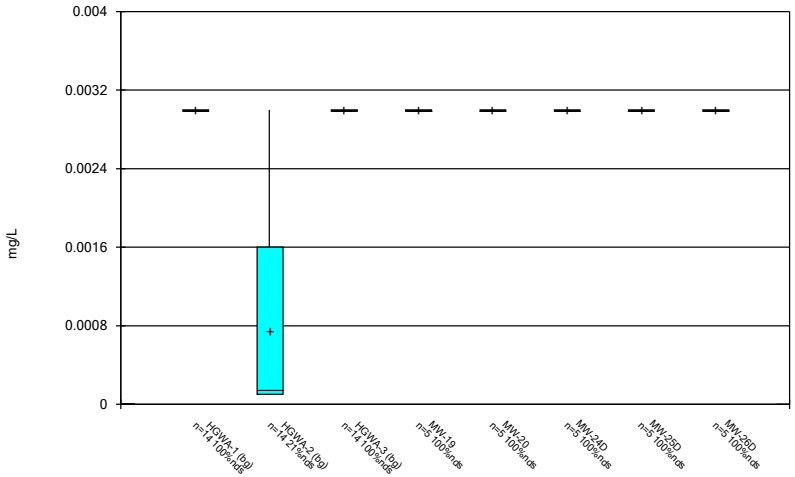
Box & Whiskers Plot



Constituent: Barium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

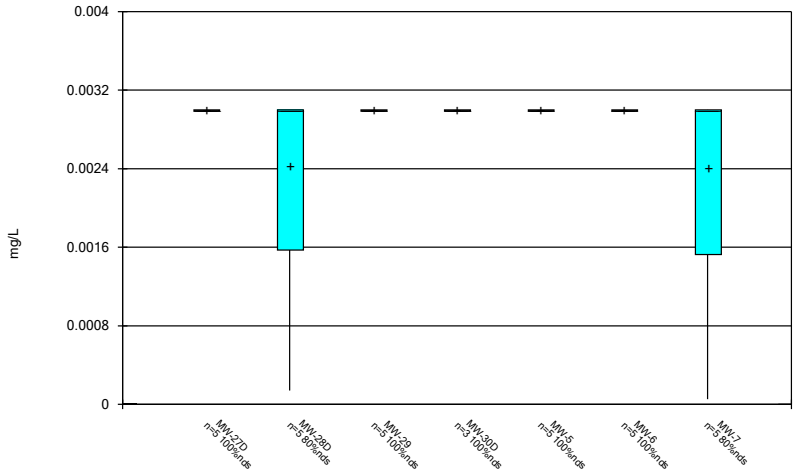
Box & Whiskers Plot



Constituent: Beryllium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

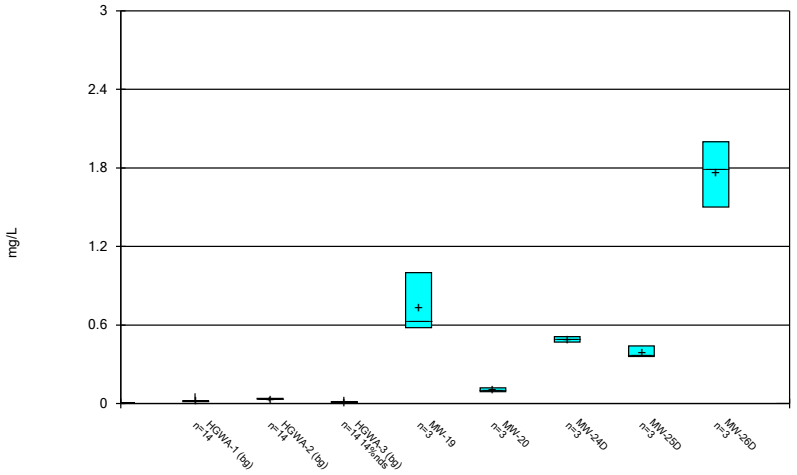
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Beryllium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

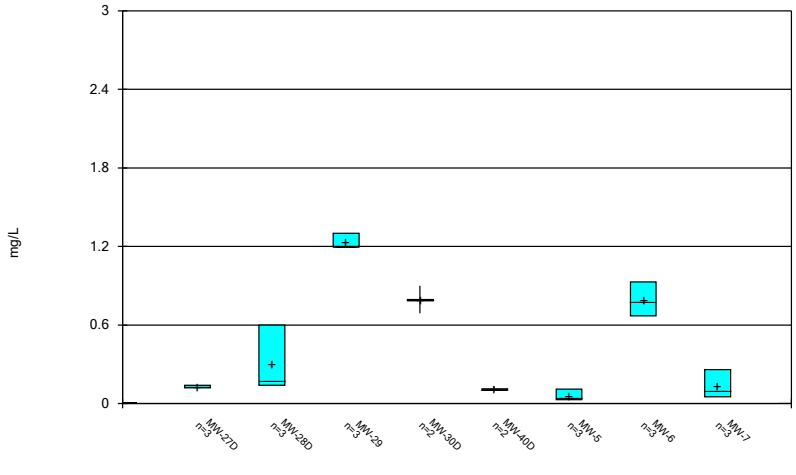
Box & Whiskers Plot



Constituent: Boron Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

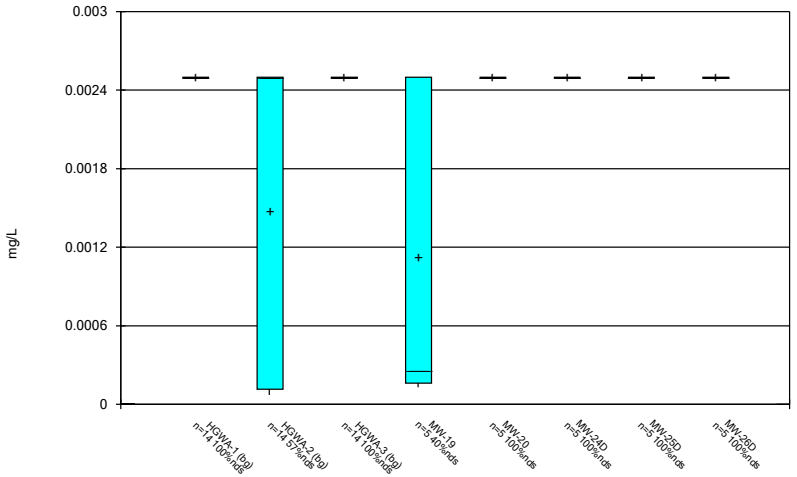
Box & Whiskers Plot



Constituent: Boron Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

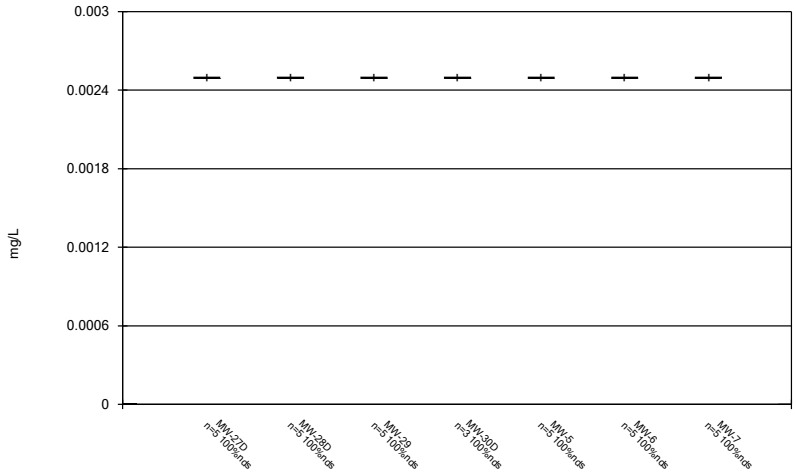
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

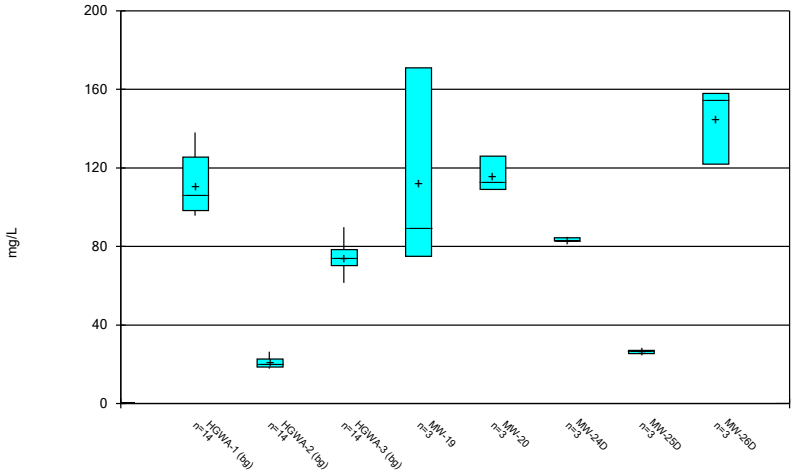
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Cadmium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

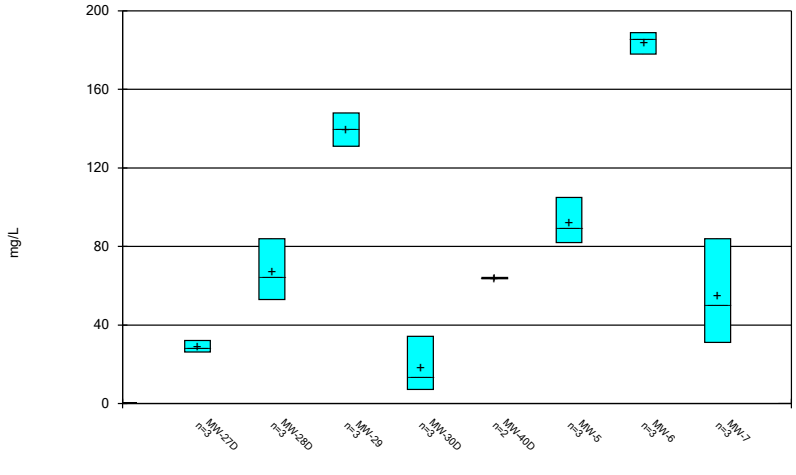
Box & Whiskers Plot



Constituent: Calcium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

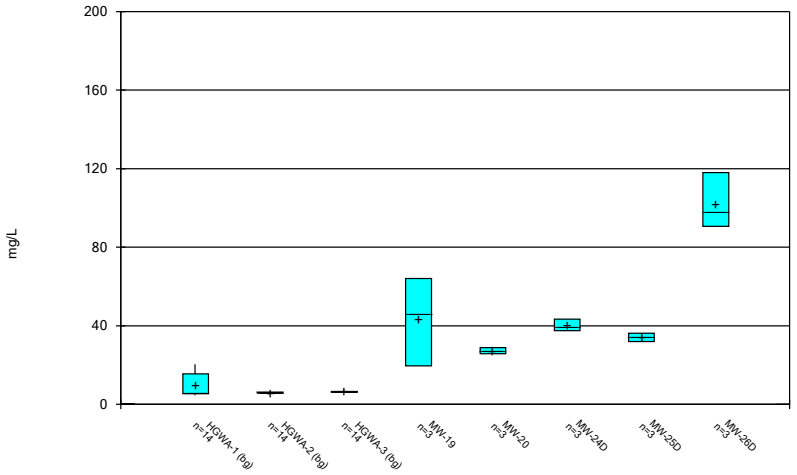
Box & Whiskers Plot



Constituent: Calcium Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

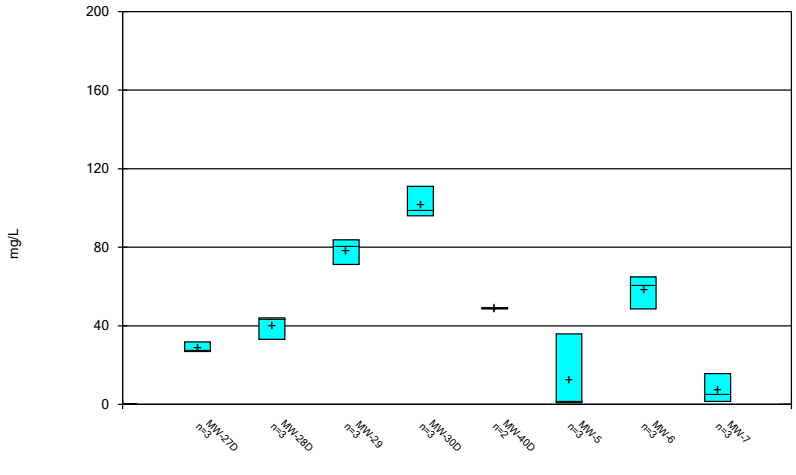
Box & Whiskers Plot



Constituent: Chloride Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

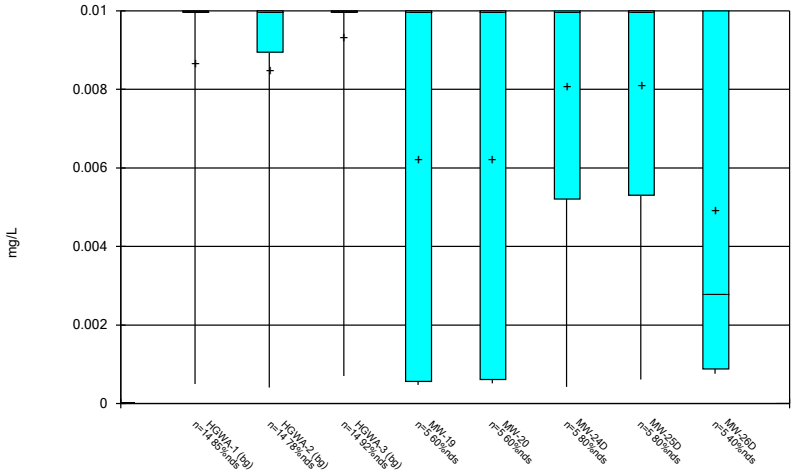
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Chloride Analysis Run 6/16/2020 10:42 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

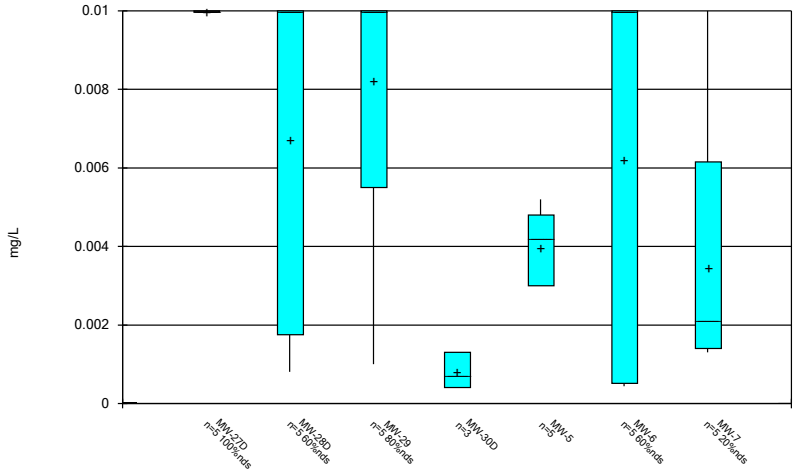
Box & Whiskers Plot



Constituent: Chromium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

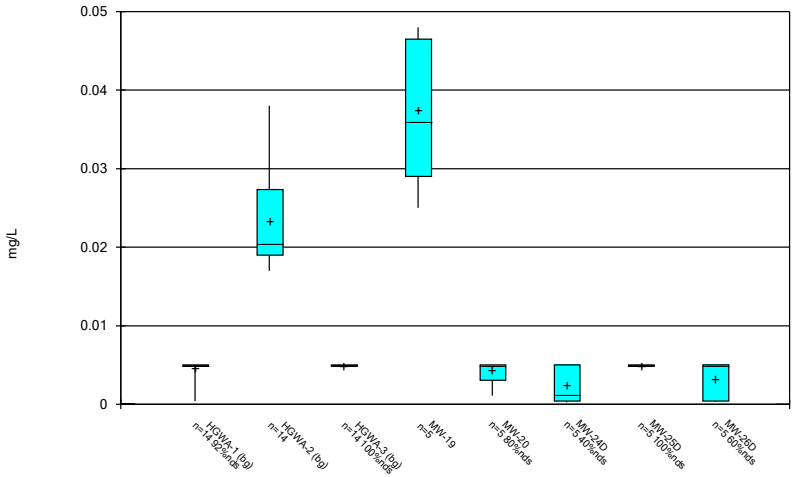
Box & Whiskers Plot



Constituent: Chromium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

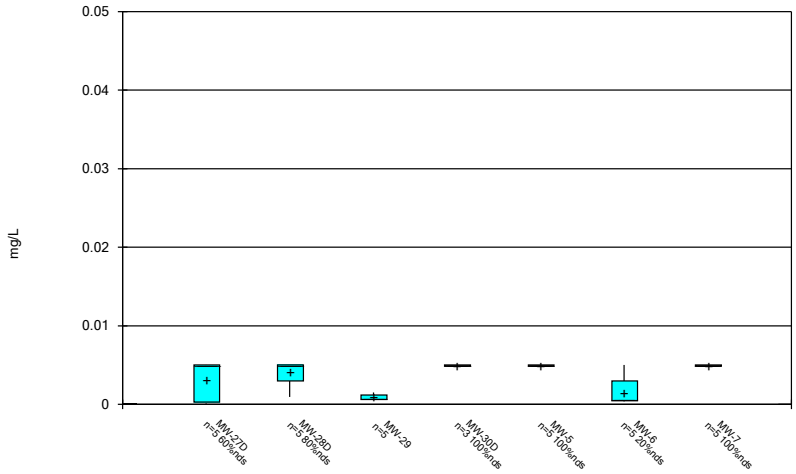
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

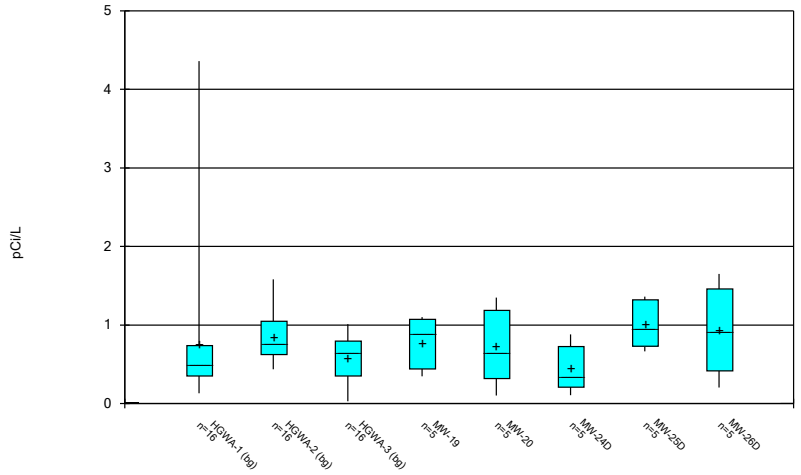
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Cobalt Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

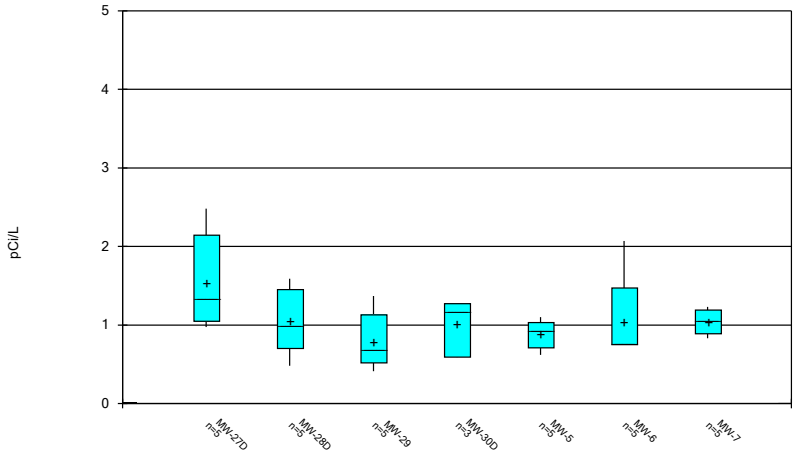
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

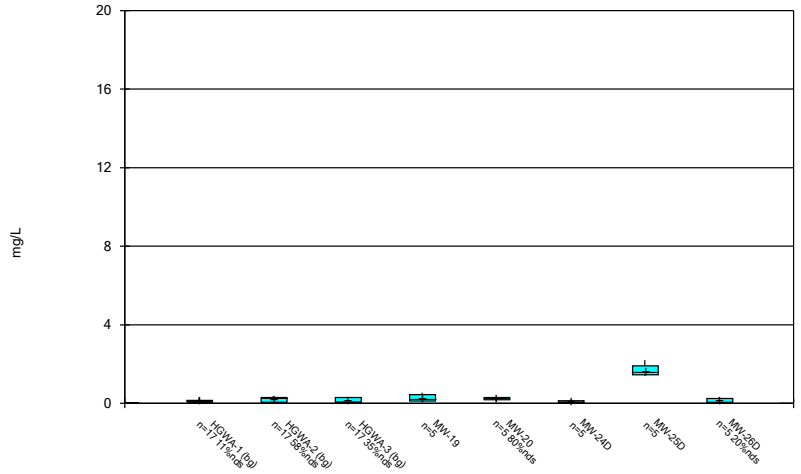
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

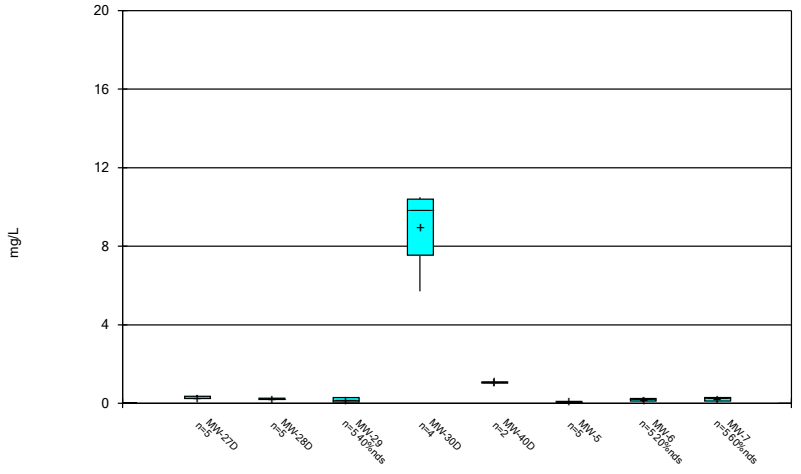
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

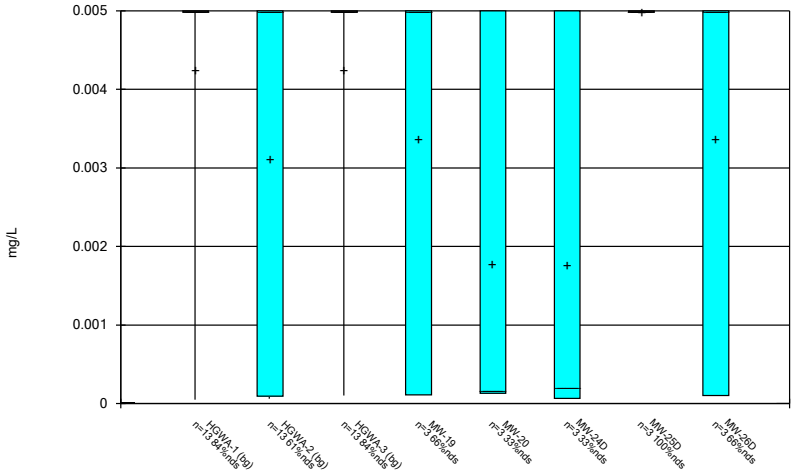
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

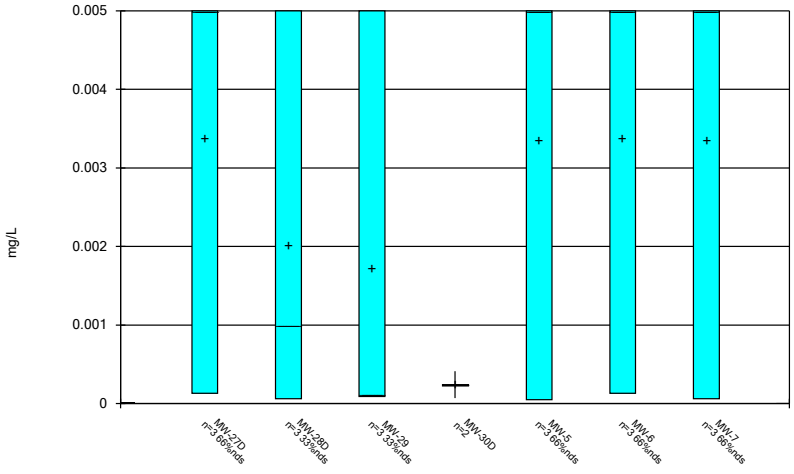
Box & Whiskers Plot



Constituent: Lead Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

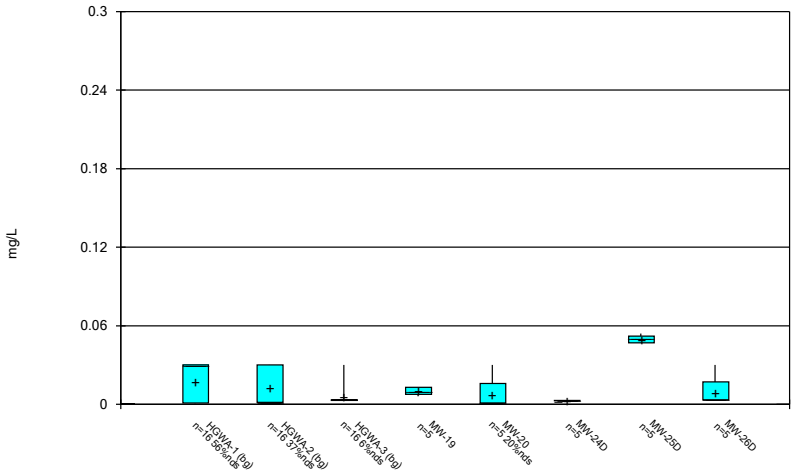
Box & Whiskers Plot



Constituent: Lead Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

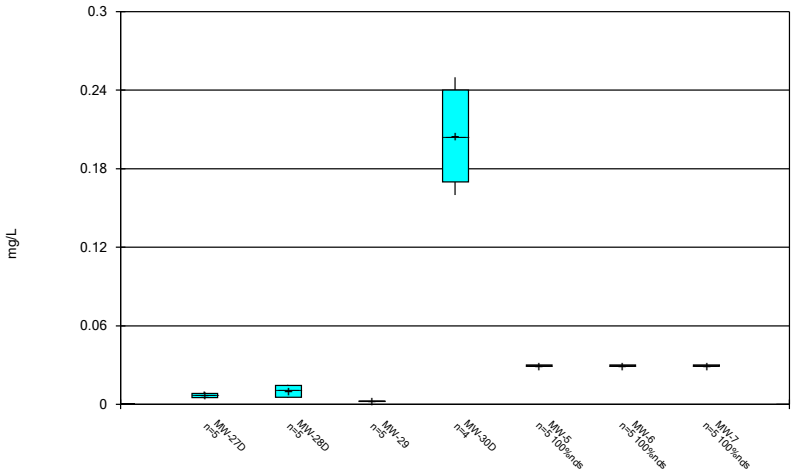
Box & Whiskers Plot



Constituent: Lithium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

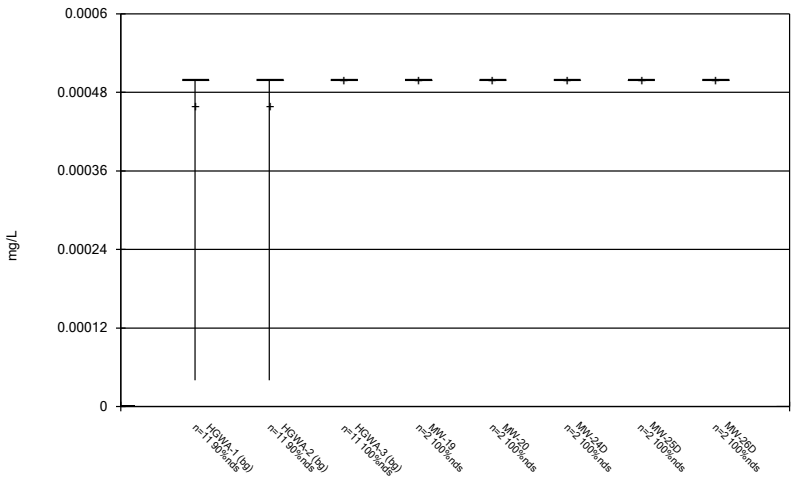
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Lithium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

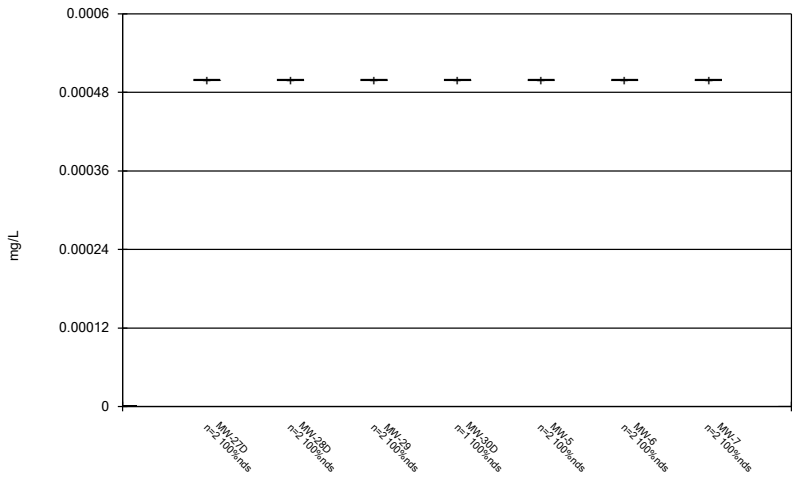
Box & Whiskers Plot



Constituent: Mercury Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

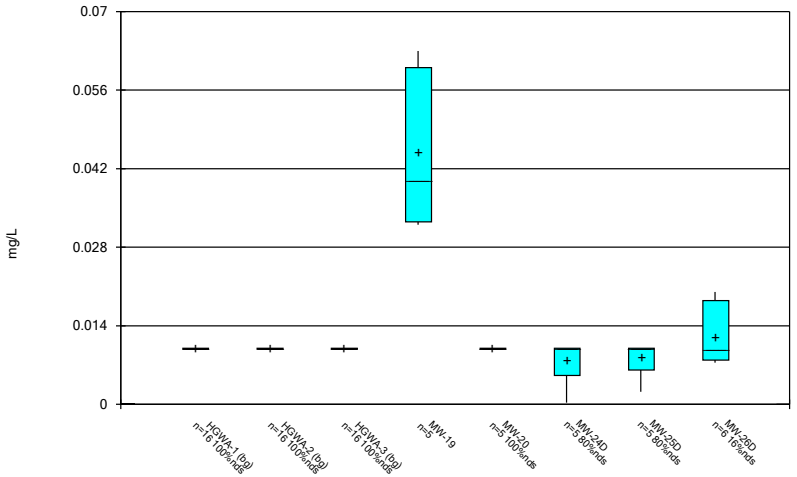
Box & Whiskers Plot



Constituent: Mercury Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

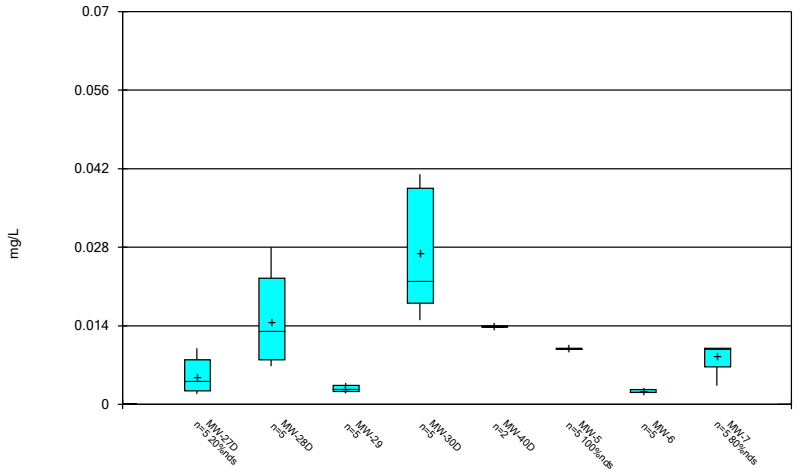
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

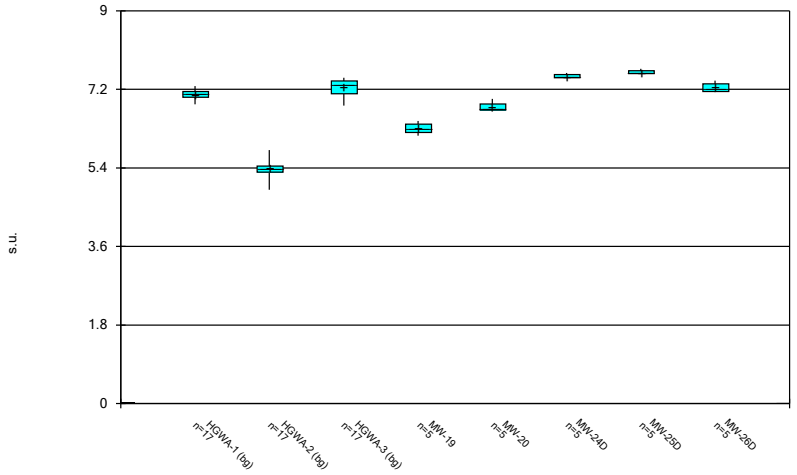
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

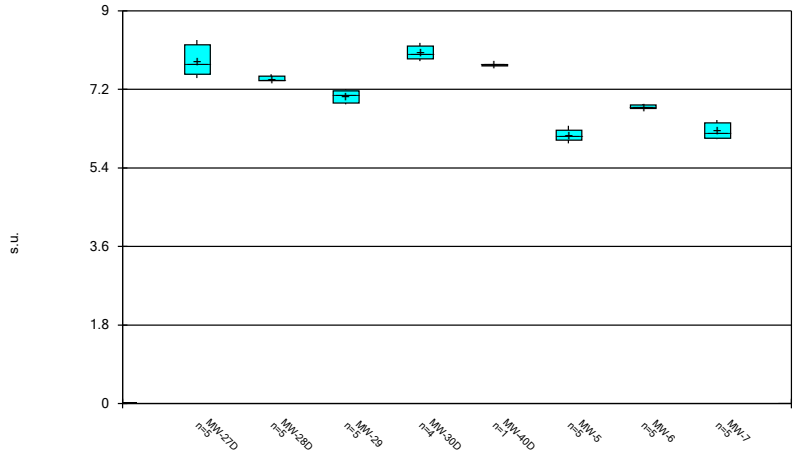
Box & Whiskers Plot



Constituent: pH Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

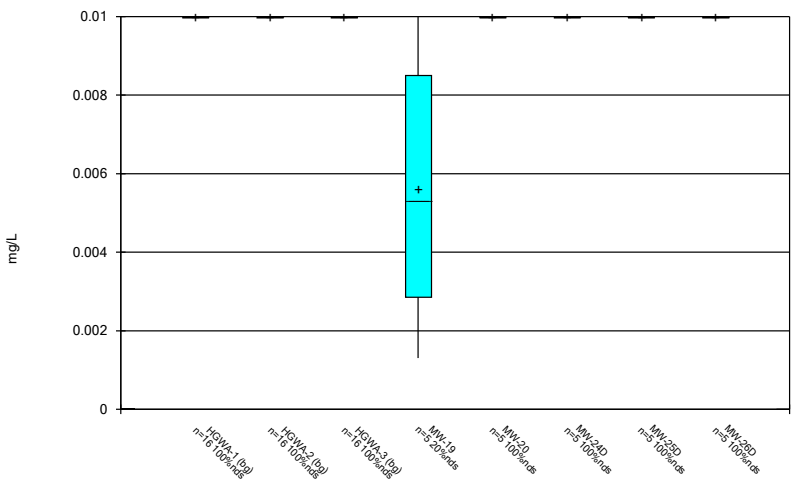
Box & Whiskers Plot



Constituent: pH Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

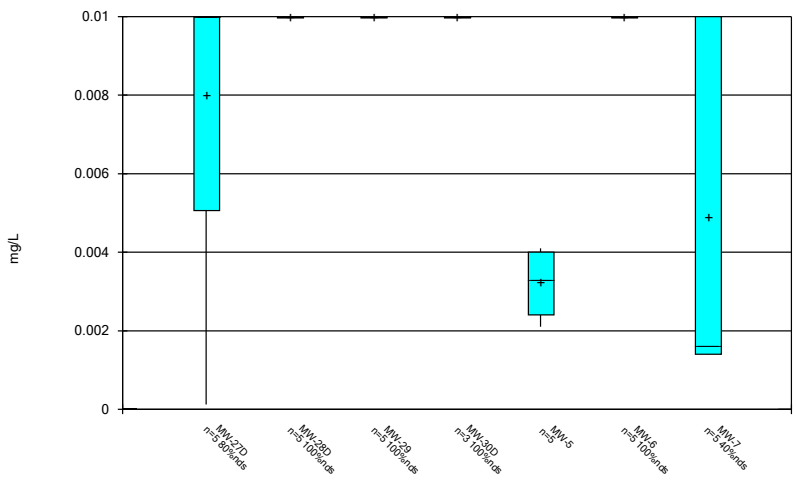
Box & Whiskers Plot



Constituent: Selenium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

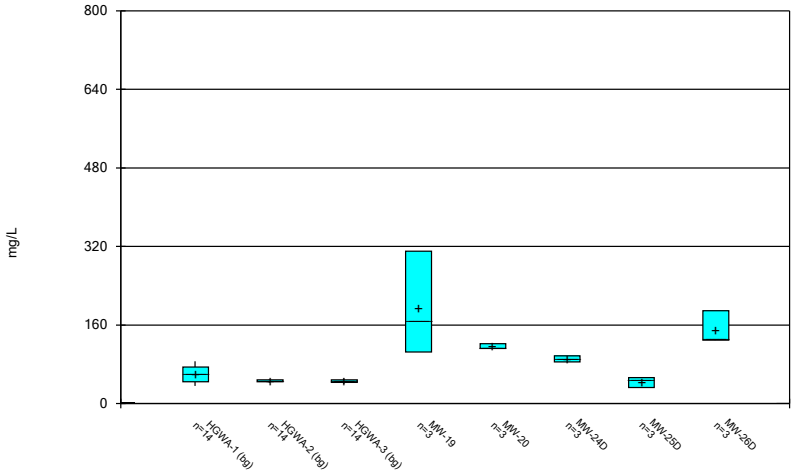
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Selenium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

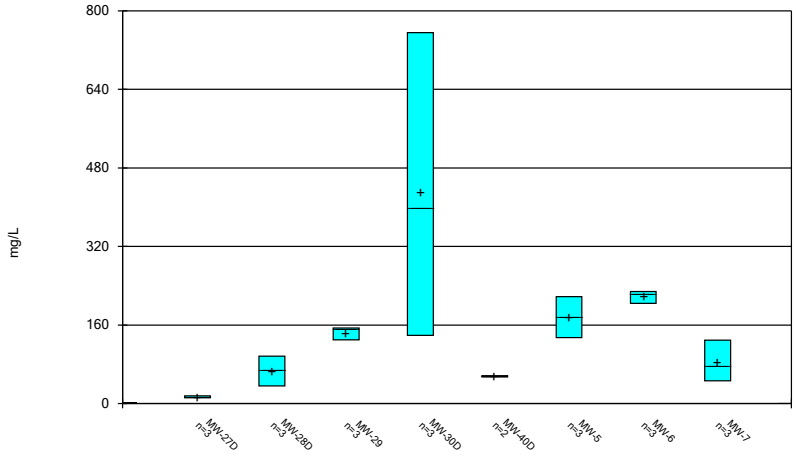
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

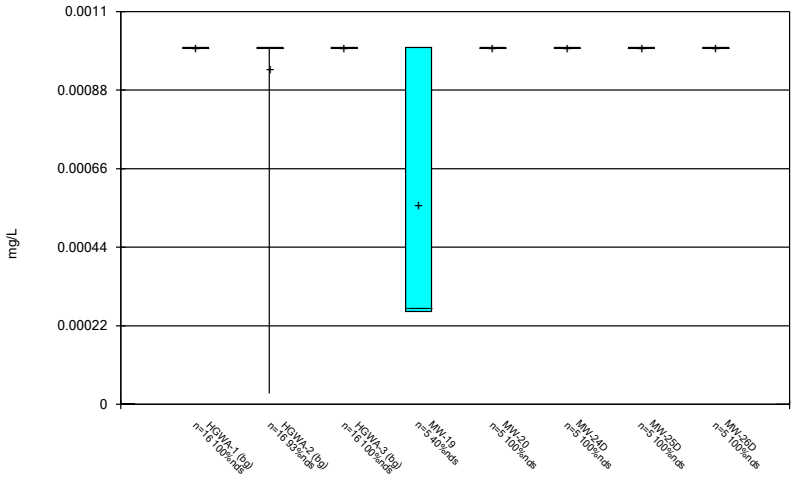
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

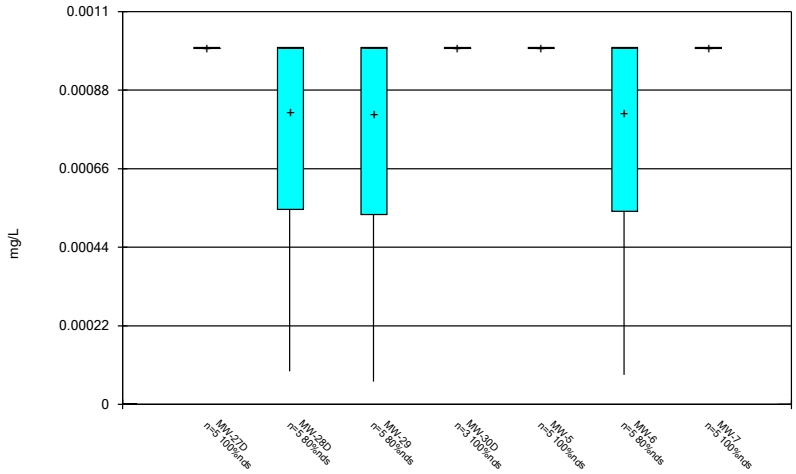
Box & Whiskers Plot



Constituent: Thallium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

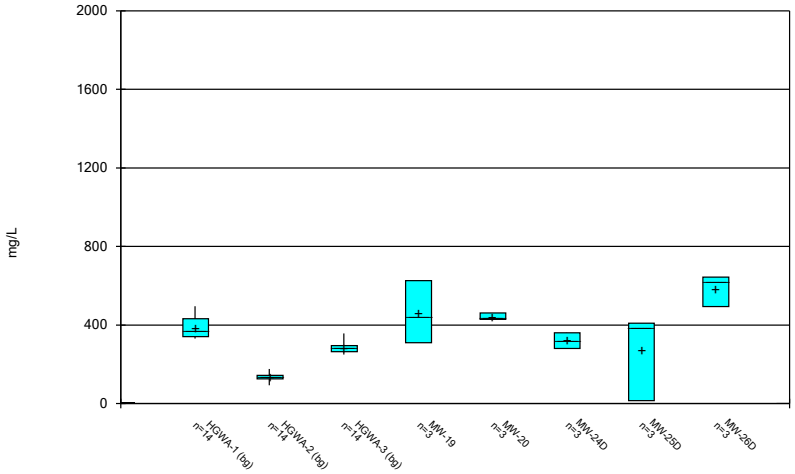
Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Thallium Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

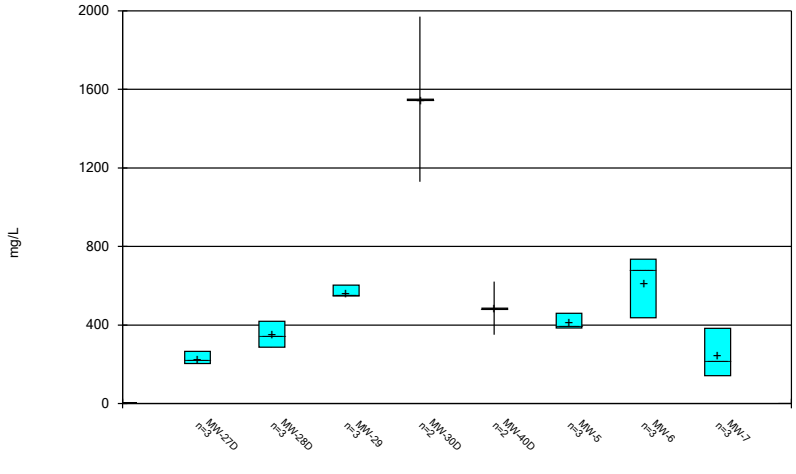
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 6/16/2020 10:43 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE C.

New Wells Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MW-19	0.0592	n/a	3/26/2020	1	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-20	0.0592	n/a	3/27/2020	0.12	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-24D	0.0592	n/a	3/30/2020	0.51	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-25D	0.0592	n/a	3/26/2020	0.44	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-26D	0.0592	n/a	3/31/2020	1.8	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-27D	0.0592	n/a	4/2/2020	0.13	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-28D	0.0592	n/a	3/27/2020	0.14	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-29	0.0592	n/a	3/30/2020	1.3	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-30D	0.0592	n/a	3/31/2020	0.9	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-40D	0.0592	n/a	5/19/2020	0.13	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	MW-6	0.0592	n/a	3/27/2020	0.77	Yes	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	MW-19	138	n/a	3/26/2020	171	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-26D	138	n/a	3/31/2020	155	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-29	138	n/a	3/30/2020	148	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-6	138	n/a	3/27/2020	186	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-19	20.4	n/a	3/26/2020	64	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-20	20.4	n/a	3/27/2020	28.8	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-24D	20.4	n/a	3/30/2020	37.4	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-25D	20.4	n/a	3/26/2020	34.6	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-26D	20.4	n/a	3/31/2020	98	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-27D	20.4	n/a	4/2/2020	27.9	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-28D	20.4	n/a	3/27/2020	33	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-29	20.4	n/a	3/30/2020	71.2	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-30D	20.4	n/a	4/9/2020	96	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-40D	20.4	n/a	5/19/2020	47.3	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	MW-6	20.4	n/a	3/27/2020	48.6	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-25D	0.36	n/a	3/26/2020	1.6	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-30D	0.36	n/a	3/31/2020	10.5	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-40D	0.36	n/a	5/19/2020	1.3	Yes	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
pH (s.u.)	MW-24D	7.47	4.9	3/30/2020	7.49	Yes	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-25D	7.47	4.9	3/26/2020	7.57	Yes	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-27D	7.47	4.9	4/2/2020	8.11	Yes	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-30D	7.47	4.9	4/9/2020	8.27	Yes	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-40D	7.47	4.9	5/11/2020	7.77	Yes	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-19	85.9	n/a	3/26/2020	310	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-20	85.9	n/a	3/27/2020	114	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-26D	85.9	n/a	3/31/2020	129	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-29	85.9	n/a	3/30/2020	130	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-30D	85.9	n/a	4/9/2020	399	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-5	85.9	n/a	3/26/2020	176	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-6	85.9	n/a	3/27/2020	204	Yes	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MW-19	483.4	n/a	3/26/2020	626	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-26D	483.4	n/a	3/31/2020	623	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-29	483.4	n/a	3/30/2020	552	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-30D	483.4	n/a	3/31/2020	1130	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-40D	483.4	n/a	5/19/2020	621	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-6	483.4	n/a	3/27/2020	676	Yes	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2

New Wells Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**MW-19**	**0.0592**	**n/a**	**3/26/2020**	**1**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-20**	**0.0592**	**n/a**	**3/27/2020**	**0.12**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-24D**	**0.0592**	**n/a**	**3/30/2020**	**0.51**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-25D**	**0.0592**	**n/a**	**3/26/2020**	**0.44**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-26D**	**0.0592**	**n/a**	**3/31/2020**	**1.8**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-27D**	**0.0592**	**n/a**	**4/2/2020**	**0.13**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-28D**	**0.0592**	**n/a**	**3/27/2020**	**0.14**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-29**	**0.0592**	**n/a**	**3/30/2020**	**1.3**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-30D**	**0.0592**	**n/a**	**3/31/2020**	**0.9**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**MW-40D**	**0.0592**	**n/a**	**5/19/2020**	**0.13**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	MW-5	0.0592	n/a	3/26/2020	0.041	No	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	**MW-6**	**0.0592**	**n/a**	**3/27/2020**	**0.77**	**Yes**	**42**	**0.1482**	**0.04839**	**4.762**	**None**	**sqrt(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	MW-7	0.0592	n/a	3/30/2020	0.051	No	42	0.1482	0.04839	4.762	None	sqrt(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	**MW-19**	**138**	**n/a**	**3/26/2020**	**171**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MW-20	138	n/a	3/27/2020	126	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-24D	138	n/a	3/30/2020	84.4	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-25D	138	n/a	3/26/2020	27	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MW-26D**	**138**	**n/a**	**3/31/2020**	**155**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MW-27D	138	n/a	4/2/2020	28.4	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-28D	138	n/a	3/27/2020	53	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MW-29**	**138**	**n/a**	**3/30/2020**	**148**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MW-30D	138	n/a	4/9/2020	13.4	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-40D	138	n/a	5/19/2020	65.9	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	MW-5	138	n/a	3/26/2020	89.6	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MW-6**	**138**	**n/a**	**3/27/2020**	**186**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MW-7	138	n/a	3/30/2020	31.1	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	**MW-19**	**20.4**	**n/a**	**3/26/2020**	**64**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-20**	**20.4**	**n/a**	**3/27/2020**	**28.8**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-24D**	**20.4**	**n/a**	**3/30/2020**	**37.4**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-25D**	**20.4**	**n/a**	**3/26/2020**	**34.6**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-26D**	**20.4**	**n/a**	**3/31/2020**	**98**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-27D**	**20.4**	**n/a**	**4/2/2020**	**27.9**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-28D**	**20.4**	**n/a**	**3/27/2020**	**33**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-29**	**20.4**	**n/a**	**3/30/2020**	**71.2**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-30D**	**20.4**	**n/a**	**4/9/2020**	**96**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**MW-40D**	**20.4**	**n/a**	**5/19/2020**	**47.3**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	MW-5	20.4	n/a	3/26/2020	0.73	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Chloride (mg/L)	**MW-6**	**20.4**	**n/a**	**3/27/2020**	**48.6**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	MW-7	20.4	n/a	3/30/2020	1.5	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-19	0.36	n/a	3/26/2020	0.12	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-20	0.36	n/a	3/27/2020	0.3ND	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-24D	0.36	n/a	3/30/2020	0.064	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**MW-25D**	**0.36**	**n/a**	**3/26/2020**	**1.6**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	MW-26D	0.36	n/a	3/31/2020	0.3ND	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-27D	0.36	n/a	4/2/2020	0.24	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-28D	0.36	n/a	3/27/2020	0.26	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-29	0.36	n/a	3/30/2020	0.3ND	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	**MW-30D**	**0.36**	**n/a**	**3/31/2020**	**10.5**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	**MW-40D**	**0.36**	**n/a**	**5/19/2020**	**1.3**	**Yes**	**51**	**n/a**	**n/a**	**35.29**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	MW-5	0.36	n/a	3/26/2020	0.082	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-6	0.36	n/a	3/27/2020	0.3ND	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MW-7	0.36	n/a	3/30/2020	0.3ND	No	51	n/a	n/a	35.29	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
pH (s.u.)	MW-19	7.47	4.9	3/26/2020	6.28	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-20	7.47	4.9	3/27/2020	6.75	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	**MW-24D**	**7.47**	**4.9**	**3/30/2020**	**7.49**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001432**	**NP Inter (normality) 1 of 2**
pH (s.u.)	**MW-25D**	**7.47**	**4.9**	**3/26/2020**	**7.57**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001432**	**NP Inter (normality) 1 of 2**

New Wells Interwell Prediction Limits - All Results

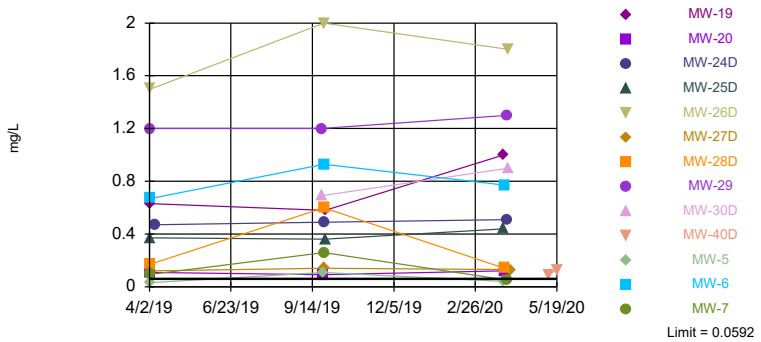
Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
pH (s.u.)	MW-26D	7.47	4.9	3/31/2020	7.2	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	**MW-27D**	**7.47**	**4.9**	**4/2/2020**	**8.11**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001432**	**NP Inter (normality) 1 of 2**
pH (s.u.)	MW-28D	7.47	4.9	3/27/2020	7.42	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-29	7.47	4.9	3/30/2020	7.07	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	**MW-30D**	**7.47**	**4.9**	**4/9/2020**	**8.27**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001432**	**NP Inter (normality) 1 of 2**
pH (s.u.)	**MW-40D**	**7.47**	**4.9**	**5/11/2020**	**7.77**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001432**	**NP Inter (normality) 1 of 2**
pH (s.u.)	MW-5	7.47	4.9	3/26/2020	6.14	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-6	7.47	4.9	3/27/2020	6.82	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
pH (s.u.)	MW-7	7.47	4.9	3/30/2020	6.06	No	51	n/a	n/a	0	n/a	n/a	0.001432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**MW-19**	**85.9**	**n/a**	**3/26/2020**	**310**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**MW-20**	**85.9**	**n/a**	**3/27/2020**	**114**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MW-24D	85.9	n/a	3/30/2020	84.9	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-25D	85.9	n/a	3/26/2020	32.3	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**MW-26D**	**85.9**	**n/a**	**3/31/2020**	**129**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MW-27D	85.9	n/a	4/2/2020	13.3	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MW-28D	85.9	n/a	3/27/2020	36	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**MW-29**	**85.9**	**n/a**	**3/30/2020**	**130**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**MW-30D**	**85.9**	**n/a**	**4/9/2020**	**399**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MW-40D	85.9	n/a	5/19/2020	54	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**MW-5**	**85.9**	**n/a**	**3/26/2020**	**176**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**MW-6**	**85.9**	**n/a**	**3/27/2020**	**204**	**Yes**	**42**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.001046**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MW-7	85.9	n/a	3/30/2020	46.2	No	42	n/a	n/a	0	n/a	n/a	0.001046	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	**MW-19**	**483.4**	**n/a**	**3/26/2020**	**626**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	MW-20	483.4	n/a	3/27/2020	429	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-24D	483.4	n/a	3/30/2020	280	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-25D	483.4	n/a	3/26/2020	385	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**MW-26D**	**483.4**	**n/a**	**3/31/2020**	**623**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	MW-27D	483.4	n/a	4/2/2020	224	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	MW-28D	483.4	n/a	3/27/2020	287	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**MW-29**	**483.4**	**n/a**	**3/30/2020**	**552**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**MW-30D**	**483.4**	**n/a**	**3/31/2020**	**1130**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**MW-40D**	**483.4**	**n/a**	**5/19/2020**	**621**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	MW-5	483.4	n/a	3/26/2020	385	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**MW-6**	**483.4**	**n/a**	**3/27/2020**	**676**	**Yes**	**42**	**267.4**	**109.9**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	MW-7	483.4	n/a	3/30/2020	142	No	42	267.4	109.9	0	None	No	0.001075	Param Inter 1 of 2

Exceeds Limit: MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW -29, MW-30D, MW-40D, MW-6

Prediction Limit

Interwell Parametric



Background Data Summary (based on square root transformation): Mean=0.1482, Std. Dev.=0.04839, n=42, 4.762% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.922. Kappa = 1.966 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 13 points to limit.

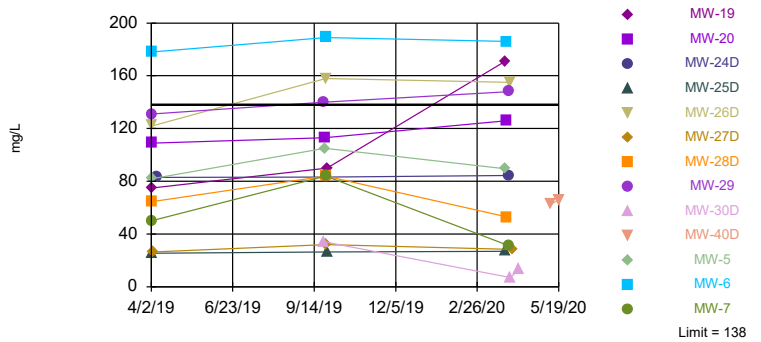
Constituent: Boron Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: MW-19, MW-26D, MW-29, MW-6

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 13 points to limit.

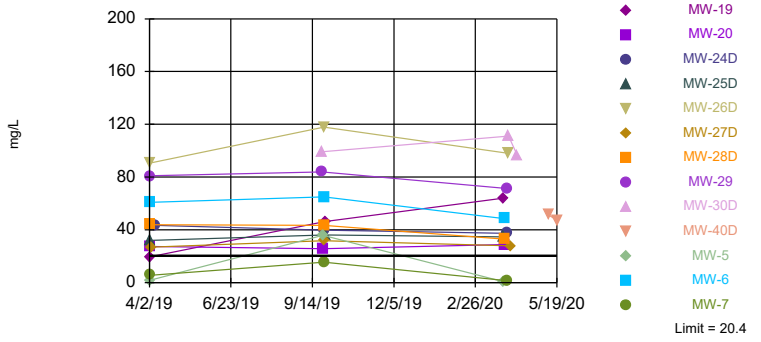
Constituent: Calcium Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW -29, MW-30D, MW-40D, MW-6

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 13 points to limit.

Constituent: Chloride Analysis Run 6/12/2020 3:30 PM View: New Wells

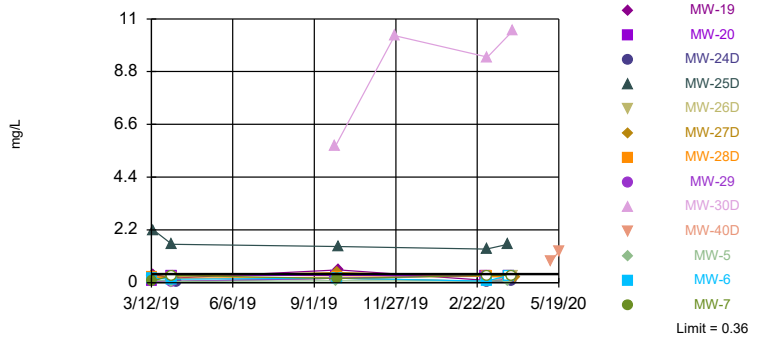
Plant Hammond Client: Southern Company Data: Hammond AP-1

Hollow symbols indicate censored values.

Exceeds Limit: MW-25D, MW-30D, MW-40D

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 51 background values. 35.29% NDs. Annual per-constituent alpha = 0.009975. Individual comparison alpha = 0.0007158 (1 of 2). Comparing 13 points to limit.

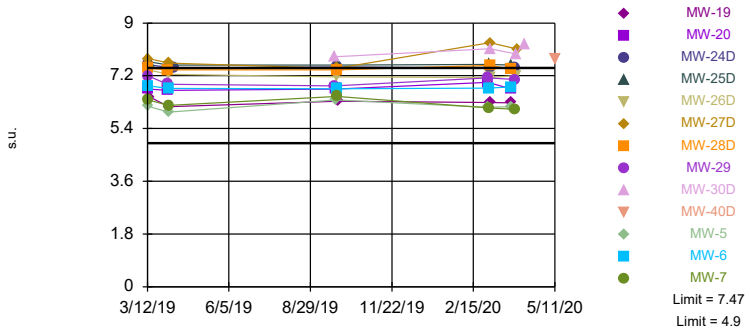
Constituent: Fluoride Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limits: MW-24D, MW-25D, MW-27D, MW-30D, MW-40D

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 51 background values. Annual per-constituent alpha = 0.01995. Individual comparison alpha = 0.001432 (1 of 2). Comparing 13 points to limit.

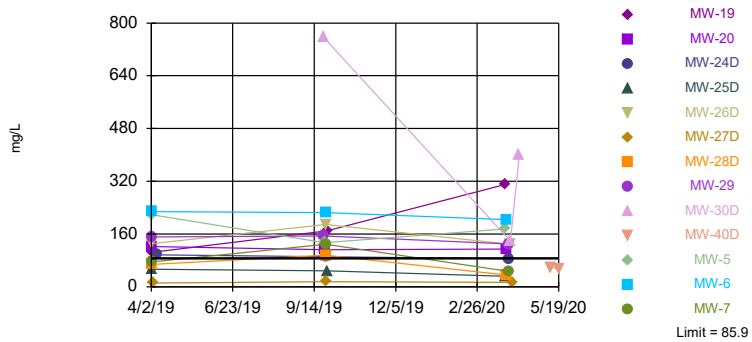
Constituent: pH Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: MW-19, MW-20, MW-26D, MW-29, MW-30D, MW-5, MW-6

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 42 background values. Annual per-constituent alpha = 0.01455. Individual comparison alpha = 0.001046 (1 of 2). Comparing 13 points to limit.

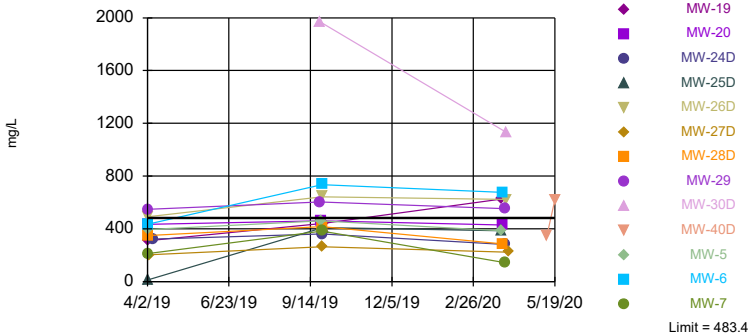
Constituent: Sulfate Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Exceeds Limit: MW-19, MW-26D, MW-29, MW-30D, MW-40D, MW-6

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=267.4, Std. Dev.=109.9, n=42. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9318, critical = 0.922. Kappa = 1.966 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 13 points to limit.

Constituent: Total Dissolved Solids Analysis Run 6/12/2020 3:30 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-20	MW-5	MW-6	MW-26D
5/19/2016	0.0214 (J)	<0.1	0.0321 (J)						
7/11/2016	0.0142 (J)		0.0337 (J)						
7/12/2016		0.0074 (J)							
8/30/2016	0.0074 (J)	<0.1	0.0173 (J)						
10/19/2016	0.0224 (J)	0.0085 (J)	0.0341 (J)						
12/6/2016	0.0211 (J)	0.0085 (J)	0.0326 (J)						
1/24/2017	0.0165 (J)	0.01 (J)	0.0365 (J)						
3/21/2017	0.0187 (J)	0.0079 (J)	0.0349 (J)						
5/22/2017	0.0782	0.0131 (J)	0.0475						
10/3/2017	0.0198 (J)	0.0097 (J)	0.0386 (J)						
6/4/2018	0.02 (J)	0.017 (J)	0.036 (J)						
10/1/2018	0.013 (J)	0.0061 (J)	0.035 (J)						
4/1/2019		0.0066 (J)							
4/2/2019	0.016 (J)		0.034 (J)	1.2	0.17	0.11			
4/3/2019							0.03 (J)	0.67	1.5
4/4/2019									
4/8/2019									
9/23/2019	0.021 (J)	0.0081 (J)	0.04 (J)						
9/24/2019				1.2					
9/25/2019						0.091	0.11		
9/26/2019					0.6			0.93	2
9/27/2019									
3/25/2020	0.025 (J)	0.0096 (J)	0.039 (J)						
3/26/2020							0.041 (J)		
3/27/2020					0.14	0.12		0.77	
3/30/2020				1.3					
3/31/2020									1.8
4/2/2020									
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-19	MW-25D	MW-7	MW-27D	MW-24D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
6/4/2018							
10/1/2018							
4/1/2019							
4/2/2019							
4/3/2019	0.63	0.37	0.094				
4/4/2019				0.12 (J)			
4/8/2019					0.47 (J)		
9/23/2019							
9/24/2019						0.69	
9/25/2019							
9/26/2019			0.26	0.14	0.49		
9/27/2019	0.58	0.36					
3/25/2020							
3/26/2020	1	0.44					
3/27/2020							
3/30/2020			0.051 (J)		0.51		
3/31/2020						0.9	
4/2/2020				0.13			
5/11/2020							0.093 (J)
5/19/2020							0.13

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-20	MW-5	MW-6	MW-26D
5/19/2016	138	76.2	22.9						
7/11/2016	97.2		22.3						
7/12/2016		61.5							
8/30/2016	97.5	65.1	26.4						
10/19/2016	99.2	73.2	21.7						
12/6/2016	105	74.9	18.2						
1/24/2017	95.7	69.6	18.5						
3/21/2017	106	75.7	18.6						
5/22/2017	107	71.5	17.8						
10/3/2017	102	76.3	20.2						
6/4/2018	124	73.4	19.1						
10/1/2018	108	80.9	20.5 (J)						
4/1/2019		80.5							
4/2/2019	132		22.5 (J)	131	64.6	109			
4/3/2019							82	178	122
4/4/2019									
4/8/2019									
9/23/2019	118	71	19.5						
9/24/2019				140					
9/25/2019						113	105		
9/26/2019					84			189	158
9/27/2019									
3/25/2020	127	89.8	23						
3/26/2020							89.6		
3/27/2020					53	126		186	
3/30/2020				148					
3/31/2020									155
4/2/2020									
4/9/2020									
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-19	MW-25D	MW-7	MW-27D	MW-24D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
6/4/2018							
10/1/2018							
4/1/2019							
4/2/2019							
4/3/2019	74.9	25.4	50.2				
4/4/2019				26.3			
4/8/2019					83		
9/23/2019							
9/24/2019						34.2	
9/25/2019							
9/26/2019			83.9	32.1	83.1		
9/27/2019	90	26.4					
3/25/2020							
3/26/2020	171	27					
3/27/2020							
3/30/2020			31.1		84.4		
3/31/2020						7.1	
4/2/2020				28.4			
4/9/2020						13.4	
5/11/2020							62.6
5/19/2020							65.9

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-20	MW-5	MW-6	MW-26D
5/19/2016	9.94	5.93	6.14						
7/11/2016	6.3		5.9						
7/12/2016		6.2							
8/30/2016	6	6.4	6.2						
10/19/2016	5.8	6.5	6.1						
12/6/2016	5.4	7.2	6						
1/24/2017	5.2	6.4	6.1						
3/21/2017	4.6	7.5	5.9						
5/22/2017	4.6	6.5	5.9						
10/3/2017	5.6	6.5	6.3						
6/4/2018	13.1	6.3	6.1						
10/1/2018	6.6	6.4	6.4						
4/1/2019		6.5							
4/2/2019	20.3		5.8	80.9	44	27.5			
4/3/2019							1.8	60.9	90.6
4/4/2019									
4/8/2019									
9/23/2019	17.7	5.9	5.1						
9/24/2019				83.8					
9/25/2019						25.7	35.9		
9/26/2019					43.5			64.9	118
9/27/2019									
3/25/2020	20.4	6.1	5.2						
3/26/2020							0.73 (J)		
3/27/2020					33	28.8		48.6	
3/30/2020				71.2					
3/31/2020									98
4/2/2020									
4/9/2020									
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-19	MW-25D	MW-7	MW-27D	MW-24D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
6/4/2018							
10/1/2018							
4/1/2019							
4/2/2019							
4/3/2019	19.5	32	5.6				
4/4/2019				26.9			
4/8/2019					43.3		
9/23/2019							
9/24/2019						99.2	
9/25/2019							
9/26/2019			15.6	31.8	39.7		
9/27/2019	46.2	36.2					
3/25/2020							
3/26/2020	64	34.6					
3/27/2020							
3/30/2020			1.5		37.4		
3/31/2020						111	
4/2/2020				27.9			
4/9/2020						96	
5/11/2020							51.2
5/19/2020							47.3

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-27D	MW-20	MW-7	MW-26D
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)						
10/19/2016	0.1 (J)	0.1 (J)	0.04 (J)						
12/6/2016	0.11 (J)	0.21 (J)	0.36						
1/24/2017	0.09 (J)	0.06 (J)	<0.3						
3/21/2017	0.13 (J)	0.005 (J)	<0.3						
5/22/2017	0.12 (J)	0.05 (J)	<0.3						
10/3/2017	0.13 (J)	0.13 (J)	<0.3						
4/2/2018	<0.3		<0.3						
4/3/2018		<0.3							
6/4/2018	0.074 (J)	<0.3	<0.3						
10/1/2018	<0.3	<0.3	<0.3						
3/12/2019	0.29 (J)	0.072 (J)	0.038 (J)	0.07 (J)	0.24 (J)				
3/13/2019						0.28 (J)	0.072 (J)	0.069 (J)	0.052 (J)
3/14/2019									
4/1/2019		0.029 (J)							
4/2/2019	0.1 (J)		0.071 (J)	0.045 (J)	0.18 (J)		<0.3		
4/3/2019								<0.3	0.044 (J)
4/4/2019						0.26 (J)			
4/8/2019									
9/23/2019	0.078 (J)	<0.3	<0.3						
9/24/2019				0.18 (J)					
9/25/2019							<0.3		
9/26/2019					0.22 (J)	0.42		0.17 (J)	0.19 (J)
9/27/2019									
11/26/2019									
3/2/2020	0.076 (J)	<0.3	<0.3	<0.3			<0.3		
3/3/2020								<0.3	
3/4/2020					0.26 (J)	0.25 (J)			0.052 (J)
3/25/2020	0.098 (J)	<0.3	<0.3						
3/26/2020									
3/27/2020					0.26 (J)		<0.3		
3/30/2020				<0.3				<0.3	
3/31/2020									<0.3
4/2/2020						0.24 (J)			
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-5	MW-24D	MW-6	MW-19	MW-25D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
4/2/2018							
4/3/2018							
6/4/2018							
10/1/2018							
3/12/2019							
3/13/2019	0.1 (J)	0.074 (J)	0.19 (J)				
3/14/2019				0.35	2.2		
4/1/2019							
4/2/2019							
4/3/2019	0.049 (J)		0.15 (J)	0.19 (J)	1.6		
4/4/2019							
4/8/2019		0.048 (J)					
9/23/2019							
9/24/2019						5.7	
9/25/2019	0.076 (J)						
9/26/2019		0.18 (J)	0.19 (J)				
9/27/2019				0.53	1.5		
11/26/2019						10.3	
3/2/2020	0.065 (J)						
3/3/2020			0.062 (J)		1.4		
3/4/2020		0.051 (J)		0.096 (J)		9.4	
3/25/2020							
3/26/2020	0.082 (J)			0.12 (J)	1.6		
3/27/2020			<0.3				
3/30/2020		0.064 (J)					
3/31/2020						10.5	
4/2/2020							
5/11/2020							0.88
5/19/2020							1.3

Prediction Limit

Constituent: pH (s.u.) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-5	MW-20	MW-7	MW-26D
5/19/2016	7.27	7.45	5.81						
7/11/2016	7.06		5.68						
7/12/2016		7.32							
8/30/2016	7.28	7.43	5.63						
10/19/2016	7.02	7.03	5.46						
12/6/2016	7.09	7.08	5.38						
1/24/2017	7.2	7.39	5.37						
3/21/2017	7.01	6.83	4.9						
5/22/2017	7.11	7.02	5.2						
10/3/2017	7.21	7.47	5.3						
4/2/2018	7.1		5.4						
4/3/2018		7.38							
6/4/2018	7.06	7.38	5.27						
10/1/2018	7.09	7.13	5.31						
3/12/2019	7.03	7.29	5.42	7.2	7.46				
3/13/2019						6.16	6.75	6.37	7.4
3/14/2019									
4/1/2019		7.16							
4/2/2019	6.86		5.41	6.91	7.4		6.7		
4/3/2019						5.96		6.19	7.25
4/4/2019									
4/8/2019									
9/23/2019	7.02	7.3	5.33						
9/24/2019				6.86					
9/25/2019						6.37	6.75		
9/26/2019					7.4			6.5	7.16
9/27/2019									
3/2/2020	7.1	7.12	5.43	7.13		6.12	6.98		
3/3/2020								6.1	
3/4/2020					7.55				7.14
3/25/2020	6.95	7.4	5.36						
3/26/2020						6.14			
3/27/2020					7.42		6.75		
3/30/2020				7.07				6.06	
3/31/2020									7.2
4/2/2020									
4/9/2020									
5/11/2020									

Prediction Limit

Constituent: pH (s.u.) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-27D	MW-24D	MW-6	MW-19	MW-25D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
4/2/2018							
4/3/2018							
6/4/2018							
10/1/2018							
3/12/2019							
3/13/2019	7.78	7.58	6.86				
3/14/2019				6.48	7.67		
4/1/2019							
4/2/2019							
4/3/2019			6.77	6.14	7.56		
4/4/2019	7.63						
4/8/2019		7.47					
9/23/2019							
9/24/2019						7.85	
9/25/2019							
9/26/2019	7.46	7.5	6.76				
9/27/2019				6.33	7.57		
3/2/2020							
3/3/2020			6.78		7.59		
3/4/2020	8.33	7.47		6.29		8.12	
3/25/2020							
3/26/2020				6.28	7.57		
3/27/2020			6.82				
3/30/2020		7.49					
3/31/2020						7.95	
4/2/2020	8.11						
4/9/2020						8.27	
5/11/2020							7.77

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-20	MW-5	MW-6	MW-26D
5/19/2016	66.9	42.3	48.6						
7/11/2016	41		45						
7/12/2016		44							
8/30/2016	36	40	42						
10/19/2016	46	43	44						
12/6/2016	59	43	44						
1/24/2017	46	48	46						
3/21/2017	63	45	46						
5/22/2017	77	46	48						
10/3/2017	42	48	47						
6/4/2018	71.8	46.6	47.8						
10/1/2018	49.1	48.6	48.1						
4/1/2019		50.4							
4/2/2019	84.3		48.7	151	67.7	122			
4/3/2019							218	228	131
4/4/2019									
4/8/2019									
9/23/2019	70.2	43.9	47.2						
9/24/2019				154					
9/25/2019						112	134		
9/26/2019					96.2			225	189
9/27/2019									
3/25/2020	85.9	50.5	46.3						
3/26/2020							176		
3/27/2020					36	114		204	
3/30/2020				130					
3/31/2020									129
4/2/2020									
4/9/2020									
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-19	MW-25D	MW-7	MW-27D	MW-24D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
6/4/2018							
10/1/2018							
4/1/2019							
4/2/2019							
4/3/2019	105	53	75.3				
4/4/2019				11.8			
4/8/2019					97.3		
9/23/2019							
9/24/2019						756	
9/25/2019							
9/26/2019			129	15.6	91		
9/27/2019	170	48					
3/25/2020							
3/26/2020	310	32.3					
3/27/2020							
3/30/2020			46.2		84.9		
3/31/2020						139	
4/2/2020				13.3			
4/9/2020						399	
5/11/2020							58.9
5/19/2020							54

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	MW-29	MW-28D	MW-20	MW-5	MW-6	MW-26D
5/19/2016	421	267	143						
7/11/2016	363		125						
7/12/2016		249							
8/30/2016	330	254	168						
10/19/2016	380	357	176						
12/6/2016	377	285	145						
1/24/2017	342	300	129						
3/21/2017	340	288	103						
5/22/2017	338	263	92						
10/3/2017	343	300	127						
6/4/2018	415	266	140						
10/1/2018	354	291	135						
4/1/2019		284							
4/2/2019	452		133	548	350	435			
4/3/2019							396	437	493
4/4/2019									
4/8/2019									
9/23/2019	442	268	129						
9/24/2019				603					
9/25/2019						461	460		
9/26/2019					418			735	643
9/27/2019									
3/25/2020	496	284	138						
3/26/2020							385		
3/27/2020					287	429		676	
3/30/2020				552					
3/31/2020									623
4/2/2020									
5/11/2020									
5/19/2020									

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/12/2020 3:31 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-19	MW-25D	MW-7	MW-27D	MW-24D	MW-30D	MW-40D
5/19/2016							
7/11/2016							
7/12/2016							
8/30/2016							
10/19/2016							
12/6/2016							
1/24/2017							
3/21/2017							
5/22/2017							
10/3/2017							
6/4/2018							
10/1/2018							
4/1/2019							
4/2/2019							
4/3/2019	310	15 (J)	213				
4/4/2019				203			
4/8/2019					323		
9/23/2019							
9/24/2019						1970	
9/25/2019							
9/26/2019			383	265	360		
9/27/2019	442	409					
3/25/2020							
3/26/2020	626	385					
3/27/2020							
3/30/2020			142		280		
3/31/2020						1130	
4/2/2020				224			
5/11/2020							350
5/19/2020							621

FIGURE D.

Tolerance Limit Summary Table - Appendix IV

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/3/2020, 3:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	42	n/a	n/a	95.24	n/a	n/a	0.116	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.005	n/a	48	n/a	n/a	62.5	n/a	n/a	0.08526	NP Inter(normality)
Barium (mg/L)	n/a	0.14	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Beryllium (mg/L)	n/a	0.003	n/a	42	n/a	n/a	73.81	n/a	n/a	0.116	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Chromium (mg/L)	n/a	0.01	n/a	42	n/a	n/a	85.71	n/a	n/a	0.116	NP Inter(NDs)
Cobalt (mg/L)	n/a	0.038	n/a	42	n/a	n/a	64.29	n/a	n/a	0.116	NP Inter(normality)
Combined Radium 226 + 228 (pCi/L)	n/a	4.36	n/a	48	n/a	n/a	0	n/a	n/a	0.08526	NP Inter(normality)
Fluoride (mg/L)	n/a	0.36	n/a	51	n/a	n/a	35.29	n/a	n/a	0.0731	NP Inter(normality)
Lead (mg/L)	n/a	0.005	n/a	39	n/a	n/a	76.92	n/a	n/a	0.1353	NP Inter(NDs)
Lithium (mg/L)	n/a	0.03	n/a	48	n/a	n/a	33.33	n/a	n/a	0.08526	NP Inter(normality)
Mercury (mg/L)	n/a	0.0005	n/a	33	n/a	n/a	93.94	n/a	n/a	0.184	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Selenium (mg/L)	n/a	0.01	n/a	48	n/a	n/a	100	n/a	n/a	0.08526	NP Inter(NDs)
Thallium (mg/L)	n/a	0.001	n/a	48	n/a	n/a	97.92	n/a	n/a	0.08526	NP Inter(NDs)

FIGURE E.

PLANT HAMMOND AP-1 GWPS - FEDERAL				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

FIGURE F.

PLANT HAMMOND AP-1 GWPS - STATE				
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		0.14	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.36	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

FIGURE G.

Federal Confidence Intervals - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:48 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	**MW-25D**	**0.05443**	**0.04477**	**0.04**	**Yes**	**5**	**0.0496**	**0.002881**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.3004**	**0.1096**	**0.04**	**Yes**	**4**	**0.205**	**0.04203**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:48 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MW-19	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-20	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	5	0.00274	0.0005814	80	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-25D	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	5	0.00246	0.0007797	60	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	5	0.000826	0.001218	20	None	No	0.031	NP (normality)
Antimony (mg/L)	MW-28D	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-29	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-5	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-6	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-7	0.003	0.00086	0.006	No	5	0.002232	0.001063	60	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	5	0.00409	0.002035	80	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	5	0.003536	0.002116	60	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-24D	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001929	0.0005739	0.01	No	5	0.00195	0.001759	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	5	0.00412	0.001968	80	Kaplan-Meier	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	5	0.003178	0.002501	60	Kaplan-Meier	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-28D	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	5	0.004074	0.002071	80	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-5	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-6	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-7	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Barium (mg/L)	MW-19	0.07617	0.04943	2	No	5	0.0628	0.007981	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.1011	0.07646	2	No	5	0.0888	0.007362	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1225	0.01873	2	No	5	0.0706	0.03096	0	None	No	0.01	Param.
Barium (mg/L)	MW-25D	0.4671	0.3649	2	No	5	0.416	0.0305	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1695	0.07815	2	No	5	0.1238	0.02724	0	None	No	0.01	Param.
Barium (mg/L)	MW-27D	1.516	0.7243	2	No	5	1.12	0.2361	0	None	No	0.01	Param.
Barium (mg/L)	MW-28D	1.025	0.07471	2	No	5	0.55	0.2836	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.09153	0.07487	2	No	5	0.0832	0.00497	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05605	0.04235	2	No	5	0.0492	0.004087	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09987	0.08213	2	No	5	0.091	0.005292	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07185	0.04015	2	No	5	0.056	0.00946	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-19	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-20	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-24D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-25D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-26D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-27D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	5	0.002428	0.001279	80	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-29	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-5	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-6	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	5	0.00241	0.001319	80	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	5	0.001116	0.001264	40	None	No	0.031	NP (normality)
Cadmium (mg/L)	MW-20	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-24D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-25D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-26D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-27D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-28D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-29	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-5	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-6	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-7	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)

Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:48 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	5	0.006226	0.005168	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	5	0.006244	0.005144	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	5	0.008084	0.004284	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	5	0.008122	0.004199	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-26D	0.003136	0.0003512	0.1	No	5	0.004912	0.004711	40	Kaplan-Meier	sqrt(x)	0.01	Param.
Chromium (mg/L)	MW-27D	0.01	0.01	0.1	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	5	0.006702	0.004565	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	5	0.0082	0.004025	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-5	0.005557	0.002363	0.1	No	5	0.00396	0.0009529	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	5	0.006206	0.005195	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	5	0.00344	0.00369	20	None	No	0.031	NP (normality)
Cobalt (mg/L)	MW-19	0.05297	0.02183	0.038	No	5	0.0374	0.00929	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	5	0.00422	0.001744	80	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001304	0.0001519	0.038	No	5	0.002382	0.002409	40	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-25D	0.005	0.005	0.038	No	5	0.005	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	5	0.003166	0.002513	60	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	5	0.003108	0.002594	60	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	5	0.004186	0.00182	80	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-29	0.001489	0.0003399	0.038	No	5	0.000842	0.0003813	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-5	0.005	0.005	0.038	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-6	0.001018	0.0003254	0.038	No	5	0.001488	0.001974	20	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.005	0.005	0.038	No	5	0.005	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-19	1.33	0.2323	5	No	5	0.781	0.3274	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.531	-0.06625	5	No	5	0.7322	0.4765	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	0.935	-0.05422	5	No	5	0.4404	0.2952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.516	0.4999	5	No	5	1.008	0.3032	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.87	-0.00458	5	No	5	0.9328	0.5594	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.568	0.5176	5	No	5	1.543	0.6118	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.763	0.358	5	No	5	1.06	0.4192	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.402	0.1828	5	No	5	0.7926	0.3639	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.187	0.5787	5	No	5	0.883	0.1816	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	5	1.04	0.5779	0	None	No	0.031	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.308	0.7751	5	No	5	1.041	0.1589	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-19	0.562	-0.04761	4	No	5	0.2572	0.1819	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.3	0.072	4	No	5	0.2544	0.102	80	None	No	0.031	NP (NDs)
Fluoride (mg/L)	MW-24D	0.1786	0.02992	4	No	5	0.0834	0.055	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MW-25D	2.188	1.187	4	No	5	1.66	0.313	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-26D	0.1854	0.01695	4	No	5	0.1276	0.1141	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MW-27D	0.42	0.24	4	No	5	0.29	0.07416	0	None	No	0.031	NP (normality)
Fluoride (mg/L)	MW-28D	0.2881	0.1759	4	No	5	0.232	0.03347	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.1966	0.00006774	4	No	5	0.179	0.1216	40	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	MW-30D	14.05	3.9	4	No	4	8.975	2.235	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-5	0.1063	0.0425	4	No	5	0.0744	0.01903	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.2153	0.03873	4	No	5	0.1784	0.08575	20	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	MW-7	0.3	0.069	4	No	5	0.2278	0.1051	60	Kaplan-Meier	No	0.031	NP (NDs)
Lithium (mg/L)	MW-19	0.0151	0.005299	0.04	No	5	0.0102	0.002925	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.03	0.00082	0.04	No	5	0.007024	0.01285	20	None	No	0.031	NP (normality)
Lithium (mg/L)	MW-24D	0.003055	0.002505	0.04	No	5	0.00278	0.0001643	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05443**	**0.04477**	**0.04**	**Yes**	**5**	**0.0496**	**0.002881**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0033	0.04	No	5	0.00888	0.01181	0	None	No	0.031	NP (normality)
Lithium (mg/L)	MW-27D	0.009909	0.003531	0.04	No	5	0.00672	0.001903	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.01787	0.002407	0.04	No	5	0.01014	0.004615	0	None	No	0.01	Param.
Lithium (mg/L)	MW-29	0.002565	0.002035	0.04	No	5	0.0023	0.0001581	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.3004**	**0.1096**	**0.04**	**Yes**	**4**	**0.205**	**0.04203**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-5	0.03	0.03	0.04	No	5	0.03	0	100	None	No	0.031	NP (NDs)

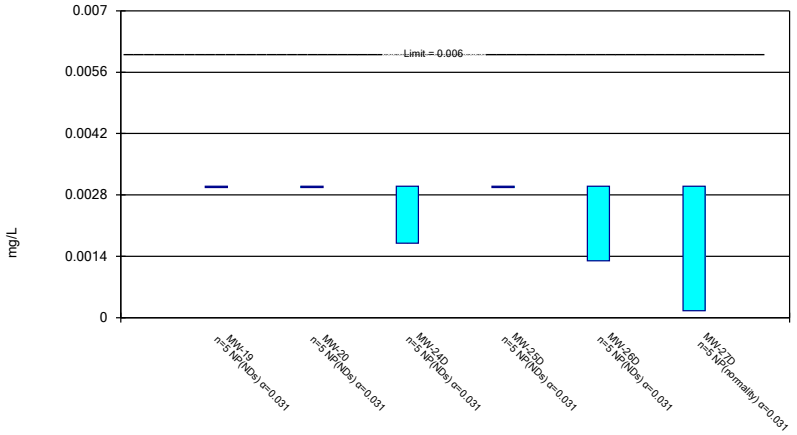
Federal Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/12/2020, 3:48 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	MW-6	0.03	0.03	0.04	No	5	0.03	0	100	None	No	0.031	NP (NDs)
Lithium (mg/L)	MW-7	0.03	0.03	0.04	No	5	0.03	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-19	0.06879	0.02121	0.1	No	5	0.045	0.0142	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-20	0.01	0.01	0.1	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-24D	0.01	0.00027	0.1	No	5	0.008054	0.004351	80	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.01	0.0022	0.1	No	5	0.00844	0.003488	80	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01847	0.004975	0.1	No	6	0.012	0.005199	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.00618	0.00122	0.1	No	5	0.00496	0.003182	20	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02878	0.0007414	0.1	No	5	0.01476	0.008366	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003876	0.001764	0.1	No	5	0.00282	0.0006301	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.04539	0.008606	0.1	No	5	0.027	0.01098	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.01	0.1	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.1	No	5	0.00232	0.0002588	0	None	No	0.031	NP (normality)
Molybdenum (mg/L)	MW-7	0.01	0.0033	0.1	No	5	0.00866	0.002996	80	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-19	0.007969	0.001031	0.05	No	5	0.0056	0.003215	20	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-20	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-24D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-25D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-26D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	5	0.008024	0.004418	80	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-28D	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-29	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-5	0.004614	0.001826	0.05	No	5	0.00322	0.0008319	0	None	No	0.01	Param.
Selenium (mg/L)	MW-6	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	5	0.00488	0.004675	40	None	No	0.031	NP (normality)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	5	0.000558	0.0004035	40	None	No	0.031	NP (normality)
Thallium (mg/L)	MW-20	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-24D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-25D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-26D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-27D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	5	0.0008184	0.0004061	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	5	0.0008128	0.0004186	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-5	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	5	0.0008164	0.0004105	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-7	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

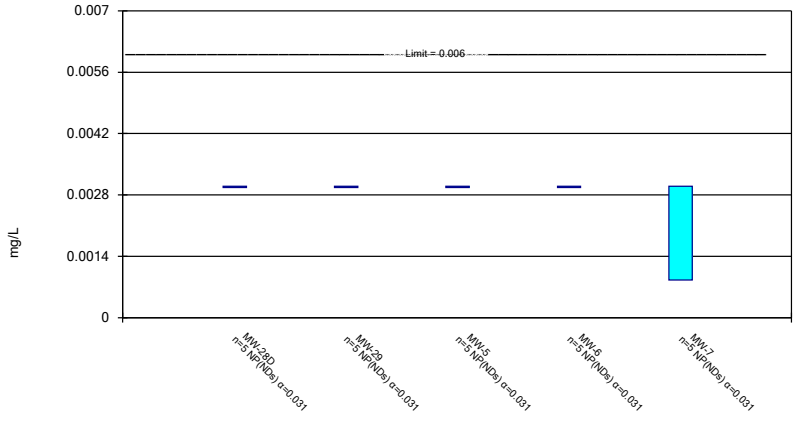


Constituent: Antimony Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

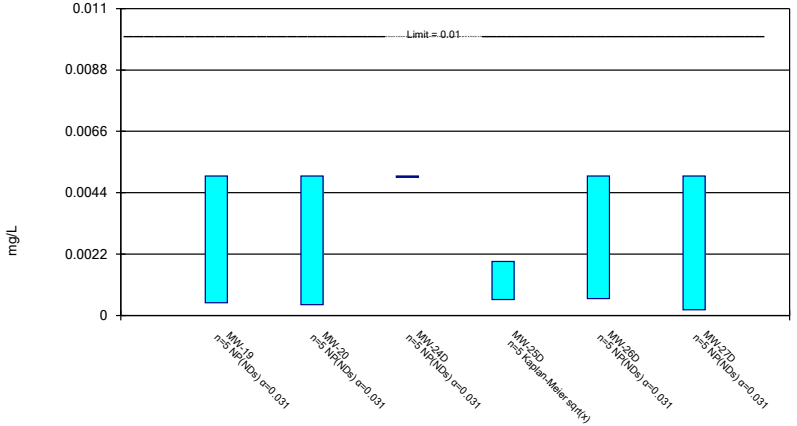


Constituent: Antimony Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

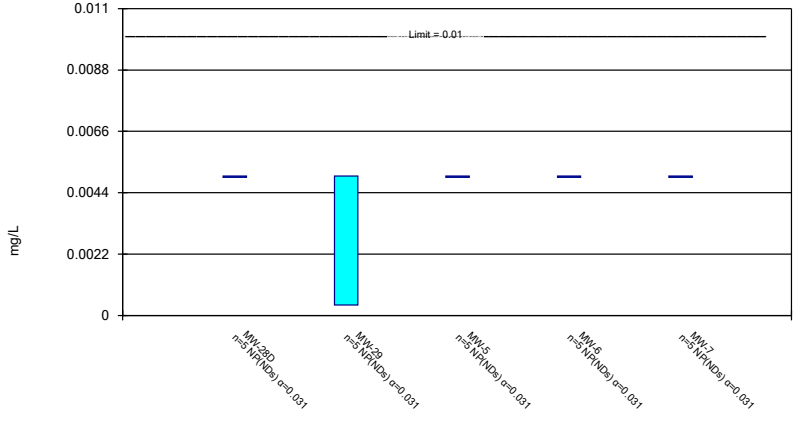


Constituent: Arsenic Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

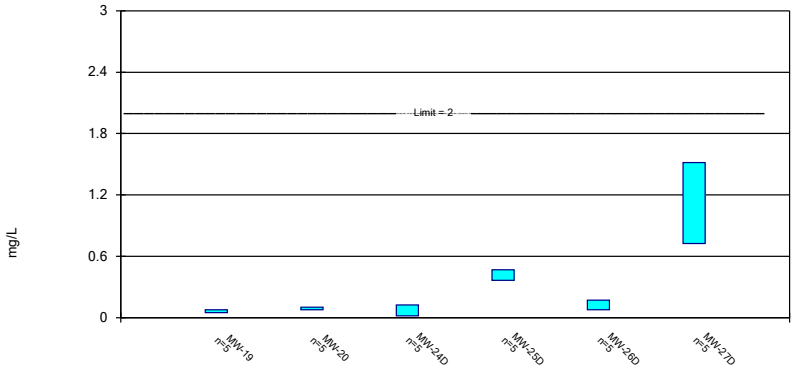
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

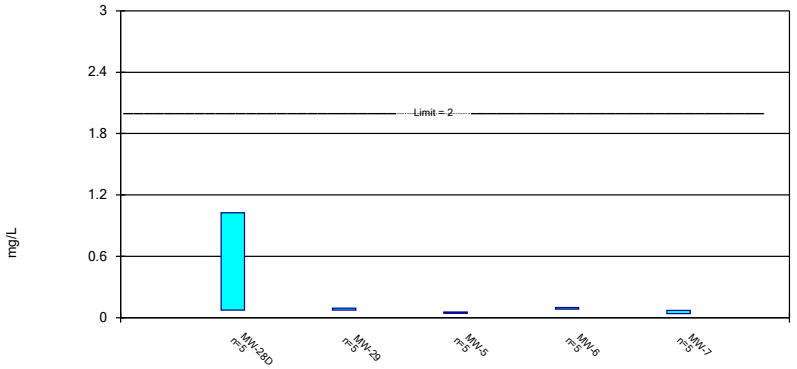


Constituent: Barium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

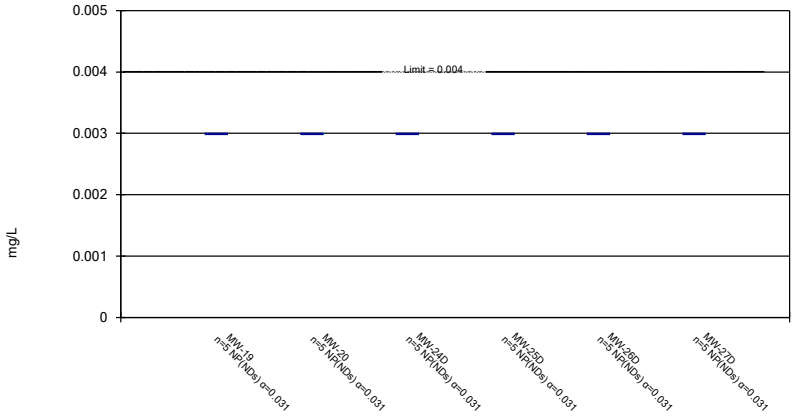


Constituent: Barium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

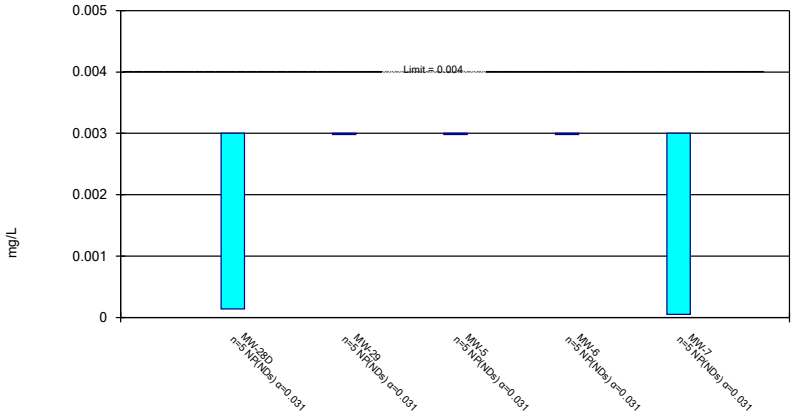


Constituent: Beryllium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

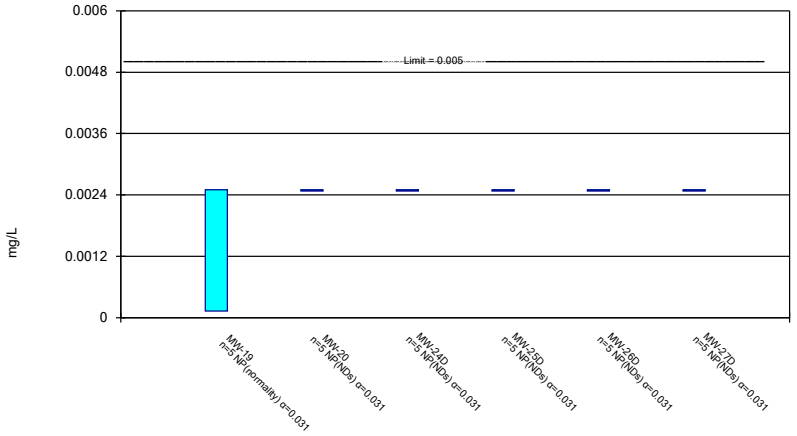
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

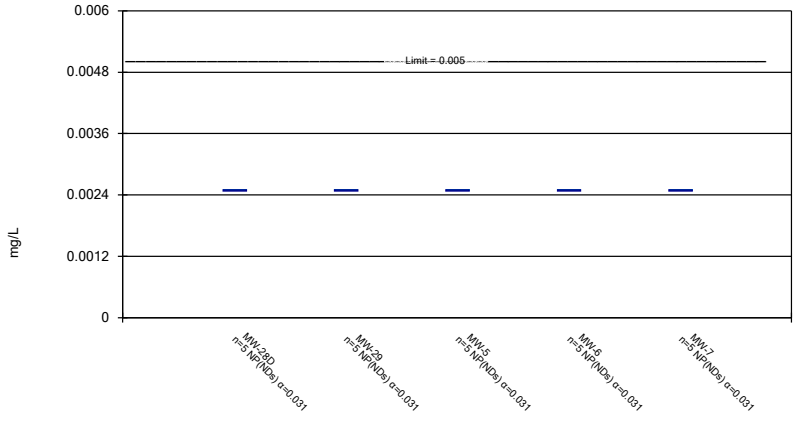


Constituent: Cadmium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

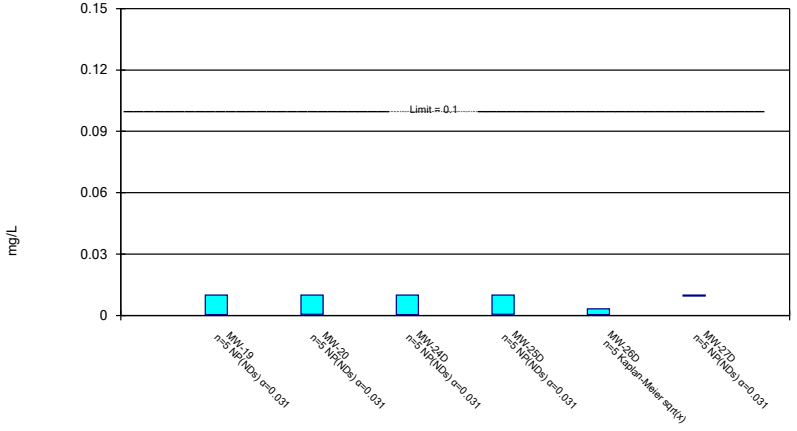


Constituent: Cadmium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

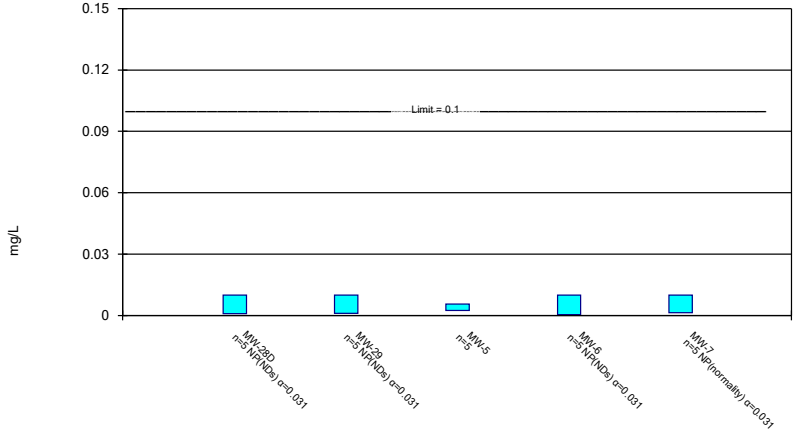


Constituent: Chromium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

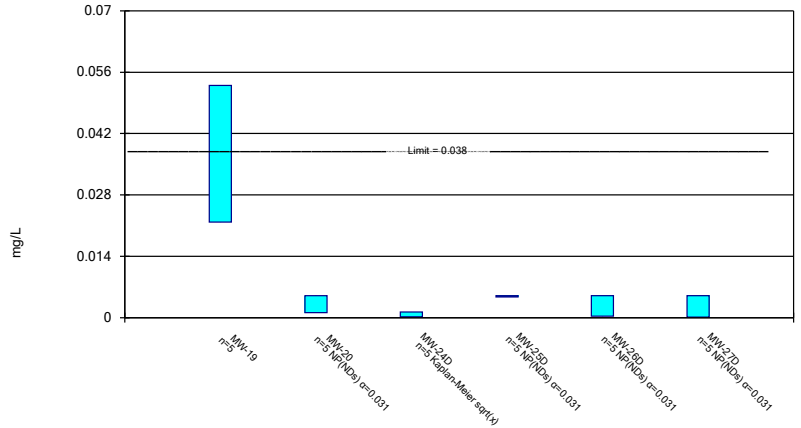
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

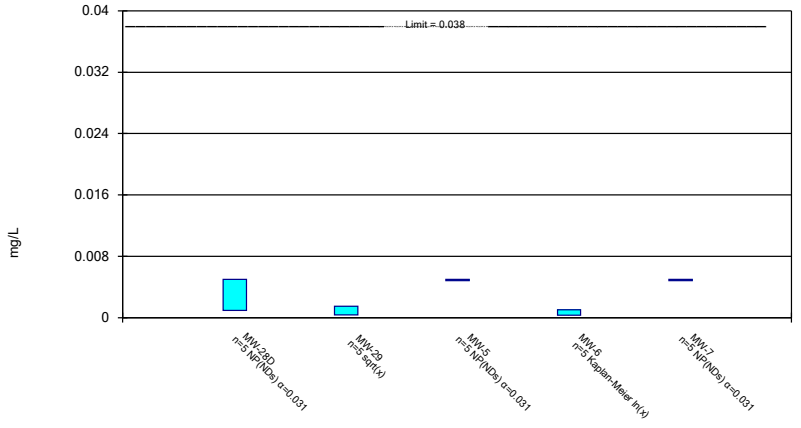


Constituent: Cobalt Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

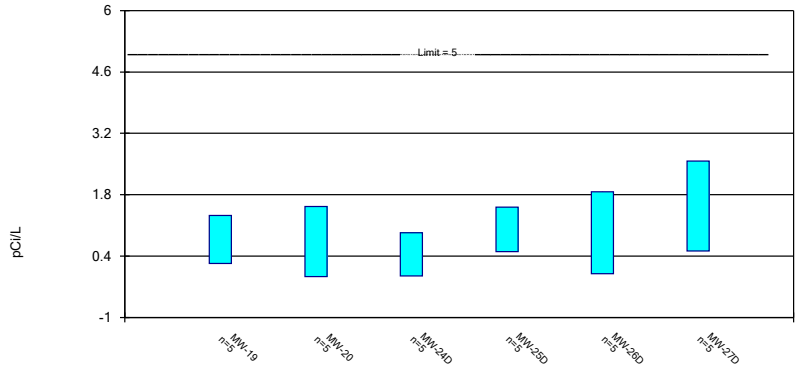


Constituent: Cobalt Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

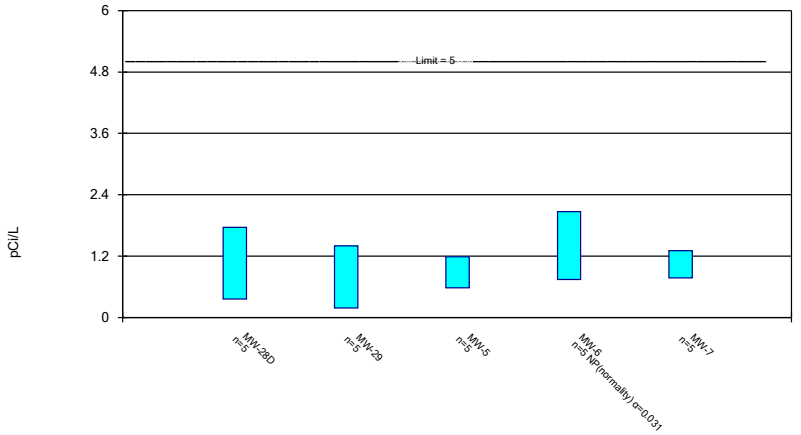


Constituent: Combined Radium 226 + 228 Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

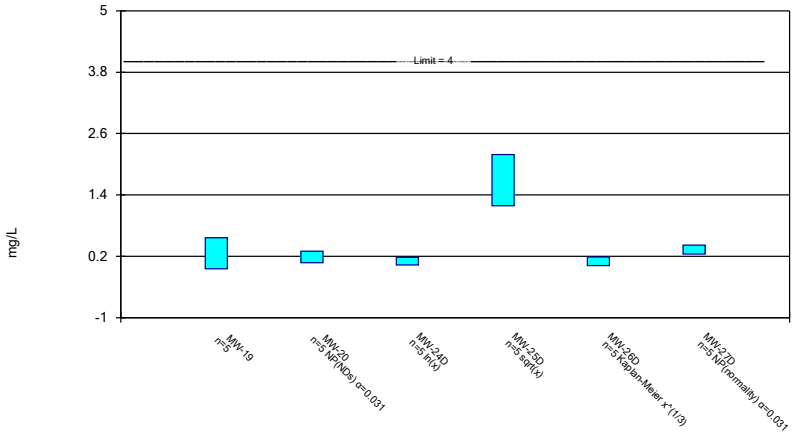
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

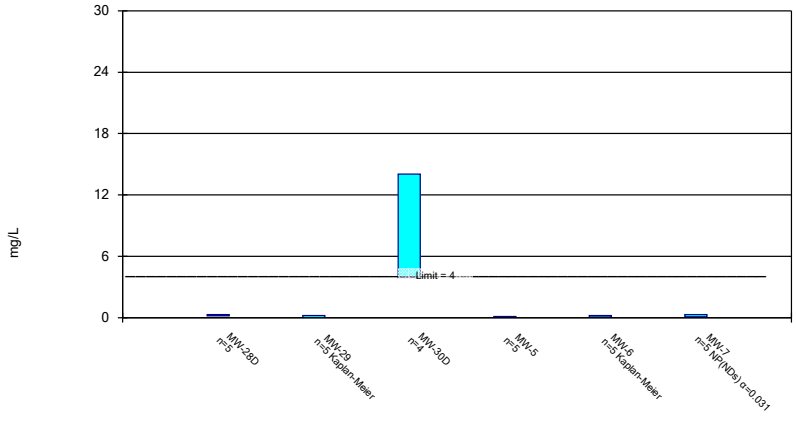


Constituent: Fluoride Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

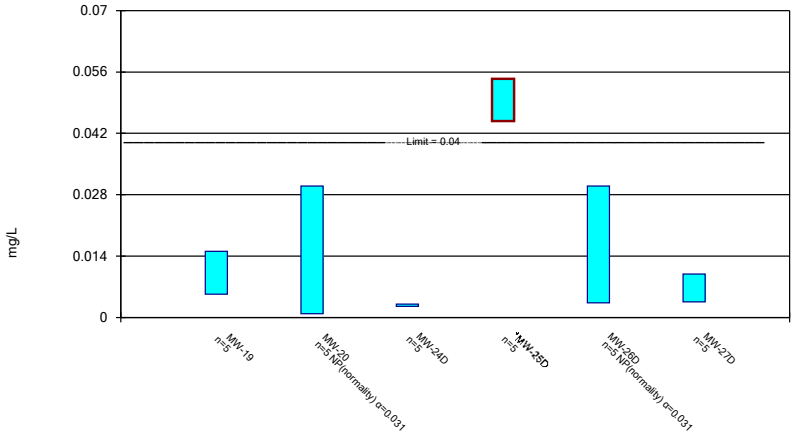


Constituent: Fluoride Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

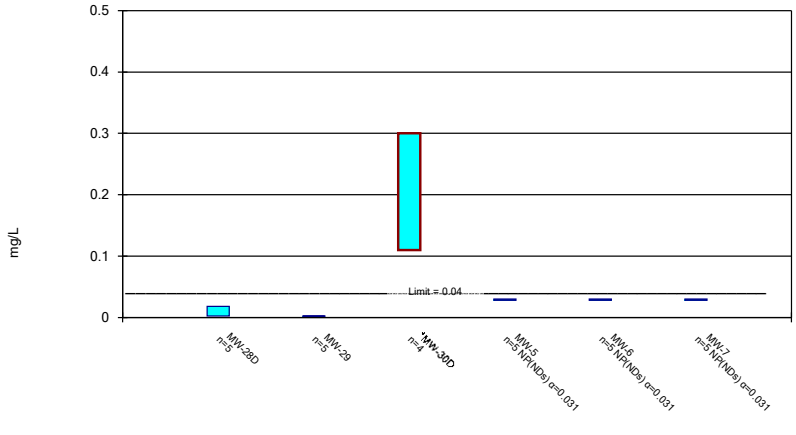


Constituent: Lithium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

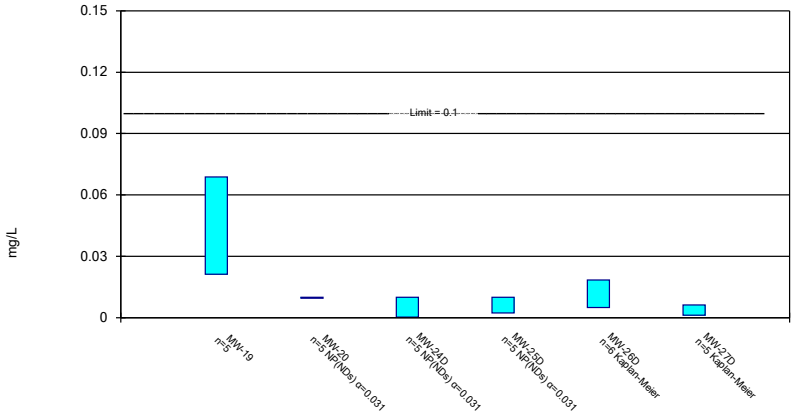
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



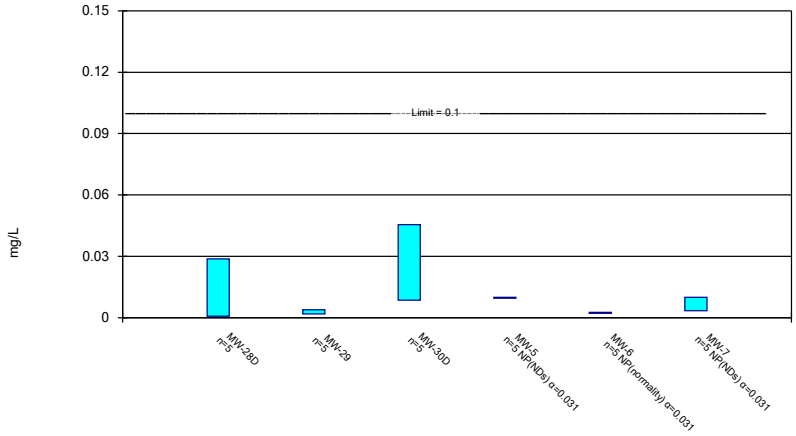
Constituent: Molybdenum Analysis Run 6/12/2020 3:41 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



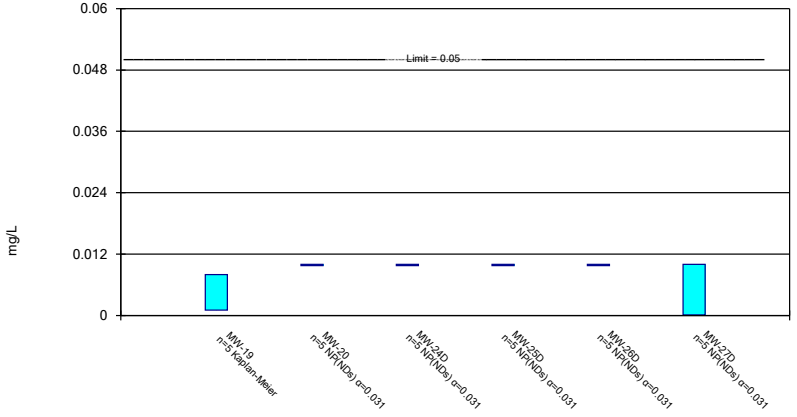
Constituent: Molybdenum Analysis Run 6/12/2020 3:41 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



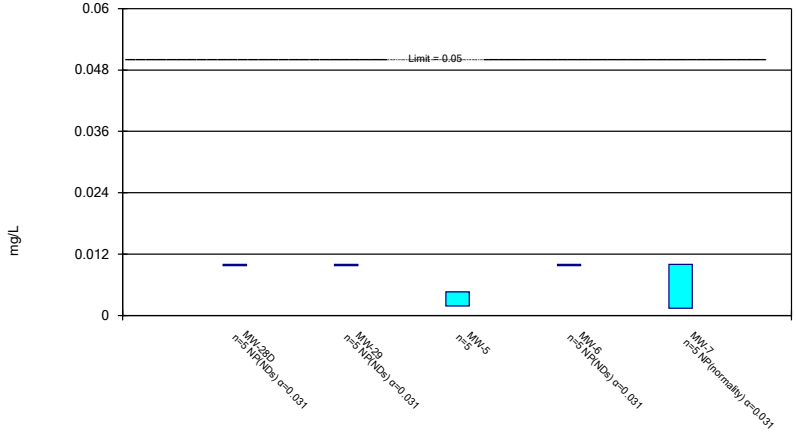
Constituent: Selenium Analysis Run 6/12/2020 3:41 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

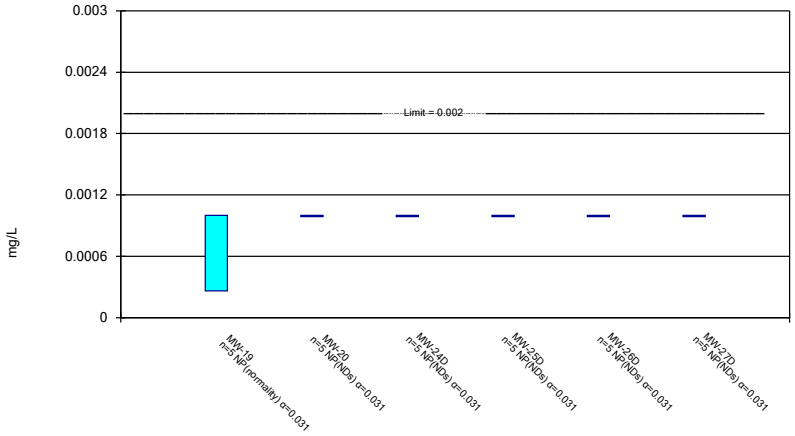


Constituent: Selenium Analysis Run 6/12/2020 3:41 PM View: New Wells

Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

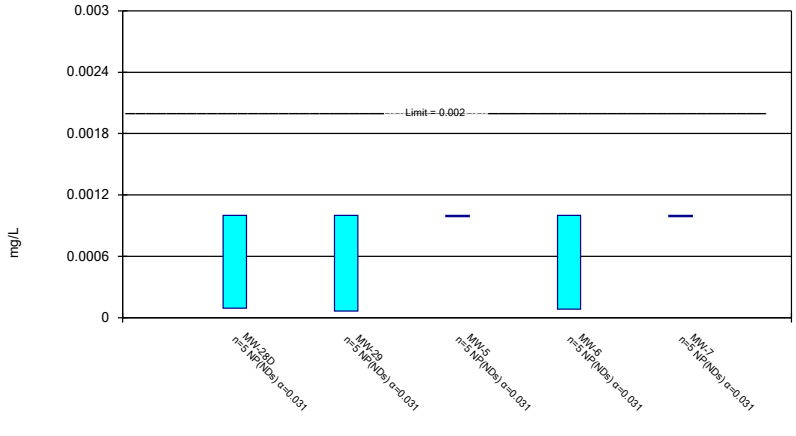


Constituent: Thallium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 6/12/2020 3:41 PM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE H.

State Confidence Intervals - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/15/2020, 11:03 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	**MW-25D**	**0.05443**	**0.04477**	**0.03**	**Yes**	**5**	**0.0496**	**0.002881**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.3004**	**0.1096**	**0.03**	**Yes**	**4**	**0.205**	**0.04203**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**MW-19**	**0.06879**	**0.02121**	**0.01**	**Yes**	**5**	**0.045**	**0.0142**	**0**	**None**	**No**	**0.01**	**Param.**

State Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/15/2020, 11:03 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MW-19	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-20	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	5	0.00274	0.0005814	80	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-25D	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	5	0.00246	0.0007797	60	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	5	0.000826	0.001218	20	None	No	0.031	NP (normality)
Antimony (mg/L)	MW-28D	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-29	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-5	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-6	0.003	0.003	0.006	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Antimony (mg/L)	MW-7	0.003	0.00086	0.006	No	5	0.002232	0.001063	60	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	5	0.00409	0.002035	80	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	5	0.003536	0.002116	60	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-24D	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001929	0.0005739	0.01	No	5	0.00195	0.001759	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	5	0.00412	0.001968	80	Kaplan-Meier	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	5	0.003178	0.002501	60	Kaplan-Meier	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-28D	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	5	0.004074	0.002071	80	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-5	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-6	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Arsenic (mg/L)	MW-7	0.005	0.005	0.01	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Barium (mg/L)	MW-19	0.07617	0.04943	2	No	5	0.0628	0.007981	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.1011	0.07646	2	No	5	0.0888	0.007362	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1225	0.01873	2	No	5	0.0706	0.03096	0	None	No	0.01	Param.
Barium (mg/L)	MW-25D	0.4671	0.3649	2	No	5	0.416	0.0305	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1695	0.07815	2	No	5	0.1238	0.02724	0	None	No	0.01	Param.
Barium (mg/L)	MW-27D	1.516	0.7243	2	No	5	1.12	0.2361	0	None	No	0.01	Param.
Barium (mg/L)	MW-28D	1.025	0.07471	2	No	5	0.55	0.2836	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.09153	0.07487	2	No	5	0.0832	0.00497	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05605	0.04235	2	No	5	0.0492	0.004087	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09987	0.08213	2	No	5	0.091	0.005292	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07185	0.04015	2	No	5	0.056	0.00946	0	None	No	0.01	Param.
Beryllium (mg/L)	MW-19	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-20	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-24D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-25D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-26D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-27D	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	5	0.002428	0.001279	80	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-29	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-5	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-6	0.003	0.003	0.004	No	5	0.003	0	100	None	No	0.031	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	5	0.00241	0.001319	80	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	5	0.001116	0.001264	40	None	No	0.031	NP (normality)
Cadmium (mg/L)	MW-20	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-24D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-25D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-26D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-27D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-28D	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-29	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-5	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-6	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)
Cadmium (mg/L)	MW-7	0.0025	0.0025	0.005	No	5	0.0025	0	100	None	No	0.031	NP (NDs)

State Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/15/2020, 11:03 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	5	0.006226	0.005168	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	5	0.006244	0.005144	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	5	0.008084	0.004284	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	5	0.008122	0.004199	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-26D	0.003136	0.0003512	0.1	No	5	0.004912	0.004711	40	Kaplan-Meier	sqrt(x)	0.01	Param.
Chromium (mg/L)	MW-27D	0.01	0.01	0.1	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	5	0.006702	0.004565	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	5	0.0082	0.004025	80	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-5	0.005557	0.002363	0.1	No	5	0.00396	0.0009529	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	5	0.006206	0.005195	60	None	No	0.031	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	5	0.00344	0.00369	20	None	No	0.031	NP (normality)
Cobalt (mg/L)	MW-19	0.05297	0.02183	0.038	No	5	0.0374	0.00929	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	5	0.00422	0.001744	80	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001304	0.0001519	0.038	No	5	0.002382	0.002409	40	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-25D	0.005	0.005	0.038	No	5	0.005	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	5	0.003166	0.002513	60	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	5	0.003108	0.002594	60	Kaplan-Meier	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	5	0.004186	0.00182	80	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-29	0.001489	0.0003399	0.038	No	5	0.000842	0.0003813	0	None	sqrt(x)	0.01	Param.
Cobalt (mg/L)	MW-5	0.005	0.005	0.038	No	5	0.005	0	100	None	No	0.031	NP (NDs)
Cobalt (mg/L)	MW-6	0.001018	0.0003254	0.038	No	5	0.001488	0.001974	20	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-7	0.005	0.005	0.038	No	5	0.005	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MW-19	1.33	0.2323	5	No	5	0.781	0.3274	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.531	-0.06625	5	No	5	0.7322	0.4765	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	0.935	-0.05422	5	No	5	0.4404	0.2952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.516	0.4999	5	No	5	1.008	0.3032	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.87	-0.00458	5	No	5	0.9328	0.5594	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.568	0.5176	5	No	5	1.543	0.6118	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.763	0.358	5	No	5	1.06	0.4192	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.402	0.1828	5	No	5	0.7926	0.3639	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.187	0.5787	5	No	5	0.883	0.1816	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	5	1.04	0.5779	0	None	No	0.031	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.308	0.7751	5	No	5	1.041	0.1589	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-19	0.562	-0.04761	4	No	5	0.2572	0.1819	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.3	0.072	4	No	5	0.2544	0.102	80	None	No	0.031	NP (NDs)
Fluoride (mg/L)	MW-24D	0.1786	0.02992	4	No	5	0.0834	0.055	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MW-25D	2.188	1.187	4	No	5	1.66	0.313	0	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-26D	0.1854	0.01695	4	No	5	0.1276	0.1141	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MW-27D	0.42	0.24	4	No	5	0.29	0.07416	0	None	No	0.031	NP (normality)
Fluoride (mg/L)	MW-28D	0.2881	0.1759	4	No	5	0.232	0.03347	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.1966	0.00006774	4	No	5	0.179	0.1216	40	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	MW-30D	14.05	3.9	4	No	4	8.975	2.235	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-5	0.1063	0.0425	4	No	5	0.0744	0.01903	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.2153	0.03873	4	No	5	0.1784	0.08575	20	Kaplan-Meier	No	0.01	Param.
Fluoride (mg/L)	MW-7	0.3	0.069	4	No	5	0.2278	0.1051	60	Kaplan-Meier	No	0.031	NP (NDs)
Lithium (mg/L)	MW-19	0.0151	0.005299	0.03	No	5	0.0102	0.002925	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.03	0.00082	0.03	No	5	0.007024	0.01285	20	None	No	0.031	NP (normality)
Lithium (mg/L)	MW-24D	0.003055	0.002505	0.03	No	5	0.00278	0.0001643	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05443**	**0.04477**	**0.03**	**Yes**	**5**	**0.0496**	**0.002881**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0033	0.03	No	5	0.00888	0.01181	0	None	No	0.031	NP (normality)
Lithium (mg/L)	MW-27D	0.009909	0.003531	0.03	No	5	0.00672	0.001903	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.01787	0.002407	0.03	No	5	0.01014	0.004615	0	None	No	0.01	Param.
Lithium (mg/L)	MW-29	0.002565	0.002035	0.03	No	5	0.0023	0.0001581	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.3004**	**0.1096**	**0.03**	**Yes**	**4**	**0.205**	**0.04203**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-5	0.03	0.03	0.03	No	5	0.03	0	100	None	No	0.031	NP (NDs)

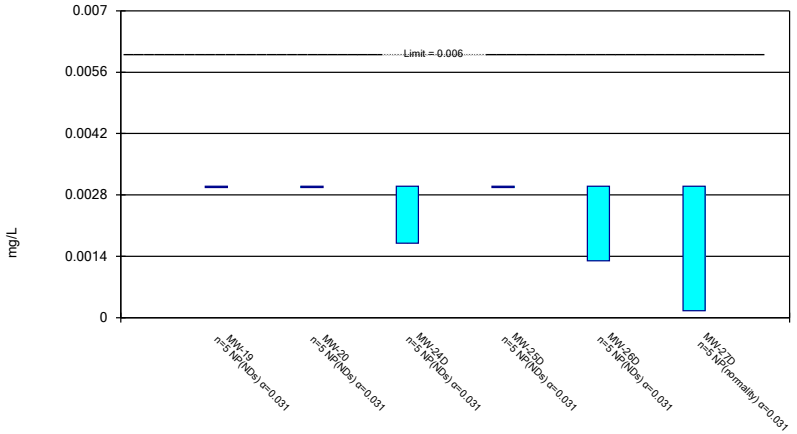
State Confidence Intervals - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 6/15/2020, 11:03 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lithium (mg/L)	MW-6	0.03	0.03	0.03	No	5	0.03	0	100	None	No	0.031	NP (NDs)
Lithium (mg/L)	MW-7	0.03	0.03	0.03	No	5	0.03	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	**MW-19**	**0.06879**	**0.02121**	**0.01**	**Yes**	**5**	**0.045**	**0.0142**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-20	0.01	0.01	0.01	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-24D	0.01	0.00027	0.01	No	5	0.008054	0.004351	80	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.01	0.0022	0.01	No	5	0.00844	0.003488	80	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01847	0.004975	0.01	No	6	0.012	0.005199	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.00618	0.00122	0.01	No	5	0.00496	0.003182	20	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02878	0.0007414	0.01	No	5	0.01476	0.008366	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003876	0.001764	0.01	No	5	0.00282	0.0006301	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.04539	0.008606	0.01	No	5	0.027	0.01098	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-5	0.01	0.01	0.01	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.01	No	5	0.00232	0.0002588	0	None	No	0.031	NP (normality)
Molybdenum (mg/L)	MW-7	0.01	0.0033	0.01	No	5	0.00866	0.002996	80	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-19	0.007969	0.001031	0.05	No	5	0.0056	0.003215	20	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-20	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-24D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-25D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-26D	0.01	0.01	0.05	No	5	0.01	0	100	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	5	0.008024	0.004418	80	Kaplan-Meier	No	0.031	NP (NDs)
Selenium (mg/L)	MW-28D	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-29	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-5	0.004614	0.001826	0.05	No	5	0.00322	0.0008319	0	None	No	0.01	Param.
Selenium (mg/L)	MW-6	0.01	0.01	0.05	No	5	0.01	0	100	None	No	0.031	NP (NDs)
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	5	0.00488	0.004675	40	None	No	0.031	NP (normality)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	5	0.000558	0.0004035	40	None	No	0.031	NP (normality)
Thallium (mg/L)	MW-20	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-24D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-25D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-26D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-27D	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	5	0.0008184	0.0004061	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	5	0.0008128	0.0004186	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-5	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	5	0.0008164	0.0004105	80	None	No	0.031	NP (NDs)
Thallium (mg/L)	MW-7	0.001	0.001	0.002	No	5	0.001	0	100	None	No	0.031	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

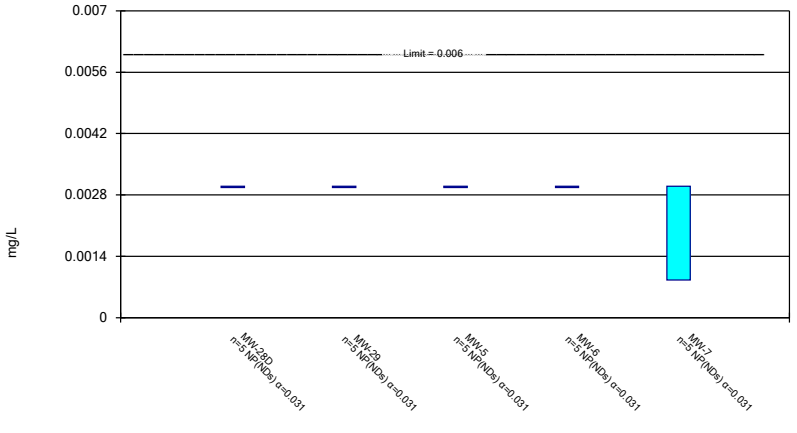


Constituent: Antimony Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

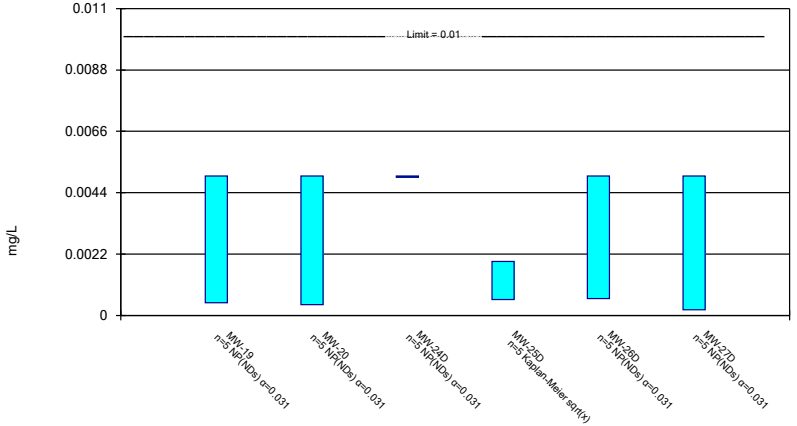


Constituent: Antimony Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

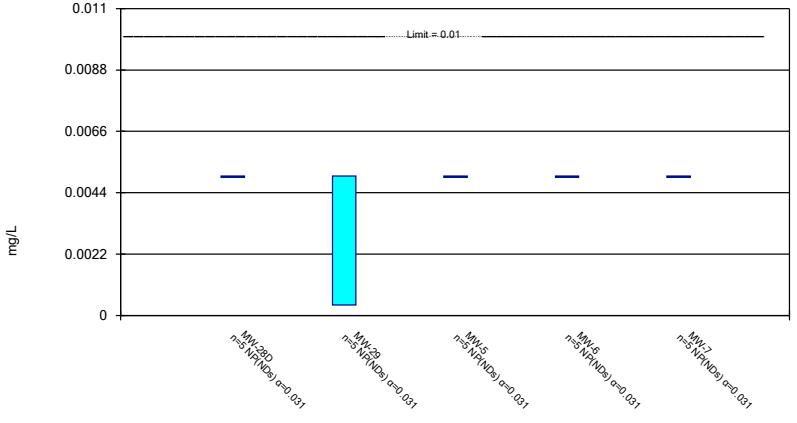


Constituent: Arsenic Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

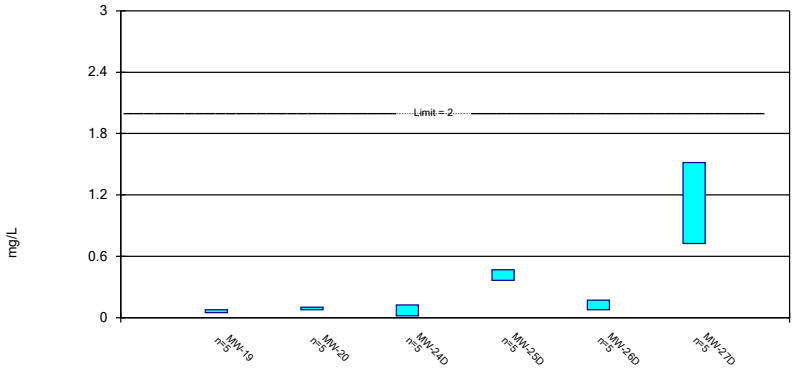
Compliance Limit is not exceeded.



Constituent: Arsenic Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

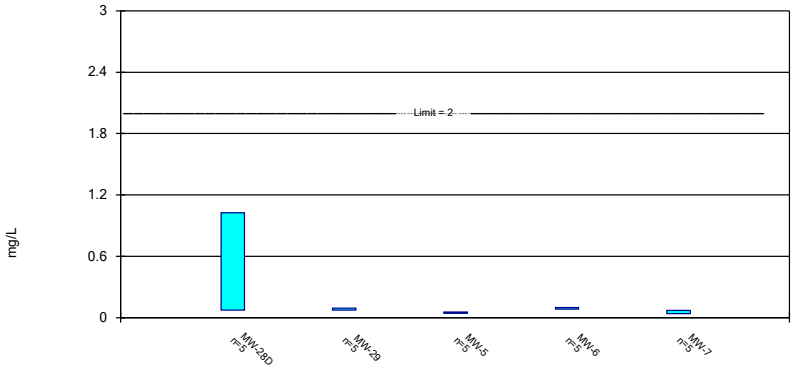


Constituent: Barium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

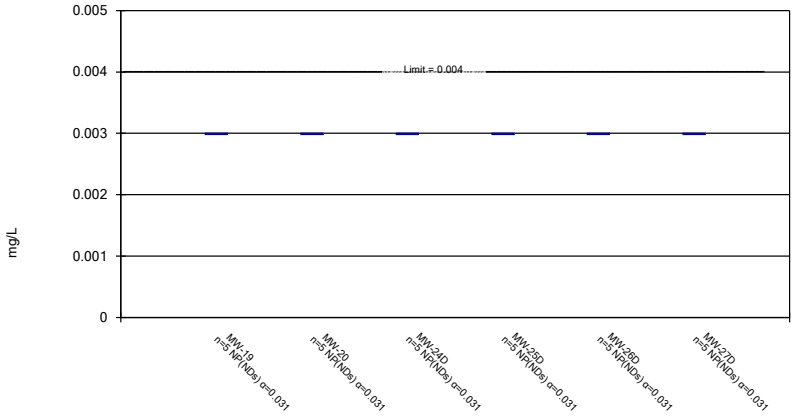


Constituent: Barium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

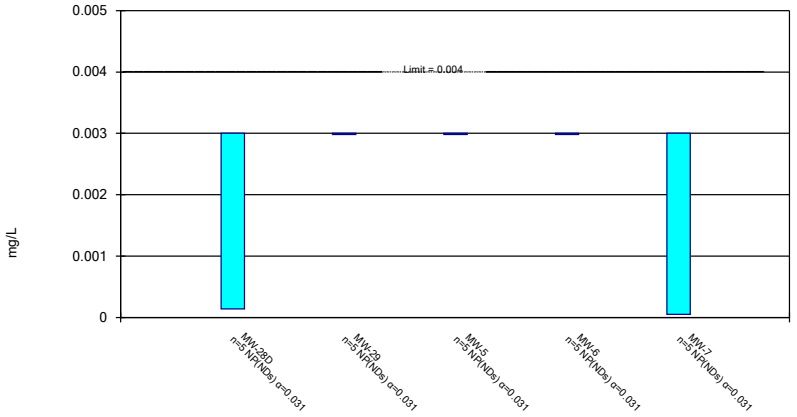


Constituent: Beryllium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

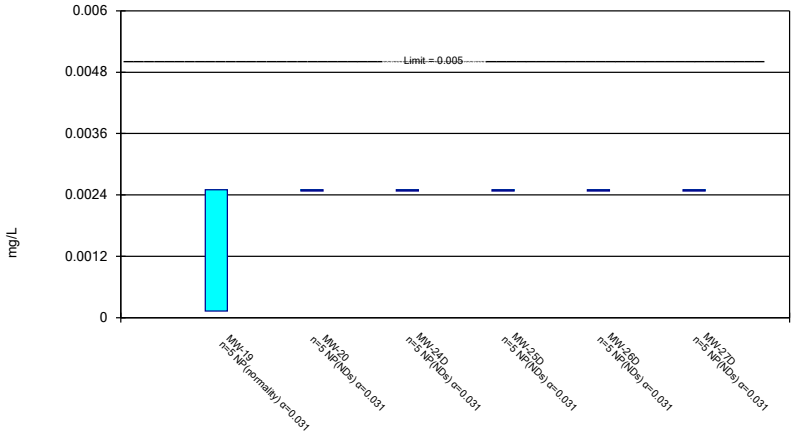
Compliance Limit is not exceeded.



Constituent: Beryllium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

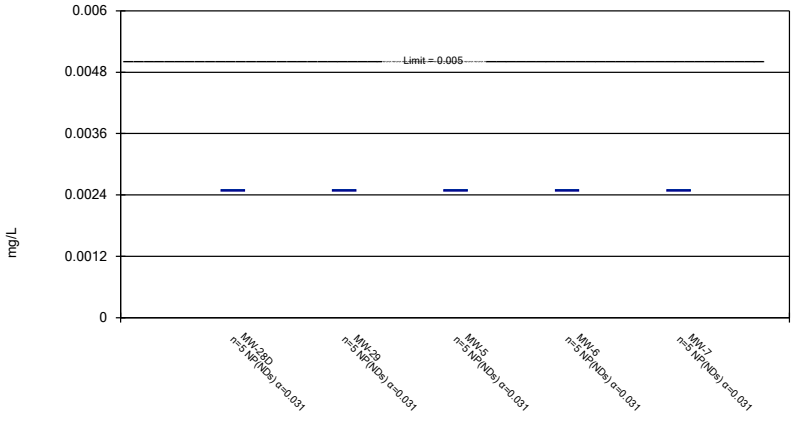


Constituent: Cadmium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

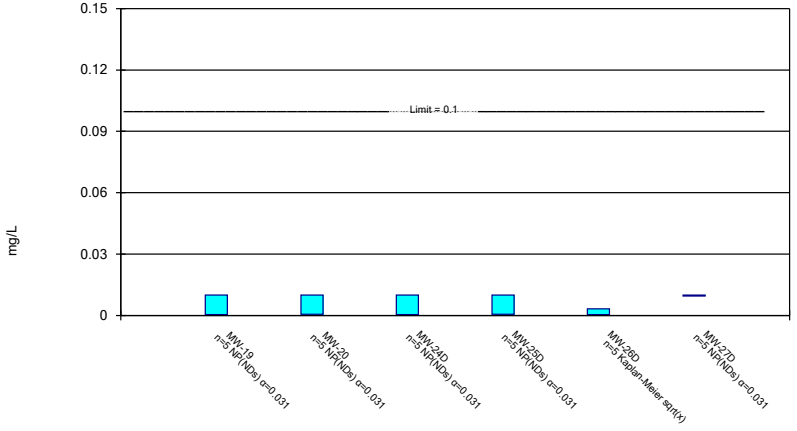


Constituent: Cadmium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

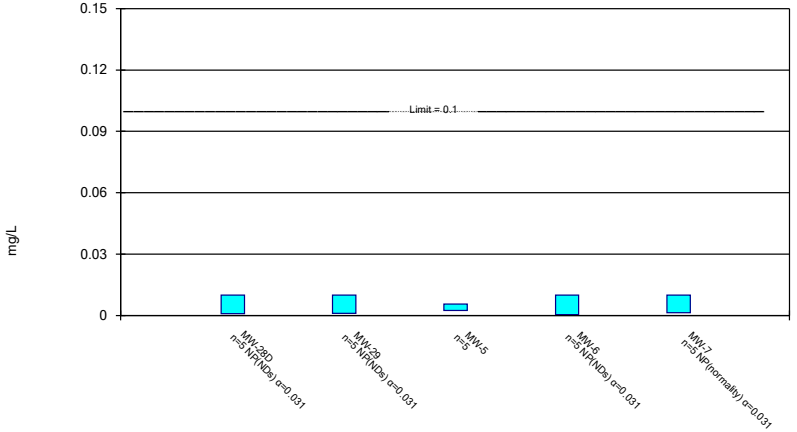


Constituent: Chromium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

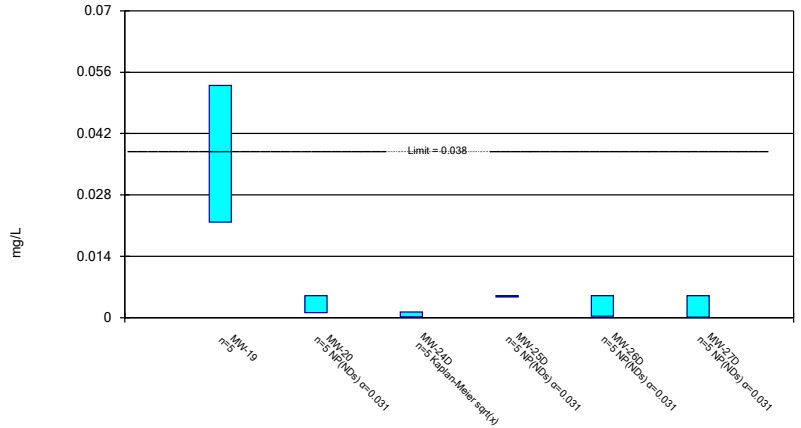
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

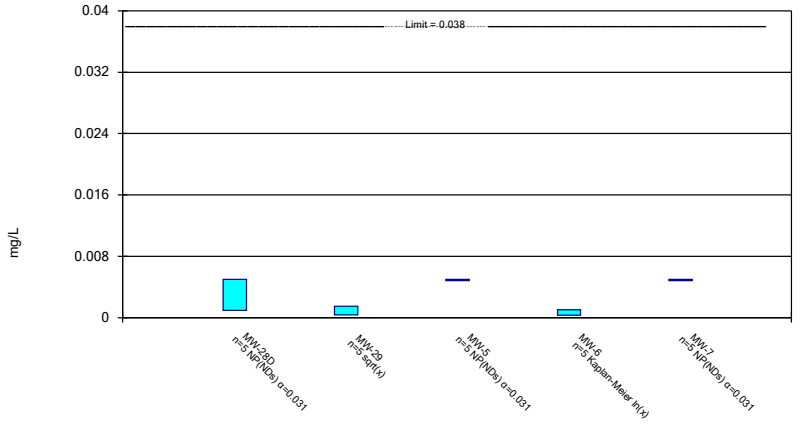


Constituent: Cobalt Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

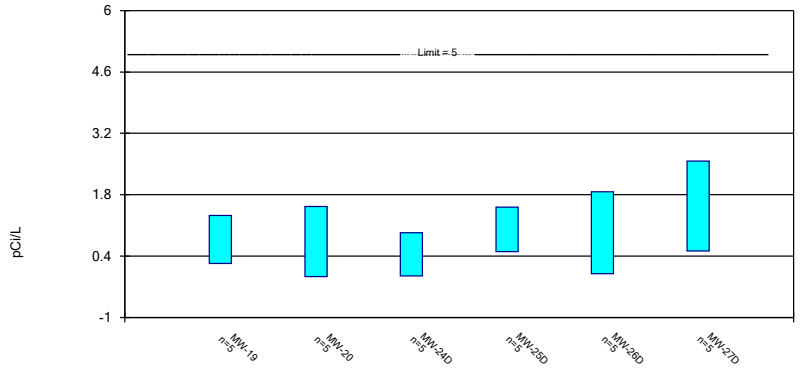


Constituent: Cobalt Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

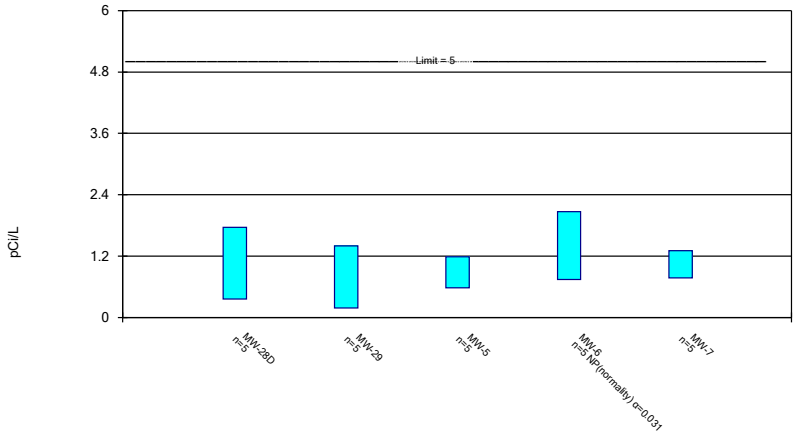


Constituent: Combined Radium 226 + 228 Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

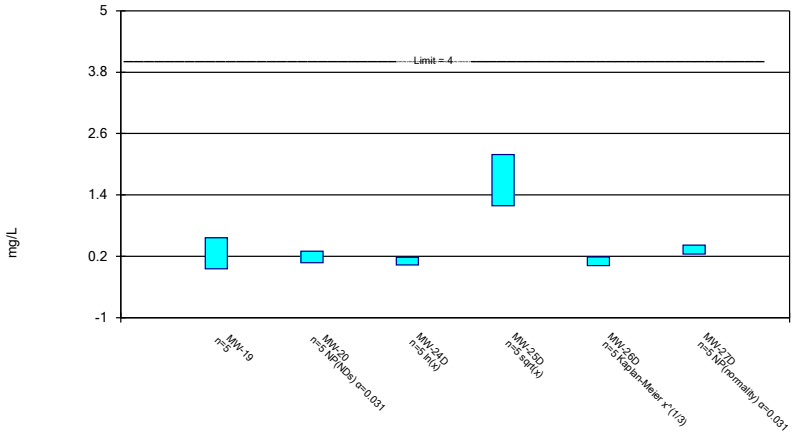
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

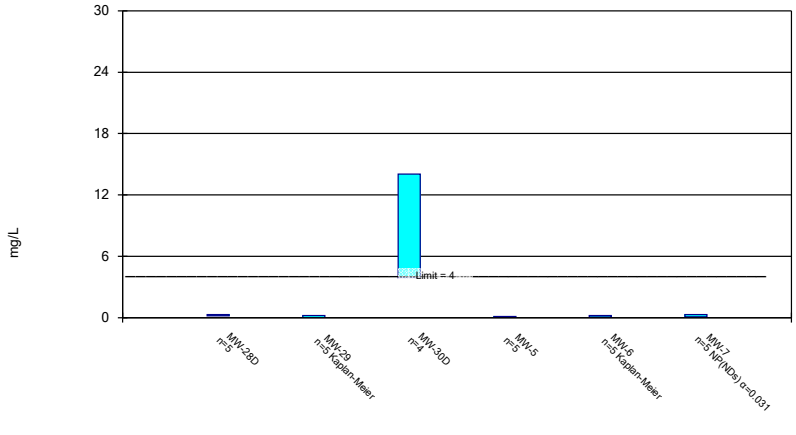


Constituent: Fluoride Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

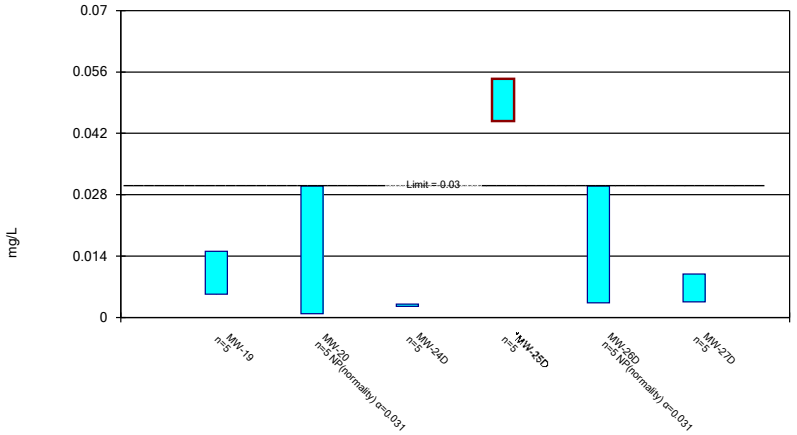


Constituent: Fluoride Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

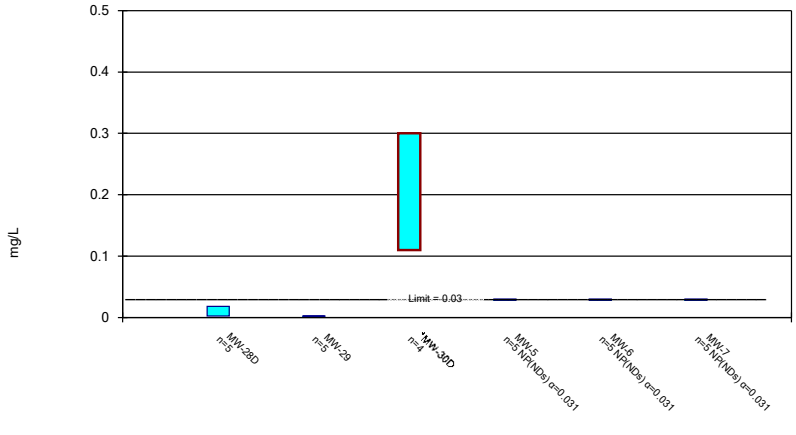


Constituent: Lithium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

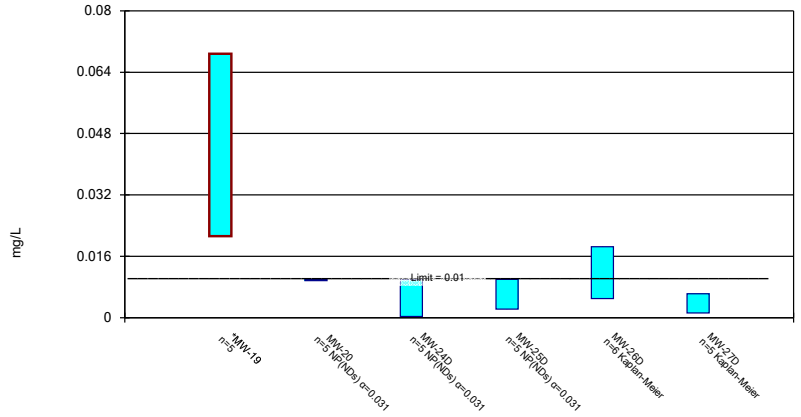
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

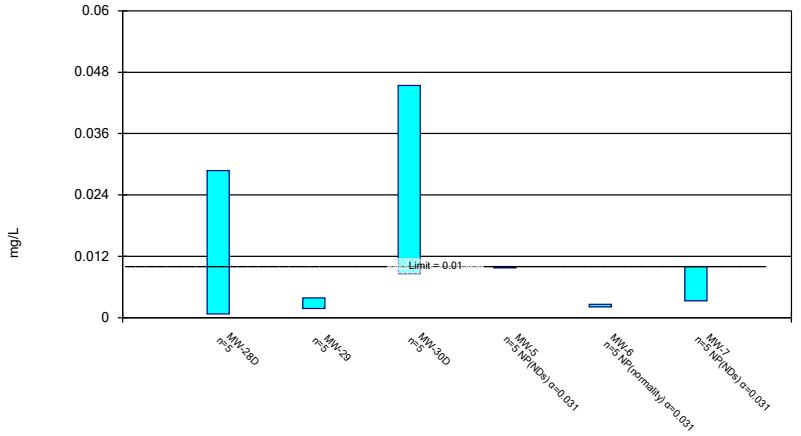


Constituent: Molybdenum Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

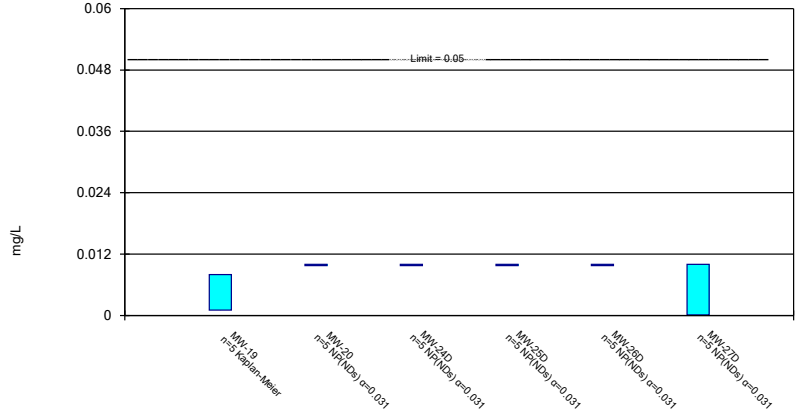


Constituent: Molybdenum Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

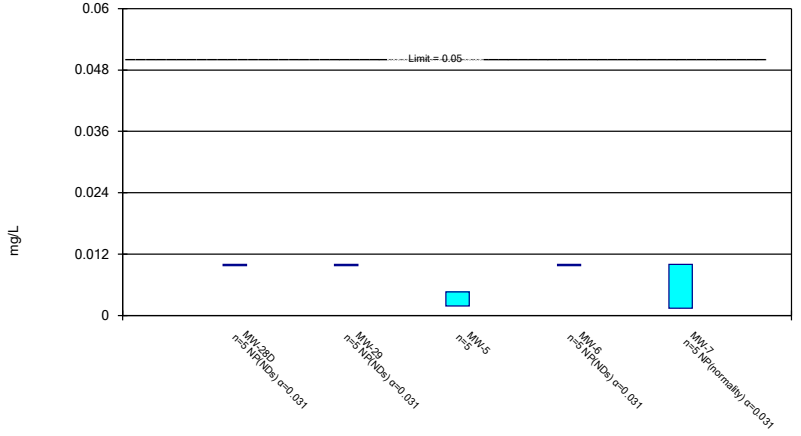


Constituent: Selenium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

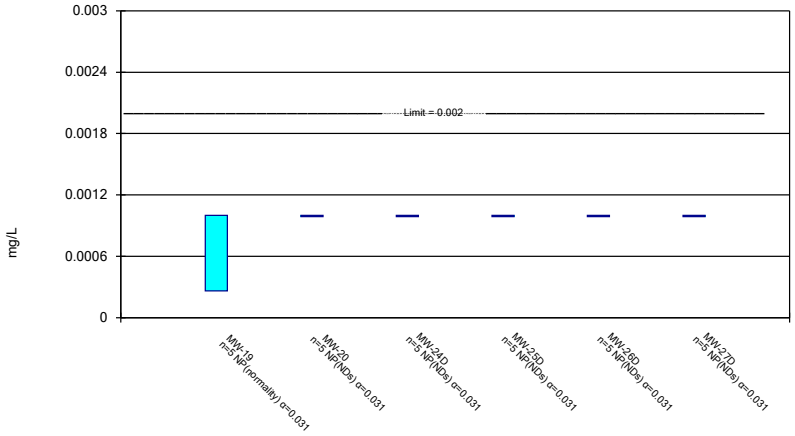
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

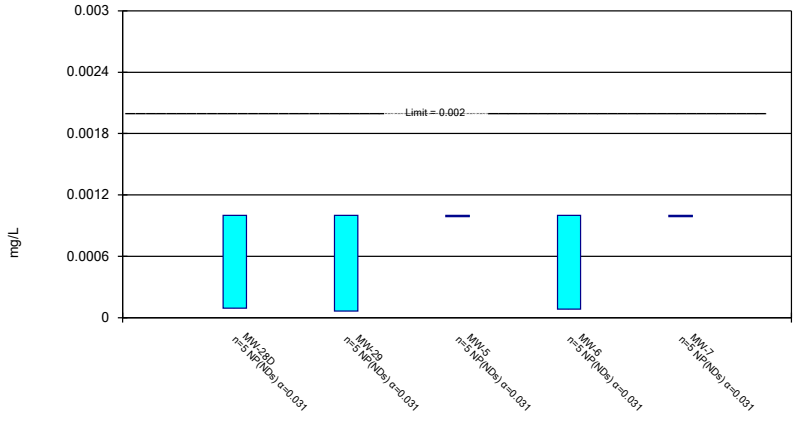


Constituent: Thallium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.25 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 6/15/2020 11:01 AM View: New Wells
Plant Hammond Client: Southern Company Data: Hammond AP-1

GROUNDWATER STATS CONSULTING

January 27, 2021

Southern Company Services
Attn: Ms. Kristen Jurinko
241 Ralph McGill Blvd NE, Bin 10160
Atlanta, Georgia 30308

Re: Plant Hammond Ash Pond 1 (AP-1)
Statistical Analysis – September 2020 Sample Event

Dear Ms. Jurinko,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the September 2020 sample event for Georgia Power Company's Plant Hammond AP-1. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began for the CCR program in 2016, and at least 8 background samples have been collected at each of the upgradient and downgradient groundwater monitoring wells. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** HGWA-1, HGWA-2, HGWA-3, HGWA-43D, and HGWA-44D
- **Downgradient wells:** HGWC-7, HGWC-8, HGWC-9, HGWC-10, HGWC-11, HGWC-12, and HGWC-13
- **Delineation wells:** MW-5, MW-6, MW-7, MW-19, MW-20, MW24D, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, MW-30D, and MW-40D

Wells HGWA-43D and HGWA-44D are new upgradient wells that currently have two sampling events which were conducted in September and November 2020. Delineation

wells are included on time series and box plots for all parameters. When a minimum of 4 samples is available, these wells are evaluated using confidence intervals for the Appendix IV constituents. For the delineation wells, sampling began in March 2019 for all wells except well MW-30D where sampling began in September 2019. Additionally, for well MW-40D, sampling began in May 2020 for Appendix III constituents and molybdenum, and in September 2020 for the remaining Appendix IV constituents (except mercury which was not detected in the Scan event as discussed below).

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting (GSC). The statistical analysis was performed according to the groundwater screening that was performed in April 2018 by GSC and approved by Dr. Cameron, PhD Statistician with MacStat Consulting and primary author of the USEPA Unified Guidance (2009).

The CCR program consists of the constituents listed below. The terms "parameters" and "constituents" are used interchangeably.

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% nondetects follows this letter. Additionally, annual Scan events are conducted to determine which Appendix IV constituents are detected in downgradient wells and, therefore, require statistical analysis. Any constituents that are not detected do not require statistical analysis. During the Scan event conducted in March 2020, mercury was not detected.

For all constituents, a substitution of the most recent reporting limit is used for nondetect data. For calculating prediction limits, the substitution is performed for individual wells and may differ across wells. This generally gives the most conservative limit in each case. In the time series plots, a single reporting limit substitution is used across all wells for a given parameter since the wells are plotted as a group. In the case of lithium, a reporting limit of 0.03 mg/L was substituted across all wells which is the most recent reporting limit by the laboratory.

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. No values were flagged as outliers (Figure C).

In earlier analyses, data at all wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for Appendix III parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. Power curves were provided to demonstrate that the selected statistical methods for Appendix III parameters comply with the USEPA Unified Guidance. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Statistical Methods – Appendix III Parameters:

The following Appendix III parameters are evaluated using interwell prediction limits combined with a 1-of-2 resample plan: boron, calcium, chloride, fluoride, pH, sulfate, and TDS.

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits.

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting

limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.

- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Note that values shown on data pages reflect raw data and any non-detects that have been substituted with one-half of the reporting limit will be shown as the original reporting limit.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In some cases, an earlier portion of data may require deselection prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs. When this step is required a summary of any adjusted records will be provided. No records were adjusted at this time.

Statistical Analysis of Appendix III Parameters – September 2020

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed for Appendix III parameters using all historical upgradient well data through September 2020 except for upgradient wells HGWA-43D and HGWA-44D, which have samples through November 2020 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase (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 exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance.

When the September 2020 compliance data from downgradient wells were compared to interwell prediction limits, several exceedances were identified. A summary table of these findings is provided along with the prediction limits (Figure D).

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. Upgradient trends are an indication of natural variability in groundwater unrelated to practices at the site. Trend tests require a minimum of 6 samples; therefore, the new upgradient wells HGWA-43D and HGWA-44D were not included in this analysis. 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), HGWC-7, and HGWC-9
- Sulfate: HGWA-3 (upgradient)

Decreasing trends:

- Calcium: HGWC-12
- Chloride: HGWC-9 and HGWC-12
- Sulfate: HGWC-12
- TDS: HGWC-12

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 – September 2020

Site specific background limits were calculated as upper one-sided tolerance limits (UTLs) on pooled upgradient well data all historical upgradient well data through September 2020 except for upgradient wells HGWA-43D and HGWA-44D, which have samples through November 2020 (Figure F). When varying detection limits were present in upgradient wells, all nondetects were substituted with the most recent reporting limit. As mentioned above, an alternate reporting limit of 0.03 mg/L was substituted across all wells for lithium. Parametric tolerance limits were used when data follow a normal or transformed-normal distribution. When data contained greater than 50% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a).

As described in 40 CFR §257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified levels have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR Rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following the above Georgia EPD Rule requirements and the CCR Rule, State and Federal GWPS were established for statistical comparison of Appendix IV constituents for the September 2020 sample event (Figure G). Delineation wells were included when a minimum of 4 samples were available. Note that a GWPS is established for mercury;

however, since there were no detections of mercury above the reporting limit, no statistical comparison with confidence intervals is required.

To complete the statistical comparison to GWPS, confidence intervals were constructed for each of the Appendix IV constituents in each downgradient well. The Sanitas software was used to calculate the tolerance limits and the confidence intervals, either parametric or nonparametric, as appropriate. For the State requirements, confidence intervals were compared to the GWPS established using the Georgia EPD Rules 391-3-4-.10(6)(a). For Federal requirements, confidence intervals were compared to the GWPS prepared according to the CCR Rule. 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. Summaries of the confidence interval results, along with graphical comparison against GWPS for both State and Federal requirements follow this letter (Figures H and I, respectively). Exceedances were noted for the following well/constituent pairs:

Federal:

- Arsenic: HGWC-13
- Fluoride: MW-30D
- Lithium: MW-25D and MW-30D
- Molybdenum: HGWC-8

State:

- Arsenic: HGWC-13
- Fluoride: MW-30D
- Lithium: HGWC-13, MW-25D, and MW-30D
- Molybdenum: HGWC-7, HGWC-8, HGWC-9, HGWC-11, HGWC-12, HGWC-13, MW-19, and MW-40D

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Hammond AP-1. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew T. Collins
Project Manager

Kristina L. Rayner
Groundwater Statistician

100% Non-Detects

Analysis Run 11/20/2020 5:19 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Antimony (mg/L)
HGWC-10, HGWC-12, HGWC-8, MW-19, MW-20, MW-25D, MW-28D, MW-29, MW-5

Arsenic (mg/L)
HGWC-10, HGWC-8, MW-24D, MW-28D, MW-5, MW-6, MW-7

Beryllium (mg/L)
HGWC-10, HGWC-12, HGWC-9, MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-29, MW-30D, MW-5, MW-6

Cadmium (mg/L)
HGWC-13, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, MW-30D, MW-5, MW-6, MW-7

Cobalt (mg/L)
MW-25D, MW-30D, MW-5, MW-7

Lead (mg/L)
MW-25D

Lithium (mg/L)
HGWC-10, HGWC-11, MW-5, MW-6, MW-7

Mercury (mg/L)
HGWC-12, HGWC-7, HGWC-8, MW-19, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-28D, MW-29, MW-30D, MW-5, MW-6, MW-7

Molybdenum (mg/L)
MW-20, MW-5

Selenium (mg/L)
HGWC-7, MW-20, MW-24D, MW-25D, MW-26D, MW-28D, MW-29, MW-30D, MW-6

Thallium (mg/L)
HGWC-10, HGWC-7, HGWC-9, MW-20, MW-24D, MW-25D, MW-26D, MW-27D, MW-30D, MW-5, MW-7

Appendix III Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:25 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-10	0.1141	n/a	9/16/2020	1.1	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-11	0.1141	n/a	9/18/2020	0.91	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-12	0.1141	n/a	9/18/2020	1.6	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-13	0.1141	n/a	9/21/2020	1.6	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-7	0.1141	n/a	9/16/2020	1.1	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-8	0.1141	n/a	9/16/2020	1.9	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-9	0.1141	n/a	9/17/2020	2	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	HGWC-10	138	n/a	9/16/2020	139	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-12	138	n/a	9/18/2020	163	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-13	138	n/a	9/21/2020	173	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-9	138	n/a	9/17/2020	164	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-12	41.1	n/a	9/18/2020	74.6	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-13	41.1	n/a	9/21/2020	41.2	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-7	41.1	n/a	9/16/2020	46.4	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-8	41.1	n/a	9/16/2020	74.6	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-9	41.1	n/a	9/17/2020	105	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-10	88.2	n/a	9/16/2020	169	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-11	88.2	n/a	9/18/2020	272	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-12	88.2	n/a	9/18/2020	266	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-13	88.2	n/a	9/21/2020	359	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-7	88.2	n/a	9/16/2020	109	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-8	88.2	n/a	9/16/2020	194	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-9	88.2	n/a	9/17/2020	209	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-11	502.4	n/a	9/18/2020	626	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-12	502.4	n/a	9/18/2020	704	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-13	502.4	n/a	9/21/2020	732	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-8	502.4	n/a	9/16/2020	552	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-9	502.4	n/a	9/17/2020	680	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2

Appendix III Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:25 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-10**	**0.1141**	**n/a**	**9/16/2020**	**1.1**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-11**	**0.1141**	**n/a**	**9/18/2020**	**0.91**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-12**	**0.1141**	**n/a**	**9/18/2020**	**1.6**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-13**	**0.1141**	**n/a**	**9/21/2020**	**1.6**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-7**	**0.1141**	**n/a**	**9/16/2020**	**1.1**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-8**	**0.1141**	**n/a**	**9/16/2020**	**1.9**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-9**	**0.1141**	**n/a**	**9/17/2020**	**2**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-10**	**138**	**n/a**	**9/16/2020**	**139**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-11	138	n/a	9/18/2020	122	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-12**	**138**	**n/a**	**9/18/2020**	**163**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-13**	**138**	**n/a**	**9/21/2020**	**173**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-7	138	n/a	9/16/2020	98	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-8	138	n/a	9/16/2020	119	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-9**	**138**	**n/a**	**9/17/2020**	**164**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-10	41.1	n/a	9/16/2020	39.7	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-11	41.1	n/a	9/18/2020	34.9	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-12**	**41.1**	**n/a**	**9/18/2020**	**74.6**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-13**	**41.1**	**n/a**	**9/21/2020**	**41.2**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-7**	**41.1**	**n/a**	**9/16/2020**	**46.4**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-8**	**41.1**	**n/a**	**9/16/2020**	**74.6**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-9**	**41.1**	**n/a**	**9/17/2020**	**105**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-10	0.59	n/a	9/16/2020	0.1ND	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-11	0.59	n/a	9/18/2020	0.15	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-12	0.59	n/a	9/18/2020	0.15	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-13	0.59	n/a	9/21/2020	0.44	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-7	0.59	n/a	9/16/2020	0.081J	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-8	0.59	n/a	9/16/2020	0.53	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-9	0.59	n/a	9/17/2020	0.1	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-10	7.84	4.9	9/16/2020	6.66	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-11	7.84	4.9	9/18/2020	6.42	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-12	7.84	4.9	9/18/2020	7.15	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-13	7.84	4.9	9/21/2020	7.34	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-7	7.84	4.9	9/16/2020	7.3	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-8	7.84	4.9	9/16/2020	6.92	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-9	7.84	4.9	9/17/2020	6.99	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-10**	**88.2**	**n/a**	**9/16/2020**	**169**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-11**	**88.2**	**n/a**	**9/18/2020**	**272**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-12**	**88.2**	**n/a**	**9/18/2020**	**266**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-13**	**88.2**	**n/a**	**9/21/2020**	**359**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-7**	**88.2**	**n/a**	**9/16/2020**	**109**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-8**	**88.2**	**n/a**	**9/16/2020**	**194**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-9**	**88.2**	**n/a**	**9/17/2020**	**209**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-10	502.4	n/a	9/16/2020	490	No	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-11**	**502.4**	**n/a**	**9/18/2020**	**626**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-12**	**502.4**	**n/a**	**9/18/2020**	**704**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-13**	**502.4**	**n/a**	**9/21/2020**	**732**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-7	502.4	n/a	9/16/2020	392	No	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-8**	**502.4**	**n/a**	**9/16/2020**	**552**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-9**	**502.4**	**n/a**	**9/17/2020**	**680**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWA-2 (bg)**	**0.002014**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-7**	**0.05335**	**68**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-9**	**0.1969**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-12**	**-21.24**	**-62**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-12**	**-29.6**	**-71**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-9**	**-11.07**	**-55**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWA-3 (bg)**	**1.639**	**64**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-12**	**-38.47**	**-63**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-12**	**-134.4**	**-75**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	0.0004675	7	58	No	16	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWA-2 (bg)**	**0.002014**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWA-3 (bg)	-0.0006127	-25	-58	No	16	12.5	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-10	0.06503	19	53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-11	-0.3126	-38	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-12	-0.2221	-38	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-13	-0.2813	-50	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-7**	**0.05335**	**68**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-8	0.267	57	58	No	16	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-9**	**0.1969**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWA-43D (bg)	-0.02655	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Boron (mg/L)	HGWA-44D (bg)	0.3982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Calcium (mg/L)	HGWA-1 (bg)	6.226	48	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-2 (bg)	0.02596	1	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	2.935	46	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-10	-4.899	-25	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWC-12**	**-21.24**	**-62**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWC-13	-2.009	-4	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-9	0.3014	4	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-43D (bg)	48.45	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Calcium (mg/L)	HGWA-44D (bg)	23.89	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Chloride (mg/L)	HGWA-1 (bg)	2.42	43	58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-2 (bg)	-0.238	-41	-53	No	15	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-3 (bg)	-0.08889	-27	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-12**	**-29.6**	**-71**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	HGWC-13	-14.49	-35	-53	No	15	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-7	-0.4432	-16	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-8	-8.608	-45	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-9**	**-11.07**	**-55**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	HGWA-43D (bg)	1.991	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Chloride (mg/L)	HGWA-44D (bg)	3.982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Sulfate (mg/L)	HGWA-1 (bg)	7.687	53	58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	1.235	49	53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWA-3 (bg)**	**1.639**	**64**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-10	-4.594	-20	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-11	-19.17	-25	-53	No	15	6.667	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWC-12**	**-38.47**	**-63**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-13	-2.78	-5	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-7	2.474	27	58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-8	-16.44	-45	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-9	-5.394	-33	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-26.55	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Sulfate (mg/L)	HGWA-44D (bg)	-3.982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	18.73	26	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	-3.989	-24	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	2.145	12	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-11	-32.24	-31	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**HGWC-12**	**-134.4**	**-75**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	HGWC-13	-47.1	-9	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-8	-48.1	-50	-58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-9	-51.26	-23	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-43D (bg)	232.3	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Total Dissolved Solids (mg/L)	HGWA-44D (bg)	112.8	NaN	NaN	No	2	0	n/a	n/a	NaN	NP

Upper Tolerance Limit Summary Table

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:47 PM

Constituent	Upper Lim.	Lower Lim.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.003	n/a	n/a	49	n/a	n/a	89.8	n/a	n/a	0.08099	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	55	n/a	n/a	65.45	n/a	n/a	0.05954	NP Inter(NDs)
Barium (mg/L)	0.38	n/a	n/a	55	n/a	n/a	0	n/a	n/a	0.05954	NP Inter(normality)
Beryllium (mg/L)	0.003	n/a	n/a	49	n/a	n/a	75.51	n/a	n/a	0.08099	NP Inter(NDs)
Cadmium (mg/L)	0.0025	n/a	n/a	49	n/a	n/a	85.71	n/a	n/a	0.08099	NP Inter(NDs)
Chromium (mg/L)	0.01	n/a	n/a	49	n/a	n/a	83.67	n/a	n/a	0.08099	NP Inter(NDs)
Cobalt (mg/L)	0.038	n/a	n/a	49	n/a	n/a	67.35	n/a	n/a	0.08099	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	4.36	n/a	n/a	55	n/a	n/a	0	n/a	n/a	0.05954	NP Inter(normality)
Fluoride (mg/L)	0.59	n/a	n/a	60	n/a	n/a	35	n/a	n/a	0.04607	NP Inter(normality)
Lead (mg/L)	0.005	n/a	n/a	46	n/a	n/a	67.39	n/a	n/a	0.09447	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	55	n/a	n/a	29.09	n/a	n/a	0.05954	NP Inter(normality)
Mercury (mg/L)	0.0005	n/a	n/a	37	n/a	n/a	94.59	n/a	n/a	0.1499	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	57	n/a	n/a	92.98	n/a	n/a	0.05373	NP Inter(NDs)
Selenium (mg/L)	0.01	n/a	n/a	55	n/a	n/a	100	n/a	n/a	0.05954	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	55	n/a	n/a	98.18	n/a	n/a	0.05954	NP Inter(NDs)

PLANT HAMMOND AP-1 GWPS (Federal)				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal 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		0.38	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.59	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

PLANT HAMMOND AP-1 GWPS (State)				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal 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		0.38	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.59	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

Federal Confidence Intervals Summary - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.04**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.04**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.1**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-11	0.003	0.00038	0.006	No	15	0.002825	0.0006765	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.0003	0.006	No	15	0.002118	0.001294	66.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-7	0.003	0.00034	0.006	No	15	0.002823	0.0006868	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	15	0.002649	0.0009256	86.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	6	0.002783	0.0005307	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	6	0.00255	0.0007314	66.67	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	6	0.00074	0.001109	16.67	None	No	0.0155	NP (normality)
Antimony (mg/L)	MW-30D	0.0005793	0.0002541	0.006	No	4	0.001695	0.001508	50	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (mg/L)	MW-6	0.003	0.0014	0.006	No	6	0.002733	0.0006532	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-7	0.001403	0.0004901	0.006	No	6	0.001945	0.001183	50	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	17	0.003432	0.001798	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004647	0.003012	0.01	No	17	0.003829	0.001305	11.76	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	17	0.004818	0.0007519	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	6	0.004242	0.001858	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	6	0.00378	0.001985	66.67	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001774	0.0006793	0.01	No	6	0.002458	0.002006	33.33	Kaplan-Meier	x^(1/3)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	6	0.004267	0.001796	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	6	0.003482	0.002357	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	6	0.004228	0.00189	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-30D	0.002969	0.001297	0.01	No	4	0.00285	0.00148	25	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	HGWC-10	0.09199	0.06746	2	No	17	0.07972	0.01958	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.05571	0.03082	2	No	17	0.04454	0.02182	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.13	0.086	2	No	17	0.1048	0.0214	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-13	0.09563	0.07185	2	No	17	0.08374	0.01897	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.07583	0.06828	2	No	17	0.07206	0.006024	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.0829	0.06	2	No	17	0.07029	0.01176	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1242	0.106	2	No	17	0.1151	0.01448	0	None	No	0.01	Param.
Barium (mg/L)	MW-19	0.07219	0.05114	2	No	6	0.06167	0.007659	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.09991	0.08009	2	No	6	0.09	0.007211	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1064	0.03448	2	No	6	0.06767	0.02861	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-25D	0.4598	0.3802	2	No	6	0.42	0.02898	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1548	0.08929	2	No	6	0.1197	0.02639	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-27D	1.5	0.95	2	No	6	1.1	0.2168	0	None	No	0.0155	NP (normality)
Barium (mg/L)	MW-28D	0.8939	0.08273	2	No	6	0.4883	0.2953	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.08932	0.07468	2	No	6	0.082	0.005329	0	None	No	0.01	Param.
Barium (mg/L)	MW-30D	0.3785	-0.119	2	No	4	0.1298	0.1095	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05427	0.04206	2	No	6	0.04817	0.004446	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09757	0.08177	2	No	6	0.08967	0.00575	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07017	0.04483	2	No	6	0.0575	0.009225	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	15	0.001848	0.001461	60	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	15	0.002032	0.001418	66.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	15	0.002805	0.0007547	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.0001	0.004	No	15	0.002612	0.001025	86.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	6	0.002523	0.001168	83.33	None	No	0.0155	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	6	0.002509	0.001204	83.33	None	No	0.0155	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	15	0.001388	0.001231	53.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	15	0.00202	0.0009942	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	15	0.001883	0.00106	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	15	0.00188	0.001064	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	15	0.0004533	0.0006881	6.667	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	15	0.002025	0.0009844	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	6	0.00096	0.001194	33.33	None	No	0.0155	NP (normality)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	15	0.01067	0.002582	93.33	None	No	0.01	NP (NDs)

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	15	0.008727	0.003359	86.67	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	15	0.008254	0.003638	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	15	0.008103	0.003927	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	15	0.01225	0.01668	73.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0015	0.1	No	15	0.00818	0.003773	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	15	0.009368	0.002448	93.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	6	0.005422	0.005025	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	6	0.00687	0.004849	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	6	0.008403	0.003911	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	6	0.008435	0.003833	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-26D	0.01	0.00076	0.1	No	6	0.00576	0.004698	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-27D	0.01	0.0007	0.1	No	6	0.00845	0.003797	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	6	0.005727	0.004731	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	6	0.0085	0.003674	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-30D	0.001624	-0.0000942	40.1	No	4	0.000765	0.0003785	0	None	No	0.01	Param.
Chromium (mg/L)	MW-5	0.005218	0.002082	0.1	No	6	0.00365	0.001141	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	6	0.006838	0.004898	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	6	0.00315	0.003376	16.67	None	No	0.0155	NP (normality)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	15	0.003307	0.002152	60	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002079	0.0009715	0.038	No	15	0.002344	0.001569	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	15	0.00196	0.001267	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004428	0.002627	0.038	No	15	0.003527	0.001329	6.667	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	15	0.001663	0.001806	20	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	15	0.002238	0.0008065	6.667	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	15	0.001317	0.001542	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	MW-19	0.04831	0.02469	0.038	No	6	0.0365	0.008597	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	6	0.00435	0.001592	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001232	0.0002333	0.038	No	6	0.002818	0.002405	50	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	6	0.003472	0.002369	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	6	0.003423	0.002445	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	6	0.004322	0.001662	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-29	0.001453	0.0003841	0.038	No	6	0.0009183	0.0003889	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-6	0.005	0.00036	0.038	No	6	0.001308	0.00182	16.67	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.042	0.5393	5	No	17	0.7908	0.4015	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.184	0.5942	5	No	17	0.8889	0.4703	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.174	0.6107	5	No	17	0.8926	0.4498	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	1.011	0.54	5	No	17	0.7756	0.3761	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.052	0.4807	5	No	17	0.8048	0.505	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.9699	0.6521	5	No	17	0.811	0.2536	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.966	0.5203	5	No	17	0.7432	0.3556	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-19	1.394	0.3605	5	No	6	0.8775	0.3763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.292	0.08455	5	No	6	0.6883	0.4395	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	1.144	-0.0003897	5	No	6	0.572	0.4167	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.418	0.6515	5	No	6	1.035	0.2792	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.592	0.1023	5	No	6	0.8473	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.261	0.6874	5	No	6	1.474	0.5726	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.663	0.5681	5	No	6	1.115	0.3984	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.252	0.1332	5	No	6	0.6927	0.4072	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-30D	1.669	0.2466	5	No	4	0.9578	0.3132	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.107	0.5707	5	No	6	0.8388	0.1952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	6	0.9997	0.5264	0	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.472	0.7805	5	No	6	1.126	0.2516	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2413	0.08503	4	No	18	0.1879	0.1518	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4775	0.2828	4	No	18	0.3802	0.1609	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4532	0.1805	4	No	18	0.3412	0.2647	5.556	None	sqrt(x)	0.01	Param.

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	HGWC-13	0.7369	0.4896	4	No	18	0.6133	0.2043	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.1792	0.08268	4	No	19	0.1533	0.1234	10.53	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.6676	0.4878	4	No	19	0.5921	0.1806	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.2822	0.08669	4	No	18	0.2066	0.172	11.11	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-19	0.4715	0.01387	4	No	6	0.2427	0.1665	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.072	0.05	4	No	6	0.05367	0.008981	83.33	None	No	0.0155	NP (NDs)
Fluoride (mg/L)	MW-24D	0.18	0.048	4	No	6	0.07783	0.05105	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-25D	2.2	1.4	4	No	6	1.65	0.2811	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-26D	0.19	0.044	4	No	6	0.07617	0.05639	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-27D	0.42	0.22	4	No	6	0.2783	0.07223	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-28D	0.2947	0.1253	4	No	6	0.21	0.06164	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.18	0.045	4	No	6	0.07417	0.05258	50	None	No	0.0155	NP (normality)
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-5	0.1035	0.05183	4	No	6	0.07767	0.01881	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.19	0.05	4	No	6	0.1153	0.0689	33.33	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-7	0.17	0.05	4	No	6	0.07317	0.04804	66.67	None	No	0.0155	NP (NDs)
Lead (mg/L)	HGWC-10	0.005	0.00005	0.015	No	13	0.004619	0.001373	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00009	0.015	No	13	0.003151	0.002436	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.000096	0.015	No	13	0.003891	0.002109	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.015	No	13	0.003497	0.002347	69.23	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.015	No	13	0.002395	0.002513	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.0002	0.015	No	13	0.004256	0.001816	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.015	No	13	0.002757	0.002522	53.85	None	No	0.01	NP (NDs)
Lead (mg/L)	MW-19	0.005	0.000085	0.015	No	4	0.002549	0.00283	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-20	0.005	0.00013	0.015	No	4	0.002575	0.0028	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-24D	0.0003387	0.00001887	0.015	No	4	0.001324	0.002452	25	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-26D	0.005	0.0001	0.015	No	4	0.003775	0.00245	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-27D	0.005	0.00013	0.015	No	4	0.003782	0.002435	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-28D	0.001654	-0.000029090	0.015	No	4	0.00156	0.002331	25	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-29	0.005	0.00009	0.015	No	4	0.00255	0.002829	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-5	0.005	0.000047	0.015	No	4	0.003762	0.002476	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	MW-6	0.0004038	0.0000837	0.015	No	4	0.002597	0.002775	50	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-7	0.005	0.000062	0.015	No	4	0.003765	0.002469	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01113	0.008008	0.04	No	17	0.009571	0.002494	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-13	0.03908	0.03082	0.04	No	17	0.03495	0.006588	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-7	0.003	0.0021	0.04	No	17	0.003159	0.003075	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0032	0.0024	0.04	No	17	0.003406	0.003002	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.04	No	17	0.004806	0.002669	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	MW-19	0.01459	0.006745	0.04	No	6	0.01067	0.002855	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.015	0.00082	0.04	No	6	0.005853	0.00709	33.33	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-24D	0.00301	0.002423	0.04	No	6	0.002717	0.0002137	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.04**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0032	0.04	No	6	0.007933	0.01082	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-27D	0.009521	0.004479	0.04	No	6	0.007	0.001835	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.015	0.0052	0.04	No	6	0.009333	0.004576	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-29	0.002491	0.002042	0.04	No	6	0.002267	0.0001633	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.04**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.1	No	17	0.003759	0.001741	64.71	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-11	0.02587	0.0146	0.1	No	17	0.02024	0.008991	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-12	0.05018	0.04571	0.1	No	17	0.04795	0.003567	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-13	0.03598	0.02947	0.1	No	17	0.03272	0.005191	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-7	0.0415	0.03329	0.1	No	18	0.03739	0.006778	0	None	No	0.01	Param.
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.1**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-9	0.031	0.0234	0.1	No	17	0.05286	0.1094	0	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MW-19	0.06861	0.02773	0.1	No	6	0.04817	0.01488	0	None	No	0.01	Param.

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	MW-24D	0.005	0.00027	0.1	No	6	0.003543	0.002268	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.005	0.00094	0.1	No	6	0.003857	0.001816	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01813	0.005014	0.1	No	7	0.01157	0.00552	14.29	None	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.005417	0.001223	0.1	No	6	0.0036	0.001673	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02574	0.004861	0.1	No	6	0.0153	0.007599	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003573	0.001827	0.1	No	6	0.0027	0.0006356	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.0369	0.006584	0.1	No	7	0.02174	0.01276	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-40D	0.01692	0.01258	0.1	No	4	0.01475	0.0009574	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.1	No	6	0.00235	0.0002429	0	None	No	0.0155	NP (normality)
Molybdenum (mg/L)	MW-7	0.005	0.0015	0.1	No	6	0.004133	0.001458	66.67	None	No	0.0155	NP (NDs)
Selenium (mg/L)	HGWC-10	0.01	0.0041	0.05	No	17	0.008229	0.003327	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01601	0.006257	0.05	No	17	0.01114	0.007785	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	17	0.009476	0.002159	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.0016	0.05	No	17	0.008928	0.003036	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	17	0.009553	0.001843	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	17	0.009629	0.001528	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	MW-19	0.006888	0.001632	0.05	No	6	0.005217	0.003025	16.67	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	6	0.008353	0.004033	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Selenium (mg/L)	MW-5	0.004199	0.002101	0.05	No	6	0.00315	0.0007635	0	None	No	0.01	Param.
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	6	0.0045	0.004283	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	17	0.0008918	0.0003055	88.24	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.00009	0.002	No	17	0.0006838	0.0004422	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004356	0.000343	0.002	No	17	0.0003893	0.00007388	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.00008	0.002	No	17	0.0006758	0.0004526	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	6	0.000515	0.000376	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	6	0.0008487	0.0003707	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	6	0.000844	0.0003821	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	6	0.000847	0.0003748	83.33	None	No	0.0155	NP (NDs)

State Confidence Intervals Summary - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**HGWC-13**	**0.03908**	**0.03082**	**0.03**	**Yes**	**17**	**0.03495**	**0.006588**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.03**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.03**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-11**	**0.02587**	**0.0146**	**0.01**	**Yes**	**17**	**0.02024**	**0.008991**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05018**	**0.04571**	**0.01**	**Yes**	**17**	**0.04795**	**0.003567**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03598**	**0.02947**	**0.01**	**Yes**	**17**	**0.03272**	**0.005191**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.0415**	**0.03329**	**0.01**	**Yes**	**18**	**0.03739**	**0.006778**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.01**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0234**	**0.01**	**Yes**	**17**	**0.05286**	**0.1094**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	**MW-19**	**0.06861**	**0.02773**	**0.01**	**Yes**	**6**	**0.04817**	**0.01488**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**MW-40D**	**0.01692**	**0.01258**	**0.01**	**Yes**	**4**	**0.01475**	**0.0009574**	**0**	**None**	**No**	**0.01**	**Param.**

State Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-11	0.003	0.00038	0.006	No	15	0.002825	0.0006765	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.0003	0.006	No	15	0.002118	0.001294	66.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-7	0.003	0.00034	0.006	No	15	0.002823	0.0006868	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	15	0.002649	0.0009256	86.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	6	0.002783	0.0005307	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	6	0.00255	0.0007314	66.67	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	6	0.00074	0.001109	16.67	None	No	0.0155	NP (normality)
Antimony (mg/L)	MW-30D	0.0005793	0.0002541	0.006	No	4	0.001695	0.001508	50	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (mg/L)	MW-6	0.003	0.0014	0.006	No	6	0.002733	0.0006532	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-7	0.001403	0.0004901	0.006	No	6	0.001945	0.001183	50	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	17	0.003432	0.001798	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004647	0.003012	0.01	No	17	0.003829	0.001305	11.76	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	17	0.004818	0.0007519	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	6	0.004242	0.001858	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	6	0.00378	0.001985	66.67	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001774	0.0006793	0.01	No	6	0.002458	0.002006	33.33	Kaplan-Meier	x^(1/3)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	6	0.004267	0.001796	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	6	0.003482	0.002357	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	6	0.004228	0.00189	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-30D	0.002969	0.001297	0.01	No	4	0.00285	0.00148	25	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	HGWC-10	0.09199	0.06746	2	No	17	0.07972	0.01958	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.05571	0.03082	2	No	17	0.04454	0.02182	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.13	0.086	2	No	17	0.1048	0.0214	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-13	0.09563	0.07185	2	No	17	0.08374	0.01897	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.07583	0.06828	2	No	17	0.07206	0.006024	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.0829	0.06	2	No	17	0.07029	0.01176	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1242	0.106	2	No	17	0.1151	0.01448	0	None	No	0.01	Param.
Barium (mg/L)	MW-19	0.07219	0.05114	2	No	6	0.06167	0.007659	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.09991	0.08009	2	No	6	0.09	0.007211	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1064	0.03448	2	No	6	0.06767	0.02861	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-25D	0.4598	0.3802	2	No	6	0.42	0.02898	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1548	0.08929	2	No	6	0.1197	0.02639	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-27D	1.5	0.95	2	No	6	1.1	0.2168	0	None	No	0.0155	NP (normality)
Barium (mg/L)	MW-28D	0.8939	0.08273	2	No	6	0.4883	0.2953	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.08932	0.07468	2	No	6	0.082	0.005329	0	None	No	0.01	Param.
Barium (mg/L)	MW-30D	0.3785	-0.119	2	No	4	0.1298	0.1095	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05427	0.04206	2	No	6	0.04817	0.004446	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09757	0.08177	2	No	6	0.08967	0.00575	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07017	0.04483	2	No	6	0.0575	0.009225	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	15	0.001848	0.001461	60	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	15	0.002032	0.001418	66.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	15	0.002805	0.0007547	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.0001	0.004	No	15	0.002612	0.001025	86.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	6	0.002523	0.001168	83.33	None	No	0.0155	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	6	0.002509	0.001204	83.33	None	No	0.0155	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	15	0.001388	0.001231	53.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	15	0.00202	0.0009942	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	15	0.001883	0.00106	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	15	0.00188	0.001064	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	15	0.0004533	0.0006881	6.667	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	15	0.002025	0.0009844	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	6	0.00096	0.001194	33.33	None	No	0.0155	NP (normality)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	15	0.01067	0.002582	93.33	None	No	0.01	NP (NDs)

State Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	15	0.008727	0.003359	86.67	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	15	0.008254	0.003638	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	15	0.008103	0.003927	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	15	0.01225	0.01668	73.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0015	0.1	No	15	0.00818	0.003773	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	15	0.009368	0.002448	93.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	6	0.005422	0.005025	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	6	0.00687	0.004849	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	6	0.008403	0.003911	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	6	0.008435	0.003833	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-26D	0.01	0.00076	0.1	No	6	0.00576	0.004698	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-27D	0.01	0.0007	0.1	No	6	0.00845	0.003797	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	6	0.005727	0.004731	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	6	0.0085	0.003674	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-30D	0.001624	-0.0000942	40.1	No	4	0.000765	0.0003785	0	None	No	0.01	Param.
Chromium (mg/L)	MW-5	0.005218	0.002082	0.1	No	6	0.00365	0.001141	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	6	0.006838	0.004898	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	6	0.00315	0.003376	16.67	None	No	0.0155	NP (normality)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	15	0.003307	0.002152	60	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002079	0.0009715	0.038	No	15	0.002344	0.001569	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	15	0.00196	0.001267	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004428	0.002627	0.038	No	15	0.003527	0.001329	6.667	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	15	0.001663	0.001806	20	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	15	0.002238	0.0008065	6.667	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	15	0.001317	0.001542	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	MW-19	0.04831	0.02469	0.038	No	6	0.0365	0.008597	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	6	0.00435	0.001592	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001232	0.0002333	0.038	No	6	0.002818	0.002405	50	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	6	0.003472	0.002369	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	6	0.003423	0.002445	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	6	0.004322	0.001662	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-29	0.001453	0.0003841	0.038	No	6	0.0009183	0.0003889	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-6	0.005	0.00036	0.038	No	6	0.001308	0.00182	16.67	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.042	0.5393	5	No	17	0.7908	0.4015	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.184	0.5942	5	No	17	0.8889	0.4703	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.174	0.6107	5	No	17	0.8926	0.4498	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	1.011	0.54	5	No	17	0.7756	0.3761	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.052	0.4807	5	No	17	0.8048	0.505	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.9699	0.6521	5	No	17	0.811	0.2536	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.966	0.5203	5	No	17	0.7432	0.3556	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-19	1.394	0.3605	5	No	6	0.8775	0.3763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.292	0.08455	5	No	6	0.6883	0.4395	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	1.144	-0.0003897	5	No	6	0.572	0.4167	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.418	0.6515	5	No	6	1.035	0.2792	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.592	0.1023	5	No	6	0.8473	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.261	0.6874	5	No	6	1.474	0.5726	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.663	0.5681	5	No	6	1.115	0.3984	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.252	0.1332	5	No	6	0.6927	0.4072	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-30D	1.669	0.2466	5	No	4	0.9578	0.3132	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.107	0.5707	5	No	6	0.8388	0.1952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	6	0.9997	0.5264	0	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.472	0.7805	5	No	6	1.126	0.2516	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2413	0.08503	4	No	18	0.1879	0.1518	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4775	0.2828	4	No	18	0.3802	0.1609	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4532	0.1805	4	No	18	0.3412	0.2647	5.556	None	sqrt(x)	0.01	Param.

State Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	HGWC-13	0.7369	0.4896	4	No	18	0.6133	0.2043	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.1792	0.08268	4	No	19	0.1533	0.1234	10.53	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.6676	0.4878	4	No	19	0.5921	0.1806	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.2822	0.08669	4	No	18	0.2066	0.172	11.11	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-19	0.4715	0.01387	4	No	6	0.2427	0.1665	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.072	0.05	4	No	6	0.05367	0.008981	83.33	None	No	0.0155	NP (NDs)
Fluoride (mg/L)	MW-24D	0.18	0.048	4	No	6	0.07783	0.05105	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-25D	2.2	1.4	4	No	6	1.65	0.2811	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-26D	0.19	0.044	4	No	6	0.07617	0.05639	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-27D	0.42	0.22	4	No	6	0.2783	0.07223	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-28D	0.2947	0.1253	4	No	6	0.21	0.06164	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.18	0.045	4	No	6	0.07417	0.05258	50	None	No	0.0155	NP (normality)
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-5	0.1035	0.05183	4	No	6	0.07767	0.01881	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.19	0.05	4	No	6	0.1153	0.0689	33.33	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-7	0.17	0.05	4	No	6	0.07317	0.04804	66.67	None	No	0.0155	NP (NDs)
Lead (mg/L)	HGWC-10	0.005	0.00005	0.005	No	13	0.004619	0.001373	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00009	0.005	No	13	0.003151	0.002436	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.000096	0.005	No	13	0.003891	0.002109	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.005	No	13	0.003497	0.002347	69.23	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.005	No	13	0.002395	0.002513	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.0002	0.005	No	13	0.004256	0.001816	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.005	No	13	0.002757	0.002522	53.85	None	No	0.01	NP (NDs)
Lead (mg/L)	MW-19	0.005	0.000085	0.005	No	4	0.002549	0.00283	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-20	0.005	0.00013	0.005	No	4	0.002575	0.0028	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-24D	0.0003387	0.00001887	0.005	No	4	0.001324	0.002452	25	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-26D	0.005	0.0001	0.005	No	4	0.003775	0.00245	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-27D	0.005	0.00013	0.005	No	4	0.003782	0.002435	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-28D	0.001654	-0.000029090	0.005	No	4	0.00156	0.002331	25	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-29	0.005	0.00009	0.005	No	4	0.00255	0.002829	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-5	0.005	0.000047	0.005	No	4	0.003762	0.002476	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	MW-6	0.0004038	0.0000837	0.005	No	4	0.002597	0.002775	50	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-7	0.005	0.000062	0.005	No	4	0.003765	0.002469	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01113	0.008008	0.03	No	17	0.009571	0.002494	0	None	No	0.01	Param.
Lithium (mg/L)	**HGWC-13**	**0.03908**	**0.03082**	**0.03**	**Yes**	**17**	**0.03495**	**0.006588**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	HGWC-7	0.003	0.0021	0.03	No	17	0.003159	0.003075	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0032	0.0024	0.03	No	17	0.003406	0.003002	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.03	No	17	0.004806	0.002669	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	MW-19	0.01459	0.006745	0.03	No	6	0.01067	0.002855	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.015	0.00082	0.03	No	6	0.005853	0.00709	33.33	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-24D	0.00301	0.002423	0.03	No	6	0.002717	0.0002137	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.03**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0032	0.03	No	6	0.007933	0.01082	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-27D	0.009521	0.004479	0.03	No	6	0.007	0.001835	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.015	0.0052	0.03	No	6	0.009333	0.004576	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-29	0.002491	0.002042	0.03	No	6	0.002267	0.0001633	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.03**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.01	No	17	0.003759	0.001741	64.71	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**HGWC-11**	**0.02587**	**0.0146**	**0.01**	**Yes**	**17**	**0.02024**	**0.008991**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05018**	**0.04571**	**0.01**	**Yes**	**17**	**0.04795**	**0.003567**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03598**	**0.02947**	**0.01**	**Yes**	**17**	**0.03272**	**0.005191**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.0415**	**0.03329**	**0.01**	**Yes**	**18**	**0.03739**	**0.006778**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.01**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0234**	**0.01**	**Yes**	**17**	**0.05286**	**0.1094**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	**MW-19**	**0.06861**	**0.02773**	**0.01**	**Yes**	**6**	**0.04817**	**0.01488**	**0**	**None**	**No**	**0.01**	**Param.**

State Confidence Intervals Summary - All Results

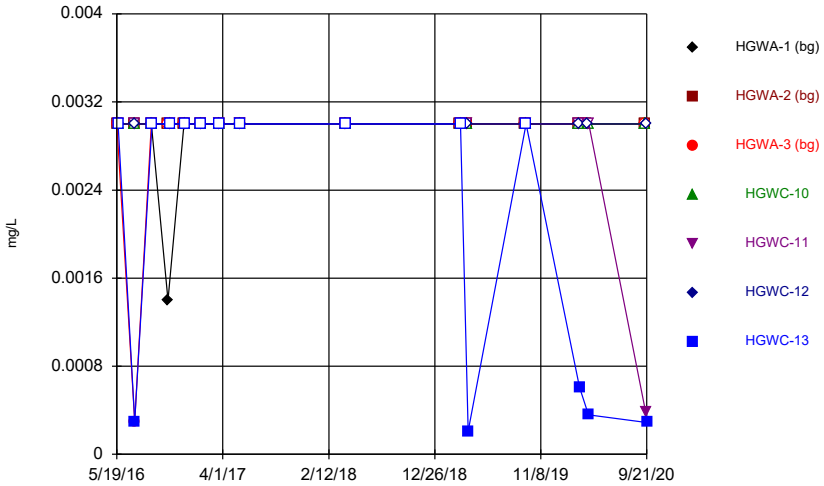
Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	MW-24D	0.005	0.00027	0.01	No	6	0.003543	0.002268	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.005	0.00094	0.01	No	6	0.003857	0.001816	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01813	0.005014	0.01	No	7	0.01157	0.00552	14.29	None	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.005417	0.001223	0.01	No	6	0.0036	0.001673	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02574	0.004861	0.01	No	6	0.0153	0.007599	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003573	0.001827	0.01	No	6	0.0027	0.0006356	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.0369	0.006584	0.01	No	7	0.02174	0.01276	0	None	No	0.01	Param.
Molybdenum (mg/L)	**MW-40D**	**0.01692**	**0.01258**	**0.01**	**Yes**	**4**	**0.01475**	**0.0009574**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.01	No	6	0.00235	0.0002429	0	None	No	0.0155	NP (normality)
Molybdenum (mg/L)	MW-7	0.005	0.0015	0.01	No	6	0.004133	0.001458	66.67	None	No	0.0155	NP (NDs)
Selenium (mg/L)	HGWC-10	0.01	0.0041	0.05	No	17	0.008229	0.003327	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01601	0.006257	0.05	No	17	0.01114	0.007785	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	17	0.009476	0.002159	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.0016	0.05	No	17	0.008928	0.003036	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	17	0.009553	0.001843	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	17	0.009629	0.001528	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	MW-19	0.006888	0.001632	0.05	No	6	0.005217	0.003025	16.67	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	6	0.008353	0.004033	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Selenium (mg/L)	MW-5	0.004199	0.002101	0.05	No	6	0.00315	0.0007635	0	None	No	0.01	Param.
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	6	0.0045	0.004283	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	17	0.0008918	0.0003055	88.24	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.00009	0.002	No	17	0.0006838	0.0004422	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004356	0.000343	0.002	No	17	0.0003893	0.00007388	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.00008	0.002	No	17	0.0006758	0.0004526	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	6	0.000515	0.000376	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	6	0.0008487	0.0003707	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	6	0.000844	0.0003821	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	6	0.000847	0.0003748	83.33	None	No	0.0155	NP (NDs)

FIGURE A.

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Antimony Analysis Run 12/21/2020 3:31 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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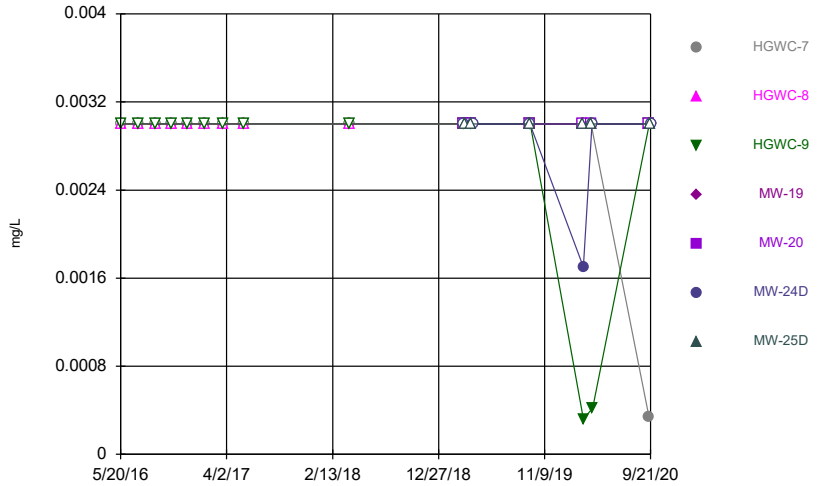

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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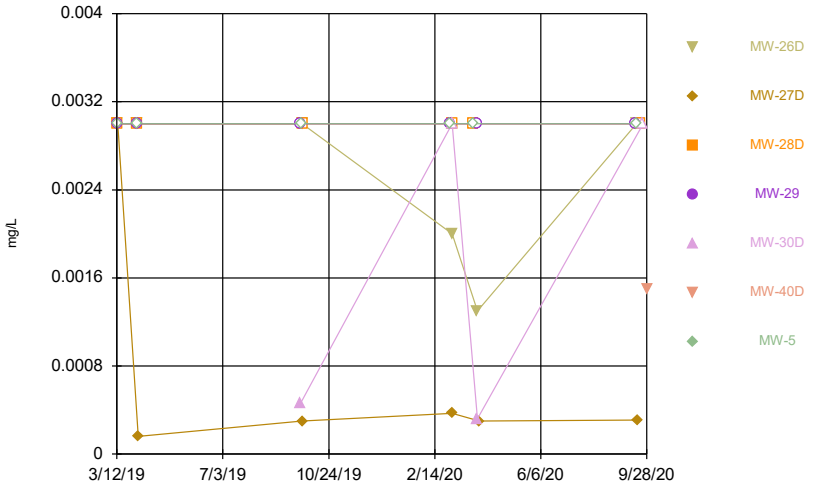

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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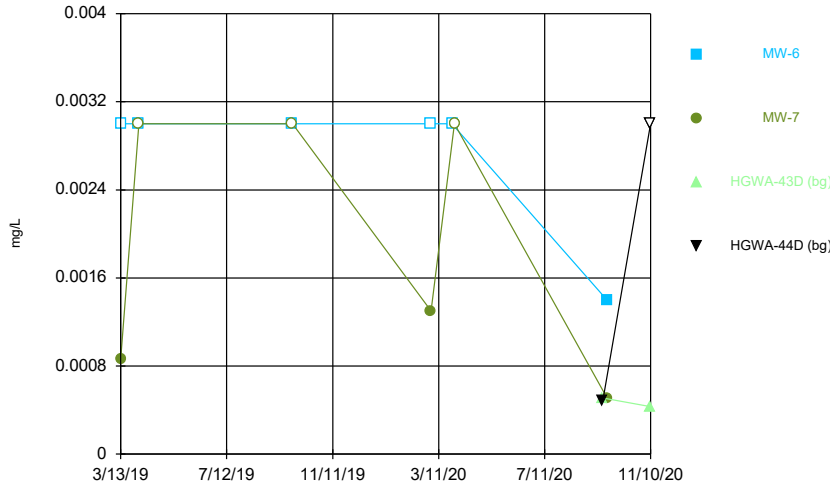

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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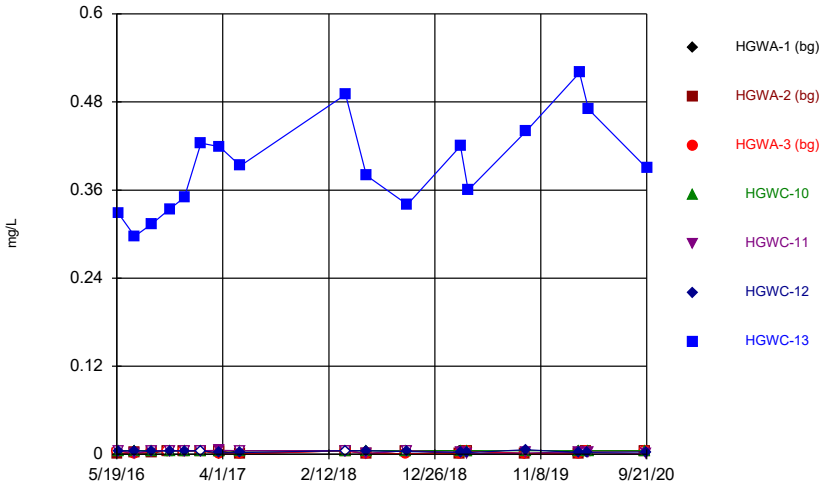

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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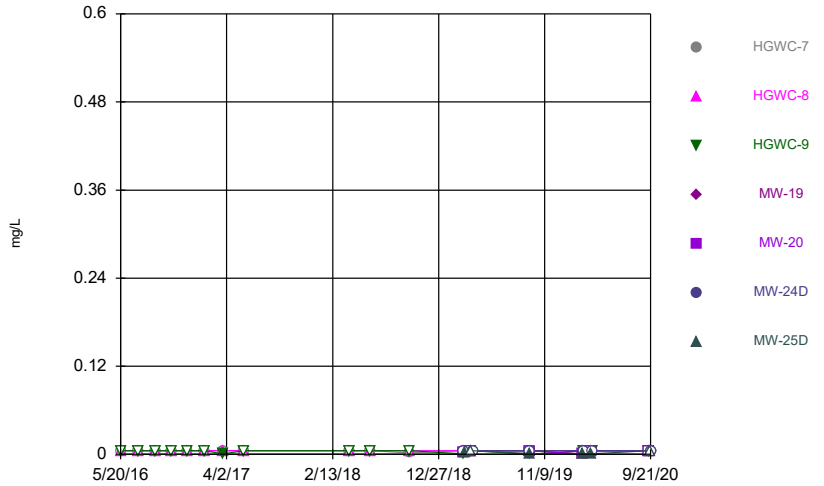
Hollow symbols indicate censored values.

Time Series



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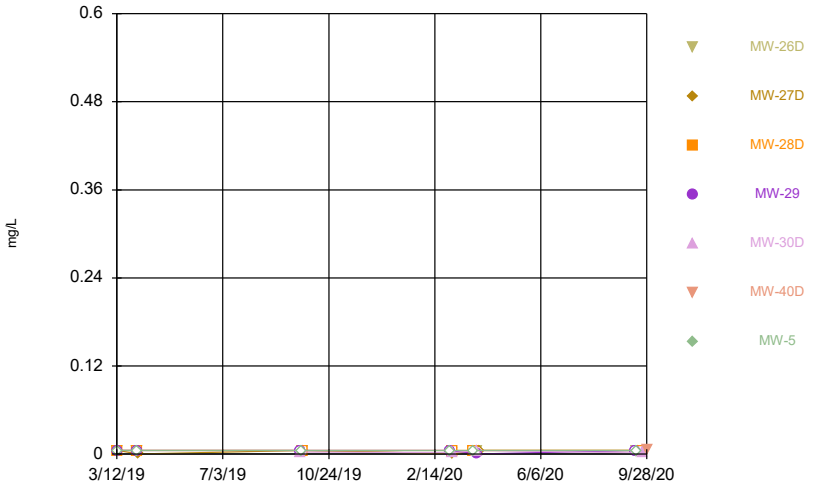

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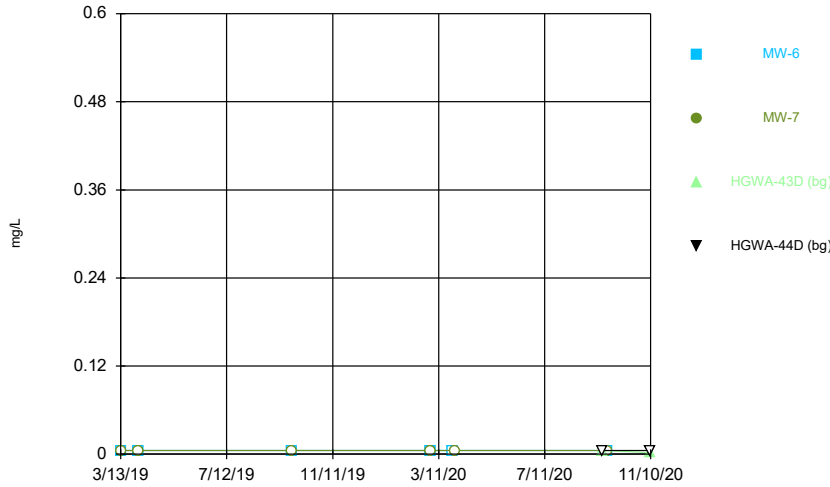

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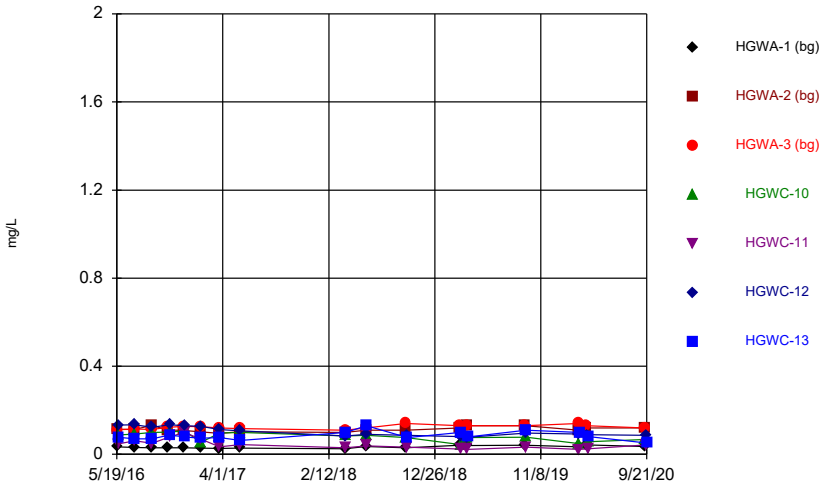
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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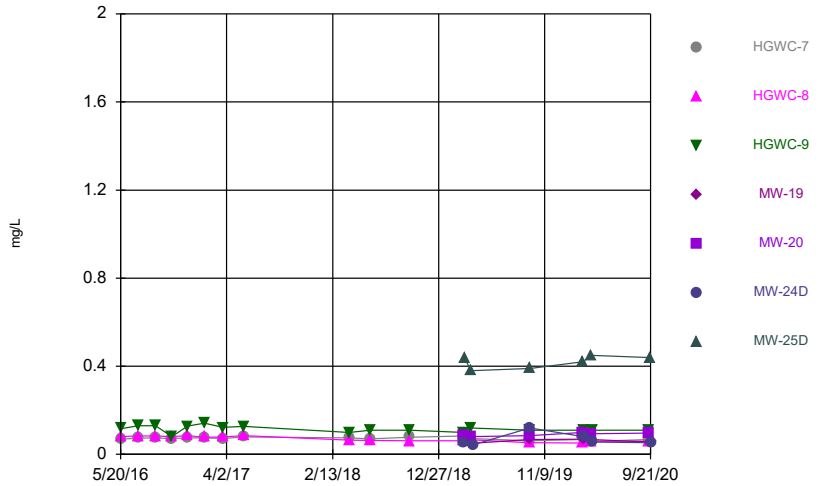
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

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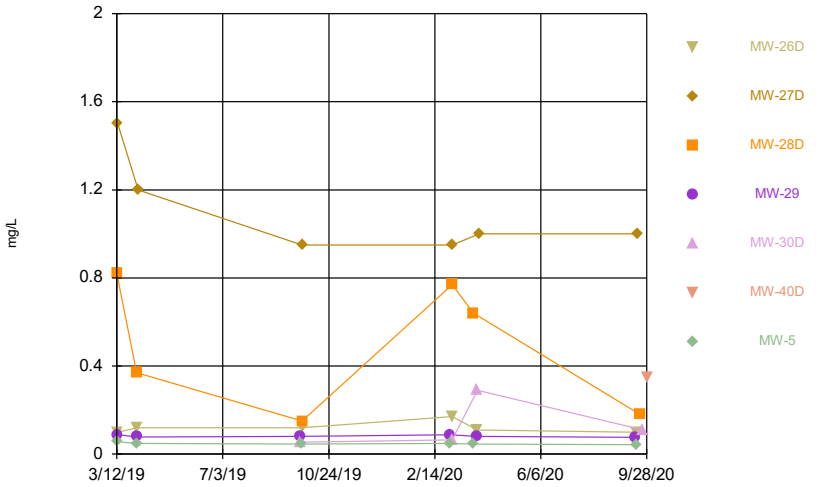

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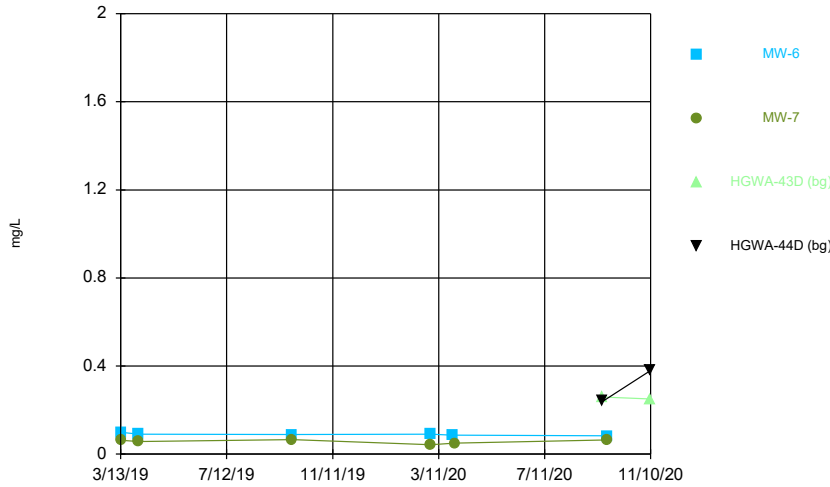
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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Plant Hammond Client: Southern Company Data: Hammond AP-1

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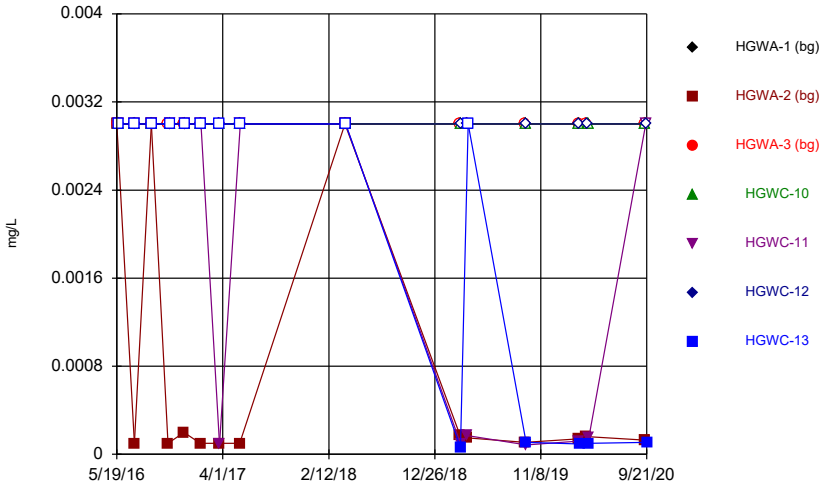
Time Series



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Hollow symbols indicate censored values.

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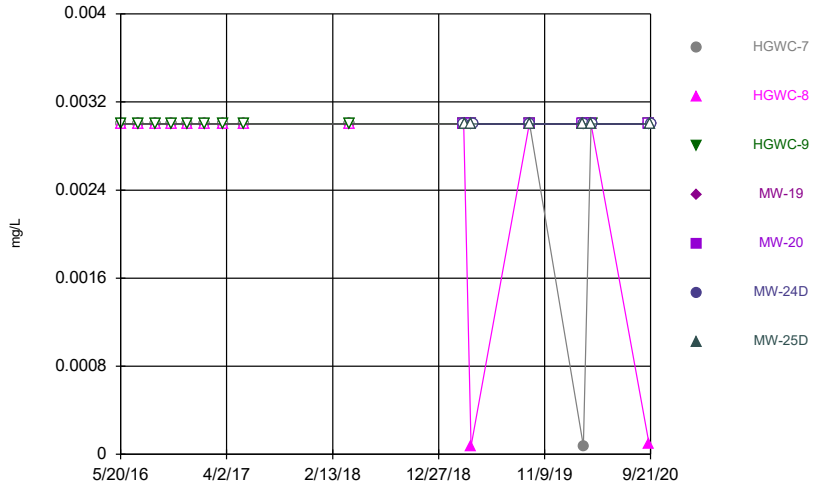

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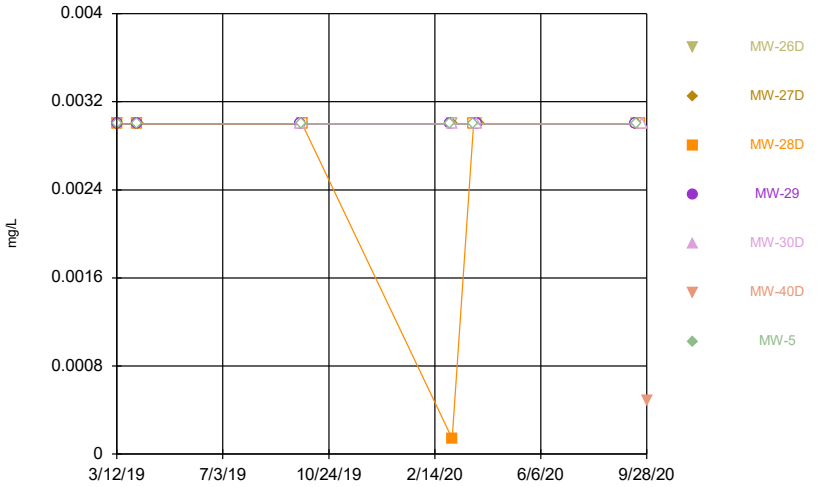

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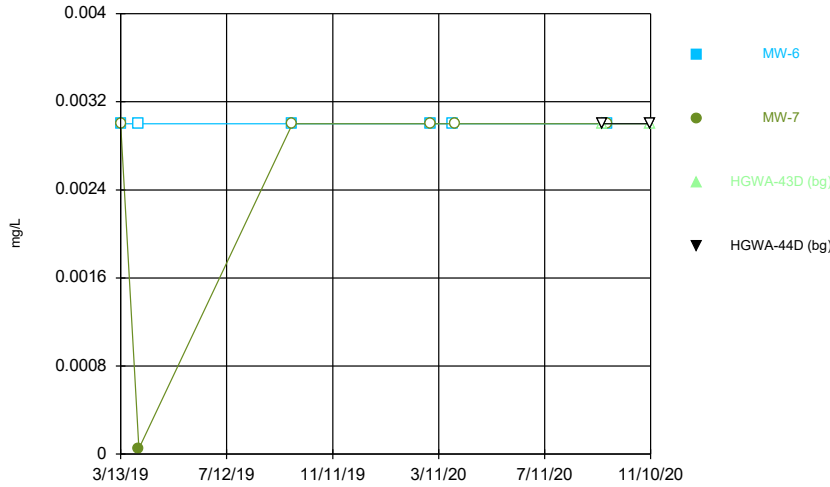

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Hollow symbols indicate censored values.

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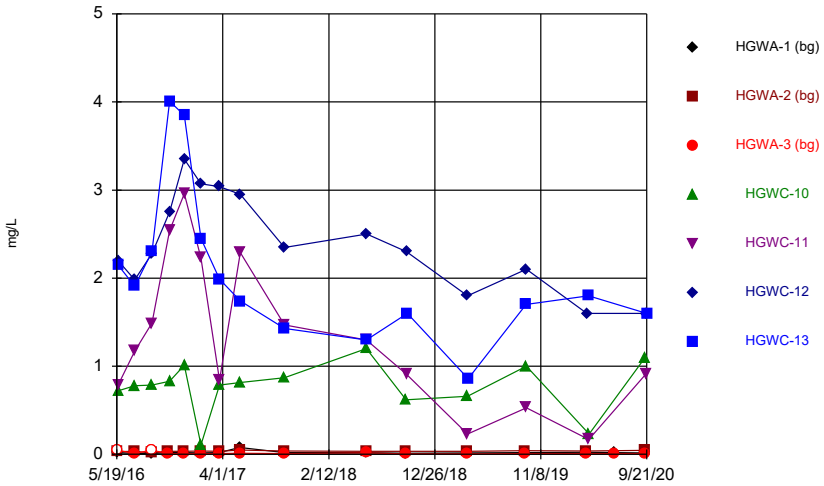

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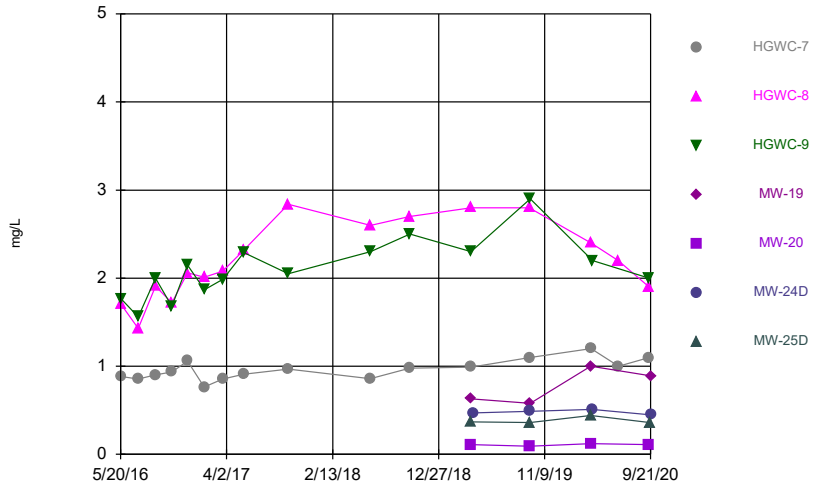
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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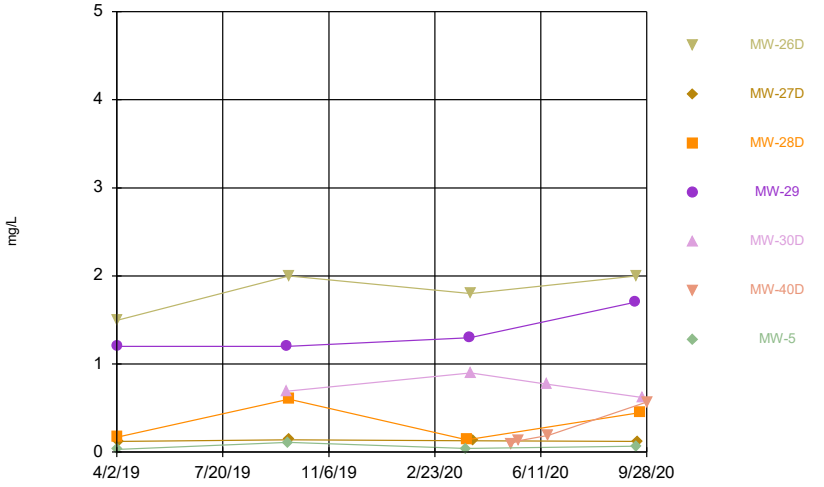

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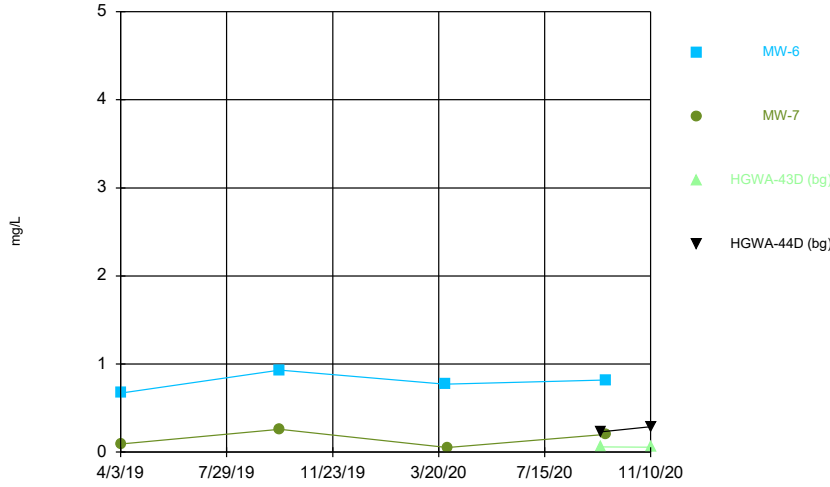

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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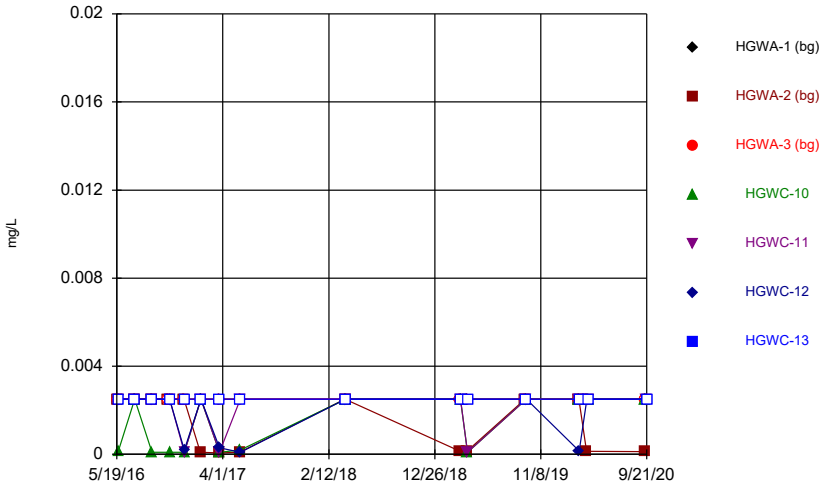

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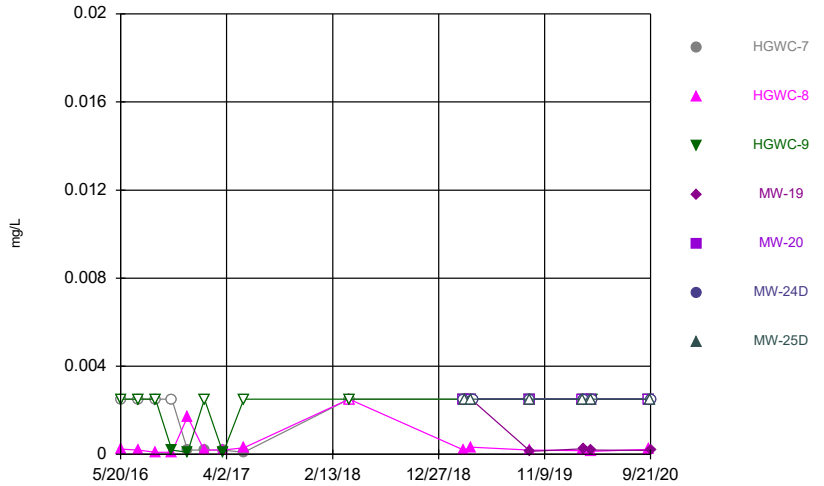

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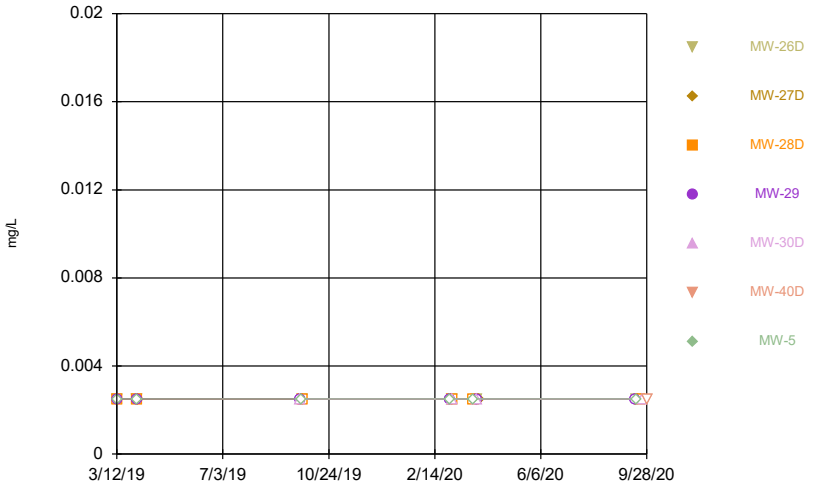

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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Hollow symbols indicate censored values.

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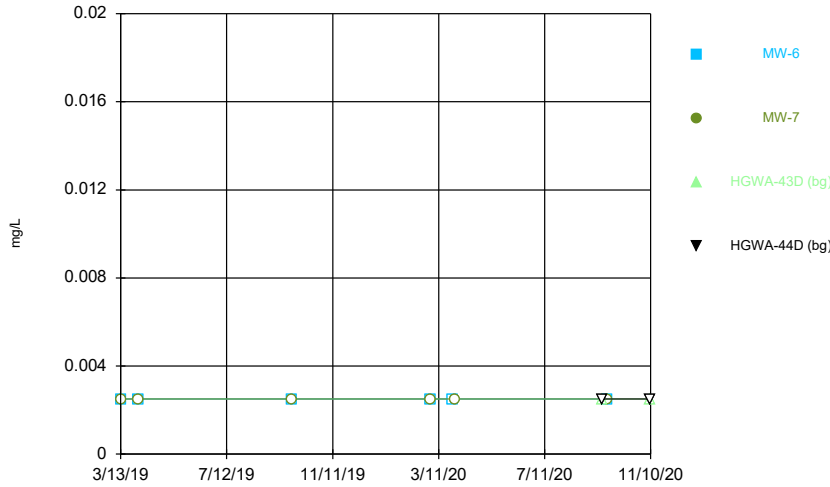

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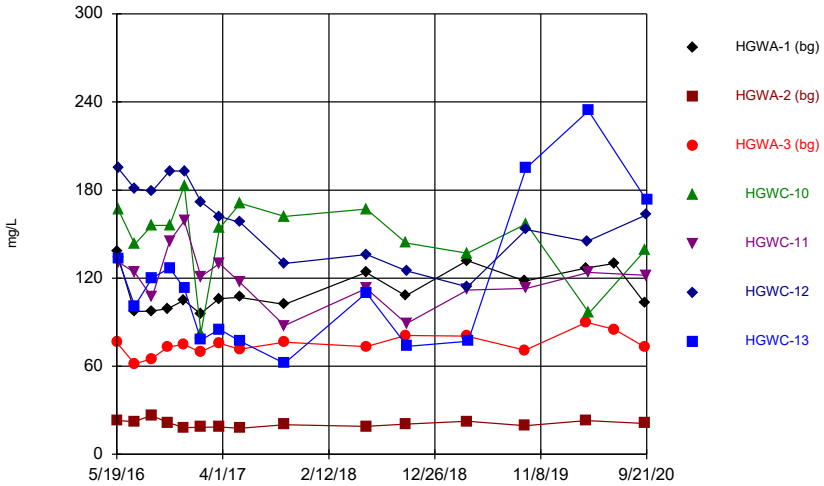
Plant Hammond Client: Southern Company Data: Hammond AP-1

Time Series



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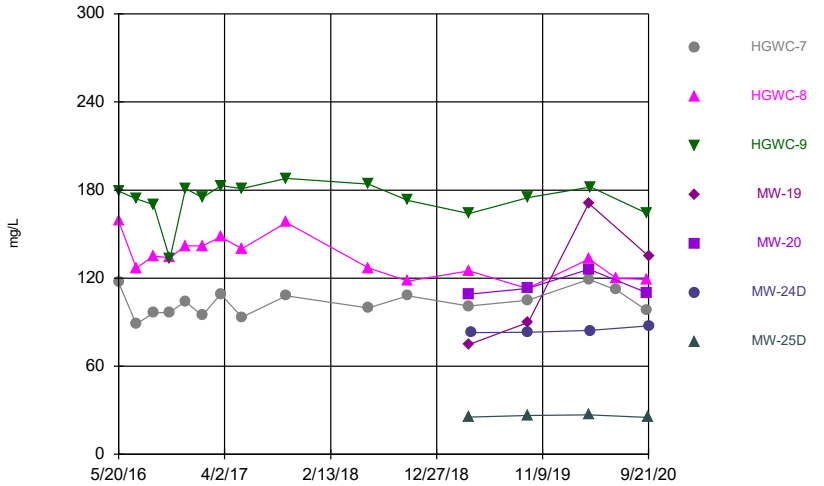
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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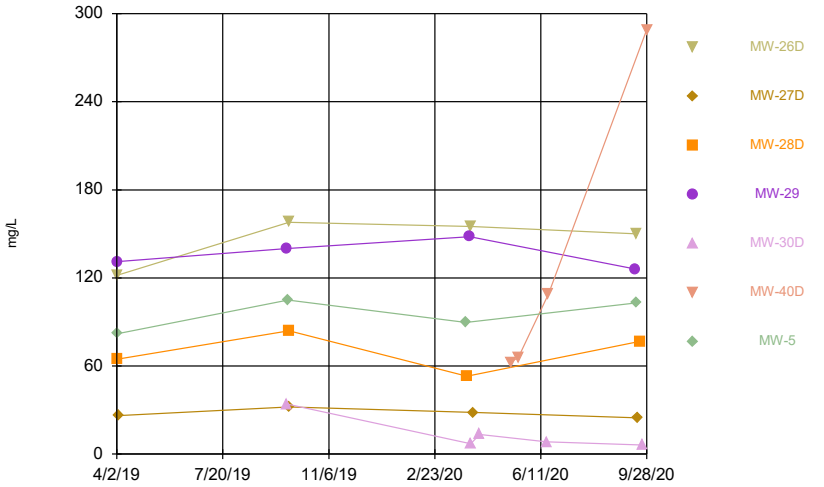

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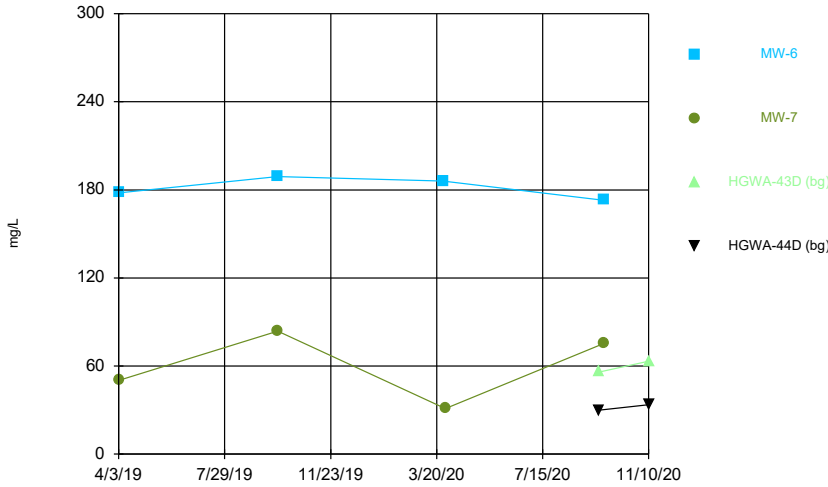

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Plant Hammond Client: Southern Company Data: Hammond AP-1

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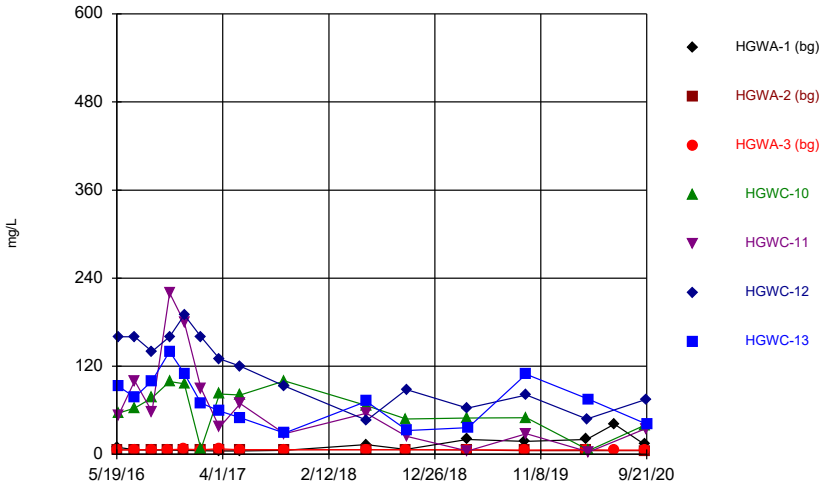
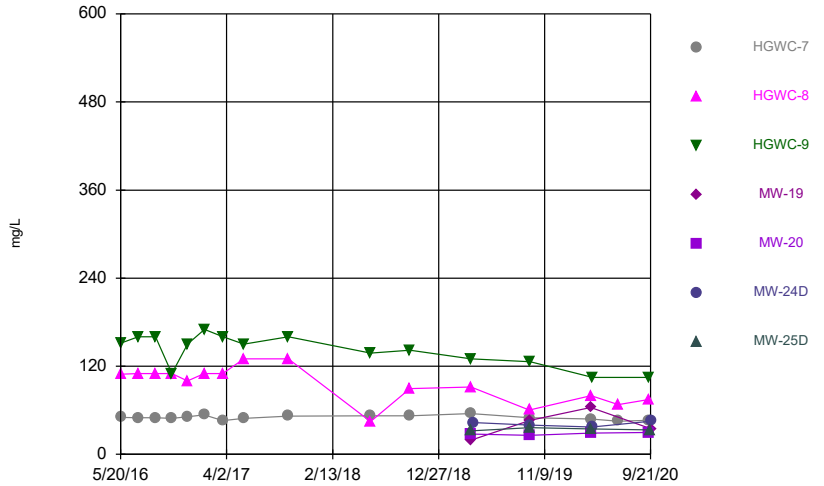


Constituent: Chloride Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



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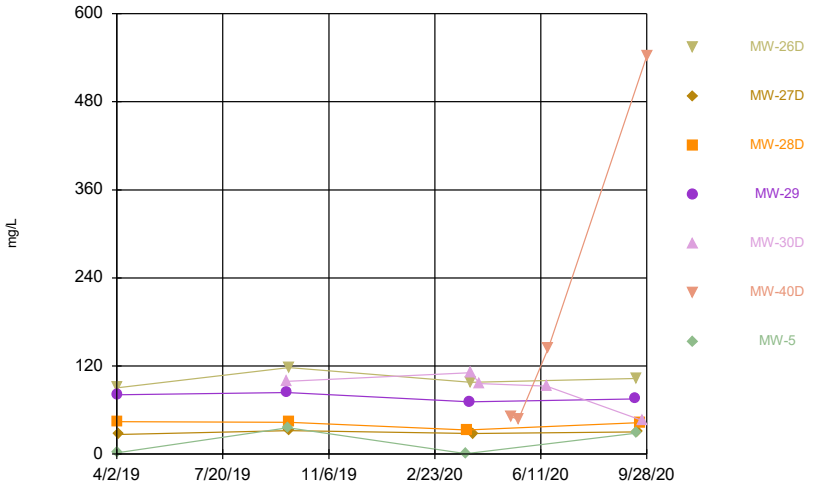
Time Series



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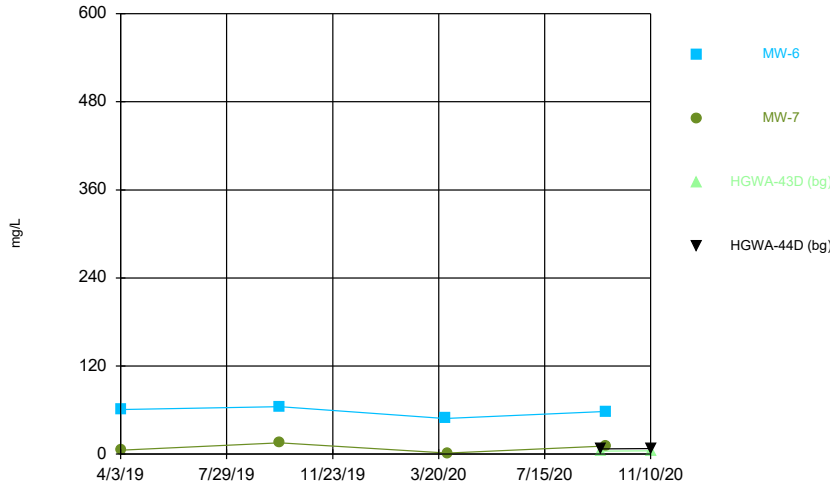

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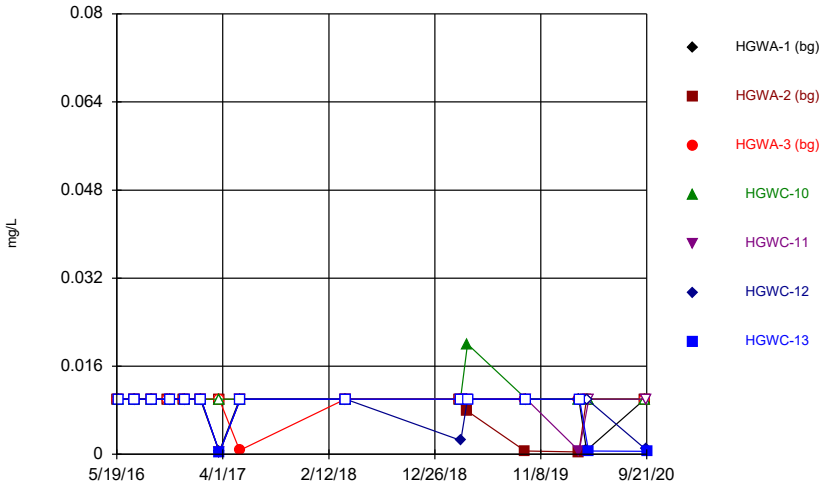
Time Series



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Hollow symbols indicate censored values.

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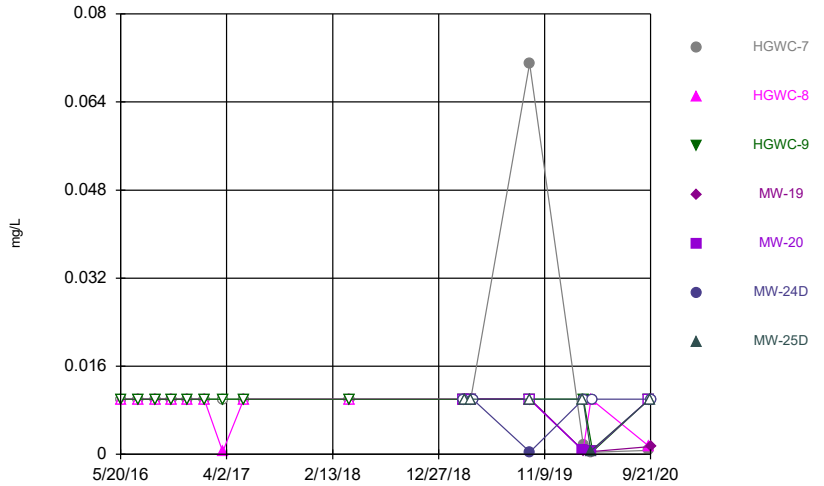

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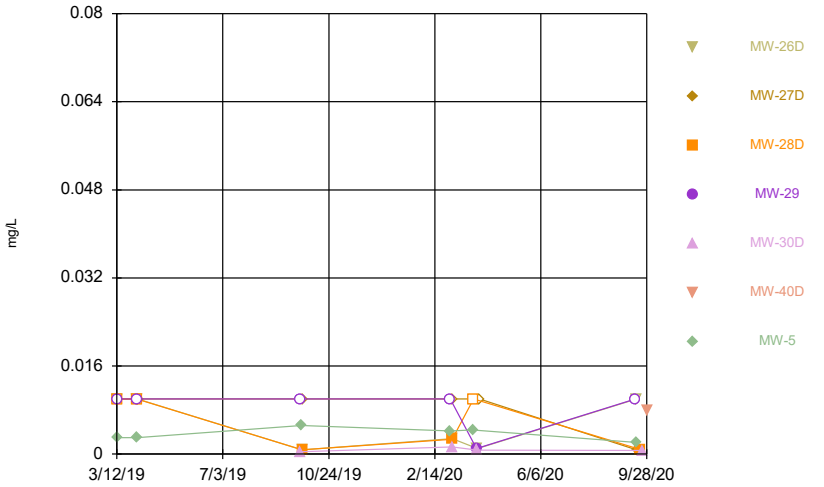
Time Series



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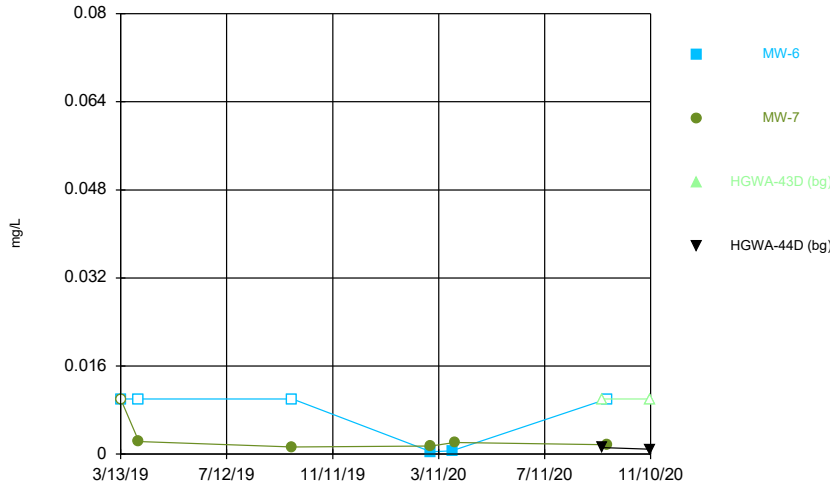

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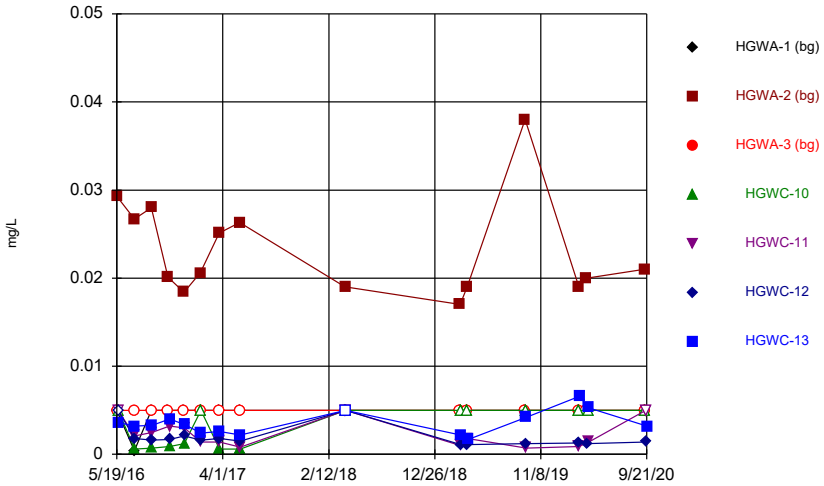
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

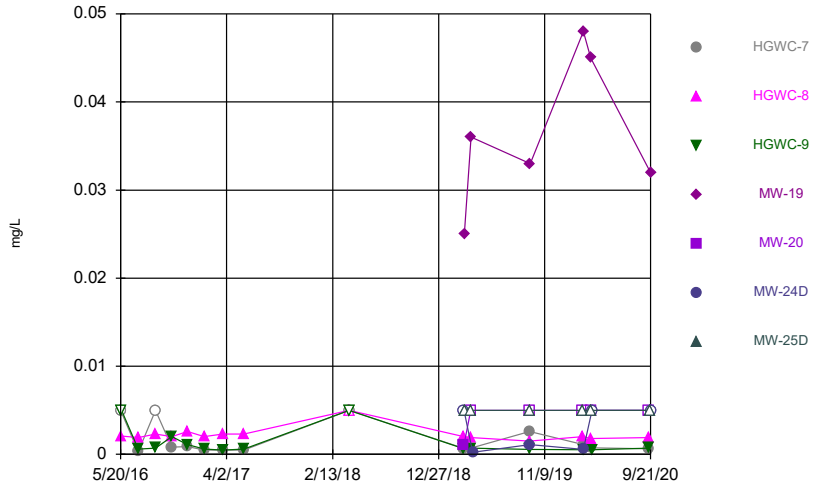
Time Series



Constituent: Cobalt Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

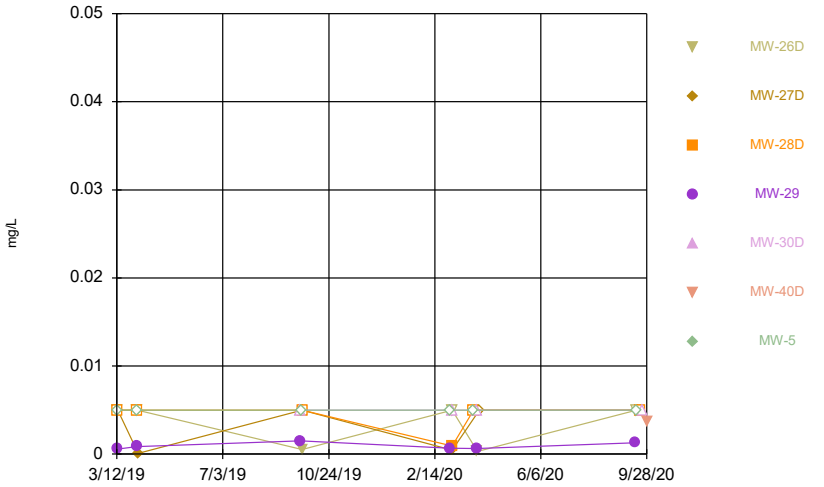
Time Series



Constituent: Cobalt Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



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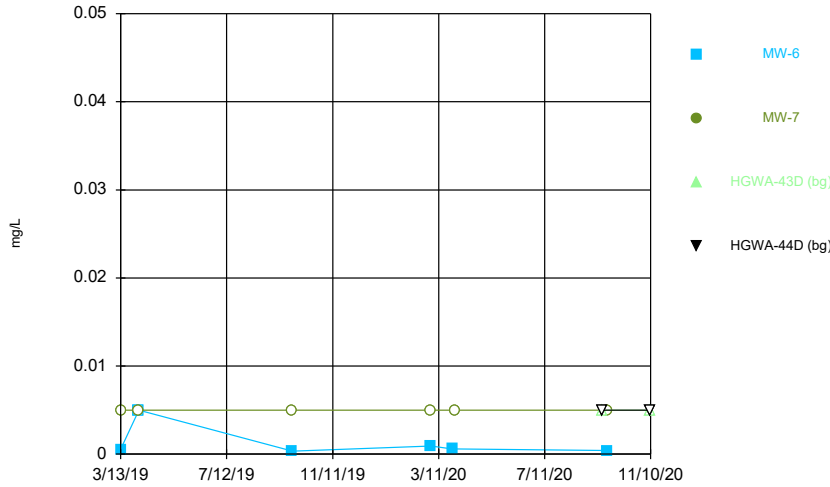

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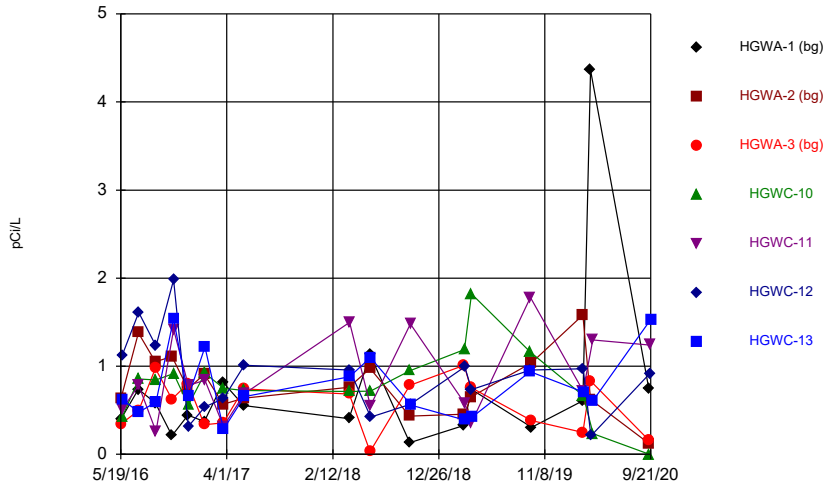
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

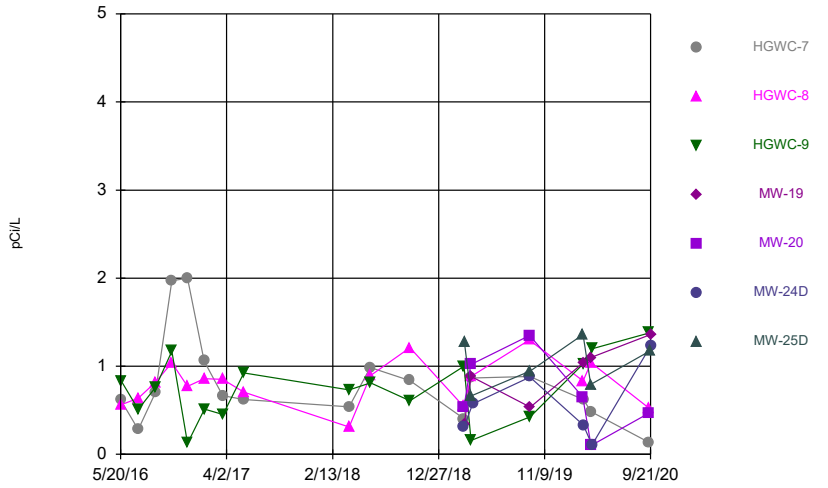


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

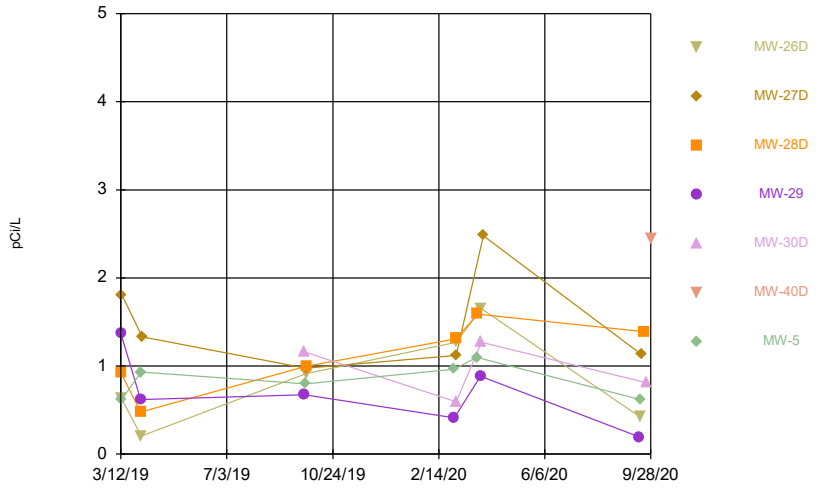


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

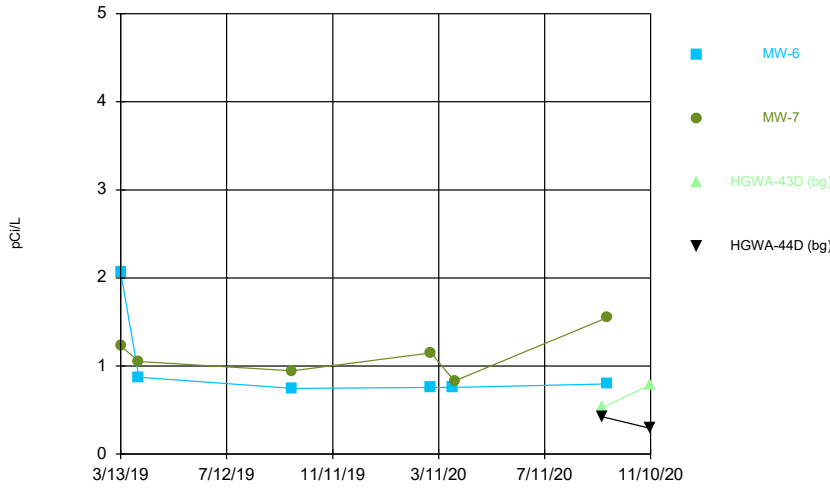


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

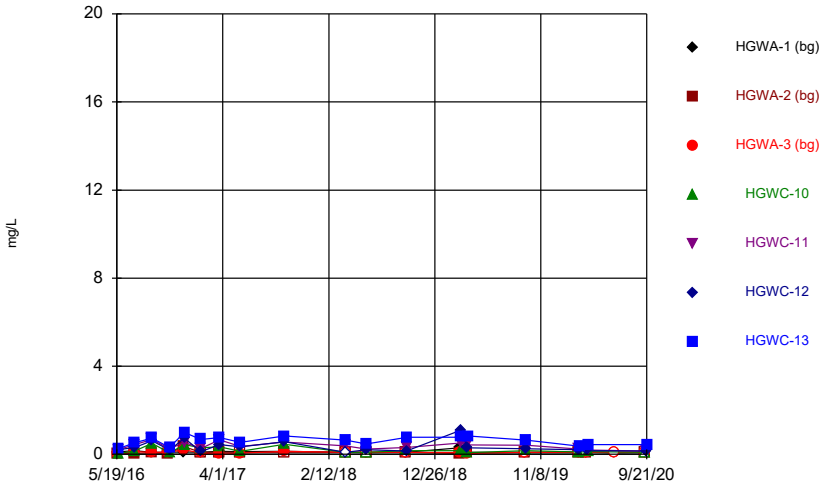


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

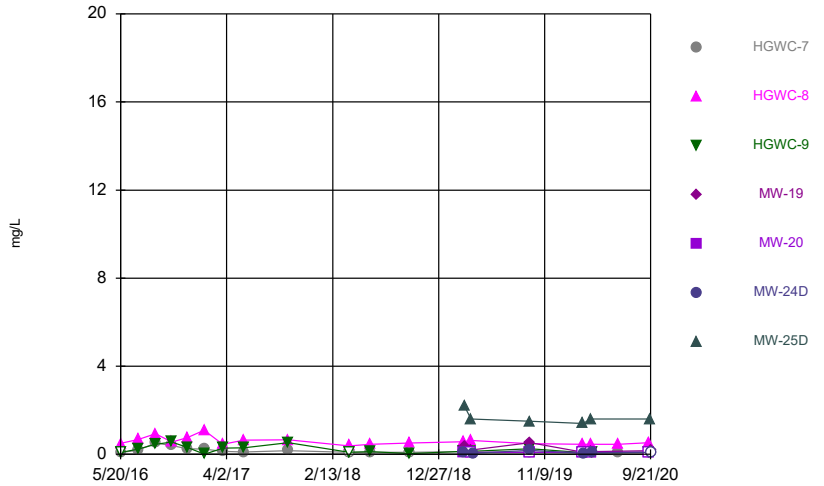
Time Series



Constituent: Fluoride Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

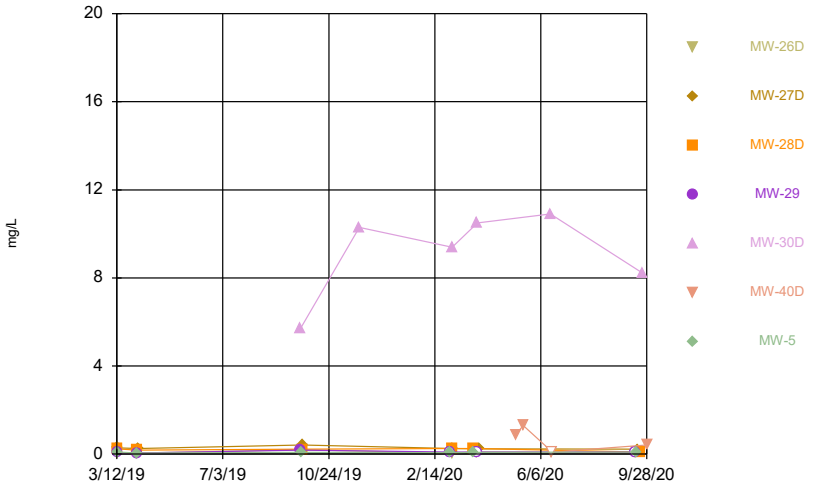
Time Series



Constituent: Fluoride Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

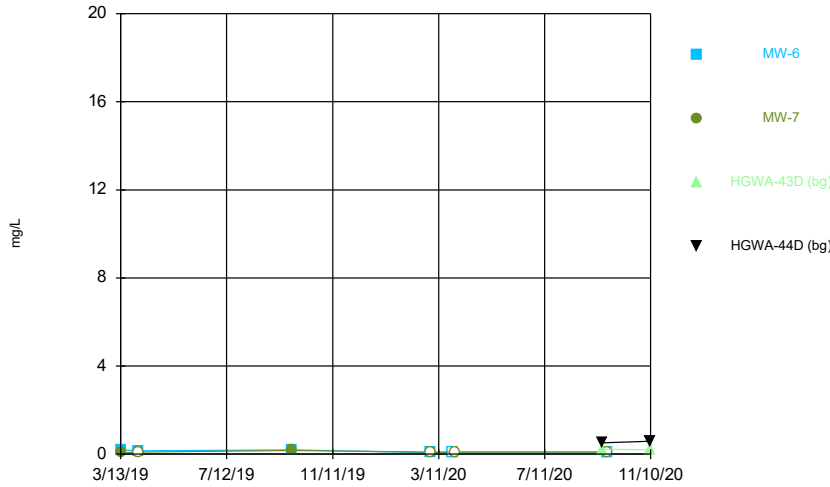
Time Series



Constituent: Fluoride Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

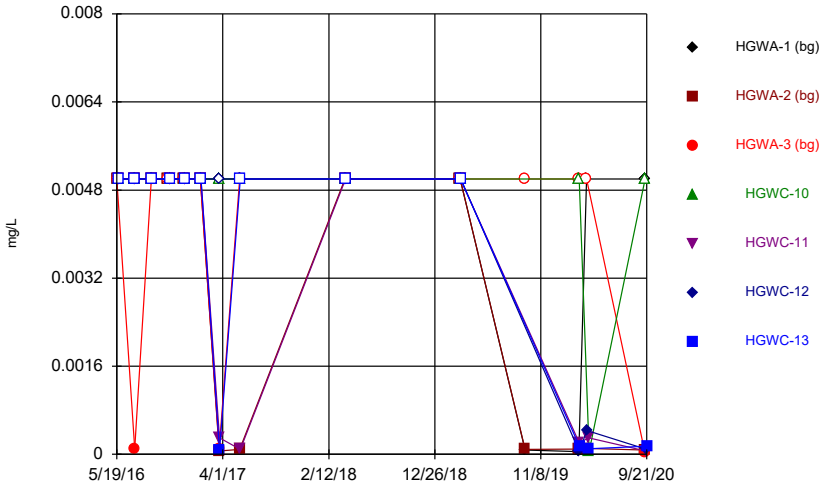
Time Series



Constituent: Fluoride Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

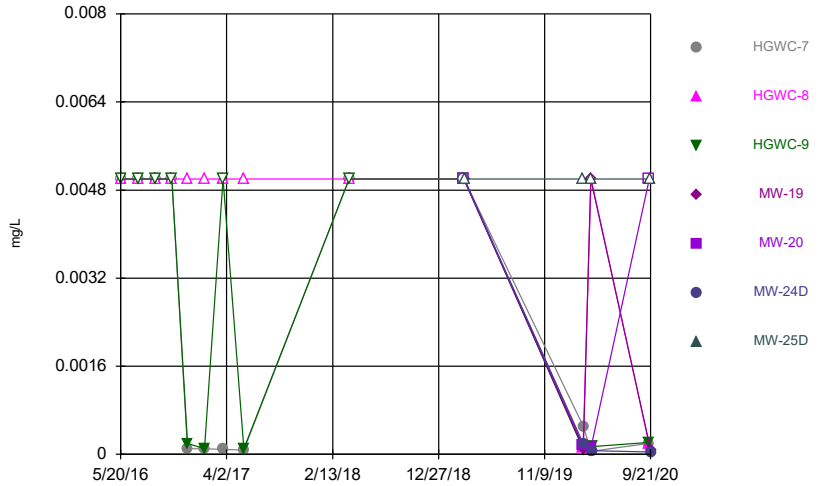
Time Series



Constituent: Lead Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

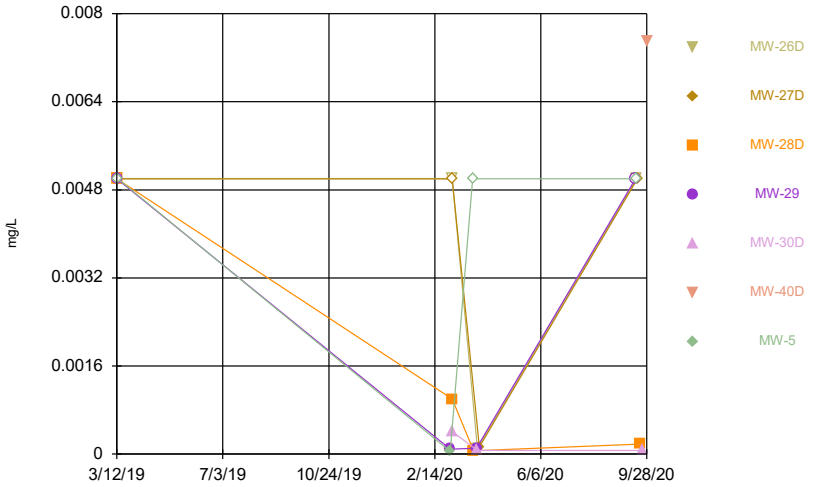
Time Series



Constituent: Lead Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

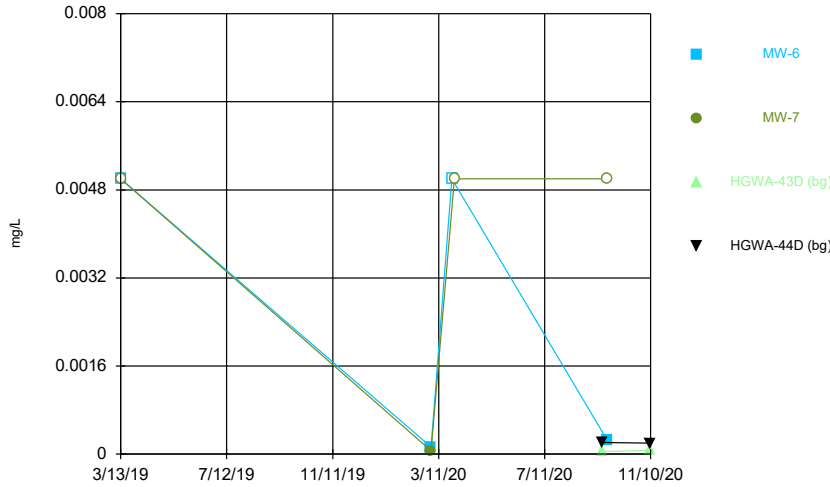
Time Series



Constituent: Lead Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

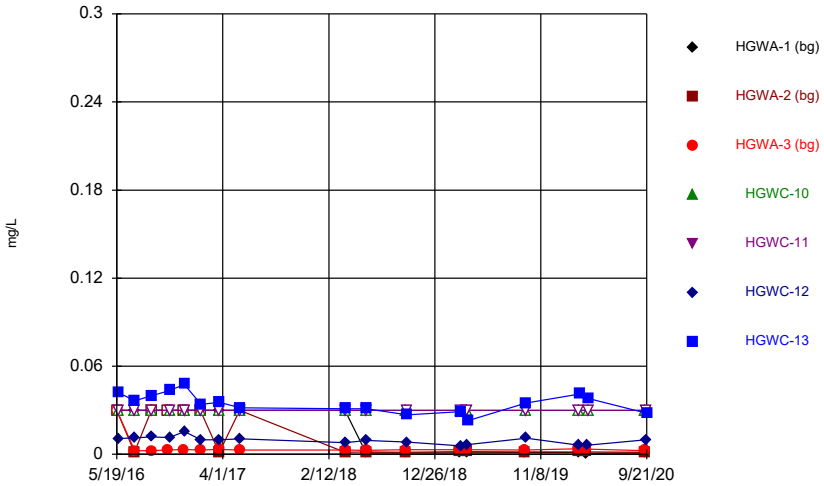
Time Series



Constituent: Lead Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

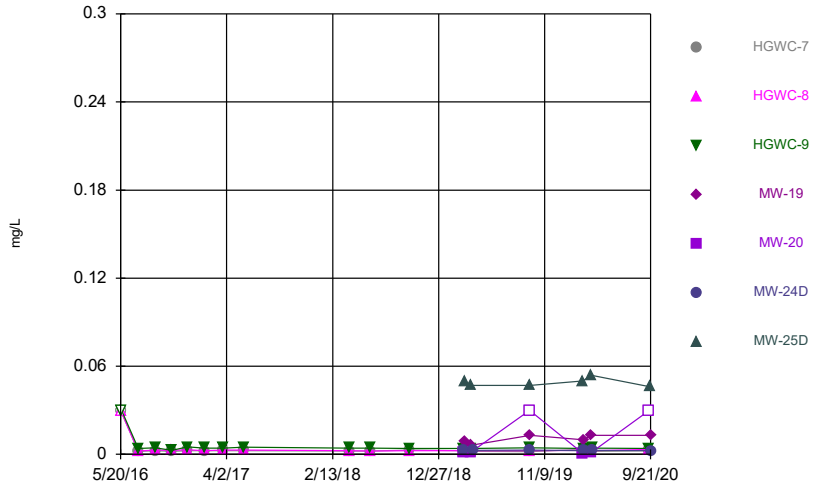
Time Series



Constituent: Lithium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

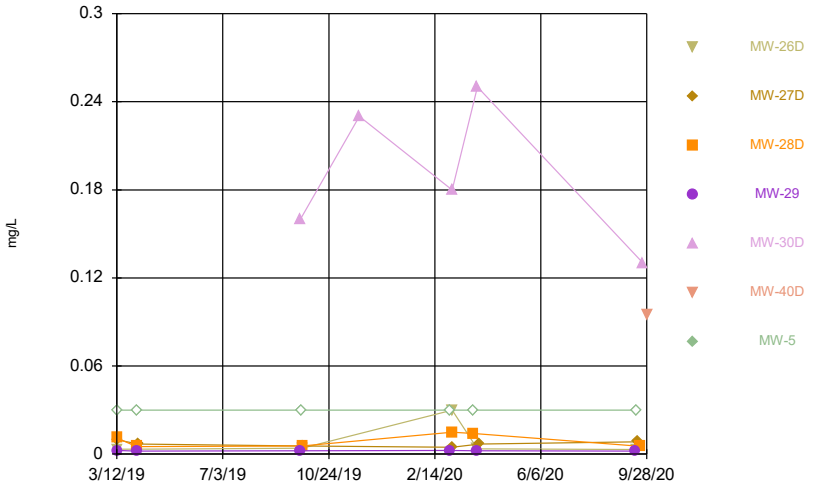
Time Series



Constituent: Lithium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

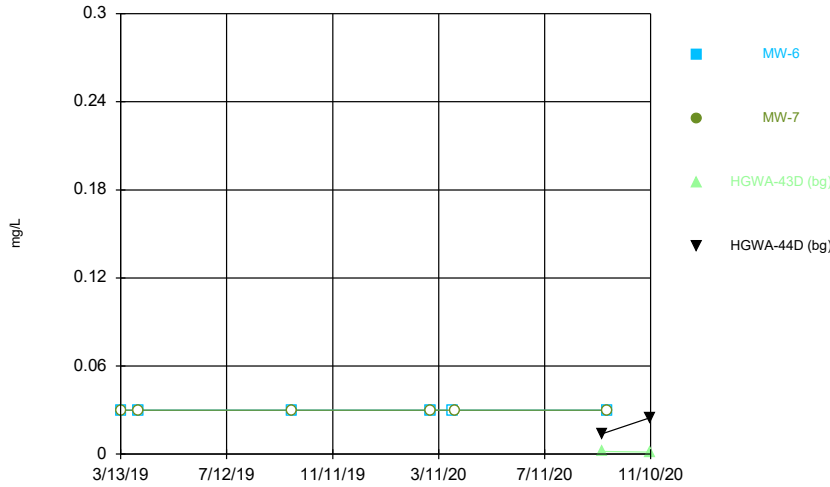
Time Series



Constituent: Lithium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

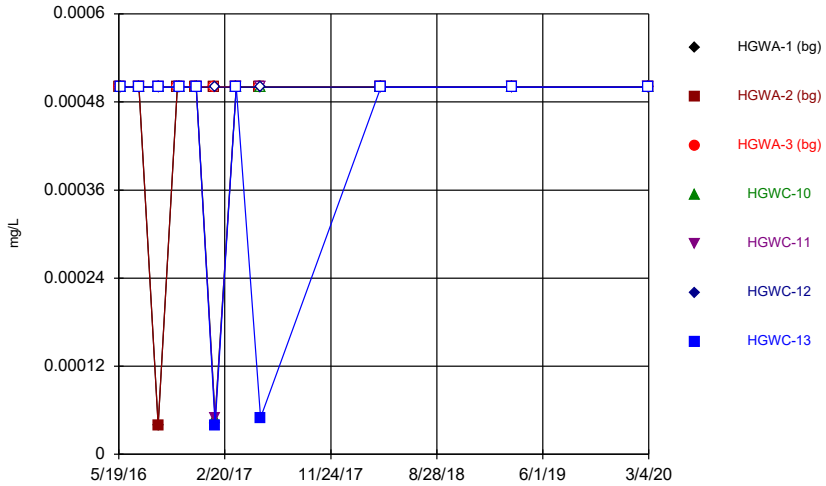
Time Series



Constituent: Lithium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

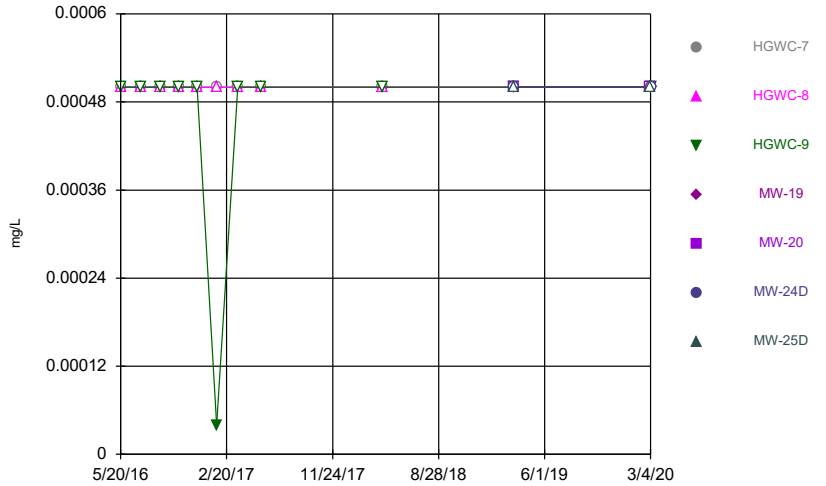
Time Series



Constituent: Mercury Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

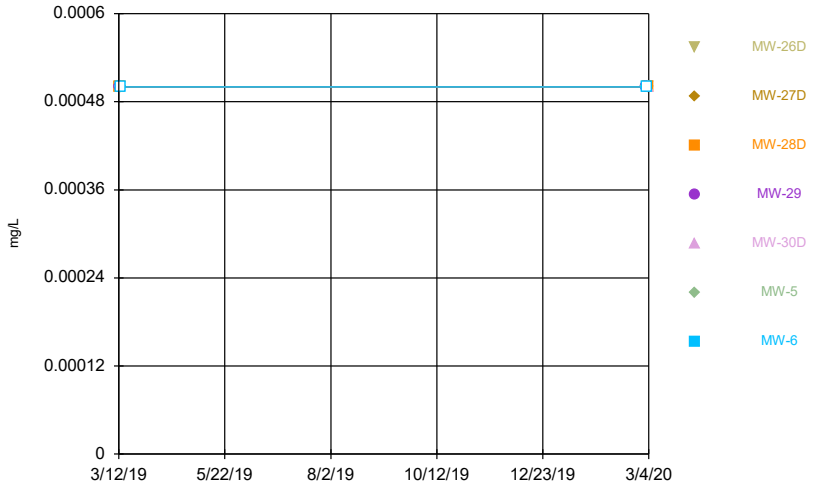
Time Series



Constituent: Mercury Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

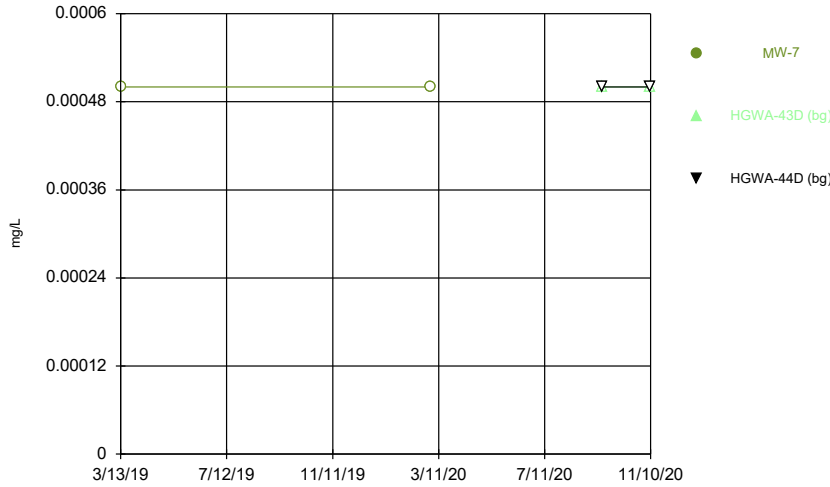
Time Series



Constituent: Mercury Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

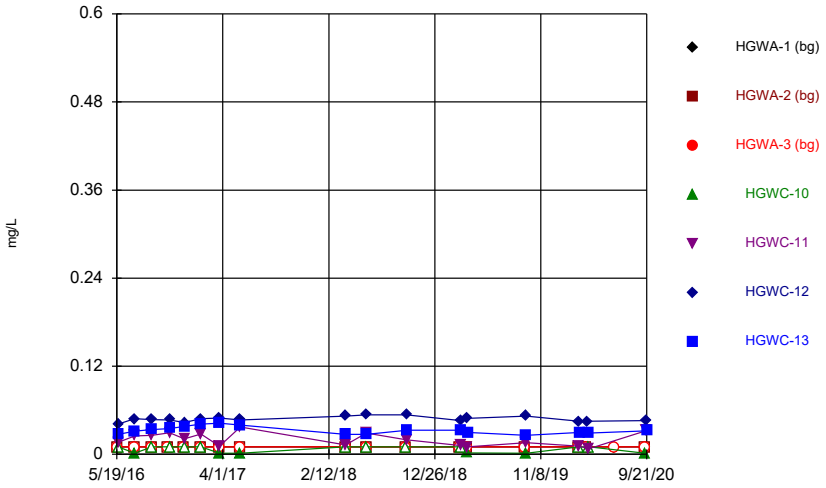
Time Series



Constituent: Mercury Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

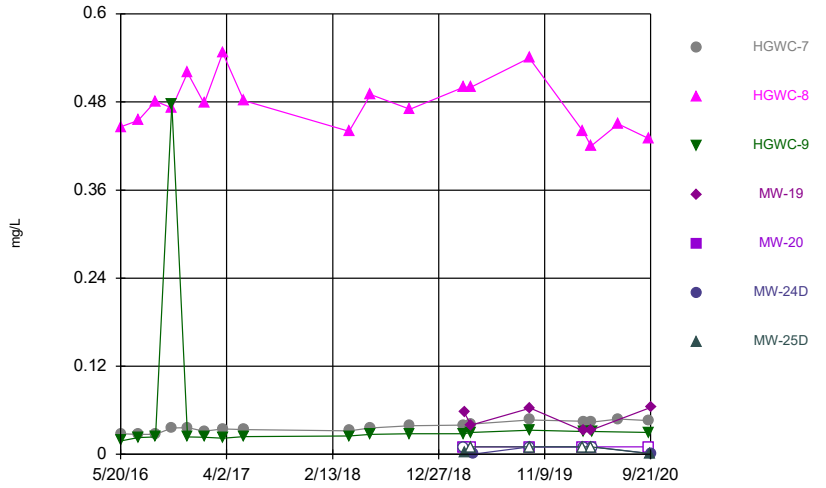
Time Series



Constituent: Molybdenum Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

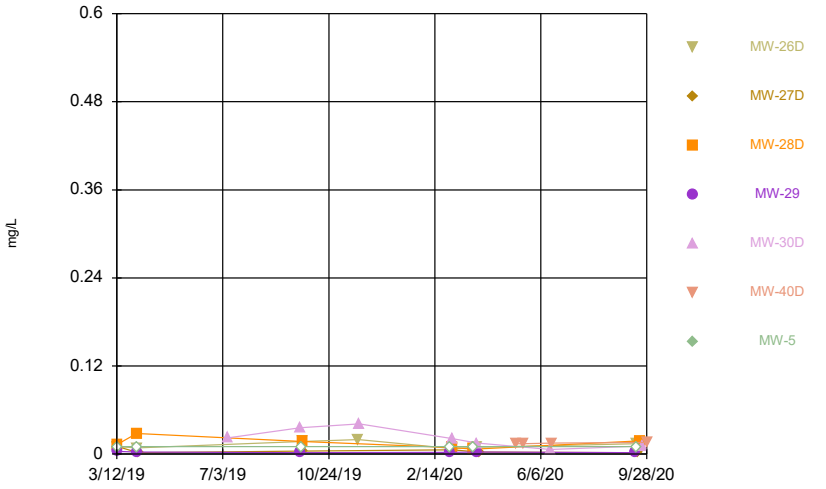
Time Series



Constituent: Molybdenum Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

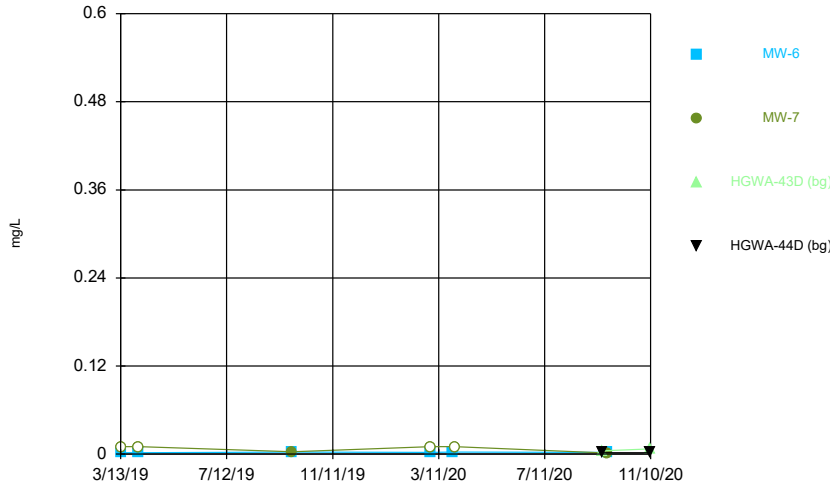
Time Series



Constituent: Molybdenum Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

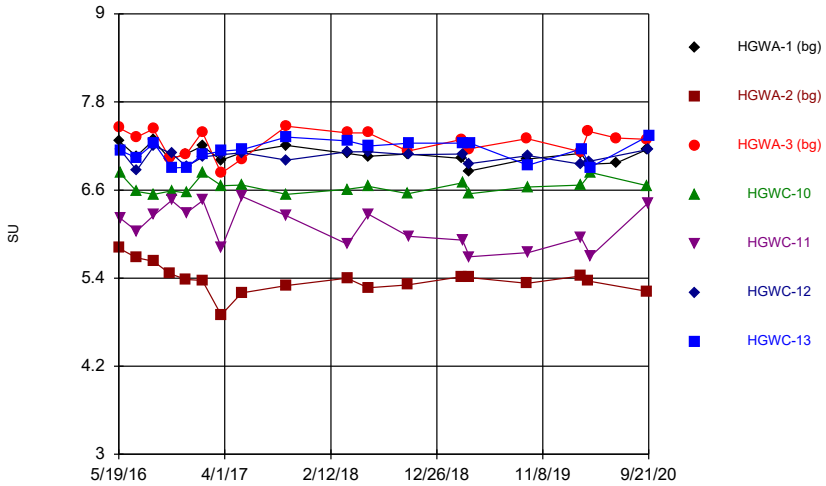
Time Series



Constituent: Molybdenum Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

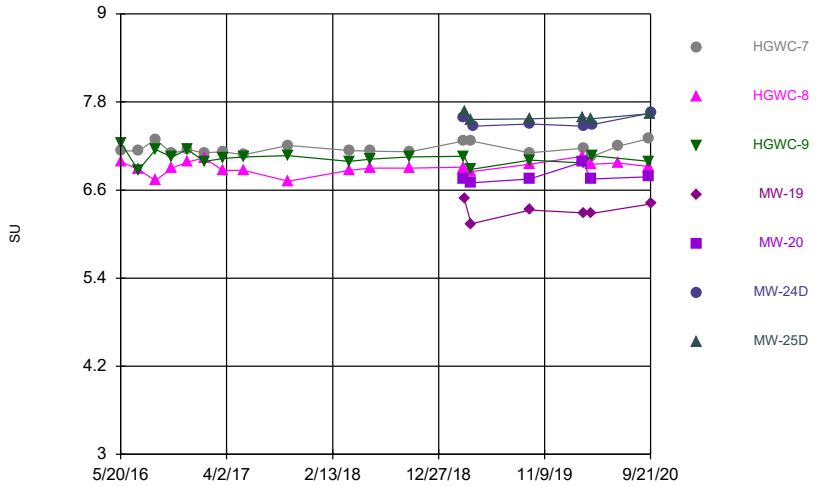


Constituent: pH, Field Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

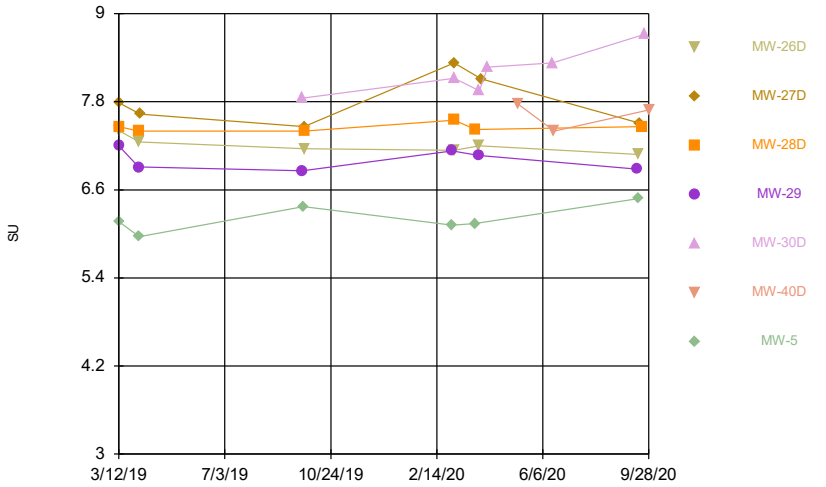


Constituent: pH, Field Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

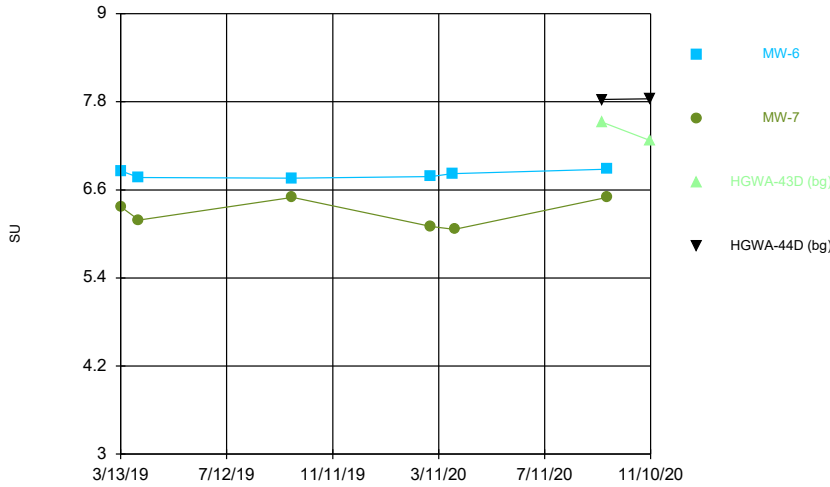


Constituent: pH, Field Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

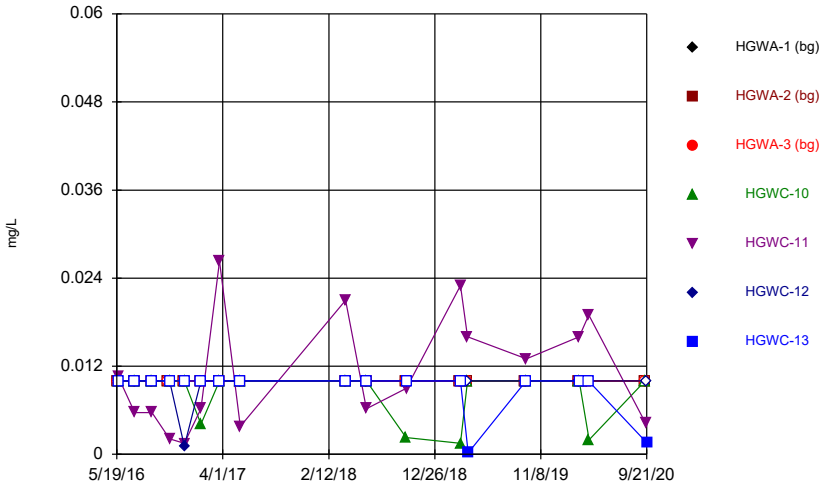


Constituent: pH, Field Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

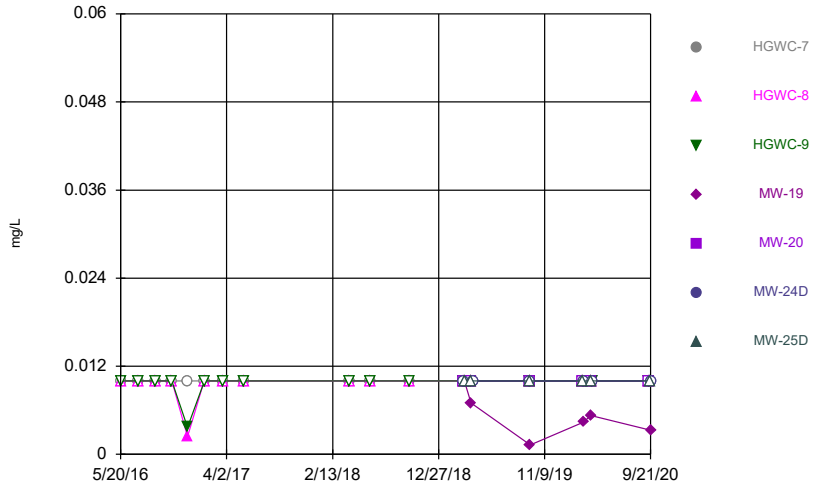
Time Series



Constituent: Selenium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

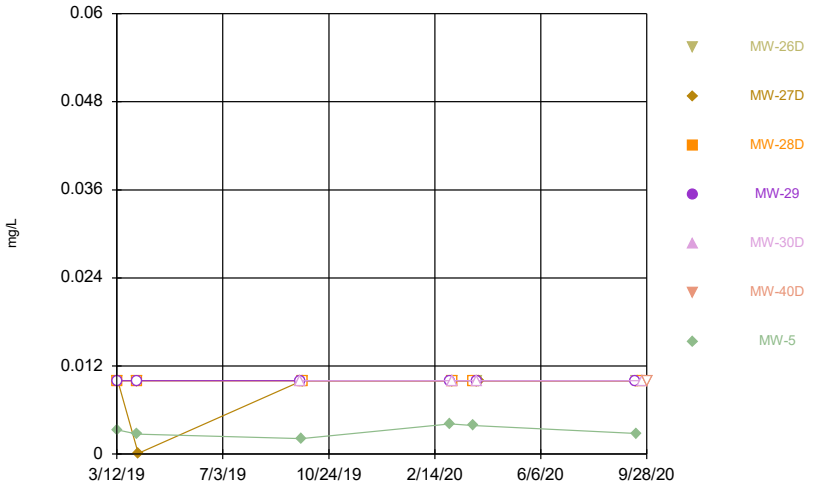
Time Series



Constituent: Selenium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

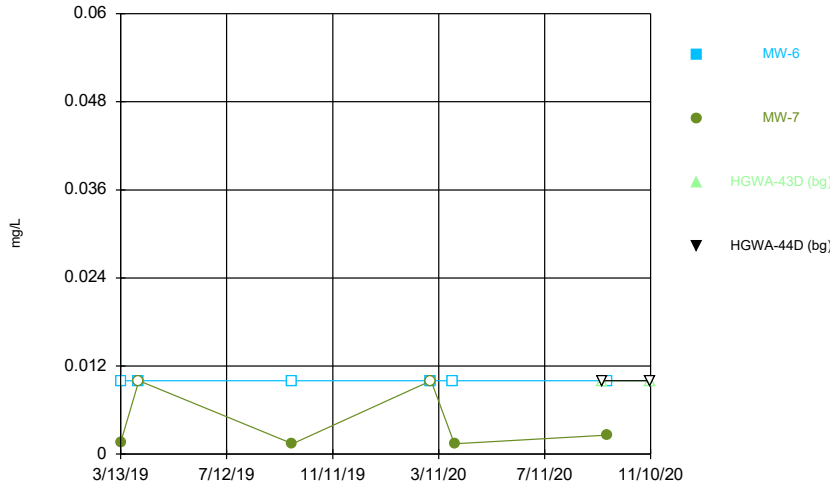
Time Series



Constituent: Selenium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

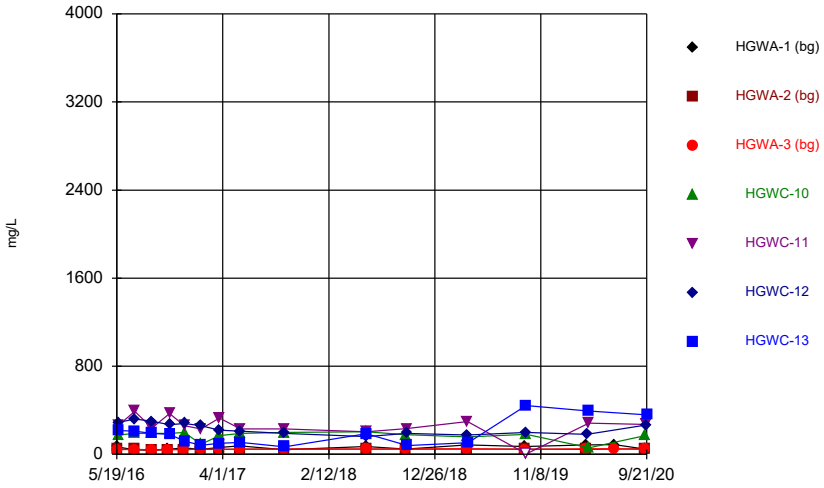
Time Series



Constituent: Selenium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

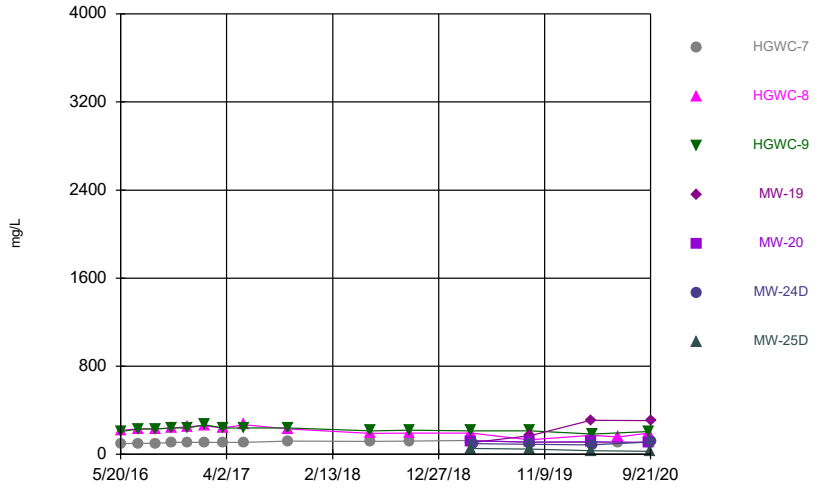
Time Series



Constituent: Sulfate Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

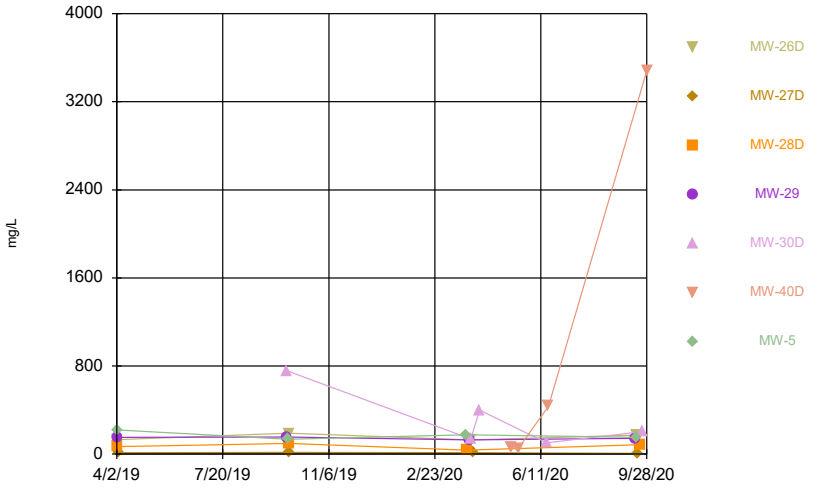
Time Series



Constituent: Sulfate Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

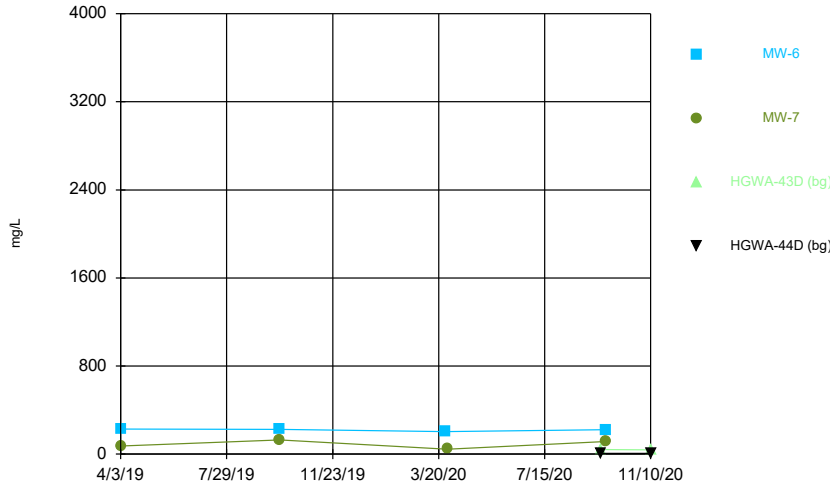
Time Series



Constituent: Sulfate Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

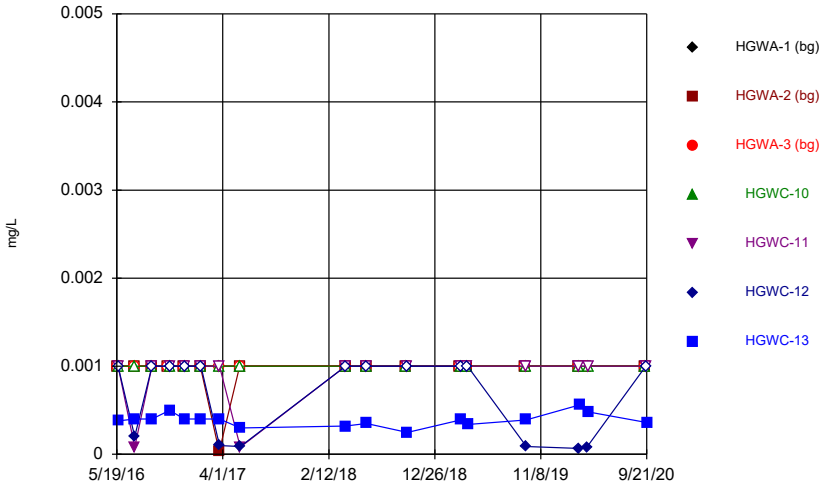
Time Series



Constituent: Sulfate Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

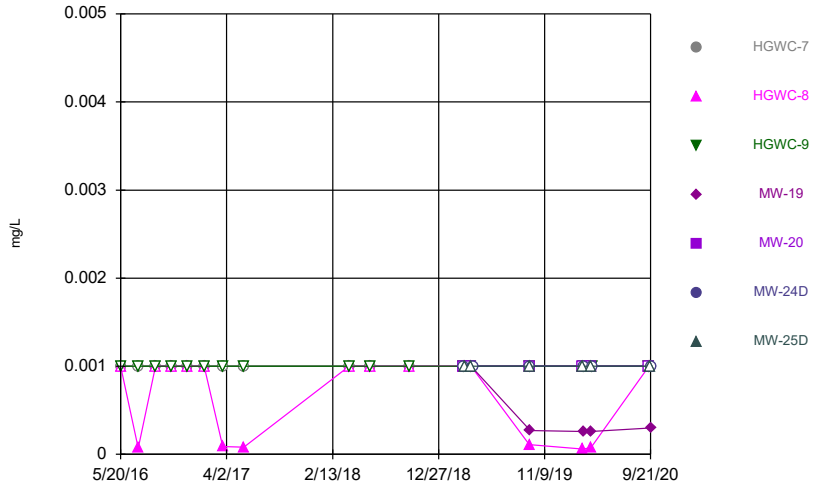
Time Series



Constituent: Thallium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

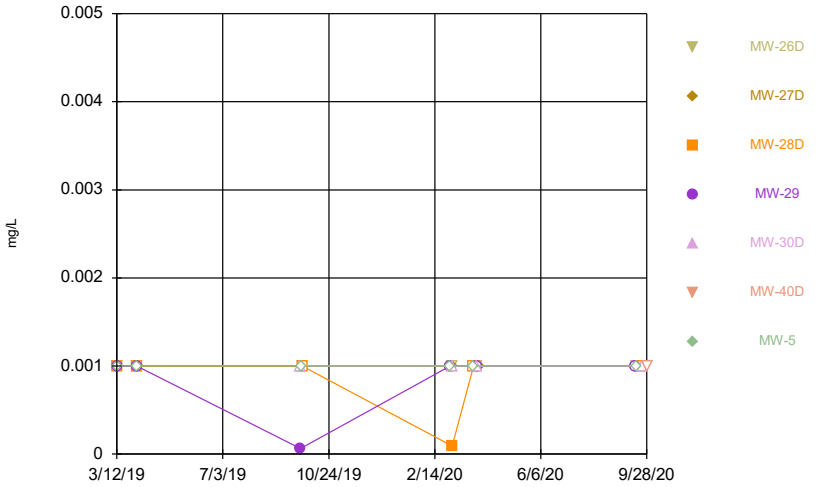
Time Series



Constituent: Thallium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

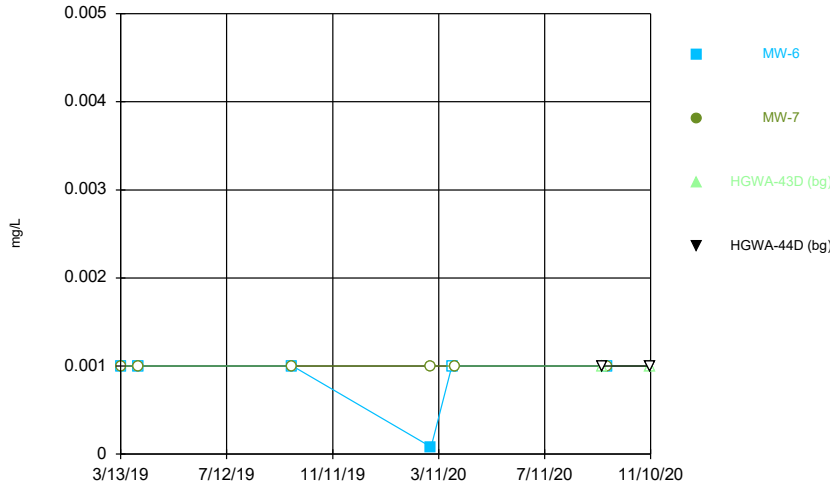
Time Series



Constituent: Thallium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

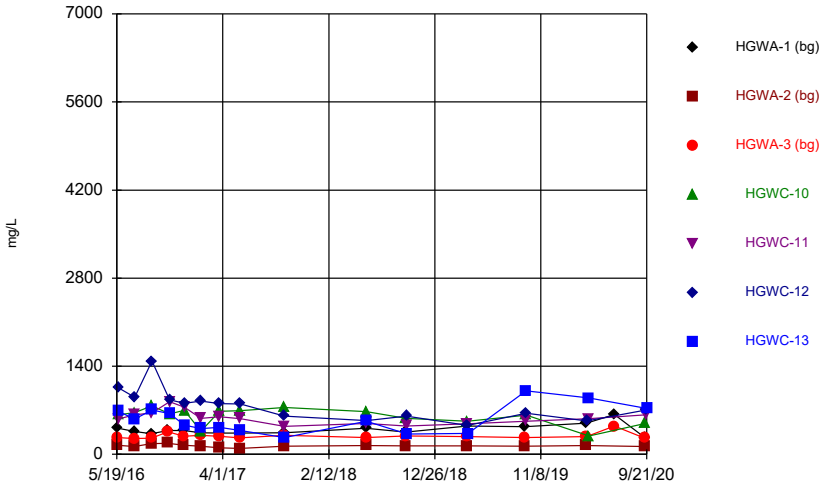
Time Series



Constituent: Thallium Analysis Run 12/21/2020 3:32 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

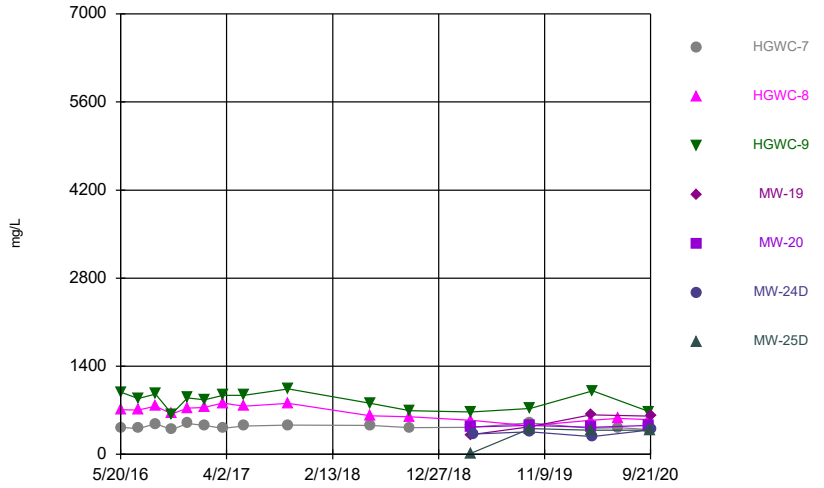


Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

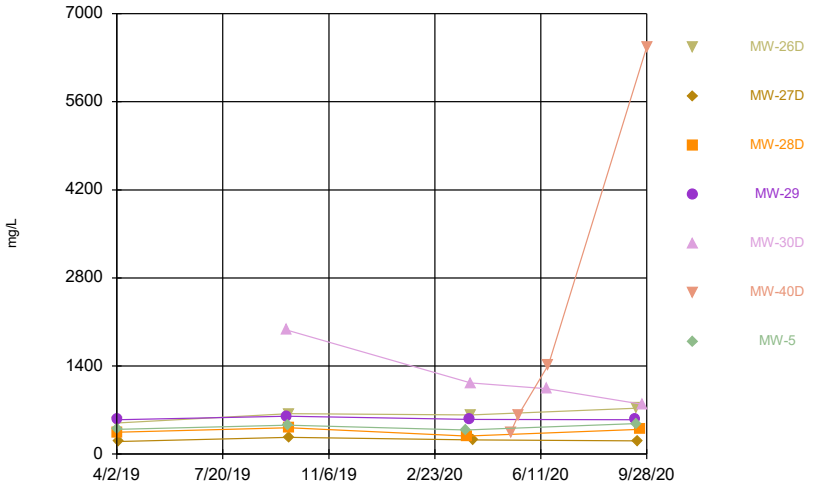


Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series

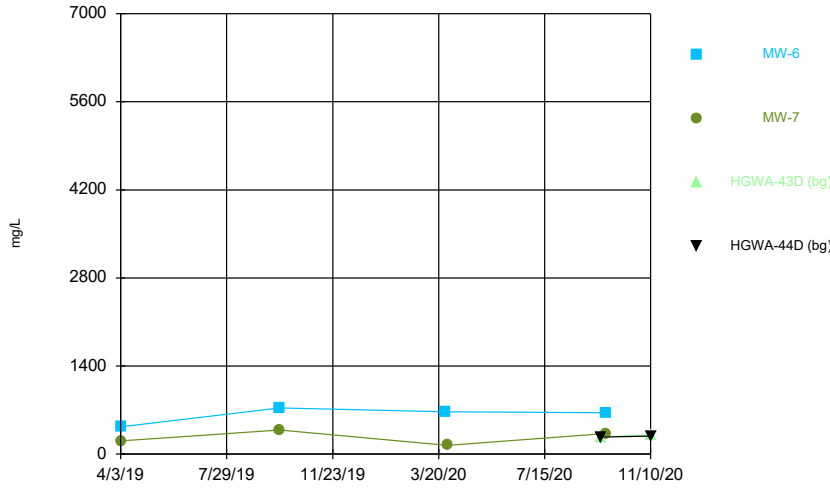


Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:32 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:33 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.003	<0.003	<0.003				
5/23/2016				<0.003	<0.003	<0.003	<0.003
7/11/2016	<0.003	<0.003					
7/12/2016			0.0003 (J)	<0.003	<0.003	<0.003	0.0003 (J)
8/30/2016	<0.003	<0.003	<0.003				
9/1/2016				<0.003	<0.003	<0.003	<0.003
10/19/2016	0.0014 (J)	<0.003	<0.003				
10/24/2016				<0.003	<0.003	<0.003	<0.003
12/6/2016	<0.003	<0.003	<0.003				
12/7/2016				<0.003	<0.003	<0.003	<0.003
1/24/2017	<0.003	<0.003	<0.003				
1/26/2017				<0.003	<0.003	<0.003	<0.003
3/21/2017	<0.003	<0.003	<0.003				
3/22/2017				<0.003	<0.003	<0.003	<0.003
5/22/2017	<0.003	<0.003	<0.003				
5/24/2017				<0.003	<0.003	<0.003	<0.003
4/2/2018	<0.003	<0.003					
4/3/2018			<0.003				
4/4/2018				<0.003	<0.003	<0.003	<0.003
3/12/2019	<0.003	<0.003	<0.003				
3/13/2019				<0.003	<0.003		<0.003
3/14/2019						<0.003	
4/1/2019			<0.003				
4/2/2019	<0.003	<0.003					
4/3/2019				<0.003	<0.003	<0.003	
4/5/2019							0.00021 (J)
9/23/2019	<0.003	<0.003	<0.003				
9/26/2019							<0.003
9/27/2019				<0.003	<0.003	<0.003	
3/2/2020	<0.003	<0.003	<0.003				
3/3/2020				<0.003	<0.003	<0.003	
3/4/2020							0.00061 (J)
3/25/2020	<0.003	<0.003	<0.003				
3/26/2020						<0.003	
3/30/2020							0.00036 (J)
3/31/2020					<0.003		
4/1/2020				<0.003			
9/15/2020	<0.003	<0.003	<0.003				
9/16/2020				<0.003			
9/18/2020					0.00038 (J)	<0.003	
9/21/2020							0.00029 (J)

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.003	<0.003					
5/23/2016			<0.003				
7/12/2016	<0.003	<0.003	<0.003				
9/1/2016	<0.003	<0.003	<0.003				
10/20/2016	<0.003	<0.003	<0.003				
12/6/2016	<0.003	<0.003	<0.003				
1/25/2017	<0.003	<0.003					
1/26/2017			<0.003				
3/21/2017	<0.003	<0.003					
3/22/2017			<0.003				
5/23/2017	<0.003	<0.003	<0.003				
4/3/2018	<0.003	<0.003	<0.003				
3/12/2019		<0.003					
3/13/2019	<0.003		<0.003		<0.003	<0.003	
3/14/2019				<0.003			<0.003
4/2/2019	<0.003				<0.003		
4/3/2019		<0.003	<0.003	<0.003			<0.003
4/8/2019						<0.003	
9/24/2019		<0.003					
9/25/2019	<0.003				<0.003		
9/26/2019						<0.003	
9/27/2019			<0.003	<0.003			<0.003
3/2/2020					<0.003		
3/3/2020		<0.003					<0.003
3/4/2020	<0.003		0.00032 (J)	<0.003		0.0017 (J)	
3/26/2020				<0.003			<0.003
3/27/2020	<0.003	<0.003			<0.003		
3/30/2020						<0.003	
3/31/2020			0.00042 (J)				
9/16/2020	0.00034 (J)	<0.003					
9/17/2020			<0.003		<0.003		
9/18/2020							<0.003
9/21/2020				<0.003		<0.003	

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.003	<0.003			
3/13/2019	<0.003	<0.003					<0.003
4/2/2019			<0.003	<0.003			
4/3/2019	<0.003						<0.003
4/4/2019		0.00016 (J)					
9/24/2019				<0.003	0.00046 (J)		
9/25/2019							<0.003
9/26/2019	<0.003	0.0003 (J)	<0.003				
3/2/2020				<0.003			<0.003
3/4/2020	0.002 (J)	0.00037 (J)	<0.003		<0.003		
3/26/2020							<0.003
3/27/2020			<0.003				
3/30/2020				<0.003			
3/31/2020	0.0013 (J)				0.00032 (J)		
4/2/2020		0.0003 (J)					
9/16/2020				<0.003			
9/17/2020	<0.003						<0.003
9/18/2020		0.00031 (J)					
9/21/2020			<0.003				
9/24/2020					<0.003		
9/28/2020						0.0015 (J)	

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.003	0.00086 (J)		
4/3/2019	<0.003	<0.003		
9/26/2019	<0.003	<0.003		
3/3/2020	<0.003	0.0013 (J)		
3/27/2020	<0.003			
3/30/2020		<0.003		
9/16/2020			0.00051 (J)	0.00049 (J)
9/21/2020	0.0014 (J)	0.00051 (J)		
11/10/2020			0.00043 (J)	<0.003

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.005	0.00127 (J)	<0.005				
5/23/2016				<0.005	<0.005	0.0046 (J)	0.329
7/11/2016	<0.005	0.002 (J)					
7/12/2016			0.0008 (J)	<0.005	0.0015 (J)	0.005	0.297
8/30/2016	<0.005	0.0017 (J)	<0.005				
9/1/2016				<0.005	<0.005	0.0043 (J)	0.314
10/19/2016	<0.005	<0.005	<0.005				
10/24/2016				<0.005	<0.005	0.0049 (J)	0.334
12/6/2016	<0.005	<0.005	<0.005				
12/7/2016				<0.005	<0.005	0.0046 (J)	0.35
1/24/2017	<0.005	<0.005	<0.005				
1/26/2017				<0.005	<0.005	<0.005	0.424
3/21/2017	0.0005 (J)	<0.005	0.0007 (J)				
3/22/2017				<0.005	0.0053	0.0019 (J)	0.419
5/22/2017	<0.005	0.0006 (J)	0.0006 (J)				
5/24/2017				<0.005	<0.005	0.0022 (J)	0.393
4/2/2018	<0.005	<0.005					
4/3/2018			<0.005				
4/4/2018				<0.005	<0.005	<0.005	0.49
6/4/2018	<0.005	0.00088 (J)	0.0008 (J)				
6/5/2018				<0.005	0.0012 (J)		0.38
6/6/2018						0.0048 (J)	
10/1/2018	<0.005	<0.005	0.0011 (J)				
10/2/2018				<0.005			
10/3/2018					<0.005	0.0037 (J)	
10/5/2018							0.34
3/12/2019	<0.005	0.00069 (J)	0.00063 (J)				
3/13/2019				<0.005	0.0024 (J)		0.42
3/14/2019						0.0026 (J)	
4/1/2019			<0.005				
4/2/2019	<0.005	<0.005					
4/3/2019				<0.005	0.00094 (J)	0.0022 (J)	
4/5/2019							0.36
9/23/2019	0.00046 (J)	0.00067 (J)	0.0011 (J)				
9/26/2019							0.44
9/27/2019				<0.005	0.0018 (J)	0.0061	
3/2/2020	<0.005	0.00043 (J)	0.0004 (J)				
3/3/2020				<0.005	0.0022 (J)	0.0023 (J)	
3/4/2020							0.52
3/25/2020	<0.005	<0.005	<0.005				
3/26/2020						0.0028 (J)	
3/30/2020							0.47
3/31/2020					0.0022 (J)		
4/1/2020				<0.005			
9/15/2020	<0.005	<0.005	<0.005				
9/16/2020				<0.005			
9/18/2020					0.00081 (J)	0.0031 (J)	
9/21/2020							0.39

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.005	<0.005					
5/23/2016			<0.005				
7/12/2016	<0.005	<0.005	<0.005				
9/1/2016	<0.005	<0.005	<0.005				
10/20/2016	<0.005	<0.005	<0.005				
12/6/2016	<0.005	<0.005	<0.005				
1/25/2017	<0.005	<0.005					
1/26/2017			<0.005				
3/21/2017	<0.005	<0.005					
3/22/2017			0.0008 (J)				
5/23/2017	<0.005	<0.005	<0.005				
4/3/2018	<0.005	<0.005	<0.005				
6/5/2018	<0.005						
6/6/2018		<0.005	<0.005				
10/2/2018	0.0019 (J)	<0.005	<0.005				
3/12/2019		<0.005					
3/13/2019	<0.005		0.00075 (J)		0.0023 (J)	<0.005	
3/14/2019				<0.005			0.0019 (J)
4/2/2019	<0.005				<0.005		
4/3/2019		<0.005	<0.005	<0.005			<0.005
4/8/2019						<0.005	
9/24/2019		<0.005					
9/25/2019	<0.005				<0.005		
9/26/2019						<0.005	
9/27/2019			0.00037 (J)	<0.005			0.0011 (J)
3/2/2020					0.00038 (J)		
3/3/2020		<0.005					0.001 (J)
3/4/2020	<0.005		<0.005	0.00045 (J)		<0.005	
3/26/2020				<0.005			0.00075 (J)
3/27/2020	<0.005	<0.005			<0.005		
3/30/2020						<0.005	
3/31/2020			<0.005				
9/16/2020	<0.005	<0.005					
9/17/2020			<0.005		<0.005		
9/18/2020							<0.005
9/21/2020				<0.005		<0.005	

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.005	<0.005			
3/13/2019	<0.005	<0.005					<0.005
4/2/2019			<0.005	<0.005			
4/3/2019	<0.005						<0.005
4/4/2019		0.0002 (J)					
9/24/2019				<0.005	0.0026 (J)		
9/25/2019							<0.005
9/26/2019	<0.005	<0.005	<0.005				
3/2/2020				<0.005			<0.005
3/4/2020	0.0006 (J)	0.00069 (J)	<0.005		0.0021 (J)		
3/26/2020							<0.005
3/27/2020			<0.005				
3/30/2020				0.00037 (J)			
3/31/2020	<0.005				<0.005		
4/2/2020		<0.005					
9/16/2020				<0.005			
9/17/2020	<0.005						<0.005
9/18/2020		<0.005					
9/21/2020			<0.005				
9/24/2020					0.0017 (J)		
9/28/2020						0.0063 (J)	

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.005	<0.005		
4/3/2019	<0.005	<0.005		
9/26/2019	<0.005	<0.005		
3/3/2020	<0.005	<0.005		
3/27/2020	<0.005			
3/30/2020		<0.005		
9/16/2020			<0.005	<0.005
9/21/2020	<0.005	<0.005		
11/10/2020			0.0021 (J)	<0.005

Time Series

Constituent: Barium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	0.0346	0.114	0.111				
5/23/2016				0.0877	0.0466	0.133	0.0779
7/11/2016	0.0311	0.112					
7/12/2016			0.115	0.0926	0.0616	0.135	0.0697
8/30/2016	0.0293	0.131	0.113				
9/1/2016				0.0994	0.0497	0.123	0.07
10/19/2016	0.0293	0.111	0.123				
10/24/2016				0.101	0.0794	0.135	0.0882
12/6/2016	0.0304	0.108	0.127				
12/7/2016				0.107	0.1	0.13	0.0798
1/24/2017	0.028	0.102	0.126				
1/26/2017				0.0538	0.0696	0.127	0.0738
3/21/2017	0.0275	0.095	0.12				
3/22/2017				0.0962	0.0346	0.112	0.0755
5/22/2017	0.0281	0.103	0.117				
5/24/2017				0.0996	0.0437	0.106	0.0627
4/2/2018	0.026	0.099					
4/3/2018			0.11				
4/4/2018				0.084	0.029	0.083	0.099
6/4/2018	0.035	0.11	0.12				
6/5/2018				0.086	0.039		0.13
6/6/2018						0.09	
10/1/2018	0.029	0.11	0.14				
10/2/2018				0.076			
10/3/2018					0.033	0.087	
10/5/2018							0.076
3/12/2019	0.042	0.12	0.13				
3/13/2019				0.044	0.024		0.1
3/14/2019						0.081	
4/1/2019			0.13				
4/2/2019	0.04	0.13					
4/3/2019				0.076	0.023	0.077	
4/5/2019							0.079
9/23/2019	0.042	0.13	0.13				
9/26/2019							0.11
9/27/2019				0.078	0.033	0.096	
3/2/2020	0.034	0.11	0.14				
3/3/2020				0.048	0.022	0.092	
3/4/2020							0.1
3/25/2020	0.043	0.12	0.13				
3/26/2020						0.089	
3/30/2020							0.08
3/31/2020					0.026		
4/1/2020				0.058			
9/15/2020	0.035	0.12	0.12				
9/16/2020				0.068			
9/18/2020					0.043	0.086	
9/21/2020							0.052

Time Series

Constituent: Barium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	0.0687	0.0808					
5/23/2016			0.117				
7/12/2016	0.0731	0.083	0.13				
9/1/2016	0.0747	0.0829	0.13				
10/20/2016	0.072	0.0811	0.0806				
12/6/2016	0.0752	0.0845	0.128				
1/25/2017	0.0747	0.078					
1/26/2017			0.142				
3/21/2017	0.0722	0.0791					
3/22/2017			0.122				
5/23/2017	0.0794	0.0846	0.127				
4/3/2018	0.075	0.065	0.1				
6/5/2018	0.071						
6/6/2018		0.063	0.11				
10/2/2018	0.078	0.061	0.11				
3/12/2019		0.062					
3/13/2019	0.083		0.1		0.087	0.053	
3/14/2019				0.06			0.44
4/2/2019	0.072				0.08		
4/3/2019		0.066	0.12	0.05			0.38
4/8/2019						0.043	
9/24/2019		0.053					
9/25/2019	0.061				0.085		
9/26/2019						0.12	
9/27/2019			0.11	0.068			0.39
3/2/2020					0.099		
3/3/2020		0.052					0.42
3/4/2020	0.068		0.11	0.069		0.081	
3/26/2020				0.067			0.45
3/27/2020	0.059	0.059			0.093		
3/30/2020						0.056	
3/31/2020			0.11				
9/16/2020	0.068	0.06					
9/17/2020			0.11		0.096		
9/18/2020							0.44
9/21/2020				0.056		0.053	

Time Series

Constituent: Barium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			0.82	0.089			
3/13/2019	0.099	1.5					0.056
4/2/2019			0.37	0.078			
4/3/2019	0.12						0.049
4/4/2019		1.2					
9/24/2019				0.081	0.054		
9/25/2019							0.046
9/26/2019	0.12	0.95	0.15				
3/2/2020				0.088			0.049
3/4/2020	0.17	0.95	0.77		0.065		
3/26/2020							0.046
3/27/2020			0.64				
3/30/2020				0.08			
3/31/2020	0.11				0.29		
4/2/2020		1					
9/16/2020				0.076			
9/17/2020	0.099						0.043
9/18/2020		1					
9/21/2020			0.18				
9/24/2020					0.11		
9/28/2020						0.35	

Time Series

Constituent: Barium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	0.1	0.063		
4/3/2019	0.09	0.058		
9/26/2019	0.089	0.066		
3/3/2020	0.09	0.043		
3/27/2020	0.086			
3/30/2020		0.05		
9/16/2020			0.26	0.24
9/21/2020	0.083	0.065		
11/10/2020			0.25	0.38

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.003	<0.003	<0.003				
5/23/2016				<0.003	<0.003	<0.003	<0.003
7/11/2016	<0.003	0.0001 (J)					
7/12/2016			<0.003	<0.003	<0.003	<0.003	<0.003
8/30/2016	<0.003	<0.003	<0.003				
9/1/2016				<0.003	<0.003	<0.003	<0.003
10/19/2016	<0.003	0.0001 (J)	<0.003				
10/24/2016				<0.003	<0.003	<0.003	<0.003
12/6/2016	<0.003	0.0002 (J)	<0.003				
12/7/2016				<0.003	<0.003	<0.003	<0.003
1/24/2017	<0.003	0.0001 (J)	<0.003				
1/26/2017				<0.003	<0.003	<0.003	<0.003
3/21/2017	<0.003	0.0001 (J)	<0.003				
3/22/2017				<0.003	9E-05 (J)	<0.003	<0.003
5/22/2017	<0.003	0.0001 (J)	<0.003				
5/24/2017				<0.003	<0.003	<0.003	<0.003
4/2/2018	<0.003	<0.003					
4/3/2018			<0.003				
4/4/2018				<0.003	<0.003	<0.003	<0.003
3/12/2019	<0.003	0.00017 (J)	<0.003				
3/13/2019				<0.003	0.0001 (J)		6.2E-05 (J)
3/14/2019						<0.003	
4/1/2019			<0.003				
4/2/2019	<0.003	0.00015 (J)					
4/3/2019				<0.003	0.00017 (J)	<0.003	
4/5/2019							<0.003
9/23/2019	<0.003	0.00011 (J)	<0.003				
9/26/2019							0.00011 (J)
9/27/2019				<0.003	8.6E-05 (J)	<0.003	
3/2/2020	<0.003	0.00014 (J)	<0.003				
3/3/2020				<0.003	0.00012 (J)	<0.003	
3/4/2020							9.3E-05 (J)
3/25/2020	<0.003	0.00016 (J)	<0.003				
3/26/2020						<0.003	
3/30/2020							9.9E-05 (J)
3/31/2020					0.00015 (J)		
4/1/2020				<0.003			
9/15/2020	<0.003	0.00013 (J)	<0.003				
9/16/2020				<0.003			
9/18/2020					<0.003	<0.003	
9/21/2020							0.00011 (J)

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.003	<0.003					
5/23/2016			<0.003				
7/12/2016	<0.003	<0.003	<0.003				
9/1/2016	<0.003	<0.003	<0.003				
10/20/2016	<0.003	<0.003	<0.003				
12/6/2016	<0.003	<0.003	<0.003				
1/25/2017	<0.003	<0.003					
1/26/2017			<0.003				
3/21/2017	<0.003	<0.003					
3/22/2017			<0.003				
5/23/2017	<0.003	<0.003	<0.003				
4/3/2018	<0.003	<0.003	<0.003				
3/12/2019		<0.003					
3/13/2019	<0.003		<0.003		<0.003	<0.003	
3/14/2019				<0.003			<0.003
4/2/2019	<0.003				<0.003		
4/3/2019		7.4E-05 (J)	<0.003	<0.003			<0.003
4/8/2019						<0.003	
9/24/2019		<0.003					
9/25/2019	<0.003				<0.003		
9/26/2019						<0.003	
9/27/2019			<0.003	<0.003			<0.003
3/2/2020					<0.003		
3/3/2020		<0.003					<0.003
3/4/2020	7.7E-05 (J)		<0.003	<0.003		<0.003	
3/26/2020				<0.003			<0.003
3/27/2020	<0.003	<0.003			<0.003		
3/30/2020						<0.003	
3/31/2020			<0.003				
9/16/2020	<0.003	0.0001 (J)					
9/17/2020			<0.003		<0.003		
9/18/2020							<0.003
9/21/2020				<0.003		<0.003	

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.003	<0.003			
3/13/2019	<0.003	<0.003					<0.003
4/2/2019			<0.003	<0.003			
4/3/2019	<0.003						<0.003
4/4/2019		<0.003					
9/24/2019				<0.003	<0.003		
9/25/2019							<0.003
9/26/2019	<0.003	<0.003	<0.003				
3/2/2020				<0.003			<0.003
3/4/2020	<0.003	<0.003	0.00014 (J)		<0.003		
3/26/2020							<0.003
3/27/2020			<0.003				
3/30/2020				<0.003			
3/31/2020	<0.003				<0.003		
4/2/2020		<0.003					
9/16/2020				<0.003			
9/17/2020	<0.003						<0.003
9/18/2020		<0.003					
9/21/2020			<0.003				
9/24/2020					<0.003		
9/28/2020						0.00049 (J)	

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.003	<0.003		
4/3/2019	<0.003	5.1E-05 (J)		
9/26/2019	<0.003	<0.003		
3/3/2020	<0.003	<0.003		
3/27/2020	<0.003			
3/30/2020		<0.003		
9/16/2020			<0.003	<0.003
9/21/2020	<0.003	<0.003		
11/10/2020			<0.003	<0.003

Time Series

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	0.0214 (J)	0.0321 (J)	<0.1				
5/23/2016				0.72	0.787	2.2	2.15
7/11/2016	0.0142 (J)	0.0337 (J)					
7/12/2016			0.0074 (J)	0.778	1.17	1.98	1.91
8/30/2016	0.0074 (J)	0.0173 (J)	<0.1				
9/1/2016				0.786	1.49	2.28	2.3
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)				
10/24/2016				0.831	2.54	2.75	4.01
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)				
12/7/2016				1.01	2.96	3.35	3.85
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)				
1/26/2017				0.108	2.23	3.07	2.45
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)				
3/22/2017				0.788	0.84	3.04	1.99
5/22/2017	0.0782	0.0475	0.0131 (J)				
5/24/2017				0.814	2.29	2.95	1.74
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)	0.871	1.47	2.35	1.43
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)				
6/5/2018				1.2	1.3		1.3
6/6/2018						2.5	
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)				
10/2/2018				0.62			
10/3/2018					0.91	2.3	
10/5/2018							1.6
4/1/2019			0.0066 (J)				
4/2/2019	0.016 (J)	0.034 (J)					
4/3/2019				0.66	0.23	1.8	
4/5/2019							0.86 (J)
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)				
9/26/2019							1.7
9/27/2019				1	0.53	2.1	
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)				
3/26/2020						1.6	
3/30/2020							1.8
3/31/2020					0.17		
4/1/2020				0.23			
6/16/2020	0.021 (J)		0.01 (J)				
9/15/2020	0.017 (J)	0.044 (J)	0.0071 (J)				
9/16/2020				1.1			
9/18/2020					0.91	1.6	
9/21/2020							1.6

Time Series

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	0.885	1.71					
5/23/2016			1.76				
7/12/2016	0.857	1.43	1.56				
9/1/2016	0.904	1.91	2				
10/20/2016	0.936	1.72	1.68				
12/6/2016	1.06	2.06	2.15				
1/25/2017	0.764	2.01					
1/26/2017			1.87				
3/21/2017	0.857	2.08					
3/22/2017			1.99				
5/23/2017	0.91	2.32	2.29				
10/3/2017	0.967	2.84	2.05				
6/5/2018	0.86						
6/6/2018		2.6	2.3				
10/2/2018	0.98	2.7	2.5				
4/2/2019	0.99				0.11		
4/3/2019		2.8	2.3	0.63			0.37
4/8/2019						0.47 (J)	
9/24/2019		2.8					
9/25/2019	1.1				0.091		
9/26/2019						0.49	
9/27/2019			2.9	0.58			0.36
3/26/2020				1			0.44
3/27/2020	1.2	2.4			0.12		
3/30/2020						0.51	
3/31/2020			2.2				
6/16/2020		2.2					
6/17/2020	1						
9/16/2020	1.1	1.9					
9/17/2020			2		0.11		
9/18/2020							0.36
9/21/2020				0.89		0.45	

Time Series

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
4/2/2019			0.17	1.2			
4/3/2019	1.5						0.03 (J)
4/4/2019		0.12 (J)					
9/24/2019				1.2	0.69		
9/25/2019							0.11
9/26/2019	2	0.14	0.6				
3/26/2020							0.041 (J)
3/27/2020			0.14				
3/30/2020				1.3			
3/31/2020	1.8				0.9		
4/2/2020		0.13					
5/11/2020						0.093 (J)	
5/19/2020						0.13	
6/17/2020					0.77		
6/19/2020						0.19	
9/16/2020				1.7			
9/17/2020	2						0.067 (J)
9/18/2020		0.12					
9/21/2020			0.45				
9/24/2020					0.62		
9/28/2020						0.57	

Time Series

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
4/3/2019	0.67	0.094		
9/26/2019	0.93	0.26		
3/27/2020	0.77			
3/30/2020		0.051 (J)		
9/16/2020			0.061 (J)	0.23
9/21/2020	0.82	0.2		
11/10/2020			0.057 (J)	0.29

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.0025	<0.0025	<0.0025				
5/23/2016				0.000115 (J)	<0.0025	<0.0025	<0.0025
7/11/2016	<0.0025	<0.0025					
7/12/2016			<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
8/30/2016	<0.0025	<0.0025	<0.0025				
9/1/2016				0.0001 (J)	<0.0025	<0.0025	<0.0025
10/19/2016	<0.0025	<0.0025	<0.0025				
10/24/2016				0.0001 (J)	<0.0025	<0.0025	<0.0025
12/6/2016	<0.0025	<0.0025	<0.0025				
12/7/2016				0.0001 (J)	0.0001 (J)	0.0002 (J)	<0.0025
1/24/2017	<0.0025	0.0001 (J)	<0.0025				
1/26/2017				<0.0025	<0.0025	<0.0025	<0.0025
3/21/2017	<0.0025	7E-05 (J)	<0.0025				
3/22/2017				0.0001 (J)	0.0001 (J)	0.0003 (J)	<0.0025
5/22/2017	<0.0025	0.0001 (J)	<0.0025				
5/24/2017				0.0002 (J)	<0.0025	9E-05 (J)	<0.0025
4/2/2018	<0.0025	<0.0025					
4/3/2018			<0.0025				
4/4/2018				<0.0025	<0.0025	<0.0025	<0.0025
3/12/2019	<0.0025	0.00013 (J)	<0.0025				
3/13/2019				<0.0025	<0.0025		<0.0025
3/14/2019						<0.0025	
4/1/2019			<0.0025				
4/2/2019	<0.0025	0.00015 (J)					
4/3/2019				0.0001 (J)	9.6E-05 (J)	<0.0025	
4/5/2019							<0.0025
9/23/2019	<0.0025	<0.0025	<0.0025				
9/26/2019							<0.0025
9/27/2019				<0.0025	<0.0025	<0.0025	
3/2/2020	<0.0025	<0.0025	<0.0025				
3/3/2020				<0.0025	<0.0025	0.00015 (J)	
3/4/2020							<0.0025
3/25/2020	<0.0025	0.00014 (J)	<0.0025				
3/26/2020						<0.0025	
3/30/2020							<0.0025
3/31/2020					<0.0025		
4/1/2020				<0.0025			
9/15/2020	<0.0025	0.00012 (J)	<0.0025				
9/16/2020				<0.0025			
9/18/2020					<0.0025	<0.0025	
9/21/2020							<0.0025

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.0025	0.00024 (J)					
5/23/2016			<0.0025				
7/12/2016	<0.0025	0.0002 (J)	<0.0025				
9/1/2016	<0.0025	0.0001 (J)	<0.0025				
10/20/2016	<0.0025	0.0001 (J)	0.0002 (J)				
12/6/2016	0.0002 (J)	0.0017	0.0001 (J)				
1/25/2017	0.0002 (J)	0.0002 (J)					
1/26/2017			<0.0025				
3/21/2017	0.0002 (J)	0.0002 (J)					
3/22/2017			7E-05 (J)				
5/23/2017	0.0001 (J)	0.0003 (J)	<0.0025				
4/3/2018	<0.0025	<0.0025	<0.0025				
3/12/2019		0.0002 (J)					
3/13/2019	<0.0025		<0.0025		<0.0025	<0.0025	
3/14/2019				<0.0025			<0.0025
4/2/2019	<0.0025				<0.0025		
4/3/2019		0.00032 (J)	<0.0025	<0.0025			<0.0025
4/8/2019						<0.0025	
9/24/2019		0.0002 (J)					
9/25/2019	<0.0025				<0.0025		
9/26/2019						<0.0025	
9/27/2019			<0.0025	0.00013 (J)			<0.0025
3/2/2020					<0.0025		
3/3/2020		0.00017 (J)					<0.0025
3/4/2020	<0.0025		<0.0025	0.00026 (J)		<0.0025	
3/26/2020				0.00019 (J)			<0.0025
3/27/2020	<0.0025	0.00014 (J)			<0.0025		
3/30/2020						<0.0025	
3/31/2020			<0.0025				
9/16/2020	<0.0025	0.00023 (J)					
9/17/2020			<0.0025		<0.0025		
9/18/2020							<0.0025
9/21/2020				0.00018 (J)		<0.0025	

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.0025	<0.0025			
3/13/2019	<0.0025	<0.0025					<0.0025
4/2/2019			<0.0025	<0.0025			
4/3/2019	<0.0025						<0.0025
4/4/2019		<0.0025					
9/24/2019				<0.0025	<0.0025		
9/25/2019							<0.0025
9/26/2019	<0.0025	<0.0025	<0.0025				
3/2/2020				<0.0025			<0.0025
3/4/2020	<0.0025	<0.0025	<0.0025		<0.0025		
3/26/2020							<0.0025
3/27/2020			<0.0025				
3/30/2020				<0.0025			
3/31/2020	<0.0025				<0.0025		
4/2/2020		<0.0025					
9/16/2020				<0.0025			
9/17/2020	<0.0025						<0.0025
9/18/2020		<0.0025					
9/21/2020			<0.0025				
9/24/2020					<0.0025		
9/28/2020						<0.0025	

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.0025	<0.0025		
4/3/2019	<0.0025	<0.0025		
9/26/2019	<0.0025	<0.0025		
3/3/2020	<0.0025	<0.0025		
3/27/2020	<0.0025			
3/30/2020		<0.0025		
9/16/2020			<0.0025	<0.0025
9/21/2020	<0.0025	<0.0025		
11/10/2020			<0.0025	<0.0025

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	138	22.9	76.2				
5/23/2016				167	131	195	133
7/11/2016	97.2	22.3					
7/12/2016			61.5	143	124	181	101
8/30/2016	97.5	26.4	65.1				
9/1/2016				156	107	179	120
10/19/2016	99.2	21.7	73.2				
10/24/2016				156	145	193	127
12/6/2016	105	18.2	74.9				
12/7/2016				183	159	193	113
1/24/2017	95.7	18.5	69.6				
1/26/2017				82.6	121	172	77.9
3/21/2017	106	18.6	75.7				
3/22/2017				154	130	162	85.1
5/22/2017	107	17.8	71.5				
5/24/2017				171	117	158	77.1
10/3/2017	102	20.2	76.3	162	87.7	130	62
6/4/2018	124	19.1	73.4				
6/5/2018				167	113		110
6/6/2018						136	
10/1/2018	108	20.5 (J)	80.9				
10/2/2018				144			
10/3/2018					89	125	
10/5/2018							73.6
4/1/2019			80.5				
4/2/2019	132	22.5 (J)					
4/3/2019				137	112	114	
4/5/2019							77.1
9/23/2019	118	19.5	71				
9/26/2019							195
9/27/2019				157	113	153	
3/25/2020	127	23	89.8				
3/26/2020						145	
3/30/2020							234
3/31/2020					124		
4/1/2020				96.2			
6/16/2020	130		85.1				
9/15/2020	103	21.1	73.1				
9/16/2020				139			
9/18/2020					122	163	
9/21/2020							173

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	117	159					
5/23/2016			179				
7/12/2016	88.8	127	174				
9/1/2016	96.3	135	170				
10/20/2016	96.9	134	133				
12/6/2016	104	142	181				
1/25/2017	94.5	142					
1/26/2017			175				
3/21/2017	109	148					
3/22/2017			183				
5/23/2017	93.3	140	181				
10/3/2017	108	158	188				
6/5/2018	99.8						
6/6/2018		127	184				
10/2/2018	108	118	173				
4/2/2019	101				109		
4/3/2019		125	164	74.9			25.4
4/8/2019						83	
9/24/2019		113					
9/25/2019	105				113		
9/26/2019						83.1	
9/27/2019			175	90			26.4
3/26/2020				171			27
3/27/2020	119	133			126		
3/30/2020						84.4	
3/31/2020			182				
6/16/2020		120					
6/17/2020	112						
9/16/2020	98	119					
9/17/2020			164		110		
9/18/2020							25.1
9/21/2020				135		87.6	

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
4/2/2019			64.6	131			
4/3/2019	122						82
4/4/2019		26.3					
9/24/2019				140	34.2		
9/25/2019							105
9/26/2019	158	32.1	84				
3/26/2020							89.6
3/27/2020			53				
3/30/2020				148			
3/31/2020	155				7.1		
4/2/2020		28.4					
4/9/2020					13.4		
5/11/2020						62.6	
5/19/2020						65.9	
6/17/2020					8.3		
6/19/2020						109	
9/16/2020				126			
9/17/2020	150						103
9/18/2020		24.8					
9/21/2020			76.8				
9/24/2020					6.3		
9/28/2020						289	

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
4/3/2019	178	50.2		
9/26/2019	189	83.9		
3/27/2020	186			
3/30/2020		31.1		
9/16/2020			56	30
9/21/2020	173	75.3		
11/10/2020			63.3	33.6

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	9.94	6.14	5.93				
5/23/2016				56.1	51.9	160	93.2
7/11/2016	6.3	5.9					
7/12/2016			6.2	63	100	160	78
8/30/2016	6	6.2	6.4				
9/1/2016				77	58	140	100
10/19/2016	5.8	6.1	6.5				
10/24/2016				99	220	160	140
12/6/2016	5.4	6	7.2				
12/7/2016				96	180	190	110
1/24/2017	5.2	6.1	6.4				
1/26/2017				7	90	160	70
3/21/2017	4.6	5.9	7.5				
3/22/2017				82	37	130	59
5/22/2017	4.6	5.9	6.5				
5/24/2017				81	69	120	50
10/3/2017	5.6	6.3	6.5	100	28	93	29
6/4/2018	13.1	6.1	6.3				
6/5/2018				66.6	56.1		72.3
6/6/2018						46.4	
10/1/2018	6.6	6.4	6.4				
10/2/2018				48.3			
10/3/2018					24.8	88.4	
10/5/2018							32.3
4/1/2019			6.5				
4/2/2019	20.3	5.8					
4/3/2019				49.3	4.6	62.8	
4/5/2019							36.4
9/23/2019	17.7	5.1	5.9				
9/26/2019							109
9/27/2019				49.9	27.9	81	
3/25/2020	20.4	5.2	6.1				
3/26/2020						48	
3/30/2020							75.1
3/31/2020					3.2		
4/1/2020				5.4			
6/16/2020	41.1		5.8				
9/15/2020	13.4	5	6				
9/16/2020				39.7			
9/18/2020					34.9	74.6	
9/21/2020							41.2

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	50.4	109					
5/23/2016			152				
7/12/2016	50	110	160				
9/1/2016	50	110	160				
10/20/2016	49	110	110				
12/6/2016	51	100	150				
1/25/2017	54	110					
1/26/2017			170				
3/21/2017	46	110					
3/22/2017			160				
5/23/2017	49	130	150				
10/3/2017	52	130	160				
6/5/2018	52.3						
6/6/2018		44.8	138				
10/2/2018	52.6	89.4	142				
4/2/2019	55.5				27.5		
4/3/2019		91.6	130	19.5			32
4/8/2019						43.3	
9/24/2019		60.2					
9/25/2019	49.8				25.7		
9/26/2019						39.7	
9/27/2019			126	46.2			36.2
3/26/2020				64			34.6
3/27/2020	48.3	79.8			28.8		
3/30/2020						37.4	
3/31/2020			105				
6/16/2020		67.9					
6/17/2020	45.2						
9/16/2020	46.4	74.6					
9/17/2020			105		29.7		
9/18/2020							33.4
9/21/2020				35		45.2	

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
4/2/2019			44	80.9			
4/3/2019	90.6						1.8
4/4/2019		26.9					
9/24/2019				83.8	99.2		
9/25/2019							35.9
9/26/2019	118	31.8	43.5				
3/26/2020							0.73 (J)
3/27/2020			33				
3/30/2020				71.2			
3/31/2020	98				111		
4/2/2020		27.9					
4/9/2020					96		
5/11/2020						51.2	
5/19/2020						47.3	
6/17/2020					92.5		
6/19/2020						145	
9/16/2020				75.3			
9/17/2020	103						28.7
9/18/2020		30.4					
9/21/2020			42.9				
9/24/2020					45.4		
9/28/2020						542	

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
4/3/2019	60.9	5.6		
9/26/2019	64.9	15.6		
3/27/2020	48.6			
3/30/2020		1.5		
9/16/2020			4.1	7.2
9/21/2020	58.1	11.1		
11/10/2020			4.4	7.8

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.01	<0.01	<0.01				
5/23/2016				<0.01	<0.01	<0.01	<0.01
7/11/2016	<0.01	<0.01					
7/12/2016			<0.01	<0.01	<0.01	<0.01	<0.01
8/30/2016	<0.01	<0.01	<0.01				
9/1/2016				<0.01	<0.01	<0.01	<0.01
10/19/2016	<0.01	<0.01	<0.01				
10/24/2016				<0.01	<0.01	<0.01	<0.01
12/6/2016	<0.01	<0.01	<0.01				
12/7/2016				<0.01	<0.01	<0.01	<0.01
1/24/2017	<0.01	<0.01	<0.01				
1/26/2017				<0.01	<0.01	<0.01	<0.01
3/21/2017	0.0005 (J)	<0.01	<0.01				
3/22/2017				<0.01	0.0003 (J)	0.0004 (J)	0.0004 (J)
5/22/2017	<0.01	<0.01	0.0007 (J)				
5/24/2017				<0.01	<0.01	<0.01	<0.01
4/2/2018	<0.01	<0.01					
4/3/2018			<0.01				
4/4/2018				<0.01	<0.01	<0.01	<0.01
3/12/2019	<0.01	<0.01	<0.01				
3/13/2019				<0.01	<0.01		<0.01
3/14/2019						0.0025 (J)	
4/1/2019			<0.01				
4/2/2019	<0.01	0.0079 (J)					
4/3/2019				0.02	<0.01	<0.01	
4/5/2019							<0.01
9/23/2019	<0.01	0.00058 (J)	<0.01				
9/26/2019							<0.01
9/27/2019				<0.01	<0.01	<0.01	
3/2/2020	<0.01	0.00041 (J)	<0.01				
3/3/2020				<0.01	0.00061 (J)	<0.01	
3/4/2020							<0.01
3/25/2020	0.00072 (J)	<0.01	<0.01				
3/26/2020						<0.01	
3/30/2020							0.00059 (J)
3/31/2020					<0.01		
4/1/2020				<0.01			
9/15/2020	<0.01	<0.01	<0.01				
9/16/2020				<0.01			
9/18/2020					<0.01	0.00091 (J)	
9/21/2020							0.00056 (J)

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.01	<0.01					
5/23/2016			<0.01				
7/12/2016	<0.01	<0.01	<0.01				
9/1/2016	<0.01	<0.01	<0.01				
10/20/2016	<0.01	<0.01	<0.01				
12/6/2016	<0.01	<0.01	<0.01				
1/25/2017	<0.01	<0.01					
1/26/2017			<0.01				
3/21/2017	<0.01	0.0005 (J)					
3/22/2017			<0.01				
5/23/2017	<0.01	<0.01	<0.01				
4/3/2018	<0.01	<0.01	<0.01				
3/12/2019		<0.01					
3/13/2019	<0.01		<0.01		<0.01	<0.01	
3/14/2019				<0.01			<0.01
4/2/2019	<0.01				<0.01		
4/3/2019		<0.01	<0.01	<0.01			<0.01
4/8/2019						<0.01	
9/24/2019		<0.01					
9/25/2019	0.071				<0.01		
9/26/2019						0.00042 (J)	
9/27/2019			<0.01	<0.01			<0.01
3/2/2020					0.00071 (J)		
3/3/2020		0.0007 (J)					<0.01
3/4/2020	0.0016 (J)		<0.01	0.00066 (J)		<0.01	
3/26/2020				0.00047 (J)			0.00061 (J)
3/27/2020	0.0004 (J)	<0.01			0.00051 (J)		
3/30/2020						<0.01	
3/31/2020			0.00052 (J)				
9/16/2020	0.00074 (J)	0.0015 (J)					
9/17/2020			<0.01		<0.01		
9/18/2020							<0.01
9/21/2020				0.0014 (J)		<0.01	

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.01	<0.01			
3/13/2019	<0.01	<0.01					0.003 (J)
4/2/2019			<0.01	<0.01			
4/3/2019	<0.01						0.003 (J)
4/4/2019		<0.01					
9/24/2019				<0.01	0.00041 (J)		
9/25/2019							0.0052 (J)
9/26/2019	0.00076 (J)	<0.01	0.00081 (J)				
3/2/2020				<0.01			0.0042 (J)
3/4/2020	0.0028 (J)	<0.01	0.0027 (J)		0.0013 (J)		
3/26/2020							0.0044 (J)
3/27/2020			<0.01				
3/30/2020				0.001 (J)			
3/31/2020	0.001 (J)				0.0007 (J)		
4/2/2020		<0.01					
9/16/2020				<0.01			
9/17/2020	<0.01						0.0021 (J)
9/18/2020		0.0007 (J)					
9/21/2020			0.00085 (J)				
9/24/2020					0.00065 (J)		
9/28/2020						0.008 (J)	

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.01	<0.01		
4/3/2019	<0.01	0.0023 (J)		
9/26/2019	<0.01	0.0013 (J)		
3/3/2020	0.00044 (J)	0.0015 (J)		
3/27/2020	0.00059 (J)			
3/30/2020		0.0021 (J)		
9/16/2020			<0.01	0.0012 (J)
9/21/2020	<0.01	0.0017 (J)		
11/10/2020			<0.01	0.00089 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.005	0.0293	<0.005				
5/23/2016				<0.005	<0.005	<0.005	0.00361 (J)
7/11/2016	0.0004 (J)	0.0267					
7/12/2016			<0.005	0.0006 (J)	0.0021 (J)	0.0018 (J)	0.0032 (J)
8/30/2016	<0.005	0.028	<0.005				
9/1/2016				0.0007 (J)	0.0025 (J)	0.0016 (J)	0.0033 (J)
10/19/2016	<0.005	0.0201	<0.005				
10/24/2016				0.0009 (J)	0.0032 (J)	0.0017 (J)	0.004 (J)
12/6/2016	<0.005	0.0184	<0.005				
12/7/2016				0.0012 (J)	0.003 (J)	0.0021 (J)	0.0034 (J)
1/24/2017	<0.005	0.0206	<0.005				
1/26/2017				<0.005	0.0014 (J)	0.0016 (J)	0.0024 (J)
3/21/2017	<0.005	0.0251	<0.005				
3/22/2017				0.0006 (J)	0.0014 (J)	0.0018 (J)	0.0026 (J)
5/22/2017	<0.005	0.0263	<0.005				
5/24/2017				0.0006 (J)	0.0008 (J)	0.0015 (J)	0.0022 (J)
4/2/2018	<0.005	0.019					
4/3/2018			<0.005				
4/4/2018				<0.005	<0.005	<0.005	<0.005
3/12/2019	<0.005	0.017	<0.005				
3/13/2019				<0.005	0.00098 (J)		0.0022 (J)
3/14/2019						0.0011 (J)	
4/1/2019			<0.005				
4/2/2019	<0.005	0.019					
4/3/2019				<0.005	0.0018 (J)	0.0011 (J)	
4/5/2019							0.0017 (J)
9/23/2019	<0.005	0.038	<0.005				
9/26/2019							0.0042 (J)
9/27/2019				<0.005	0.00071 (J)	0.0012 (J)	
3/2/2020	<0.005	0.019	<0.005				
3/3/2020				<0.005	0.00087 (J)	0.0013 (J)	
3/4/2020							0.0066
3/25/2020	<0.005	0.02	<0.005				
3/26/2020						0.0012 (J)	
3/30/2020							0.0053
3/31/2020					0.0014 (J)		
4/1/2020				<0.005			
9/15/2020	<0.005	0.021	<0.005				
9/16/2020				<0.005			
9/18/2020					<0.005	0.0014 (J)	
9/21/2020							0.0032 (J)

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.005	0.00207 (J)					
5/23/2016			<0.005				
7/12/2016	0.0003 (J)	0.0019 (J)	0.0006 (J)				
9/1/2016	<0.005	0.0023 (J)	0.0007 (J)				
10/20/2016	0.0008 (J)	0.002 (J)	0.002 (J)				
12/6/2016	0.0009 (J)	0.0026 (J)	0.0011 (J)				
1/25/2017	0.0005 (J)	0.002 (J)					
1/26/2017			0.0006 (J)				
3/21/2017	0.0005 (J)	0.0023 (J)					
3/22/2017			0.0005 (J)				
5/23/2017	0.0005 (J)	0.0023 (J)	0.0006 (J)				
4/3/2018	<0.005	<0.005	<0.005				
3/12/2019		0.002 (J)					
3/13/2019	0.00067 (J)		0.00065 (J)		0.0011 (J)	<0.005	
3/14/2019				0.025			<0.005
4/2/2019	0.00069 (J)				<0.005		
4/3/2019		0.0019 (J)	0.00069 (J)	0.036			<0.005
4/8/2019						0.00025 (J)	
9/24/2019		0.0015 (J)					
9/25/2019	0.0026 (J)				<0.005		
9/26/2019						0.0011 (J)	
9/27/2019			0.00057 (J)	0.033			<0.005
3/2/2020					<0.005		
3/3/2020		0.002 (J)					<0.005
3/4/2020	0.0011 (J)		0.00053 (J)	0.048		0.00056 (J)	
3/26/2020				0.045			<0.005
3/27/2020	0.00074 (J)	0.0018 (J)			<0.005		
3/30/2020						<0.005	
3/31/2020			0.00051 (J)				
9/16/2020	0.00065 (J)	0.0019 (J)					
9/17/2020			0.0007 (J)		<0.005		
9/18/2020							<0.005
9/21/2020				0.032		<0.005	

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.005	0.00057 (J)			
3/13/2019	<0.005	<0.005					<0.005
4/2/2019			<0.005	0.00084 (J)			
4/3/2019	<0.005						<0.005
4/4/2019		9.1E-05 (J)					
9/24/2019				0.0015 (J)	<0.005		
9/25/2019							<0.005
9/26/2019	0.00053 (J)	<0.005	<0.005				
3/2/2020				0.00067 (J)			<0.005
3/4/2020	<0.005	0.00045 (J)	0.00093 (J)		<0.005		
3/26/2020							<0.005
3/27/2020			<0.005				
3/30/2020				0.00063 (J)			
3/31/2020	0.0003 (J)				<0.005		
4/2/2020		<0.005					
9/16/2020				0.0013 (J)			
9/17/2020	<0.005						<0.005
9/18/2020		<0.005					
9/21/2020			<0.005				
9/24/2020					<0.005		
9/28/2020						0.0037 (J)	

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	0.00055 (J)	<0.005		
4/3/2019	<0.005	<0.005		
9/26/2019	0.00036 (J)	<0.005		
3/3/2020	0.00094 (J)	<0.005		
3/27/2020	0.00059 (J)			
3/30/2020		<0.005		
9/16/2020			<0.005	<0.005
9/21/2020	0.00041 (J)	<0.005		
11/10/2020			<0.005	<0.005

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	0.397 (U)	0.627 (U)	0.342 (U)				
5/23/2016				0.419 (U)	0.509 (U)	1.12	0.625 (U)
7/11/2016	0.738 (U)	1.38					
7/12/2016			0.499 (U)	0.855	0.784 (U)	1.61	0.478 (U)
8/30/2016	0.581 (U)	1.05 (U)	0.976 (U)				
9/1/2016				0.844 (U)	0.261 (U)	1.23	0.595 (U)
10/19/2016	0.213 (U)	1.11 (U)	0.626 (U)				
10/24/2016				0.917 (U)	1.42	1.98	1.54
12/6/2016	0.444 (U)	0.741 (U)	0.805 (U)				
12/7/2016				0.558 (U)	0.781 (U)	0.319 (U)	0.657 (U)
1/24/2017	0.373 (U)	0.908 (U)	0.336 (U)				
1/26/2017				0.922 (U)	0.842 (U)	0.54 (U)	1.22
3/21/2017	0.816 (U)	0.567 (U)	0.358 (U)				
3/22/2017				0.751 (U)	0.318 (U)	0.635 (U)	0.285 (U)
5/22/2017	0.554 (U)	0.638 (U)	0.744 (U)				
5/24/2017				0.725 (U)	0.687 (U)	1.01	0.655 (U)
4/2/2018	0.405 (U)	0.761 (U)					
4/3/2018			0.684 (U)				
4/4/2018				0.715 (U)	1.5	0.956	0.882 (U)
6/4/2018	1.13 (U)	0.975 (U)	0.0291 (U)				
6/5/2018				0.718 (U)	0.549 (U)		1.1 (U)
6/6/2018						0.424 (U)	
10/1/2018	0.132 (U)	0.434 (U)	0.781 (U)				
10/2/2018				0.948			
10/3/2018					1.48	0.57 (U)	
10/5/2018							0.558 (U)
3/12/2019	0.327 (U)	0.454 (U)	1.01 (U)				
3/13/2019				1.19 (U)	0.584 (U)		0.39 (U)
3/14/2019						0.992 (U)	
4/1/2019			0.76 (U)				
4/2/2019	0.739 (U)	0.651 (U)					
4/3/2019				1.82 (U)	0.36 (U)	0.734 (U)	
4/5/2019							0.422 (U)
9/26/2019							0.939 (U)
9/27/2019				1.16 (U)	1.78	0.958 (U)	
9/30/2019	0.306 (U)	1.04 (U)	0.384 (U)				
3/2/2020	0.61 (U)	1.58	0.249 (U)				
3/3/2020				0.667 (U)	0.716 (U)	0.971 (U)	
3/4/2020							0.708 (U)
3/25/2020	4.36	0.621 (U)	0.833 (U)				
3/26/2020						0.209 (U)	
3/30/2020							0.602 (U)
3/31/2020					1.3 (U)		
4/1/2020				0.235 (U)			
9/15/2020	0.748 (U)	0.124 (U)	0.161 (U)				
9/16/2020				0 (U)			
9/18/2020					1.24 (U)	0.916 (U)	
9/21/2020							1.53

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	0.62 (U)	0.56 (U)					
5/23/2016			0.826 (U)				
7/12/2016	0.283 (U)	0.636 (U)	0.511 (U)				
9/1/2016	0.703 (U)	0.818 (U)	0.762 (U)				
10/20/2016	1.97	1.04 (U)	1.17				
12/6/2016	2	0.771 (U)	0.126 (U)				
1/25/2017	1.06 (U)	0.859 (U)					
1/26/2017			0.515 (U)				
3/21/2017	0.668 (U)	0.851 (U)					
3/22/2017			0.451 (U)				
5/23/2017	0.621 (U)	0.705 (U)	0.924 (U)				
4/3/2018	0.538 (U)	0.311 (U)	0.732 (U)				
6/5/2018	0.985 (U)						
6/6/2018		0.896 (U)	0.813 (U)				
10/2/2018	0.837 (U)	1.21	0.61 (U)				
3/12/2019		0.544 (U)					
3/13/2019	0.403 (U)		1 (U)		0.538 (U)	0.311 (U)	
3/14/2019				0.347 (U)			1.28 (U)
4/2/2019	0.865 (U)				1.02 (U)		
4/3/2019		0.885 (U)	0.156 (U)	0.884 (U)			0.662 (U)
4/8/2019						0.573 (U)	
9/24/2019		1.3					
9/25/2019	0.884 (U)				1.35 (U)		
9/26/2019						0.878 (U)	
9/27/2019			0.428 (U)	0.534 (U)			0.945 (U)
3/2/2020					0.653 (U)		
3/3/2020		0.835 (U)					1.36
3/4/2020	0.624 (U)		1.03	1.04		0.333 (U)	
3/26/2020				1.1 (U)			0.793 (U)
3/27/2020	0.485 (U)	1.04 (U)			0.1 (U)		
3/30/2020						0.107 (U)	
3/31/2020			1.2 (U)				
9/16/2020	0.135 (U)	0.526 (U)					
9/17/2020			1.38 (U)		0.469 (U)		
9/18/2020							1.17 (U)
9/21/2020				1.36 (U)		1.23 (U)	

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			0.926 (U)	1.37			
3/13/2019	0.627 (U)	1.81					0.621 (U)
4/2/2019			0.479 (U)	0.62 (U)			
4/3/2019	0.205 (U)						0.932 (U)
4/4/2019		1.33					
9/24/2019				0.675 (U)	1.16		
9/25/2019							0.798 (U)
9/26/2019	0.912 (U)	0.974 (U)	0.997 (U)				
3/2/2020				0.413 (U)			0.964 (U)
3/4/2020	1.27 (U)	1.12	1.31		0.592 (U)		
3/26/2020							1.1
3/27/2020			1.59				
3/30/2020				0.885 (U)			
3/31/2020	1.65				1.27 (U)		
4/2/2020		2.48					
9/16/2020				0.193 (U)			
9/17/2020	0.42 (U)						0.618 (U)
9/18/2020		1.13 (U)					
9/21/2020			1.39 (U)				
9/24/2020					0.809 (U)		
9/28/2020						2.45	

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	2.07	1.23		
4/3/2019	0.872 (U)	1.05 (U)		
9/26/2019	0.745 (U)	0.947 (U)		
3/3/2020	0.757 (U)	1.15		
3/27/2020	0.758 (U)			
3/30/2020		0.83 (U)		
9/16/2020			0.531 (U)	0.422 (U)
9/21/2020	0.796 (U)	1.55 (U)		
11/10/2020			0.788 (U)	0.293 (U)

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	0.105 (J)	0.0303 (J)	0.0513 (J)				
5/23/2016				0.0394 (J)	0.203 (J)	0.212 (J)	0.2587 (J)
7/11/2016	0.16 (J)	0.05 (J)					
7/12/2016			0.12 (J)	0.15 (J)	0.44	0.31	0.53
8/30/2016	0.09 (J)	0.06 (J)	0.09 (J)				
9/1/2016				0.5	0.67	0.62	0.74
10/19/2016	0.1 (J)	0.04 (J)	0.1 (J)				
10/24/2016				0.06 (J)	0.26 (J)	0.19 (J)	0.31
12/6/2016	0.11 (J)	0.36	0.21 (J)				
12/7/2016				0.44	0.55	0.73	1
1/24/2017	0.09 (J)	<0.1	0.06 (J)				
1/26/2017				0.29 (J)	0.27 (J)	0.12 (J)	0.68
3/21/2017	0.13 (J)	<0.1	0.005 (J)				
3/22/2017				0.34	0.66	0.44	0.76
5/22/2017	0.12 (J)	<0.1	0.05 (J)				
5/24/2017				0.13 (J)	0.35	0.34	0.54
10/3/2017	0.13 (J)	<0.1	0.13 (J)	0.46	0.56	0.58	0.83
4/2/2018	<0.1	<0.1					
4/3/2018			<0.1				
4/4/2018				<0.1	0.39	<0.1	0.65
6/4/2018	0.074 (J)	<0.1	<0.1				
6/5/2018				<0.1	0.24 (J)		0.47
6/6/2018						0.21 (J)	
10/1/2018	<0.1	<0.1	<0.1				
10/2/2018				0.17 (J)			
10/3/2018					0.31	0.15 (J)	
10/5/2018							0.77
3/12/2019	0.29 (J)	0.038 (J)	0.072 (J)				
3/13/2019				0.17 (J)	0.51		0.78
3/14/2019						1.1	
4/1/2019			0.029 (J)				
4/2/2019	0.1 (J)	0.071 (J)					
4/3/2019				0.082 (J)	0.43	0.3 (J)	
4/5/2019							0.83
9/23/2019	0.078 (J)	<0.1	<0.1				
9/26/2019							0.64
9/27/2019				0.17 (J)	0.42	0.26 (J)	
3/2/2020	0.076 (J)	<0.1	<0.1				
3/3/2020				0.11 (J)	0.24 (J)	0.21 (J)	
3/4/2020							0.37
3/25/2020	0.098 (J)	<0.1	<0.1				
3/26/2020						0.17 (J)	
3/30/2020							0.44
3/31/2020					0.19 (J)		
4/1/2020				0.12 (J)			
6/16/2020	0.071 (J)		<0.1				
9/15/2020	0.082 (J)	<0.1	<0.1				
9/16/2020				<0.1			
9/18/2020					0.15	0.15	
9/21/2020							0.44

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	0.0828 (J)	0.499					
5/23/2016			<0.1				
7/12/2016	0.2 (J)	0.67	0.24 (J)				
9/1/2016	0.51	0.94	0.46				
10/20/2016	0.4	0.56	0.56				
12/6/2016	0.26 (J)	0.76	0.31				
1/25/2017	0.24 (J)	1.1					
1/26/2017			0.004 (J)				
3/21/2017	0.13 (J)	0.46					
3/22/2017			0.28 (J)				
5/23/2017	0.11 (J)	0.65	0.29 (J)				
10/3/2017	0.17 (J)	0.66	0.53				
4/3/2018	<0.1	0.39	<0.1				
6/5/2018	0.099 (J)						
6/6/2018		0.46	0.12 (J)				
10/2/2018	<0.1	0.51	0.031 (J)				
3/12/2019		0.58					
3/13/2019	0.12 (J)		0.14 (J)		0.072 (J)	0.074 (J)	
3/14/2019				0.35			2.2
4/2/2019	0.097 (J)				<0.1		
4/3/2019		0.63	0.14 (J)	0.19 (J)			1.6
4/8/2019						0.048 (J)	
9/24/2019		0.49					
9/25/2019	0.1 (J)				<0.1		
9/26/2019						0.18 (J)	
9/27/2019			0.26 (J)	0.53			1.5
3/2/2020					<0.1		
3/3/2020		0.45					1.4
3/4/2020	0.077 (J)		0.08 (J)	0.096 (J)		0.051 (J)	
3/26/2020				0.12 (J)			1.6
3/27/2020	0.059 (J)	0.46			<0.1		
3/30/2020						0.064 (J)	
3/31/2020			0.074 (J)				
6/16/2020		0.45					
6/17/2020	0.077 (J)						
9/16/2020	0.081 (J)	0.53					
9/17/2020			0.1		<0.1		
9/18/2020							1.6
9/21/2020				0.17		<0.1	

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			0.24 (J)	0.07 (J)			
3/13/2019	0.052 (J)	0.28 (J)					0.1 (J)
4/2/2019			0.18 (J)	0.045 (J)			
4/3/2019	0.044 (J)						0.049 (J)
4/4/2019		0.26 (J)					
9/24/2019				0.18 (J)	5.7		
9/25/2019							0.076 (J)
9/26/2019	0.19 (J)	0.42	0.22 (J)				
11/26/2019					10.3		
3/2/2020				<0.1			0.065 (J)
3/4/2020	0.052 (J)	0.25 (J)	0.26 (J)		9.4		
3/26/2020							0.082 (J)
3/27/2020			0.26 (J)				
3/30/2020				<0.1			
3/31/2020	<0.1				10.5		
4/2/2020		0.24 (J)					
5/11/2020						0.88	
5/19/2020						1.3	
6/17/2020					10.9		
6/19/2020						<0.1	
9/16/2020				<0.1			
9/17/2020	0.069 (J)						0.094 (J)
9/18/2020		0.22					
9/21/2020			0.1				
9/24/2020					8.2		
9/28/2020						0.41	

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	0.19 (J)	0.069 (J)		
4/3/2019	0.15 (J)	<0.1		
9/26/2019	0.19 (J)	0.17 (J)		
3/3/2020	0.062 (J)	<0.1		
3/27/2020	<0.1			
3/30/2020		<0.1		
9/16/2020			0.22	0.52
9/21/2020	<0.1	<0.1		
11/10/2020			0.19	0.59

Time Series

Constituent: Lead (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.005	<0.005	<0.005				
5/23/2016				<0.005	<0.005	<0.005	<0.005
7/11/2016	<0.005	<0.005					
7/12/2016			0.0001 (J)	<0.005	<0.005	<0.005	<0.005
8/30/2016	<0.005	<0.005	<0.005				
9/1/2016				<0.005	<0.005	<0.005	<0.005
10/19/2016	<0.005	<0.005	<0.005				
10/24/2016				<0.005	<0.005	<0.005	<0.005
12/6/2016	<0.005	<0.005	<0.005				
12/7/2016				<0.005	<0.005	<0.005	<0.005
1/24/2017	<0.005	<0.005	<0.005				
1/26/2017				<0.005	<0.005	<0.005	<0.005
3/21/2017	<0.005	6E-05 (J)	0.0001 (J)				
3/22/2017				<0.005	0.0003 (J)	<0.005	7E-05 (J)
5/22/2017	<0.005	9E-05 (J)	<0.005				
5/24/2017				<0.005	9E-05 (J)	<0.005	<0.005
4/2/2018	<0.005	<0.005					
4/3/2018			<0.005				
4/4/2018				<0.005	<0.005	<0.005	<0.005
3/12/2019	<0.005	<0.005	<0.005				
3/13/2019				<0.005	<0.005		<0.005
3/14/2019						<0.005	
9/23/2019	7.8E-05 (J)	9.2E-05 (J)	<0.005				
3/2/2020	4.8E-05 (J)	9.5E-05 (J)	<0.005				
3/3/2020				<0.005	0.00021 (J)	5.6E-05 (J)	
3/4/2020							0.00014 (J)
3/25/2020	<0.005	0.00011 (J)	<0.005				
3/26/2020						0.00043 (J)	
3/30/2020							0.0001 (J)
3/31/2020					0.0003 (J)		
4/1/2020				5E-05 (J)			
9/15/2020	<0.005	8E-05 (J)	4.2E-05 (J)				
9/16/2020				<0.005			
9/18/2020					6E-05 (J)	9.6E-05 (J)	
9/21/2020							0.00015 (J)

Time Series

Constituent: Lead (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.005	<0.005					
5/23/2016			<0.005				
7/12/2016	<0.005	<0.005	<0.005				
9/1/2016	<0.005	<0.005	<0.005				
10/20/2016	<0.005	<0.005	<0.005				
12/6/2016	0.0001 (J)	<0.005	0.0002 (J)				
1/25/2017	0.0001 (J)	<0.005					
1/26/2017			0.0001 (J)				
3/21/2017	9E-05 (J)	<0.005					
3/22/2017			<0.005				
5/23/2017	8E-05 (J)	<0.005	0.0001 (J)				
4/3/2018	<0.005	<0.005	<0.005				
3/12/2019		<0.005					
3/13/2019	<0.005		<0.005		<0.005	<0.005	
3/14/2019				<0.005			<0.005
3/2/2020					0.00017 (J)		
3/3/2020		0.00013 (J)					<0.005
3/4/2020	0.00051 (J)		8.4E-05 (J)	0.00011 (J)		0.00019 (J)	
3/26/2020				<0.005			<0.005
3/27/2020	5.4E-05 (J)	<0.005			0.00013 (J)		
3/30/2020						6.4E-05 (J)	
3/31/2020			0.00014 (J)				
9/16/2020	0.0002 (J)	0.0002 (J)					
9/17/2020			0.00022 (J)		<0.005		
9/18/2020							<0.005
9/21/2020				8.5E-05 (J)		4.2E-05 (J)	

Time Series

Constituent: Lead (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.005	<0.005			
3/13/2019	<0.005	<0.005					<0.005
3/2/2020				9E-05 (J)			4.7E-05 (J)
3/4/2020	<0.005	<0.005	0.001 (J)		0.00041 (J)		
3/26/2020							<0.005
3/27/2020			6.2E-05 (J)				
3/30/2020				0.00011 (J)			
3/31/2020	0.0001 (J)				6.7E-05 (J)		
4/2/2020		0.00013 (J)					
9/16/2020				<0.005			
9/17/2020	<0.005						<0.005
9/18/2020		<0.005					
9/21/2020			0.00018 (J)				
9/24/2020					6.8E-05 (J)		
9/28/2020						0.0075 (J)	

Time Series

Constituent: Lead (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.005	<0.005		
3/3/2020	0.00013 (J)	6.2E-05 (J)		
3/27/2020	<0.005			
3/30/2020		<0.005		
9/16/2020			5E-05 (J)	0.00021 (J)
9/21/2020	0.00026 (J)	<0.005		
11/10/2020			6.9E-05 (J)	0.0002 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.03	<0.03	<0.03				
5/23/2016				<0.03	<0.03	0.0107 (J)	0.0422 (J)
7/11/2016	<0.03	0.0014 (J)					
7/12/2016			0.0024 (J)	<0.03	<0.03	0.0113 (J)	0.0366 (J)
8/30/2016	<0.03	<0.03	0.0025 (J)				
9/1/2016				<0.03	<0.03	0.0118 (J)	0.04 (J)
10/19/2016	<0.03	<0.03	0.003 (J)				
10/24/2016				<0.03	<0.03	0.0114 (J)	0.0435 (J)
12/6/2016	<0.03	<0.03	0.0033 (J)				
12/7/2016				<0.03	<0.03	0.0155 (J)	0.0477 (J)
1/24/2017	<0.03	<0.03	0.003 (J)				
1/26/2017				<0.03	<0.03	0.0099 (J)	0.0342 (J)
3/21/2017	<0.03	0.0012 (J)	0.0034 (J)				
3/22/2017				<0.03	<0.03	0.0098 (J)	0.0353 (J)
5/22/2017	<0.03	<0.03	0.003 (J)				
5/24/2017				<0.03	<0.03	0.0105 (J)	0.0317 (J)
4/2/2018	<0.03	0.0015 (J)					
4/3/2018			0.003 (J)				
4/4/2018				<0.03	<0.03	0.008 (J)	0.031 (J)
6/4/2018	0.001 (J)	0.0016 (J)	0.0027 (J)				
6/5/2018				<0.03	<0.03		0.031 (J)
6/6/2018						0.0095 (J)	
10/1/2018	0.00099 (J)	0.0013 (J)	0.0032 (J)				
10/2/2018				<0.03			
10/3/2018					<0.03	0.0083 (J)	
10/5/2018							0.027 (J)
3/12/2019	0.001 (J)	0.0018 (J)	0.0032 (J)				
3/13/2019				<0.03	<0.03		0.029 (J)
3/14/2019						0.0058 (J)	
4/1/2019			0.0032 (J)				
4/2/2019	0.001 (J)	0.0018 (J)					
4/3/2019				<0.03	<0.03	0.0066 (J)	
4/5/2019							0.023 (J)
9/23/2019	0.0011 (J)	0.0016 (J)	0.0029 (J)				
9/26/2019							0.035
9/27/2019				<0.03	<0.03	0.011 (J)	
3/2/2020	0.0012 (J)	0.0017 (J)	0.0037 (J)				
3/3/2020				<0.03	<0.03	0.0063 (J)	
3/4/2020							0.041
3/25/2020	0.00083 (J)	0.0017 (J)	0.0035 (J)				
3/26/2020						0.0063 (J)	
3/30/2020							0.038
3/31/2020					<0.03		
4/1/2020				<0.03			
9/15/2020	0.00087 (J)	0.0015 (J)	0.0026 (J)				
9/16/2020				<0.03			
9/18/2020					<0.03	0.01 (J)	
9/21/2020							0.028 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.03	<0.03					
5/23/2016			<0.03				
7/12/2016	0.0021 (J)	0.0023 (J)	0.004 (J)				
9/1/2016	0.0025 (J)	0.0029 (J)	0.0044 (J)				
10/20/2016	0.0021 (J)	0.0027 (J)	0.0027 (J)				
12/6/2016	0.0026 (J)	0.0032 (J)	0.005 (J)				
1/25/2017	0.0024 (J)	0.0026 (J)					
1/26/2017			0.0042 (J)				
3/21/2017	0.0026 (J)	0.0029 (J)					
3/22/2017			0.0043 (J)				
5/23/2017	0.0026 (J)	0.0029 (J)	0.0048 (J)				
4/3/2018	0.0023 (J)	0.0025 (J)	0.0043 (J)				
6/5/2018	0.0022 (J)						
6/6/2018		0.0023 (J)	0.0043 (J)				
10/2/2018	0.003 (J)	0.0025 (J)	0.004 (J)				
3/12/2019		0.0025 (J)					
3/13/2019	0.0024 (J)		0.004 (J)		0.0016 (J)	0.0029 (J)	
3/14/2019				0.0089 (J)			0.05
4/2/2019	0.002 (J)				0.0015 (J)		
4/3/2019		0.0025 (J)	0.004 (J)	0.0061 (J)			0.047 (J)
4/8/2019						0.0027 (J)	
9/24/2019		0.0024 (J)					
9/25/2019	0.0019 (J)				<0.03		
9/26/2019						0.003 (J)	
9/27/2019			0.0044 (J)	0.013 (J)			0.047
3/2/2020					0.00082 (J)		
3/3/2020		0.0028 (J)					0.05
3/4/2020	0.0034 (J)		0.004 (J)	0.01 (J)		0.0026 (J)	
3/26/2020				0.013 (J)			0.054
3/27/2020	0.002 (J)	0.0026 (J)			0.0012 (J)		
3/30/2020						0.0027 (J)	
3/31/2020			0.0043 (J)				
9/16/2020	0.0026 (J)	0.0033 (J)					
9/17/2020			0.004 (J)		<0.03		
9/18/2020							0.046
9/21/2020				0.013 (J)		0.0024 (J)	

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			0.011 (J)	0.0024 (J)			
3/13/2019	0.0033 (J)	0.0097 (J)					<0.03
4/2/2019			0.0052 (J)	0.0021 (J)			
4/3/2019	0.0034 (J)						<0.03
4/4/2019		0.0069 (J)					
9/24/2019				0.0022 (J)	0.16		
9/25/2019							<0.03
9/26/2019	0.0041 (J)	0.0055 (J)	0.0055 (J)				
11/26/2019					0.23		
3/2/2020				0.0025 (J)			<0.03
3/4/2020	0.03 (J)	0.0047 (J)	0.015 (J)		0.18		
3/26/2020							<0.03
3/27/2020			0.014 (J)				
3/30/2020				0.0023 (J)			
3/31/2020	0.0036 (J)				0.25		
4/2/2020		0.0068 (J)					
9/16/2020				0.0021 (J)			
9/17/2020	0.0032 (J)						<0.03
9/18/2020		0.0084 (J)					
9/21/2020			0.0053 (J)				
9/24/2020					0.13		
9/28/2020						0.095 (J)	

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.03	<0.03		
4/3/2019	<0.03	<0.03		
9/26/2019	<0.03	<0.03		
3/3/2020	<0.03	<0.03		
3/27/2020	<0.03			
3/30/2020		<0.03		
9/16/2020			0.0018 (J)	0.014 (J)
9/21/2020	<0.03	<0.03		
11/10/2020			0.0013 (J)	0.025 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.0005	<0.0005	<0.0005				
5/23/2016				<0.0005	<0.0005	<0.0005	<0.0005
7/11/2016	<0.0005	<0.0005					
7/12/2016			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
8/30/2016	4E-05 (J)	4E-05 (J)	<0.0005				
9/1/2016				<0.0005	<0.0005	<0.0005	<0.0005
10/19/2016	<0.0005	<0.0005	<0.0005				
10/24/2016				<0.0005	<0.0005	<0.0005	<0.0005
12/6/2016	<0.0005	<0.0005	<0.0005				
12/7/2016				<0.0005	<0.0005	<0.0005	<0.0005
1/24/2017	<0.0005	<0.0005	<0.0005				
1/26/2017				5E-05 (J)	5E-05 (J)	<0.0005	4E-05 (J)
3/21/2017	<0.0005	<0.0005	<0.0005				
3/22/2017				<0.0005	<0.0005	<0.0005	<0.0005
5/22/2017	<0.0005	<0.0005	<0.0005				
5/24/2017				<0.0005	<0.0005	<0.0005	5E-05 (J)
4/2/2018	<0.0005	<0.0005					
4/3/2018			<0.0005				
4/4/2018				<0.0005	<0.0005	<0.0005	<0.0005
3/12/2019	<0.0005	<0.0005	<0.0005				
3/13/2019				<0.0005	<0.0005		<0.0005
3/14/2019						<0.0005	
3/2/2020	<0.0005	<0.0005	<0.0005				
3/3/2020				<0.0005	<0.0005	<0.0005	
3/4/2020							<0.0005

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.0005	<0.0005					
5/23/2016			<0.0005				
7/12/2016	<0.0005	<0.0005	<0.0005				
9/1/2016	<0.0005	<0.0005	<0.0005				
10/20/2016	<0.0005	<0.0005	<0.0005				
12/6/2016	<0.0005	<0.0005	<0.0005				
1/25/2017	<0.0005	<0.0005					
1/26/2017			4E-05 (J)				
3/21/2017	<0.0005	<0.0005					
3/22/2017			<0.0005				
5/23/2017	<0.0005	<0.0005	<0.0005				
4/3/2018	<0.0005	<0.0005	<0.0005				
3/12/2019		<0.0005					
3/13/2019	<0.0005		<0.0005		<0.0005	<0.0005	
3/14/2019				<0.0005			<0.0005
3/2/2020					<0.0005		
3/3/2020		<0.0005					<0.0005
3/4/2020	<0.0005		<0.0005	<0.0005		<0.0005	

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-5	MW-6
3/12/2019			<0.0005	<0.0005			
3/13/2019	<0.0005	<0.0005				<0.0005	<0.0005
3/2/2020				<0.0005		<0.0005	
3/3/2020							<0.0005
3/4/2020	<0.0005	<0.0005	<0.0005		<0.0005		

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.0005		
3/3/2020	<0.0005		
9/16/2020		<0.0005	<0.0005
11/10/2020		<0.0005	<0.0005

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.01	<0.01	<0.01				
5/23/2016				<0.01	0.0164	0.0413 (J)	0.027
7/11/2016	<0.01	<0.01					
7/12/2016			<0.01	0.0013 (J)	0.0251	0.0484	0.0316
8/30/2016	<0.01	<0.01	<0.01				
9/1/2016				<0.01	0.0259	0.0474	0.0336
10/19/2016	<0.01	<0.01	<0.01				
10/24/2016				<0.01	0.0293	0.047	0.0352
12/6/2016	<0.01	<0.01	<0.01				
12/7/2016				<0.01	0.0209	0.0432	0.0383
1/24/2017	<0.01	<0.01	<0.01				
1/26/2017				<0.01	0.0277	0.0484	0.041
3/21/2017	<0.01	<0.01	<0.01				
3/22/2017				0.0013 (J)	0.011	0.0494	0.0426
5/22/2017	<0.01	<0.01	<0.01				
5/24/2017				0.0014 (J)	0.0373	0.047	0.04
4/2/2018	<0.01	<0.01					
4/3/2018			<0.01				
4/4/2018				<0.01	0.013	0.052	0.027
6/4/2018	<0.01	<0.01	<0.01				
6/5/2018				<0.01	0.029		0.027
6/6/2018						0.054	
10/1/2018	<0.01	<0.01	<0.01				
10/2/2018				<0.01			
10/3/2018					0.02	0.054	
10/5/2018							0.033
3/12/2019	<0.01	<0.01	<0.01				
3/13/2019				<0.01	0.012		0.033
3/14/2019						0.046	
4/1/2019			<0.01				
4/2/2019	<0.01	<0.01					
4/3/2019				0.0021 (J)	0.01	0.049	
4/5/2019							0.03
9/23/2019	<0.01	<0.01	<0.01				
9/26/2019							0.026
9/27/2019				0.0014 (J)	0.016	0.052	
3/2/2020	<0.01	<0.01	<0.01				
3/3/2020				<0.01	0.011	0.045	
3/4/2020							0.03
3/25/2020	<0.01	<0.01	<0.01				
3/26/2020						0.045	
3/30/2020							0.029
3/31/2020					0.0074 (J)		
4/1/2020				<0.01			
6/16/2020	<0.01		<0.01				
9/15/2020	<0.01	<0.01	<0.01				
9/16/2020				0.0014 (J)			
9/18/2020					0.032	0.046	
9/21/2020							0.032

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	0.028	0.446					
5/23/2016			0.0187				
7/12/2016	0.0273	0.455	0.0229				
9/1/2016	0.0274	0.481	0.0239				
10/20/2016	0.036	0.472	0.477				
12/6/2016	0.0365	0.52	0.0236				
1/25/2017	0.0317	0.478					
1/26/2017			0.0234				
3/21/2017	0.0346	0.547					
3/22/2017			0.0219				
5/23/2017	0.0336	0.482	0.0242				
4/3/2018	0.032	0.44	0.025				
6/5/2018	0.036						
6/6/2018		0.49	0.027				
10/2/2018	0.039	0.47	0.028				
3/12/2019		0.5					
3/13/2019	0.04		0.028		<0.01	<0.01	
3/14/2019				0.057			0.0022 (J)
4/2/2019	0.041				<0.01		
4/3/2019		0.5	0.03	0.04			<0.01
4/8/2019						0.00027 (J)	
9/24/2019		0.54					
9/25/2019	0.047				<0.01		
9/26/2019						<0.01	
9/27/2019			0.033	0.063			<0.01
3/2/2020					<0.01		
3/3/2020		0.44					<0.01
3/4/2020	0.045		0.031	0.032		<0.01	
3/26/2020				0.033			<0.01
3/27/2020	0.044	0.42			<0.01		
3/30/2020						<0.01	
3/31/2020			0.031				
6/16/2020		0.45					
6/17/2020	0.048						
9/16/2020	0.046	0.43					
9/17/2020			0.03		<0.01		
9/18/2020							0.00094 (J)
9/21/2020				0.064		0.00099 (J)	

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			0.013	0.0038 (J)			
3/13/2019	<0.01	<0.01					<0.01
4/2/2019			0.028	0.0028 (J)			
4/3/2019	0.0083 (J)						<0.01
4/4/2019		0.0018 (J)					
7/8/2019					0.022		
9/24/2019				0.0021 (J)	0.036		
9/25/2019							<0.01
9/26/2019	0.017	0.0042 (J)	0.017				
11/25/2019	0.02						
11/26/2019					0.041		
3/2/2020				0.0025 (J)			<0.01
3/4/2020	0.0074 (J)	0.0058 (J)	0.009 (J)		0.021		
3/26/2020							<0.01
3/27/2020			0.0068 (J)				
3/30/2020				0.0029 (J)			
3/31/2020	0.0093 (J)				0.015		
4/2/2020		0.003 (J)					
5/11/2020						0.014	
5/19/2020						0.014	
6/17/2020					0.0062 (J)		
6/19/2020						0.015	
9/16/2020				0.0021 (J)			
9/17/2020	0.014						<0.01
9/18/2020		0.0018 (J)					
9/21/2020			0.018				
9/24/2020					0.011		
9/28/2020						0.016 (J)	

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	0.0021 (J)	<0.01		
4/3/2019	0.0021 (J)	<0.01		
9/26/2019	0.0026 (J)	0.0033 (J)		
3/3/2020	0.0022 (J)	<0.01		
3/27/2020	0.0026 (J)			
3/30/2020		<0.01		
9/16/2020			0.0044 (J)	0.0019 (J)
9/21/2020	0.0025 (J)	0.0015 (J)		
11/10/2020			0.0072 (J)	0.0018 (J)

Time Series

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	7.27	5.81	7.45				
5/23/2016				6.83	6.22	7.15	7.14
7/11/2016	7.06	5.68					
7/12/2016			7.32	6.58	6.04	6.87	7.04
8/30/2016	7.28	5.63	7.43				
9/1/2016				6.54	6.26	7.2	7.24
10/19/2016	7.02	5.46	7.03				
10/24/2016				6.59	6.46	7.1	6.9
12/6/2016	7.09	5.38	7.08				
12/7/2016				6.56	6.29	6.92	6.91
1/24/2017	7.2	5.37	7.39				
1/26/2017				6.83	6.46	7.05	7.08
3/21/2017	7.01	4.9	6.83				
3/22/2017				6.66	5.81	7.08	7.13
5/22/2017	7.11	5.2	7.02				
5/24/2017				6.67	6.51	7.11	7.15
10/3/2017	7.21	5.3	7.47	6.54	6.25	7.01	7.32
4/2/2018	7.1	5.4					
4/3/2018			7.38				
4/4/2018				6.61	5.86	7.12	7.27
6/4/2018	7.06	5.27	7.38				
6/5/2018				6.65	6.27		7.2
6/6/2018						7.12	
10/1/2018	7.09	5.31	7.13				
10/2/2018				6.55			
10/3/2018					5.97	7.08	
10/5/2018							7.24
3/12/2019	7.03	5.42	7.29				
3/13/2019				6.7	5.92		7.24
3/14/2019						7.09	
4/1/2019			7.16				
4/2/2019	6.86	5.41					
4/3/2019				6.55	5.69	6.96	
4/5/2019							7.24
9/23/2019	7.02	5.33	7.3				
9/26/2019							6.94
9/27/2019				6.64	5.75	7.07	
3/2/2020	7.1	5.43	7.12				
3/3/2020				6.67	5.95	6.95	
3/4/2020							7.16
3/25/2020	6.95	5.36	7.4				
3/26/2020						6.99	
3/30/2020							6.91
3/31/2020					5.7		
4/1/2020				6.84			
6/16/2020	6.97 (D)		7.31 (D)				
9/15/2020	7.15	5.22	7.29				
9/16/2020				6.66			
9/18/2020					6.42	7.15	
9/21/2020							7.34

Time Series

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	7.14	6.99					
5/23/2016			7.23				
7/12/2016	7.13	6.88	6.87				
9/1/2016	7.29	6.73	7.15				
10/20/2016	7.1	6.9	7.05				
12/6/2016	7.15	6.98	7.15				
1/25/2017	7.11	7.04					
1/26/2017			6.99				
3/21/2017	7.12	6.87					
3/22/2017			7.03				
5/23/2017	7.08	6.87	7.05				
10/3/2017	7.21	6.72	7.07				
4/3/2018	7.14	6.87	6.99				
6/5/2018	7.13						
6/6/2018		6.9	7.02				
10/2/2018	7.12	6.9	7.05				
3/12/2019		6.91					
3/13/2019	7.27		7.06		6.75	7.58	
3/14/2019				6.48			7.67
4/2/2019	7.27				6.7		
4/3/2019		6.85	6.88	6.14			7.56
4/8/2019						7.47	
9/24/2019		6.95					
9/25/2019	7.11				6.75		
9/26/2019						7.5	
9/27/2019			7.01	6.33			7.57
3/2/2020					6.98		
3/3/2020		7.06					7.59
3/4/2020	7.17		6.97	6.29		7.47	
3/26/2020				6.28			7.57
3/27/2020	7.05	6.95			6.75		
3/30/2020						7.49	
3/31/2020			7.07				
6/16/2020		6.97 (D)					
6/17/2020	7.2 (D)						
9/16/2020	7.3	6.92					
9/17/2020			6.99		6.78		
9/18/2020							7.64
9/21/2020				6.41		7.65	

Time Series

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			7.46	7.2			
3/13/2019	7.4	7.78					6.16
4/2/2019			7.4	6.91			
4/3/2019	7.25						5.96
4/4/2019		7.63					
9/24/2019				6.86	7.85		
9/25/2019							6.37
9/26/2019	7.16	7.46	7.4				
3/2/2020				7.13			6.12
3/4/2020	7.14	8.33	7.55		8.12		
3/26/2020							6.14
3/27/2020			7.42				
3/30/2020				7.07			
3/31/2020	7.2				7.95		
4/2/2020		8.11					
4/9/2020					8.27		
5/11/2020						7.77	
6/17/2020					8.33 (D)		
6/19/2020						7.4 (D)	
9/16/2020				6.88			
9/17/2020	7.08						6.48
9/18/2020		7.51					
9/21/2020			7.46				
9/24/2020					8.72		
9/28/2020						7.69	

Time Series

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	6.86	6.37		
4/3/2019	6.77	6.19		
9/26/2019	6.76	6.5		
3/3/2020	6.78	6.1		
3/27/2020	6.82			
3/30/2020		6.06		
9/16/2020			7.52	7.83
9/21/2020	6.88	6.5		
11/10/2020			7.27	7.84

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.01	<0.01	<0.01				
5/23/2016				<0.01	0.0106	<0.01	<0.01
7/11/2016	<0.01	<0.01					
7/12/2016			<0.01	<0.01	0.0057 (J)	<0.01	<0.01
8/30/2016	<0.01	<0.01	<0.01				
9/1/2016				<0.01	0.0057 (J)	<0.01	<0.01
10/19/2016	<0.01	<0.01	<0.01				
10/24/2016				<0.01	0.0021 (J)	<0.01	<0.01
12/6/2016	<0.01	<0.01	<0.01				
12/7/2016				<0.01	0.0015 (J)	0.0011 (J)	<0.01
1/24/2017	<0.01	<0.01	<0.01				
1/26/2017				0.0041 (J)	0.0062 (J)	<0.01	<0.01
3/21/2017	<0.01	<0.01	<0.01				
3/22/2017				<0.01	0.0263	<0.01	<0.01
5/22/2017	<0.01	<0.01	<0.01				
5/24/2017				<0.01	0.0038 (J)	<0.01	<0.01
4/2/2018	<0.01	<0.01					
4/3/2018			<0.01				
4/4/2018				<0.01	0.021	<0.01	<0.01
6/4/2018	<0.01	<0.01	<0.01				
6/5/2018				<0.01	0.0062 (J)		<0.01
6/6/2018						<0.01	
10/1/2018	<0.01	<0.01	<0.01				
10/2/2018				0.0023 (J)			
10/3/2018					0.009 (J)	<0.01	
10/5/2018							<0.01
3/12/2019	<0.01	<0.01	<0.01				
3/13/2019				0.0015 (J)	0.023		<0.01
3/14/2019						<0.01	
4/1/2019			<0.01				
4/2/2019	<0.01	<0.01					
4/3/2019				<0.01	0.016	<0.01	
4/5/2019							0.00018 (J)
9/23/2019	<0.01	<0.01	<0.01				
9/26/2019							<0.01
9/27/2019				<0.01	0.013	<0.01	
3/2/2020	<0.01	<0.01	<0.01				
3/3/2020				<0.01	0.016	<0.01	
3/4/2020							<0.01
3/25/2020	<0.01	<0.01	<0.01				
3/26/2020						<0.01	
3/30/2020							<0.01
3/31/2020					0.019		
4/1/2020				0.002 (J)			
9/15/2020	<0.01	<0.01	<0.01				
9/16/2020				<0.01			
9/18/2020					0.0042 (J)	<0.01	
9/21/2020							0.0016 (J)

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.01	<0.01					
5/23/2016			<0.01				
7/12/2016	<0.01	<0.01	<0.01				
9/1/2016	<0.01	<0.01	<0.01				
10/20/2016	<0.01	<0.01	<0.01				
12/6/2016	<0.01	0.0024 (J)	0.0037 (J)				
1/25/2017	<0.01	<0.01					
1/26/2017			<0.01				
3/21/2017	<0.01	<0.01					
3/22/2017			<0.01				
5/23/2017	<0.01	<0.01	<0.01				
4/3/2018	<0.01	<0.01	<0.01				
6/5/2018	<0.01						
6/6/2018		<0.01	<0.01				
10/2/2018	<0.01	<0.01	<0.01				
3/12/2019		<0.01					
3/13/2019	<0.01		<0.01		<0.01	<0.01	
3/14/2019				<0.01			<0.01
4/2/2019	<0.01				<0.01		
4/3/2019		<0.01	<0.01	0.007 (J)			<0.01
4/8/2019						<0.01	
9/24/2019		<0.01					
9/25/2019	<0.01				<0.01		
9/26/2019						<0.01	
9/27/2019			<0.01	0.0013 (J)			<0.01
3/2/2020					<0.01		
3/3/2020		<0.01					<0.01
3/4/2020	<0.01		<0.01	0.0044 (J)		<0.01	
3/26/2020				0.0053 (J)			<0.01
3/27/2020	<0.01	<0.01			<0.01		
3/30/2020						<0.01	
3/31/2020			<0.01				
9/16/2020	<0.01	<0.01					
9/17/2020			<0.01		<0.01		
9/18/2020							<0.01
9/21/2020				0.0033 (J)		<0.01	

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.01	<0.01			
3/13/2019	<0.01	<0.01					0.0033 (J)
4/2/2019			<0.01	<0.01			
4/3/2019	<0.01						0.0027 (J)
4/4/2019		0.00012 (J)					
9/24/2019				<0.01	<0.01		
9/25/2019							0.0021 (J)
9/26/2019	<0.01	<0.01	<0.01				
3/2/2020				<0.01			0.0041 (J)
3/4/2020	<0.01	<0.01	<0.01		<0.01		
3/26/2020							0.0039 (J)
3/27/2020			<0.01				
3/30/2020				<0.01			
3/31/2020	<0.01				<0.01		
4/2/2020		<0.01					
9/16/2020				<0.01			
9/17/2020	<0.01						0.0028 (J)
9/18/2020		<0.01					
9/21/2020			<0.01				
9/24/2020					<0.01		
9/28/2020						<0.01	

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.01	0.0016 (J)		
4/3/2019	<0.01	<0.01		
9/26/2019	<0.01	0.0014 (J)		
3/3/2020	<0.01	<0.01		
3/27/2020	<0.01			
3/30/2020		0.0014 (J)		
9/16/2020			<0.01	<0.01
9/21/2020	<0.01	0.0026 (J)		
11/10/2020			<0.01	<0.01

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	66.9	48.6	42.3				
5/23/2016				175	260	288	215
7/11/2016	41	45					
7/12/2016			44	190	390	320	210
8/30/2016	36	42	40				
9/1/2016				190	240	300	190
10/19/2016	46	44	43				
10/24/2016				190	370	270	180
12/6/2016	59	44	43				
12/7/2016				200	260	280	120
1/24/2017	46	46	48				
1/26/2017				90	230	260	83
3/21/2017	63	46	45				
3/22/2017				170	330	220	100
5/22/2017	77	48	46				
5/24/2017				190	230	210	110
10/3/2017	42	47	48	200	230	190	67
6/4/2018	71.8	47.8	46.6				
6/5/2018				205	204		187
6/6/2018						162	
10/1/2018	49.1	48.1	48.6				
10/2/2018				178			
10/3/2018					233	191	
10/5/2018							78.3
4/1/2019			50.4				
4/2/2019	84.3	48.7					
4/3/2019				159	298	176	
4/5/2019							105
9/23/2019	70.2	47.2	43.9				
9/26/2019							444
9/27/2019				181	<10	198	
3/25/2020	85.9	46.3	50.5				
3/26/2020						182	
3/30/2020							393
3/31/2020					283		
4/1/2020				59			
6/16/2020	88.2		49.5				
9/15/2020	47.3	51.5	44.7				
9/16/2020				169			
9/18/2020					272	266	
9/21/2020							359

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	96	219					
5/23/2016			207				
7/12/2016	100	230	230				
9/1/2016	100	230	230				
10/20/2016	110	240	240				
12/6/2016	110	250	240				
1/25/2017	110	260					
1/26/2017			270				
3/21/2017	110	240					
3/22/2017			240				
5/23/2017	110	270	240				
10/3/2017	120	230	240				
6/5/2018	117						
6/6/2018		190	214				
10/2/2018	120	193	218				
4/2/2019	127				122		
4/3/2019		194	214	105			53
4/8/2019						97.3	
9/24/2019		133					
9/25/2019	109				112		
9/26/2019						91	
9/27/2019			214	170			48
3/26/2020				310			32.3
3/27/2020	109	173			114		
3/30/2020						84.9	
3/31/2020			185				
6/16/2020		157					
6/17/2020	102						
9/16/2020	109	194					
9/17/2020			209		110		
9/18/2020							27.4
9/21/2020				305		114	

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
4/2/2019			67.7	151			
4/3/2019	131						218
4/4/2019		11.8					
9/24/2019				154	756		
9/25/2019							134
9/26/2019	189	15.6	96.2				
3/26/2020							176
3/27/2020			36				
3/30/2020				130			
3/31/2020	129				139		
4/2/2020		13.3					
4/9/2020					399		
5/11/2020						58.9	
5/19/2020						54	
6/17/2020					104		
6/19/2020						435	
9/16/2020				143			
9/17/2020	174						153
9/18/2020		7.5					
9/21/2020			84.2				
9/24/2020					205		
9/28/2020						3480	

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
4/3/2019	228	75.3		
9/26/2019	225	129		
3/27/2020	204			
3/30/2020		46.2		
9/16/2020			43	6.9
9/21/2020	221	114		
11/10/2020			39	6.3

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	<0.001	<0.001	<0.001				
5/23/2016				<0.001	<0.001	<0.001	0.000378 (J)
7/11/2016	<0.001	<0.001					
7/12/2016			<0.001	<0.001	8E-05 (J)	0.0002 (J)	0.0004 (J)
8/30/2016	<0.001	<0.001	<0.001				
9/1/2016				<0.001	<0.001	<0.001	0.0004 (J)
10/19/2016	<0.001	<0.001	<0.001				
10/24/2016				<0.001	<0.001	<0.001	0.0005 (J)
12/6/2016	<0.001	<0.001	<0.001				
12/7/2016				<0.001	<0.001	<0.001	0.0004 (J)
1/24/2017	<0.001	<0.001	<0.001				
1/26/2017				<0.001	<0.001	<0.001	0.0004 (J)
3/21/2017	<0.001	3E-05 (J)	<0.001				
3/22/2017				<0.001	<0.001	0.0001 (J)	0.0004 (J)
5/22/2017	<0.001	<0.001	<0.001				
5/24/2017				<0.001	8E-05 (J)	9E-05 (J)	0.0003 (J)
4/2/2018	<0.001	<0.001					
4/3/2018			<0.001				
4/4/2018				<0.001	<0.001	<0.001	0.00032 (J)
6/4/2018	<0.001	<0.001	<0.001				
6/5/2018				<0.001	<0.001		0.00035 (J)
6/6/2018						<0.001	
10/1/2018	<0.001	<0.001	<0.001				
10/2/2018				<0.001			
10/3/2018					<0.001	<0.001	
10/5/2018							0.00025 (J)
3/12/2019	<0.001	<0.001	<0.001				
3/13/2019				<0.001	<0.001		0.00039 (J)
3/14/2019						<0.001	
4/1/2019			<0.001				
4/2/2019	<0.001	<0.001					
4/3/2019				<0.001	<0.001	<0.001	
4/5/2019							0.00034 (J)
9/23/2019	<0.001	<0.001	<0.001				
9/26/2019							0.00039 (J)
9/27/2019				<0.001	<0.001	8.8E-05 (J)	
3/2/2020	<0.001	<0.001	<0.001				
3/3/2020				<0.001	<0.001	6.6E-05 (J)	
3/4/2020							0.00056 (J)
3/25/2020	<0.001	<0.001	<0.001				
3/26/2020						8E-05 (J)	
3/30/2020							0.00048 (J)
3/31/2020					<0.001		
4/1/2020				<0.001			
9/15/2020	<0.001	<0.001	<0.001				
9/16/2020				<0.001			
9/18/2020					<0.001	<0.001	
9/21/2020							0.00036 (J)

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	<0.001	<0.001					
5/23/2016			<0.001				
7/12/2016	<0.001	7E-05 (J)	<0.001				
9/1/2016	<0.001	<0.001	<0.001				
10/20/2016	<0.001	<0.001	<0.001				
12/6/2016	<0.001	<0.001	<0.001				
1/25/2017	<0.001	<0.001					
1/26/2017			<0.001				
3/21/2017	<0.001	9E-05 (J)					
3/22/2017			<0.001				
5/23/2017	<0.001	8E-05 (J)	<0.001				
4/3/2018	<0.001	<0.001	<0.001				
6/5/2018	<0.001						
6/6/2018		<0.001	<0.001				
10/2/2018	<0.001	<0.001	<0.001				
3/12/2019		<0.001					
3/13/2019	<0.001		<0.001		<0.001	<0.001	
3/14/2019				<0.001			<0.001
4/2/2019	<0.001				<0.001		
4/3/2019		<0.001	<0.001	<0.001			<0.001
4/8/2019						<0.001	
9/24/2019		0.00011 (J)					
9/25/2019	<0.001				<0.001		
9/26/2019						<0.001	
9/27/2019			<0.001	0.00027 (J)			<0.001
3/2/2020					<0.001		
3/3/2020		6.1E-05 (J)					<0.001
3/4/2020	<0.001		<0.001	0.00026 (J)		<0.001	
3/26/2020				0.00026 (J)			<0.001
3/27/2020	<0.001	7.7E-05 (J)			<0.001		
3/30/2020						<0.001	
3/31/2020			<0.001				
9/16/2020	<0.001	<0.001					
9/17/2020			<0.001		<0.001		
9/18/2020							<0.001
9/21/2020				0.0003 (J)		<0.001	

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
3/12/2019			<0.001	<0.001			
3/13/2019	<0.001	<0.001					<0.001
4/2/2019			<0.001	<0.001			
4/3/2019	<0.001						<0.001
4/4/2019		<0.001					
9/24/2019				6.4E-05 (J)	<0.001		
9/25/2019							<0.001
9/26/2019	<0.001	<0.001	<0.001				
3/2/2020				<0.001			<0.001
3/4/2020	<0.001	<0.001	9.2E-05 (J)		<0.001		
3/26/2020							<0.001
3/27/2020			<0.001				
3/30/2020				<0.001			
3/31/2020	<0.001				<0.001		
4/2/2020		<0.001					
9/16/2020				<0.001			
9/17/2020	<0.001						<0.001
9/18/2020		<0.001					
9/21/2020			<0.001				
9/24/2020					<0.001		
9/28/2020						<0.001	

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
3/13/2019	<0.001	<0.001		
4/3/2019	<0.001	<0.001		
9/26/2019	<0.001	<0.001		
3/3/2020	8.2E-05 (J)	<0.001		
3/27/2020	<0.001			
3/30/2020		<0.001		
9/16/2020			<0.001	<0.001
9/21/2020	<0.001	<0.001		
11/10/2020			<0.001	<0.001

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-10	HGWC-11	HGWC-12	HGWC-13
5/19/2016	421	143	267				
5/23/2016				629	564	1060	683
7/11/2016	363	125					
7/12/2016			249	661	627	909	563
8/30/2016	330	168	254				
9/1/2016				769	656	1480	702
10/19/2016	380	176	357				
10/24/2016				643	836	868	647
12/6/2016	377	145	285				
12/7/2016				697	748	811	465
1/24/2017	342	129	300				
1/26/2017				368	571	846	411
3/21/2017	340	103	288				
3/22/2017				683	597	804	427
5/22/2017	338	92	263				
5/24/2017				696	566	803	377
10/3/2017	343	127	300	746	443	608	268
6/4/2018	415	140	266				
6/5/2018				679	489		528
6/6/2018						535	
10/1/2018	354	135	291				
10/2/2018				572			
10/3/2018					449	607	
10/5/2018							322
4/1/2019			284				
4/2/2019	452	133					
4/3/2019				525	483	462	
4/5/2019							331
9/23/2019	442	129	268				
9/26/2019							1010
9/27/2019				624	528	653	
3/25/2020	496	138	284				
3/26/2020						533	
3/30/2020							895
3/31/2020					565		
4/1/2020				290			
6/16/2020	632		448				
9/15/2020	265	124	258				
9/16/2020				490			
9/18/2020					626	704	
9/21/2020							732

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-7	HGWC-8	HGWC-9	MW-19	MW-20	MW-24D	MW-25D
5/20/2016	427	711					
5/23/2016			984				
7/12/2016	410	704	887				
9/1/2016	484	763	956				
10/20/2016	393	644	642				
12/6/2016	492	733	899				
1/25/2017	461	744					
1/26/2017			869				
3/21/2017	415	818					
3/22/2017			936				
5/23/2017	450	765	939				
10/3/2017	464	812	1040				
6/5/2018	459						
6/6/2018		611	810				
10/2/2018	426	597	693				
4/2/2019	428				435		
4/3/2019		543	673	310			15 (J)
4/8/2019						323	
9/24/2019		457					
9/25/2019	503				461		
9/26/2019						360	
9/27/2019			730	442			409
3/26/2020				626			385
3/27/2020	413	541			429		
3/30/2020						280	
3/31/2020			1010				
6/16/2020		573					
6/17/2020	423						
9/16/2020	392	552					
9/17/2020			680		460		
9/18/2020							382
9/21/2020				608		391	

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-26D	MW-27D	MW-28D	MW-29	MW-30D	MW-40D	MW-5
4/2/2019			350	548			
4/3/2019	493						396
4/4/2019		203					
9/24/2019				603	1970		
9/25/2019							460
9/26/2019	643	265	418				
3/26/2020							385
3/27/2020			287				
3/30/2020				552			
3/31/2020	623				1130		
4/2/2020		224					
5/11/2020						350	
5/19/2020						621	
6/17/2020					1040		
6/19/2020						1420	
9/16/2020				547			
9/17/2020	732						486
9/18/2020		211					
9/21/2020			393				
9/24/2020					790		
9/28/2020						6470	

Time Series

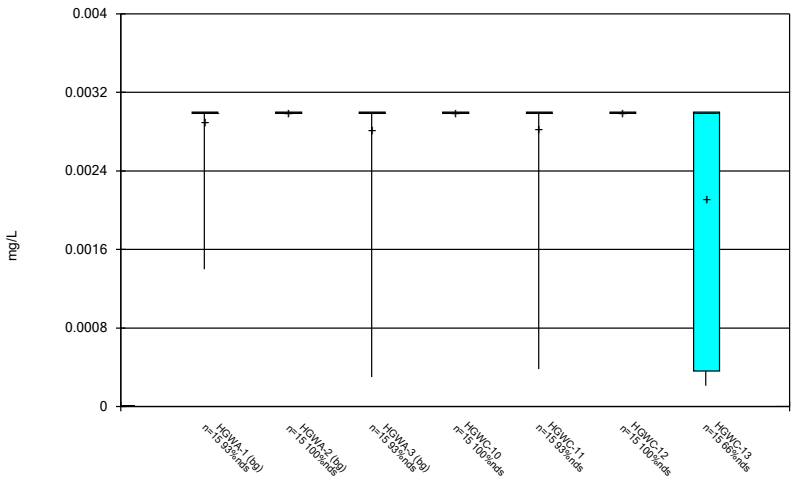
Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:34 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

	MW-6	MW-7	HGWA-43D (bg)	HGWA-44D (bg)
4/3/2019	437	213		
9/26/2019	735	383		
3/27/2020	676			
3/30/2020		142		
9/16/2020			272	270
9/21/2020	656	326		
11/10/2020			307	287

FIGURE B.

Box & Whiskers Plot

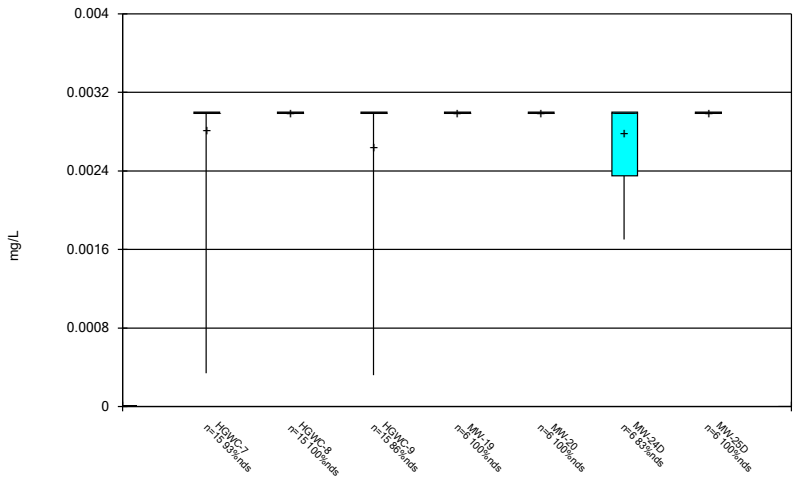


Constituent: Antimony Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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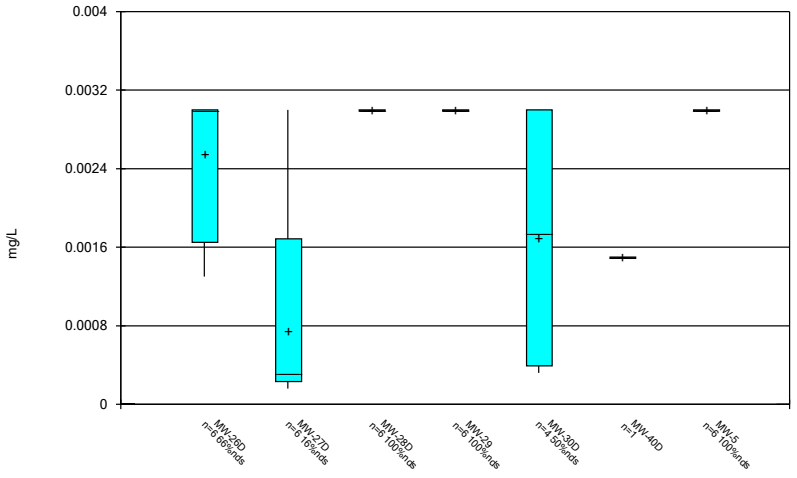
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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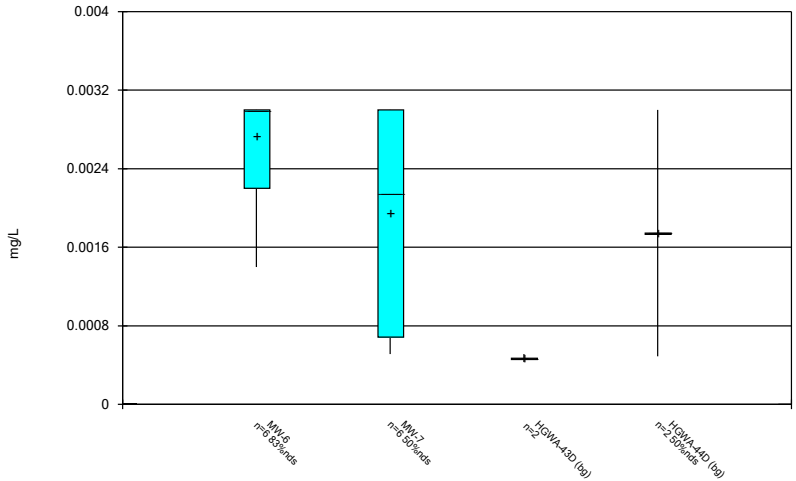
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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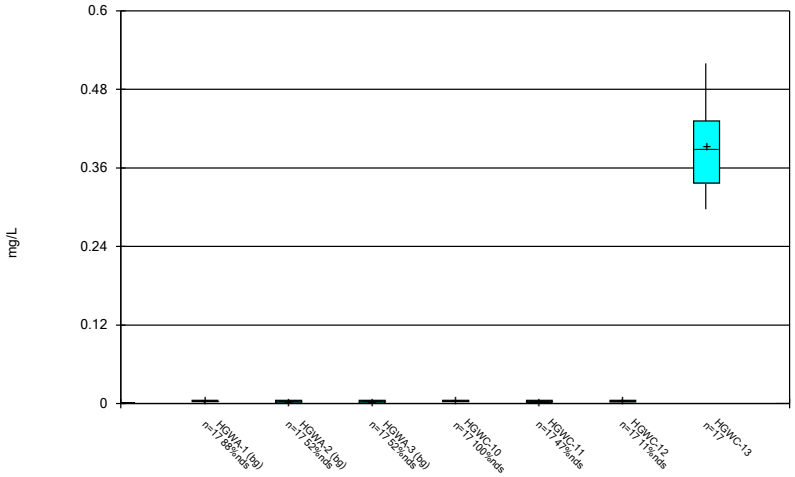
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

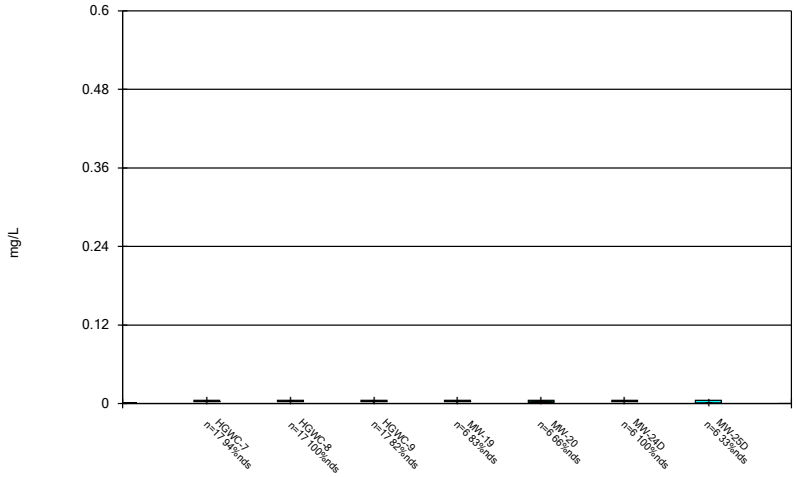


Constituent: Arsenic Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

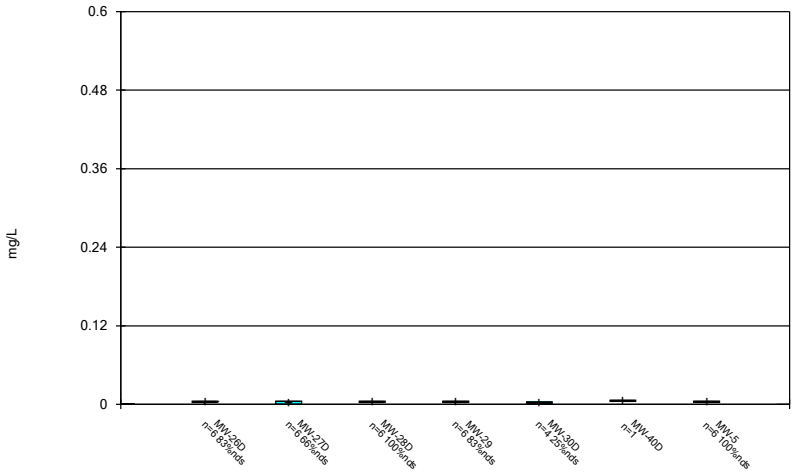


Constituent: Arsenic Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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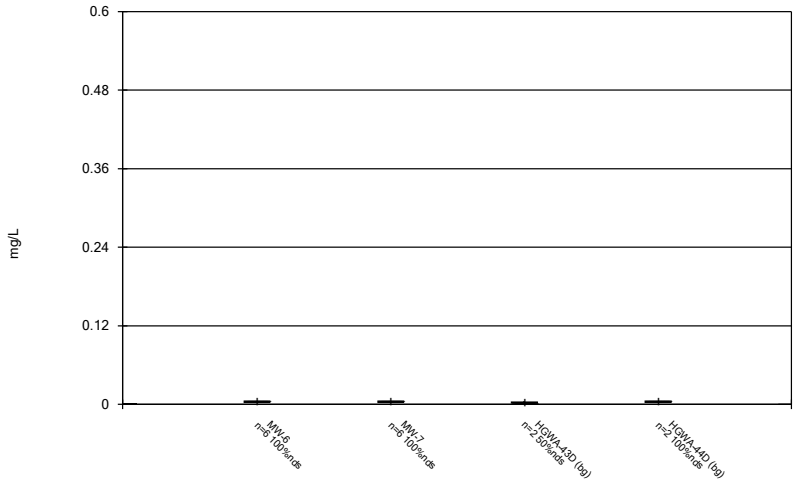
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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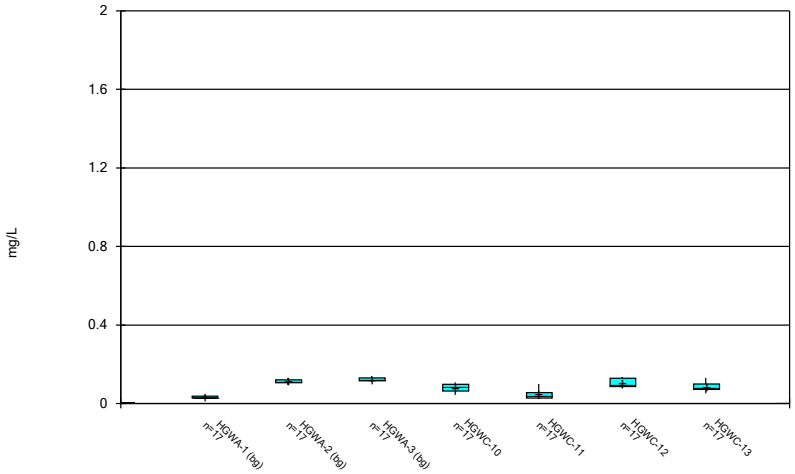
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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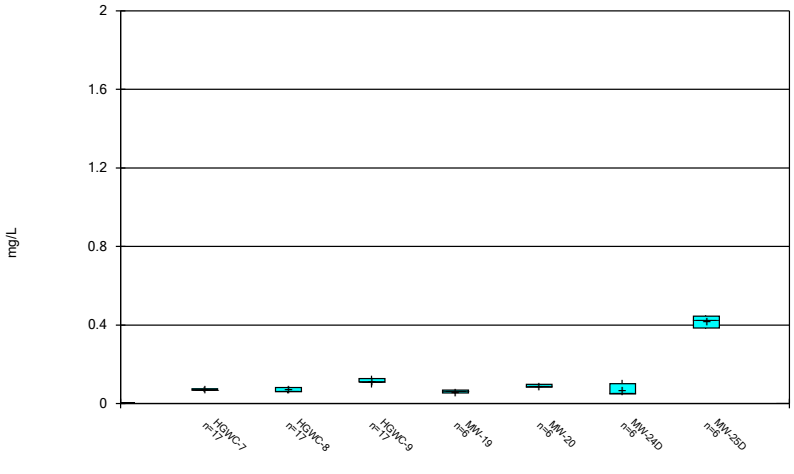
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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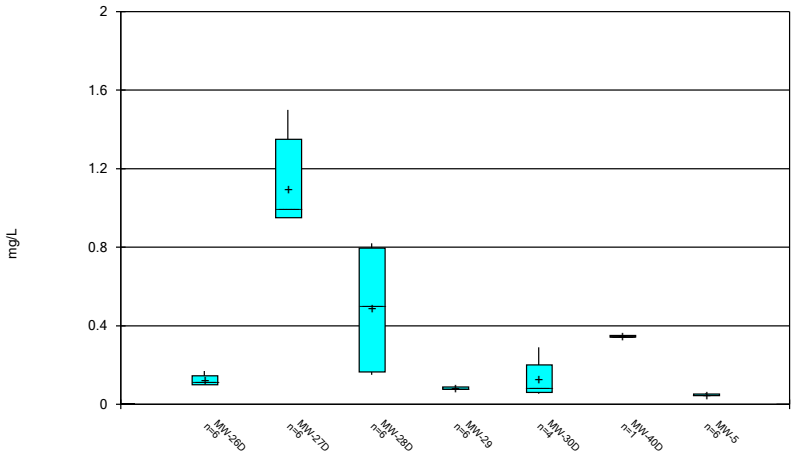
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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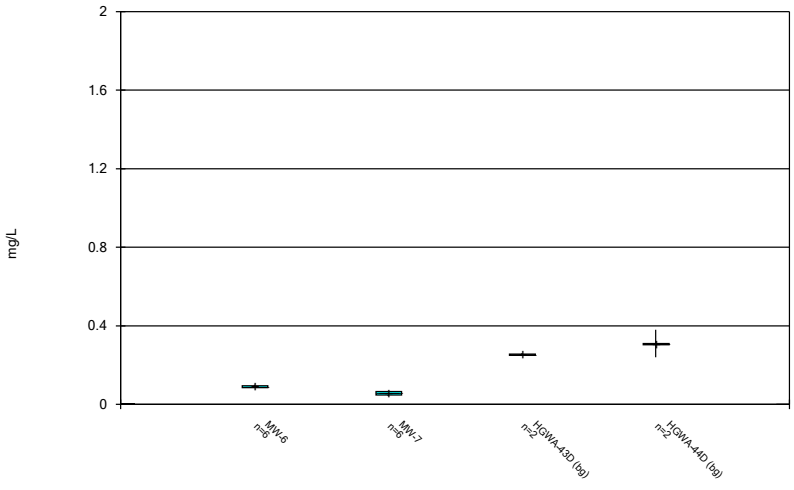
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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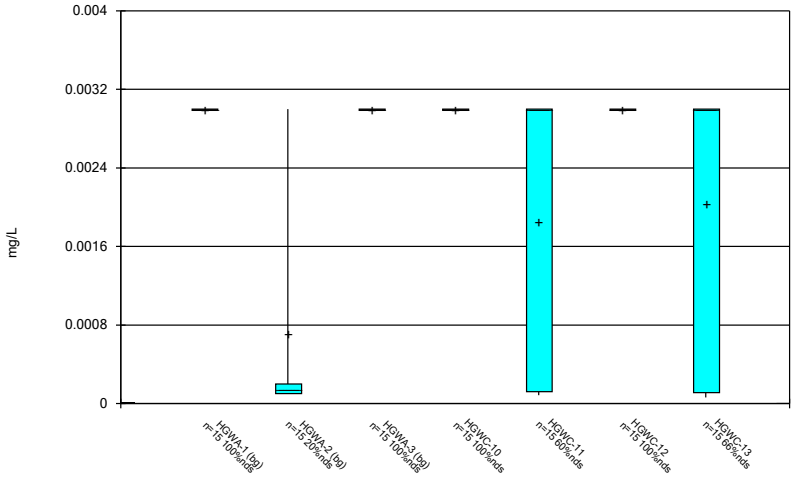
Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot



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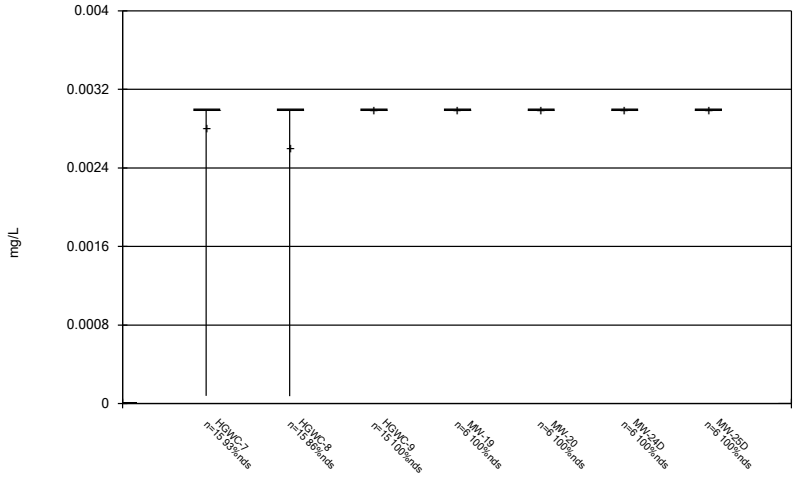
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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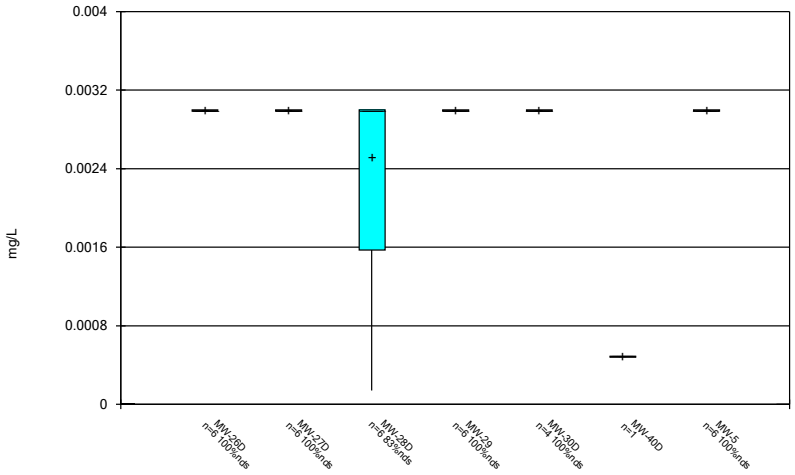
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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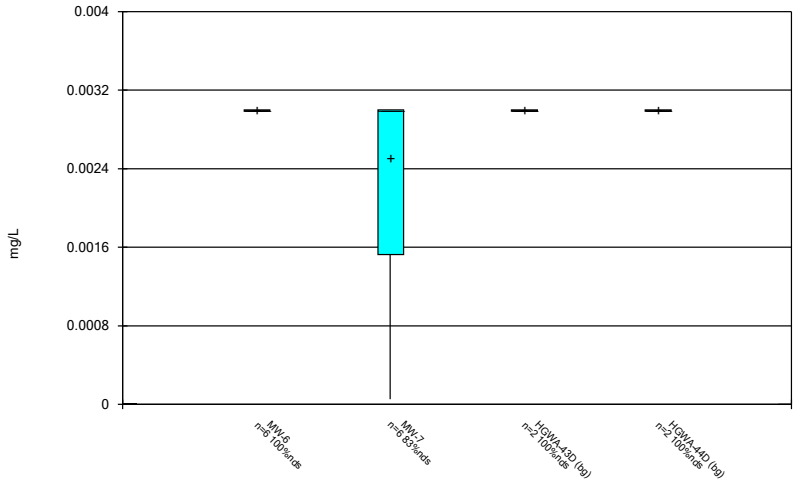
Box & Whiskers Plot



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Plant Hammond Client: Southern Company Data: Hammond AP-1

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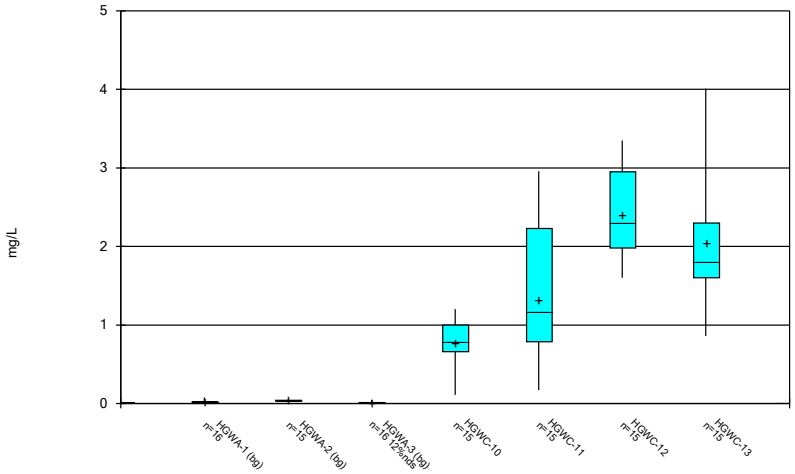

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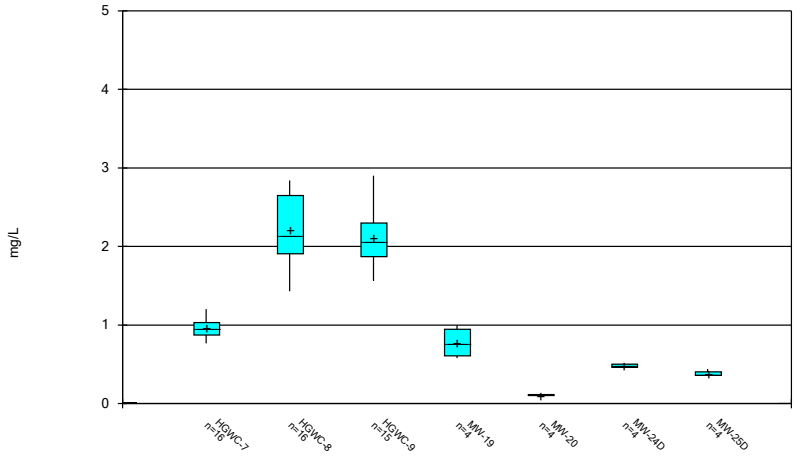
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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Plant Hammond Client: Southern Company Data: Hammond AP-1

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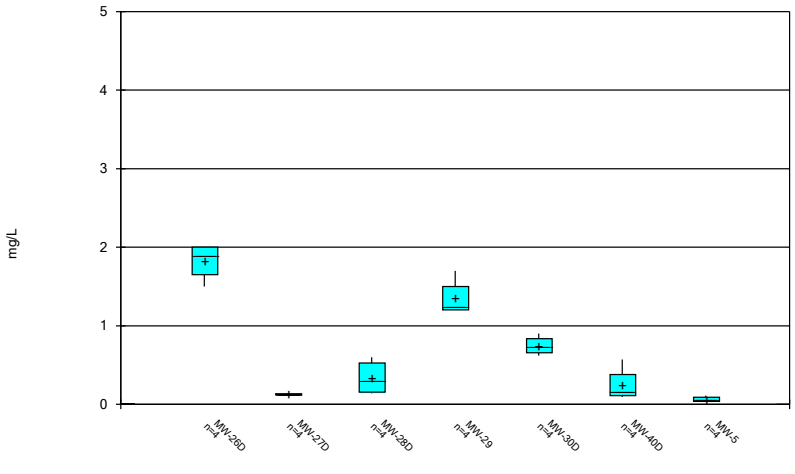
Box & Whiskers Plot



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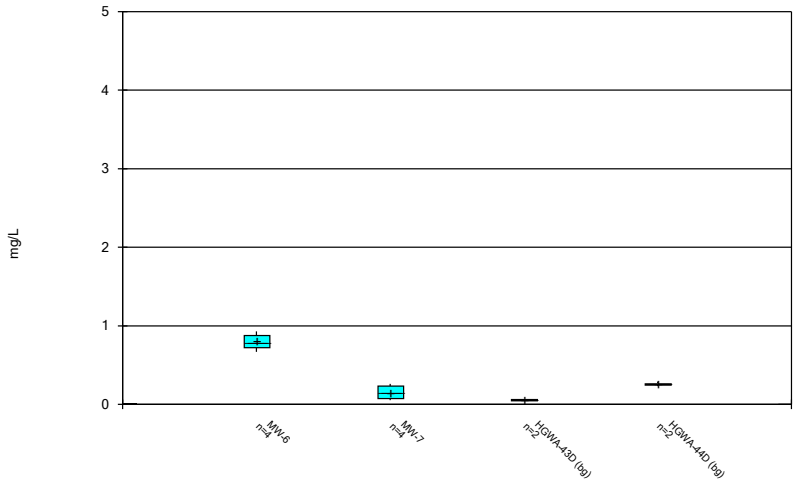
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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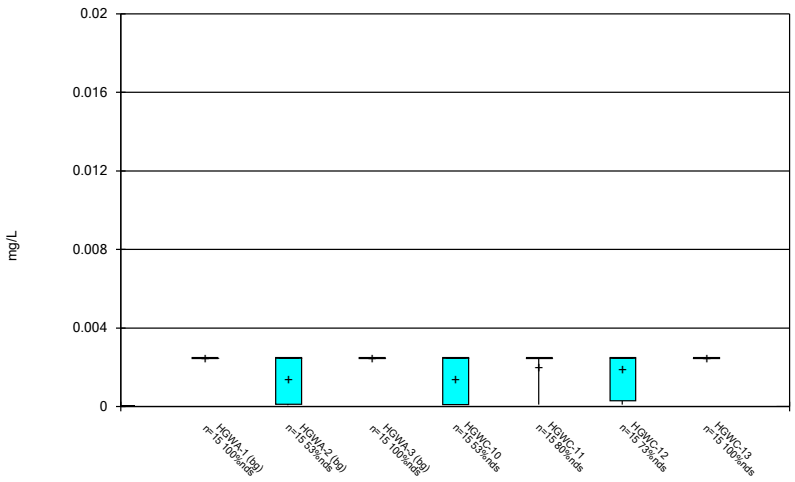
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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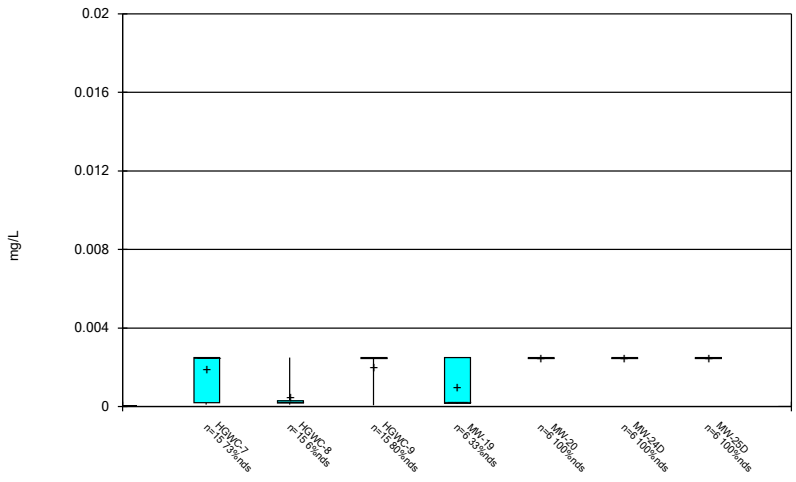
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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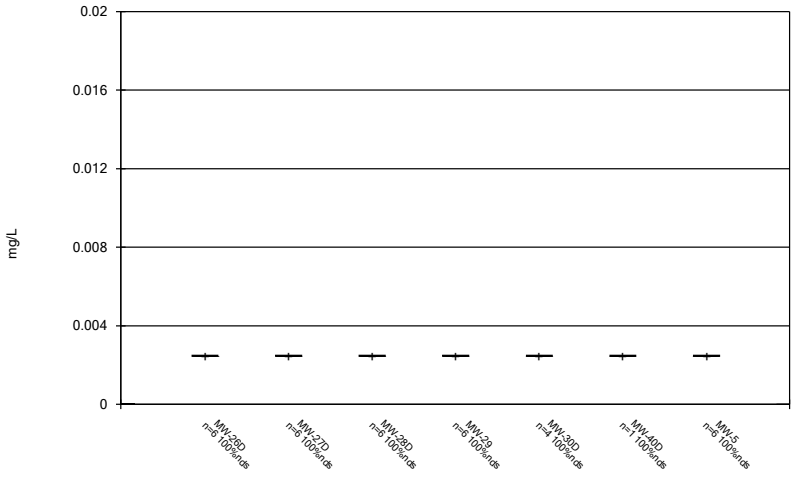
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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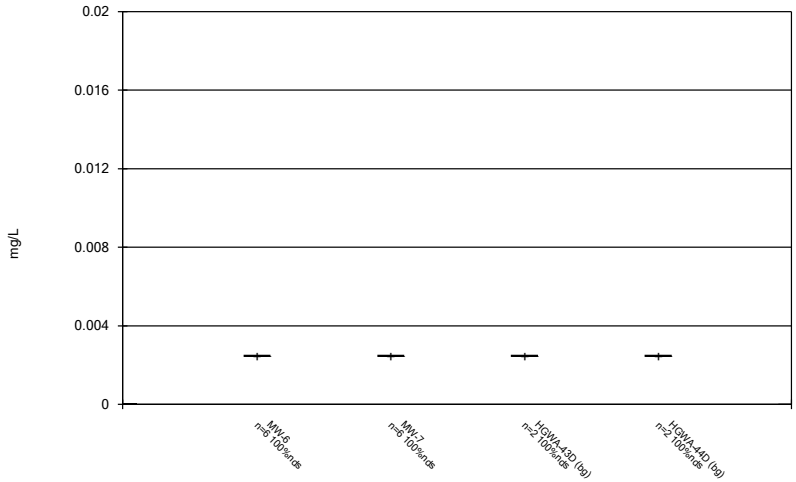
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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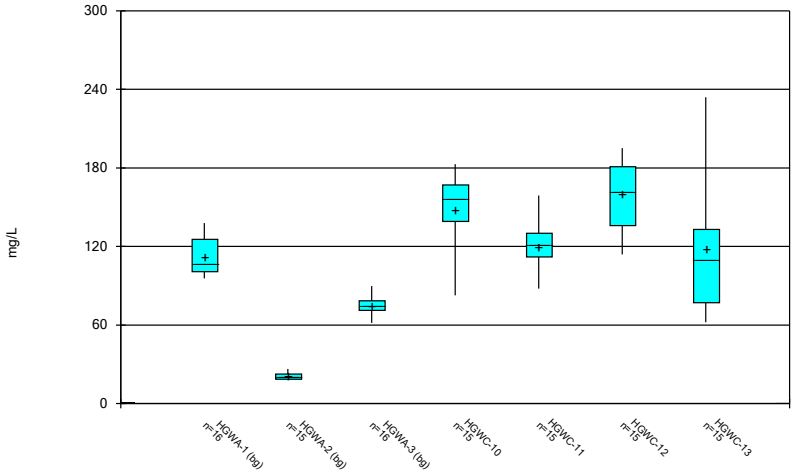
Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

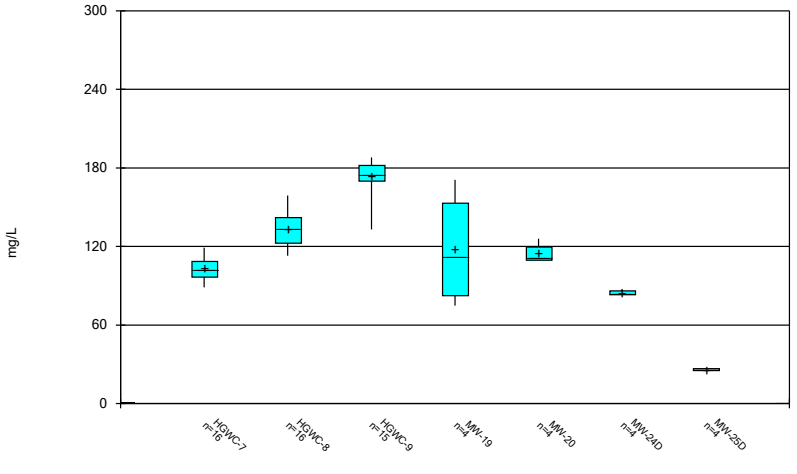


Constituent: Calcium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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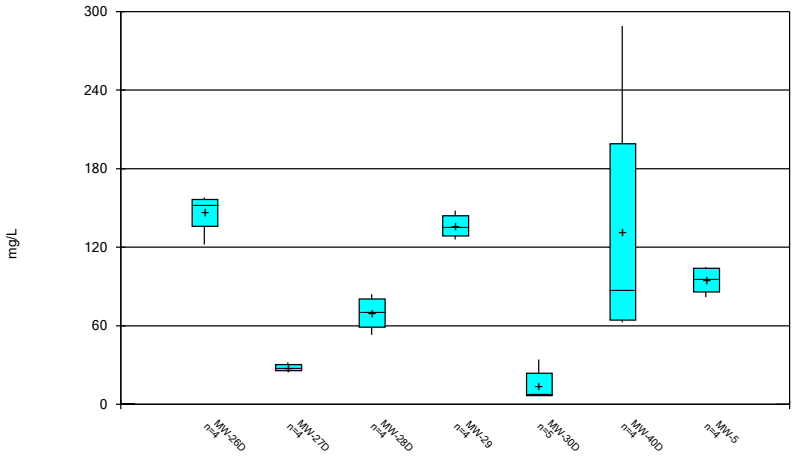
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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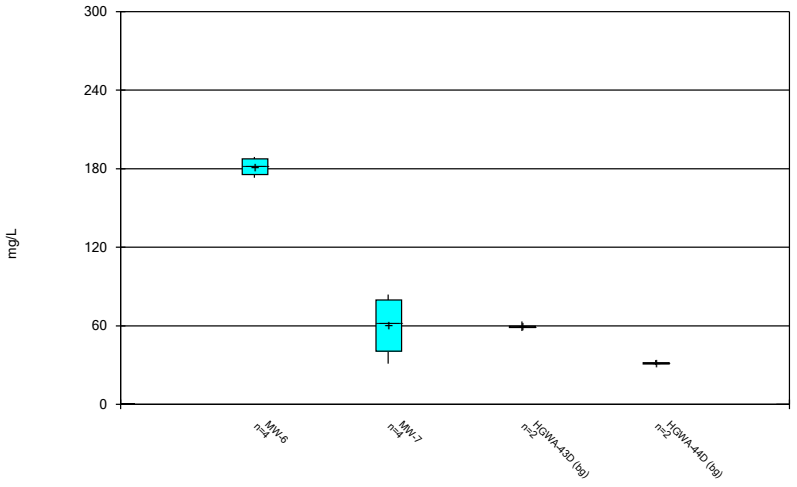
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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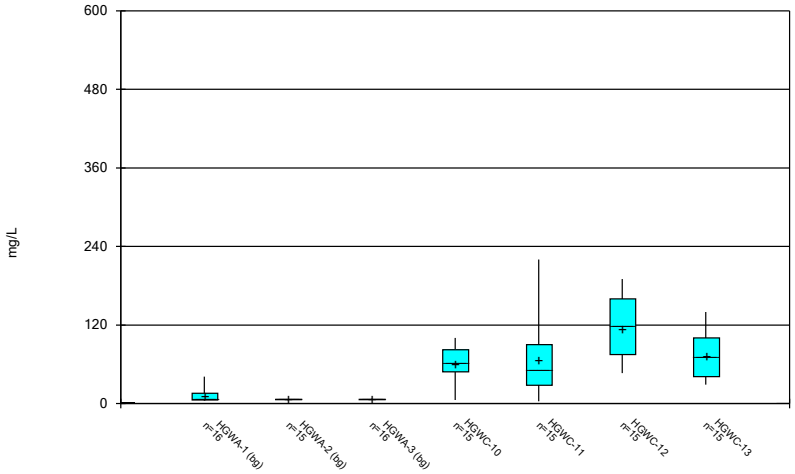
Plant Hammond Client: Southern Company Data: Hammond AP-1

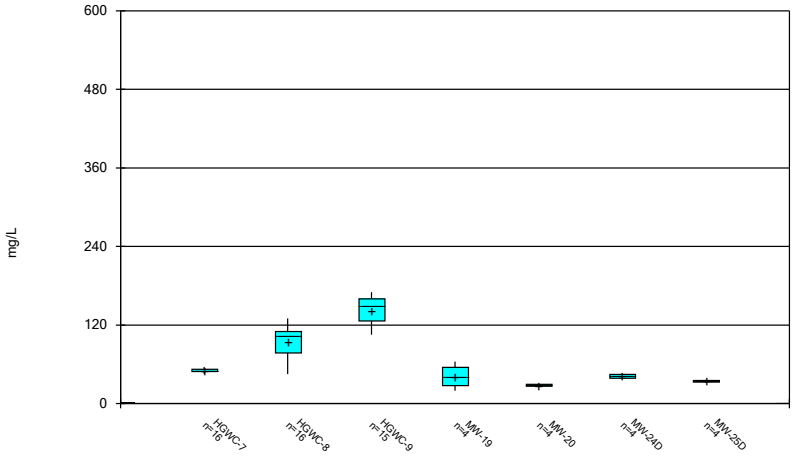
Box & Whiskers Plot



Constituent: Chloride Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

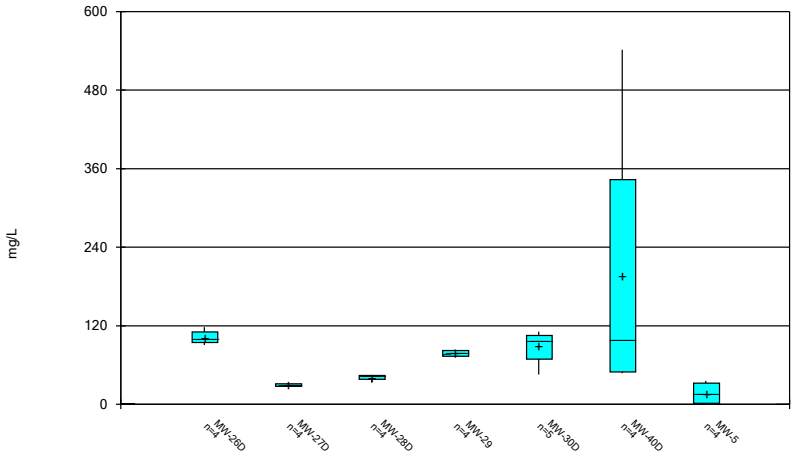
Box & Whiskers Plot



Constituent: Chloride Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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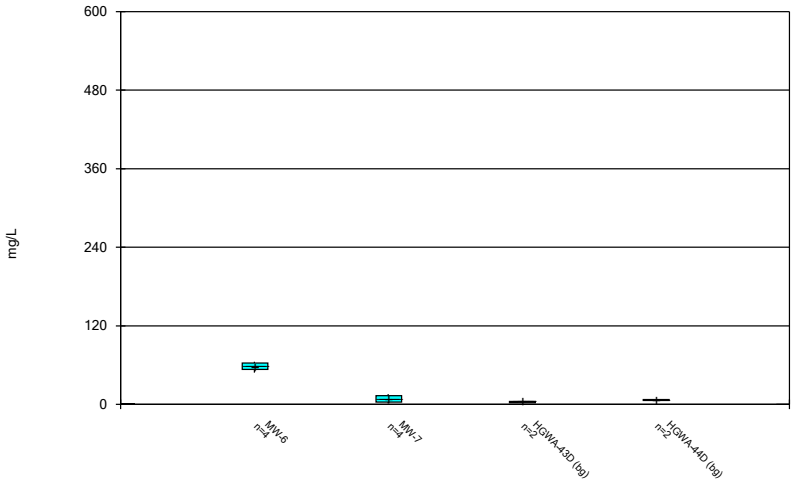
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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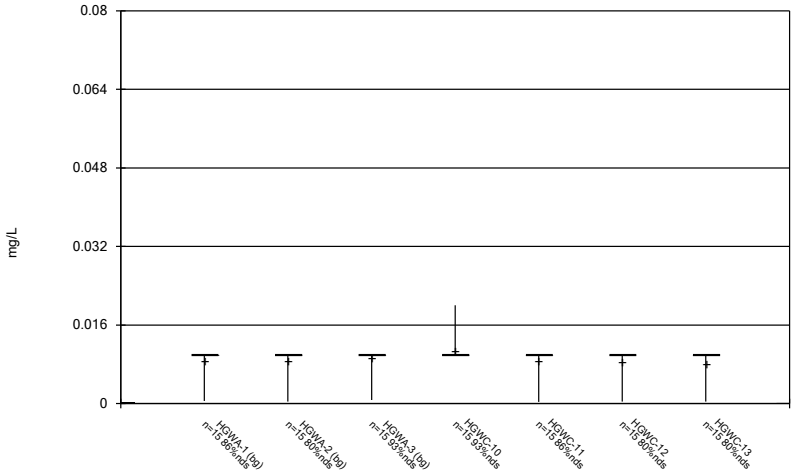
Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

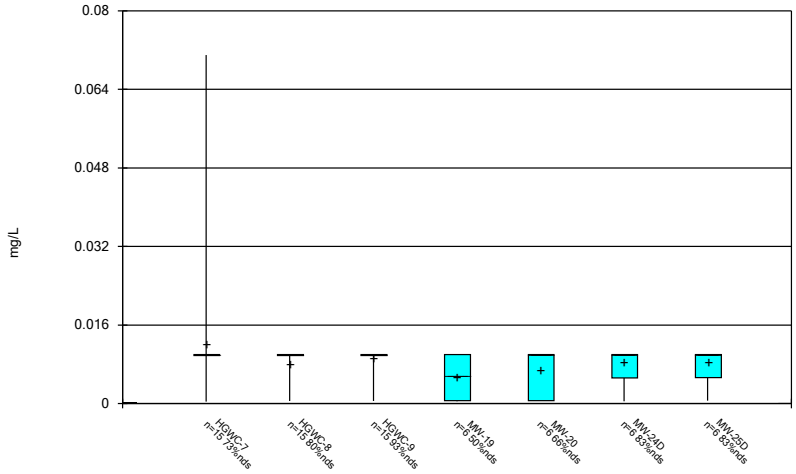


Constituent: Chromium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

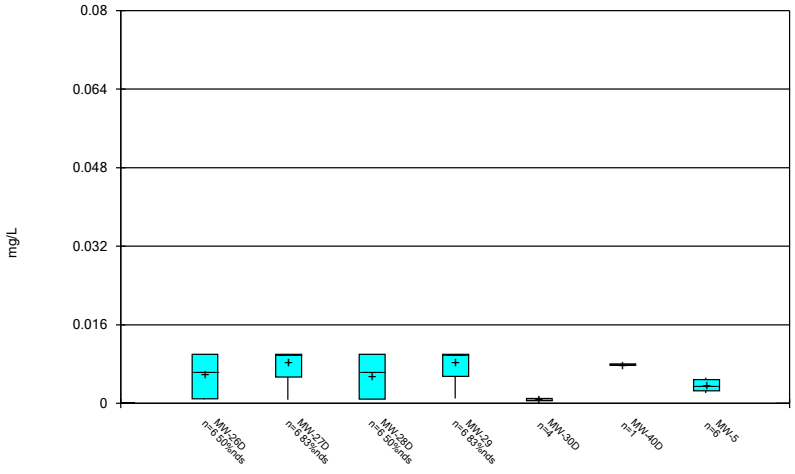


Constituent: Chromium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

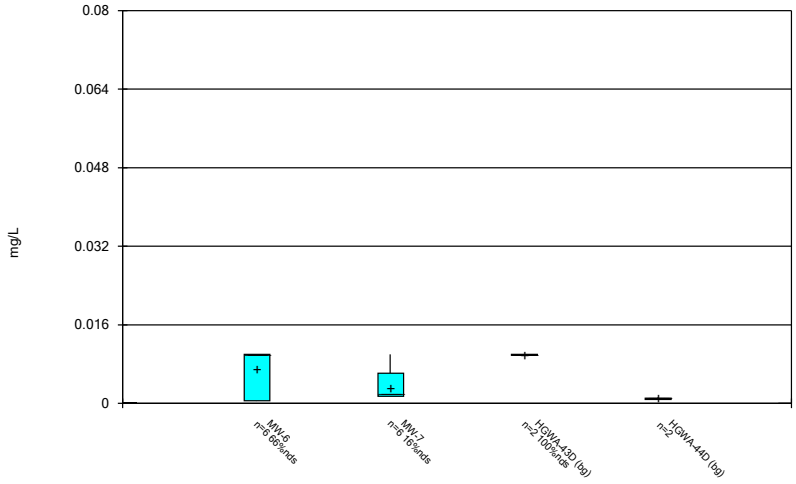


Constituent: Chromium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

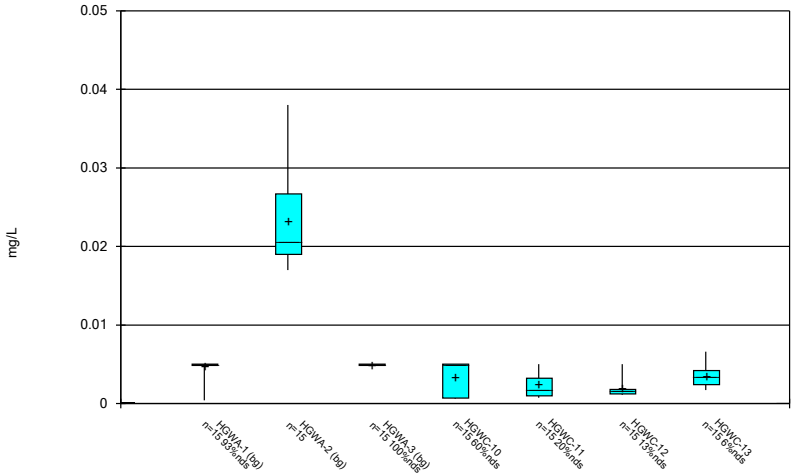


Constituent: Chromium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

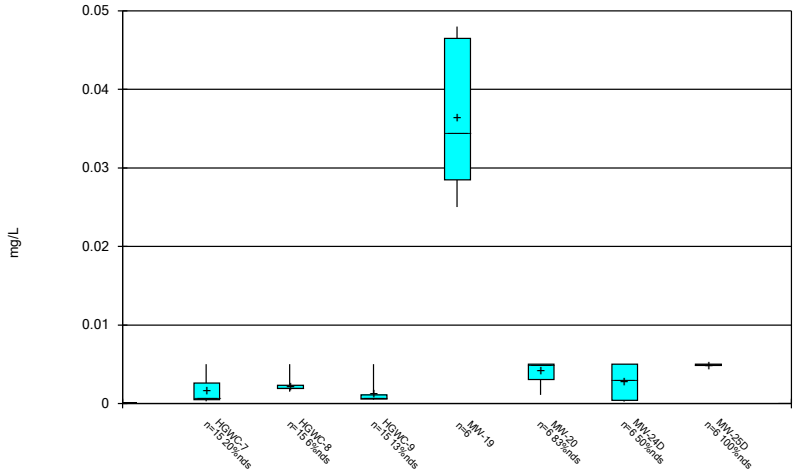


Constituent: Cobalt Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

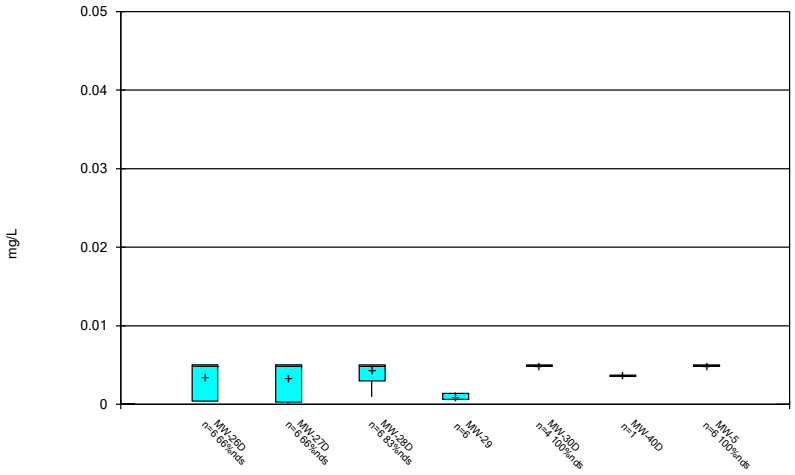


Constituent: Cobalt Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

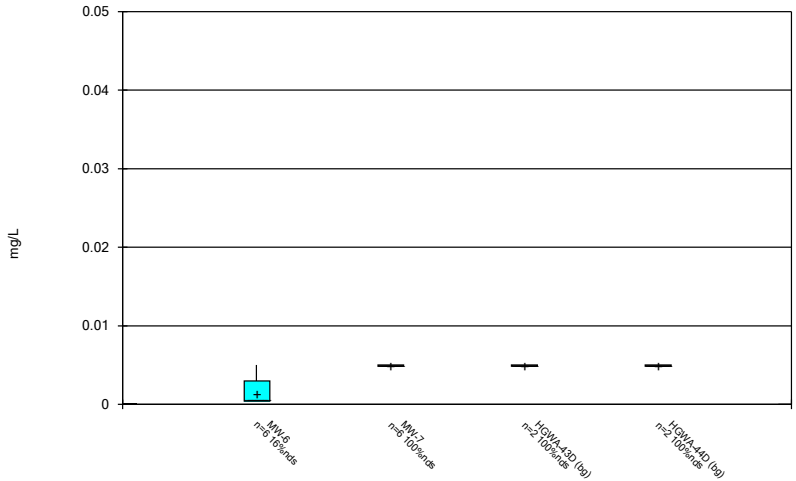


Constituent: Cobalt Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

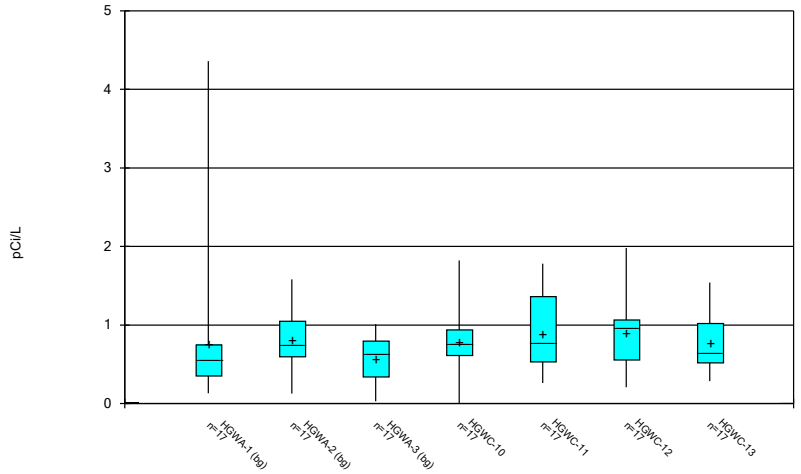
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

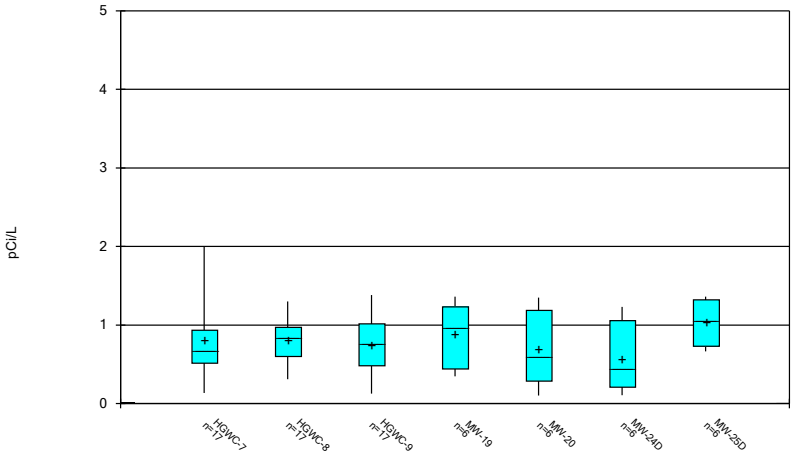
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

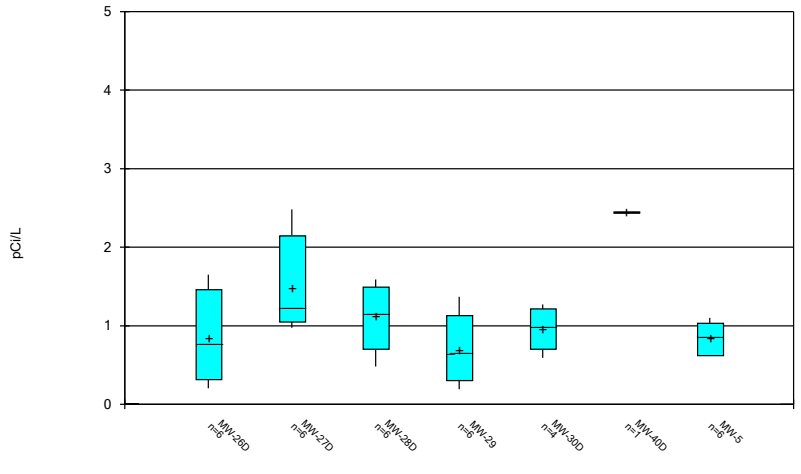
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

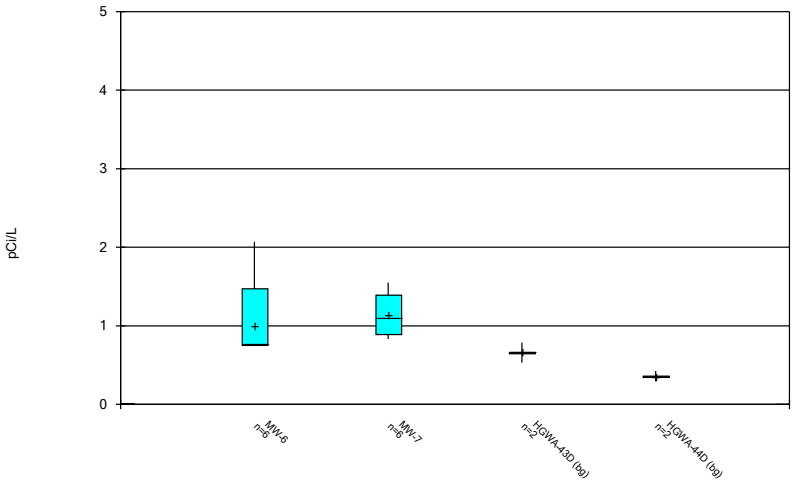
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

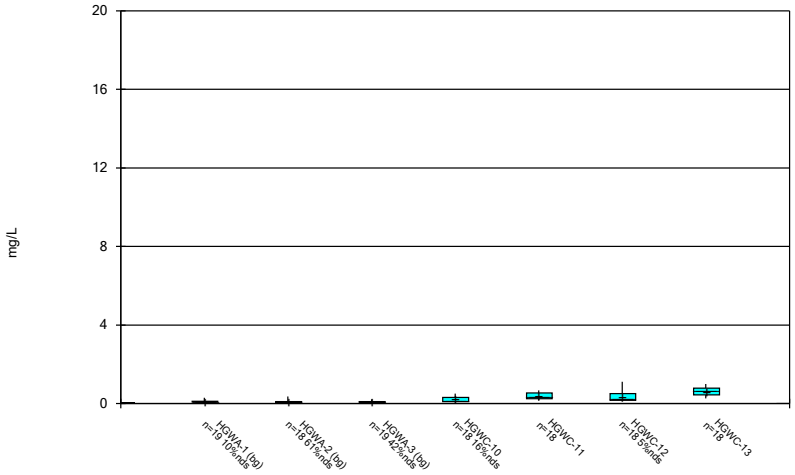
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:35 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

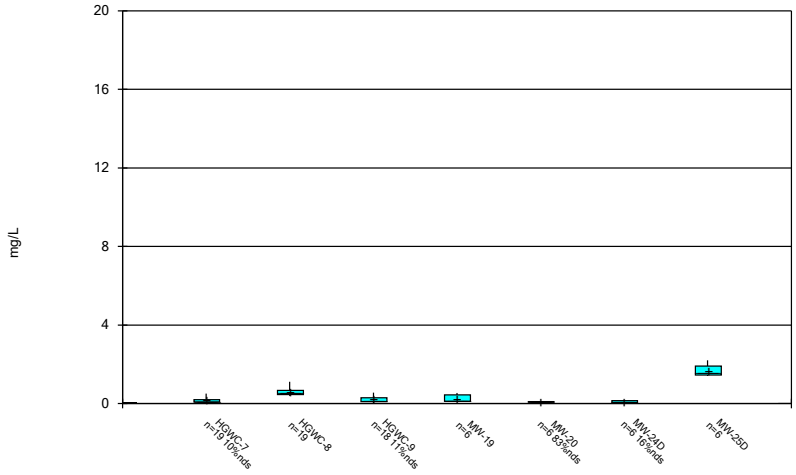


Constituent: Fluoride Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

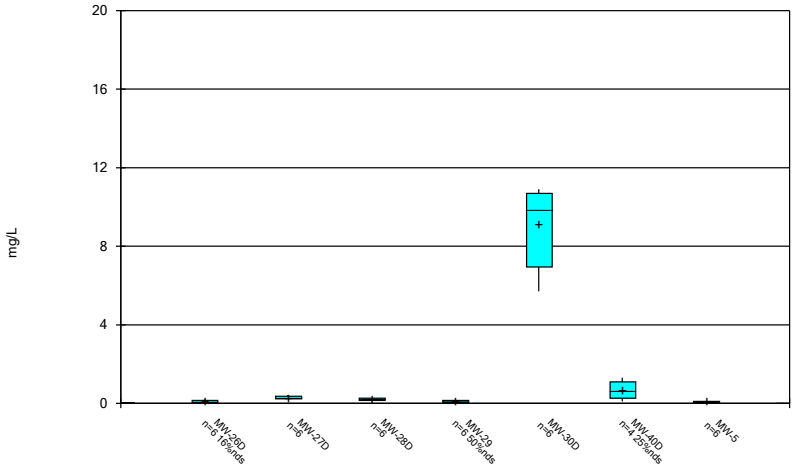


Constituent: Fluoride Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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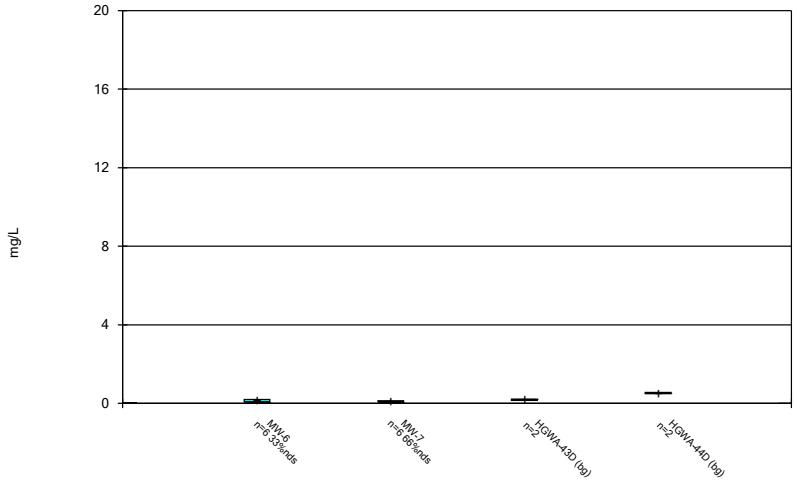
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

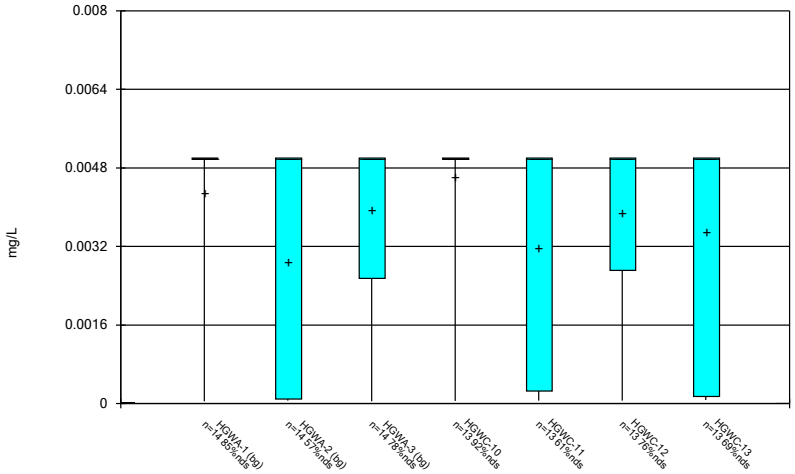


Constituent: Fluoride Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

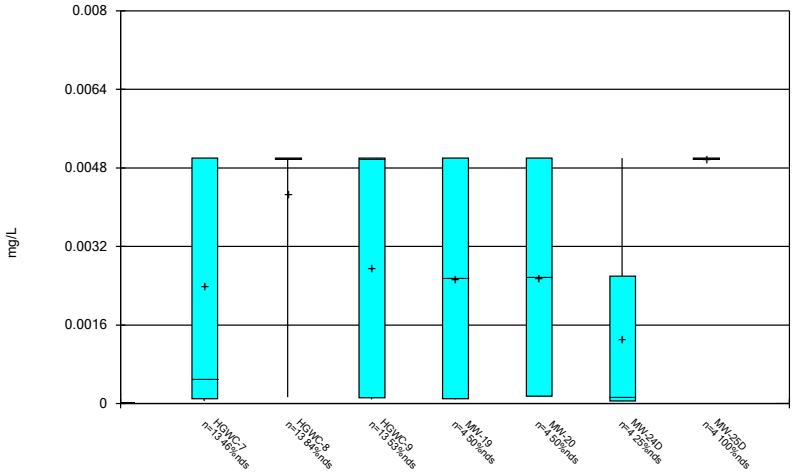


Constituent: Lead Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

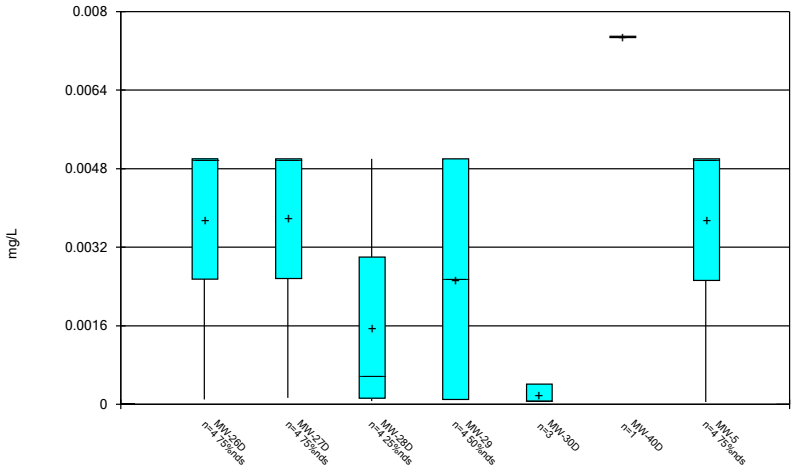


Constituent: Lead Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

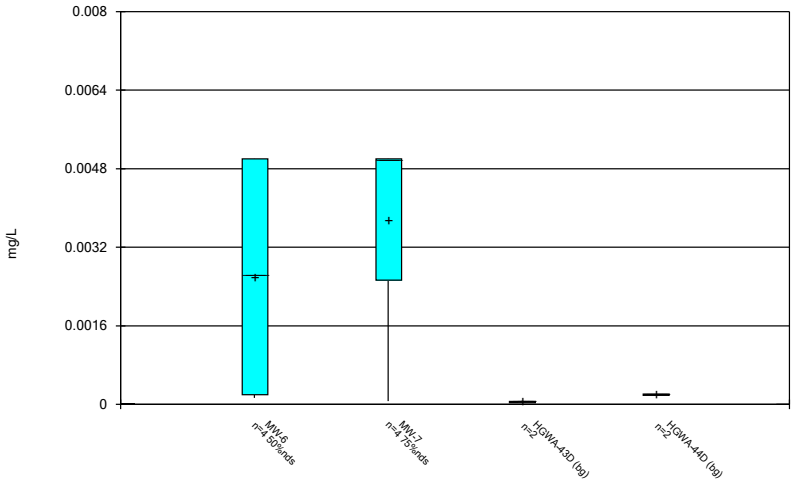


Constituent: Lead Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

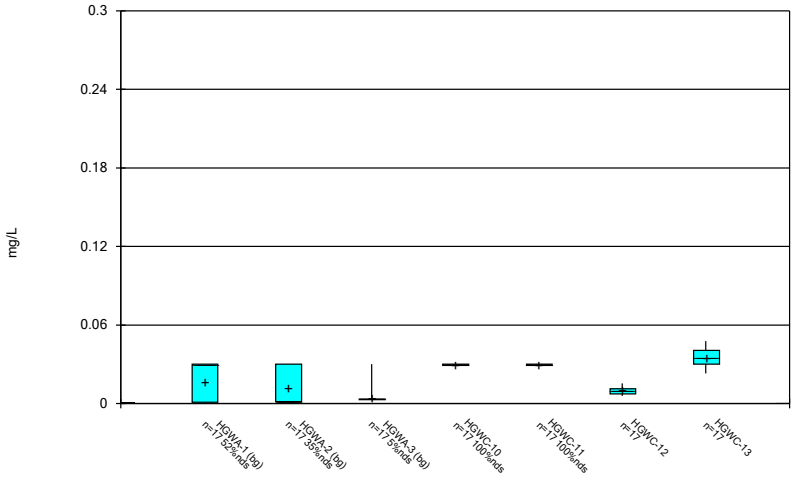


Constituent: Lead Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

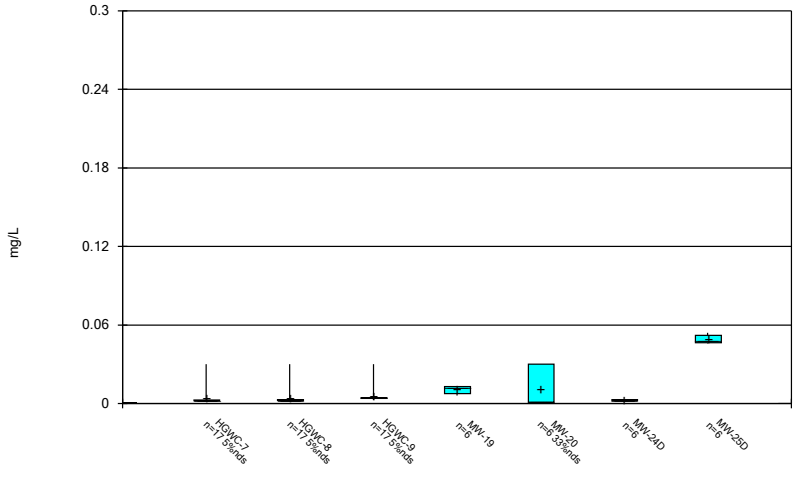


Constituent: Lithium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

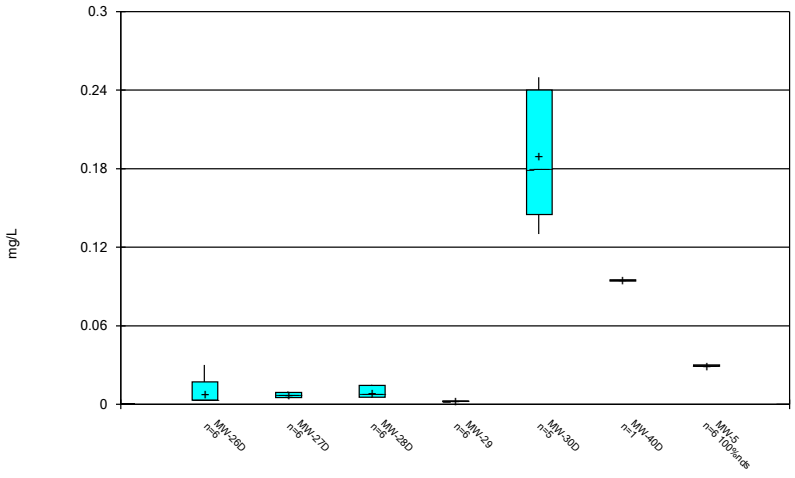


Constituent: Lithium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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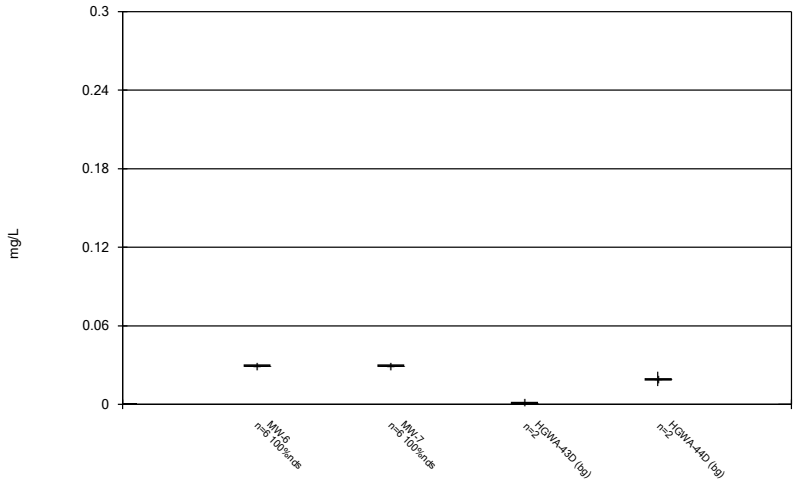
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

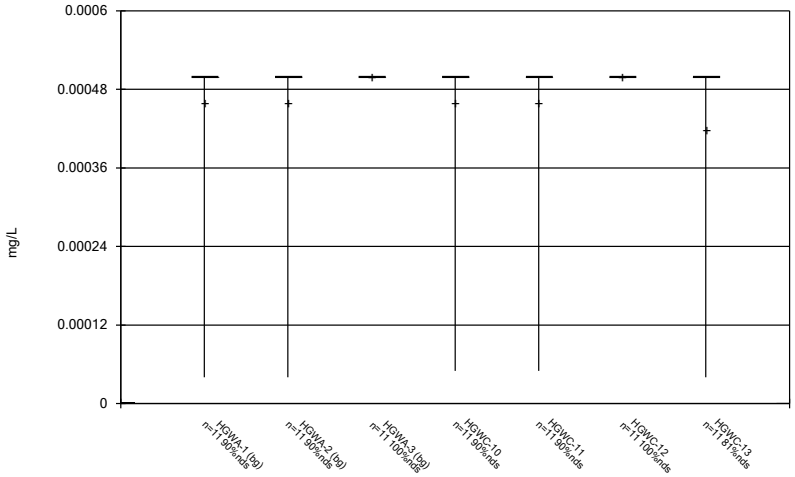


Constituent: Lithium Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

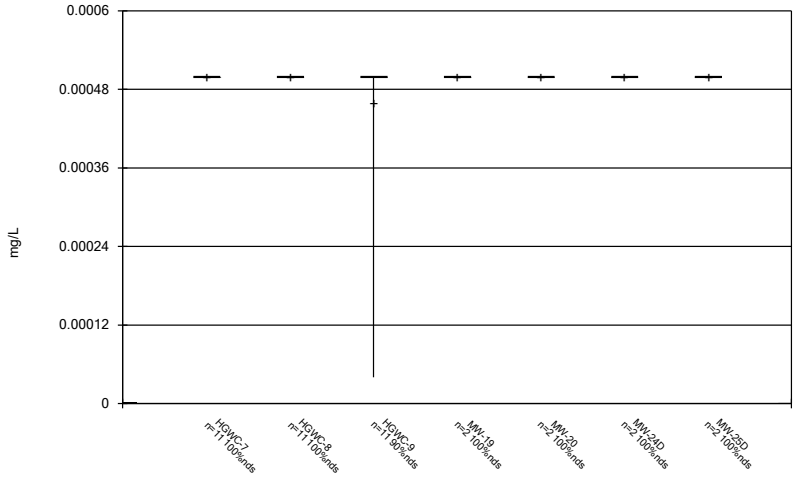


Constituent: Mercury Analysis Run 12/21/2020 3:35 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

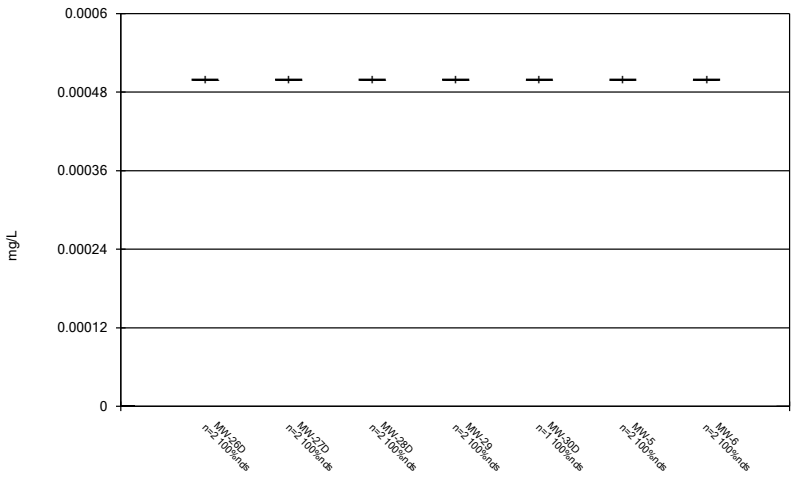


Constituent: Mercury Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



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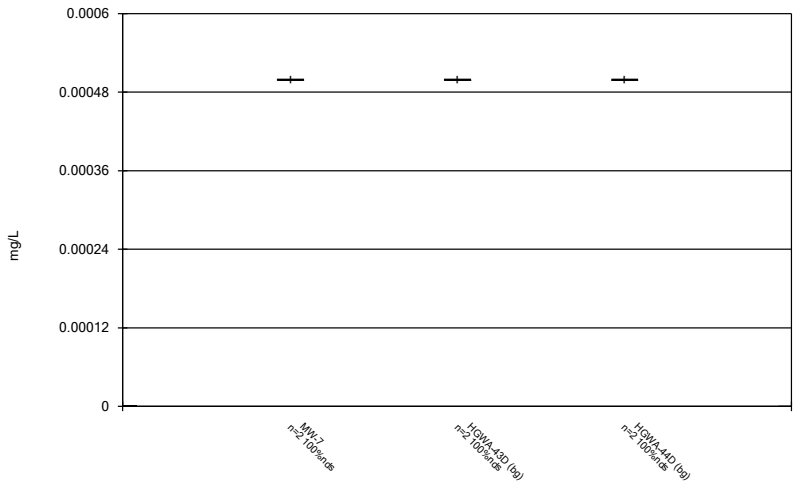
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

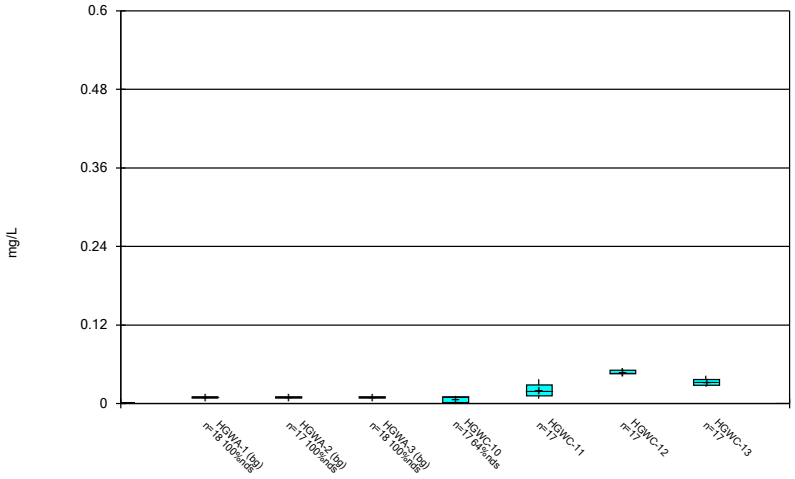


Constituent: Mercury Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

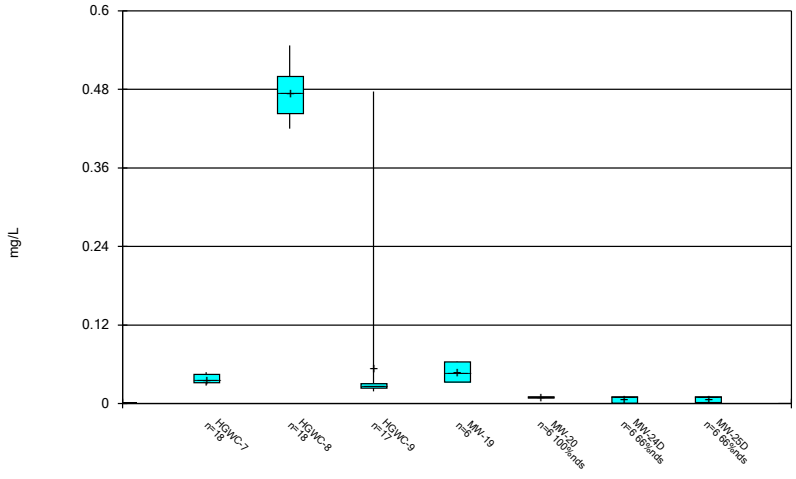


Constituent: Molybdenum Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

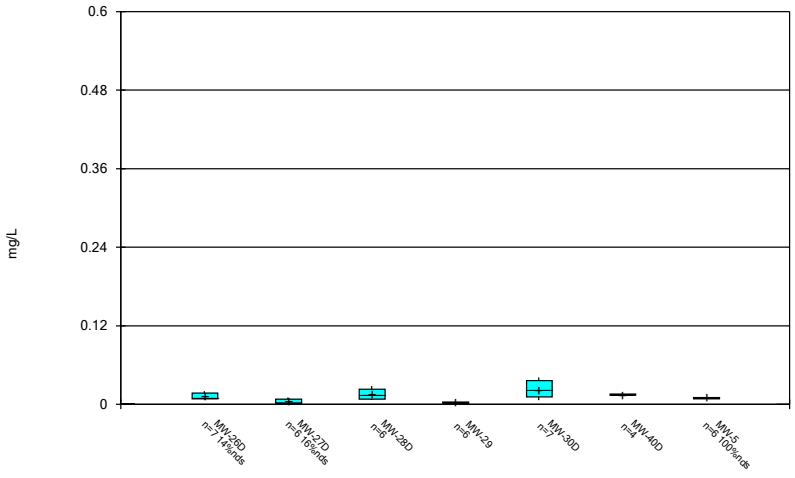


Constituent: Molybdenum Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

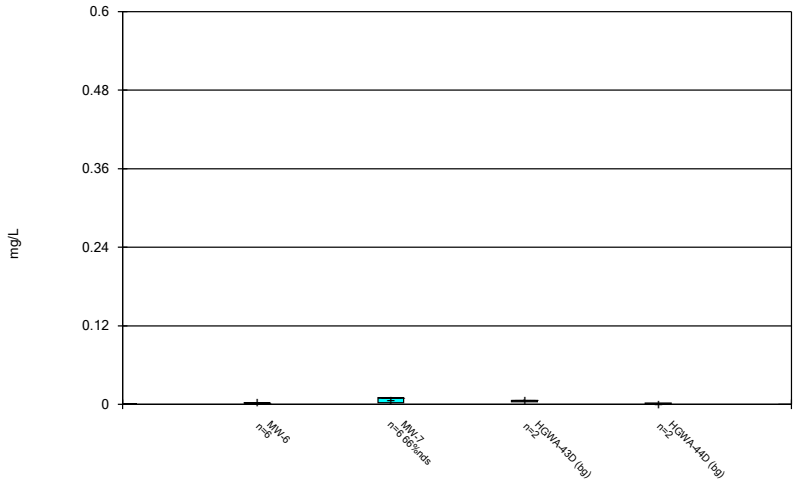


Constituent: Molybdenum Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

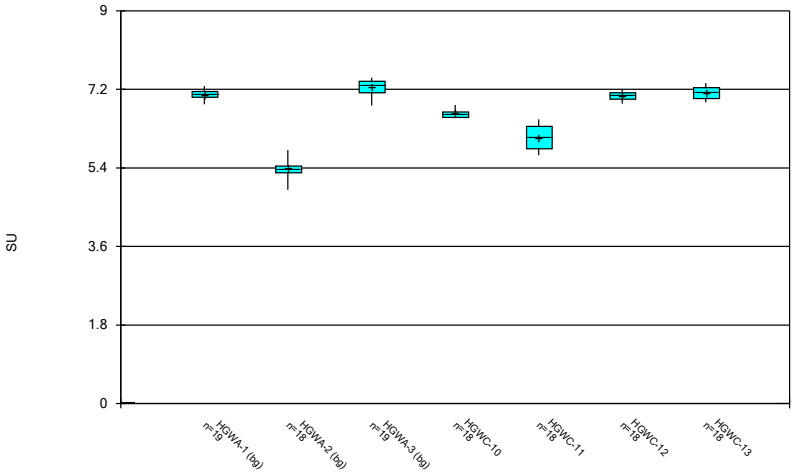


Constituent: Molybdenum Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

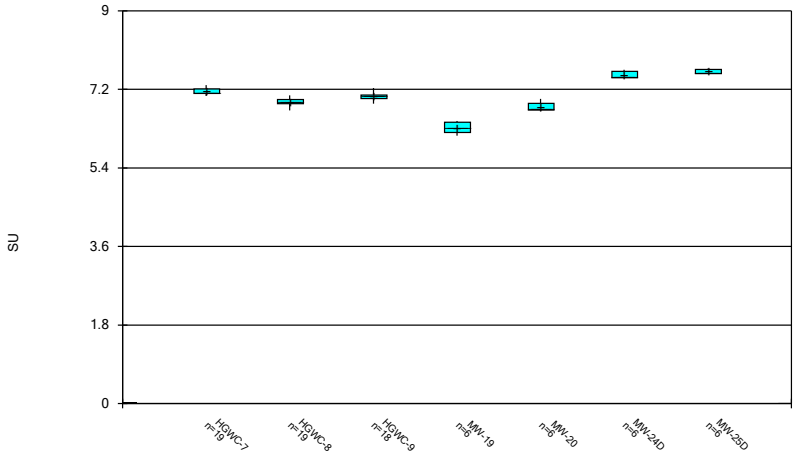


Constituent: pH, Field Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

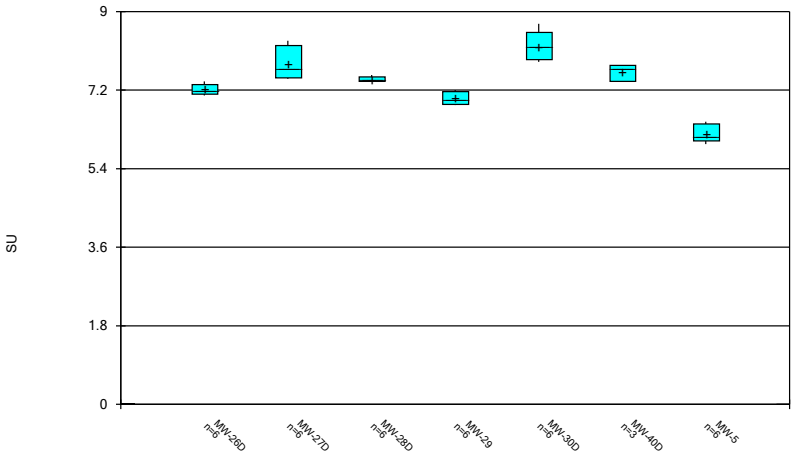


Constituent: pH, Field Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

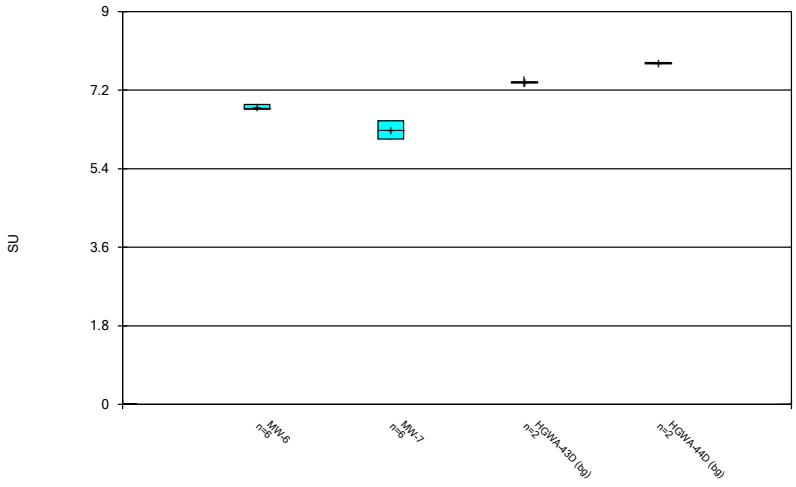


Constituent: pH, Field Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

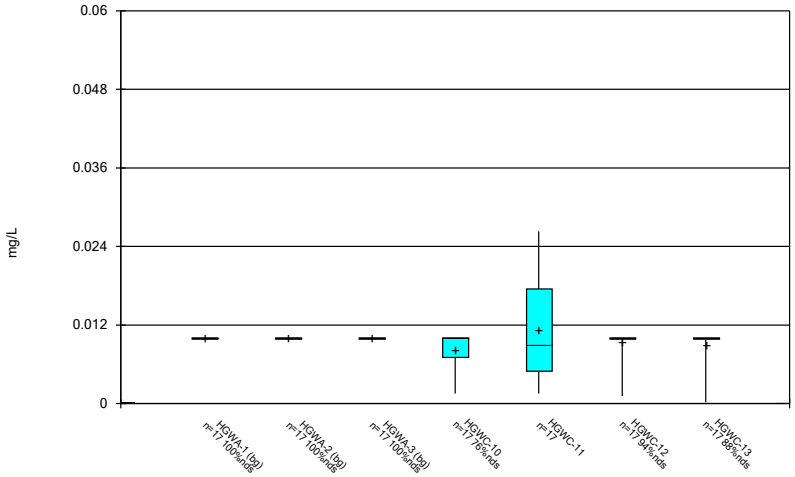
Box & Whiskers Plot



Constituent: pH, Field Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

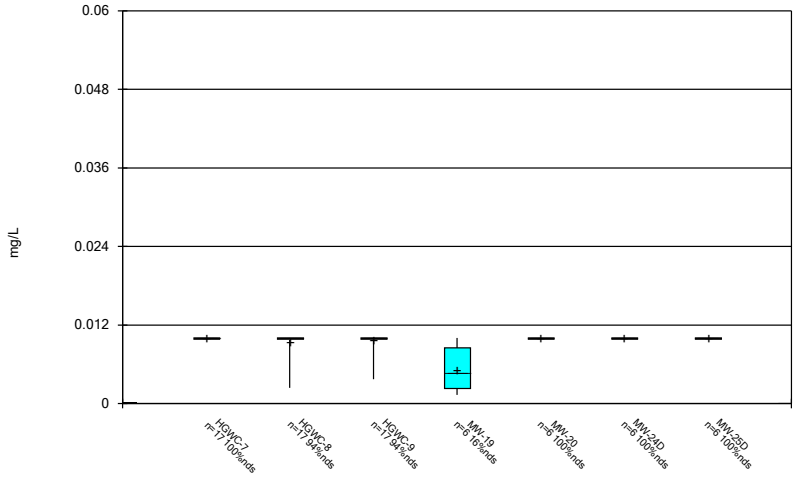


Constituent: Selenium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

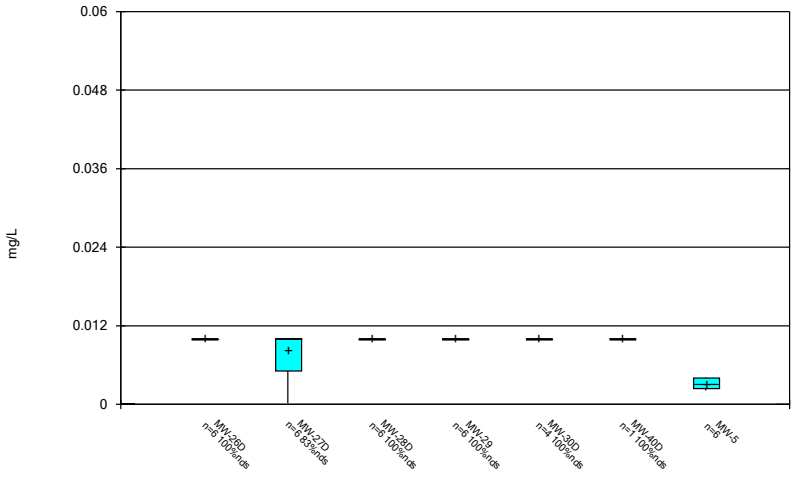


Constituent: Selenium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

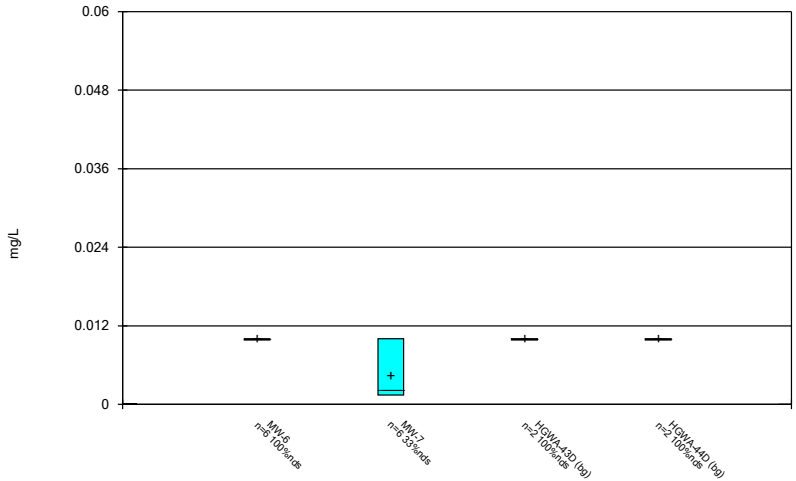


Constituent: Selenium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

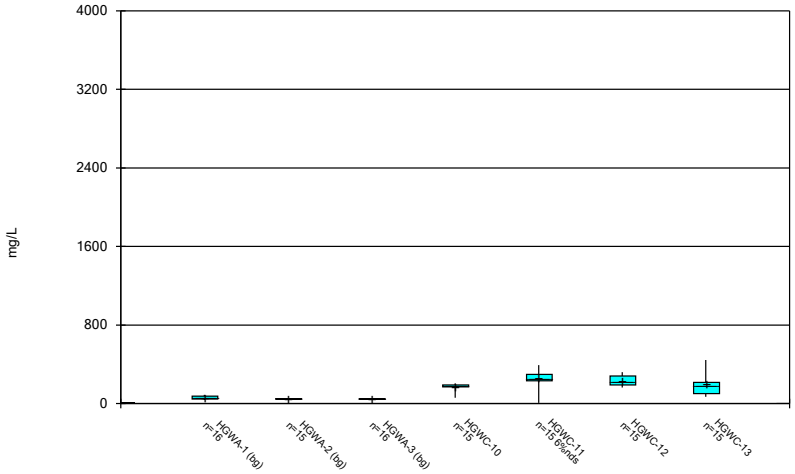
Box & Whiskers Plot



Constituent: Selenium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

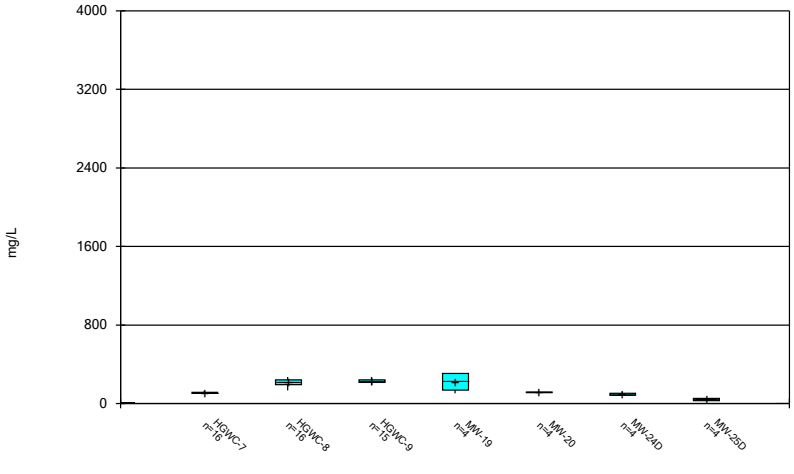


Constituent: Sulfate Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

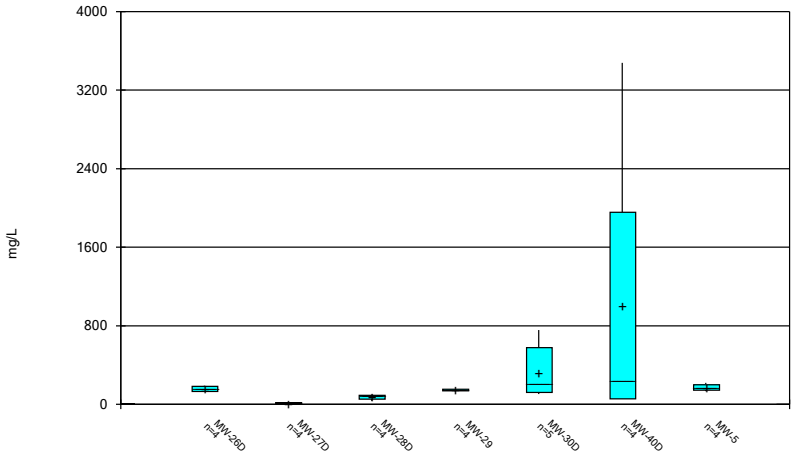


Constituent: Sulfate Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

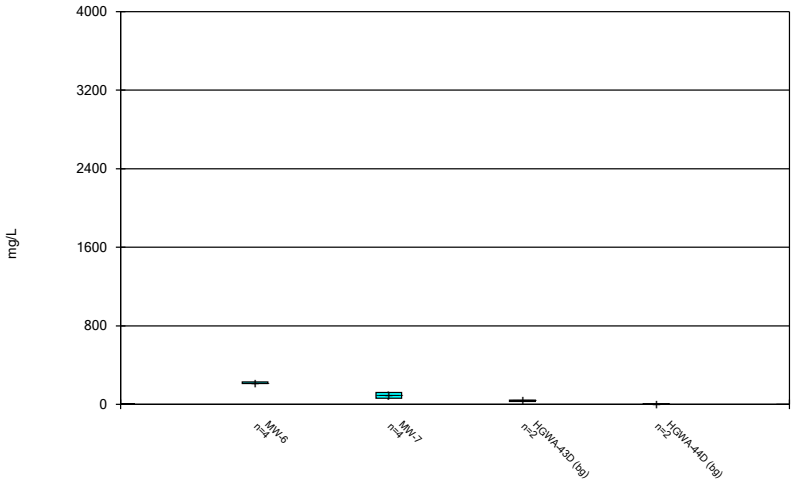


Constituent: Sulfate Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

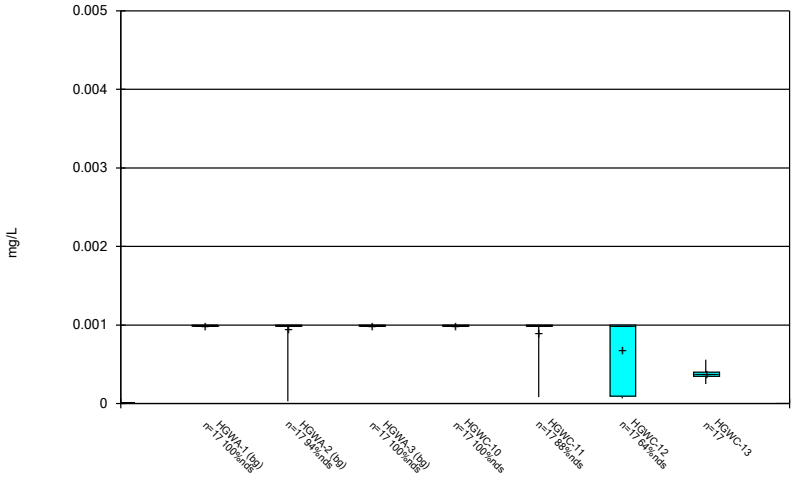
Box & Whiskers Plot



Constituent: Sulfate Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Box & Whiskers Plot

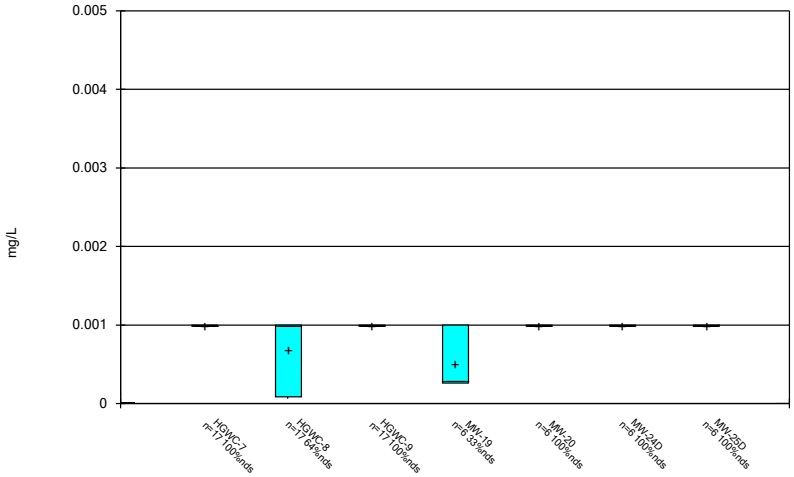


Constituent: Thallium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

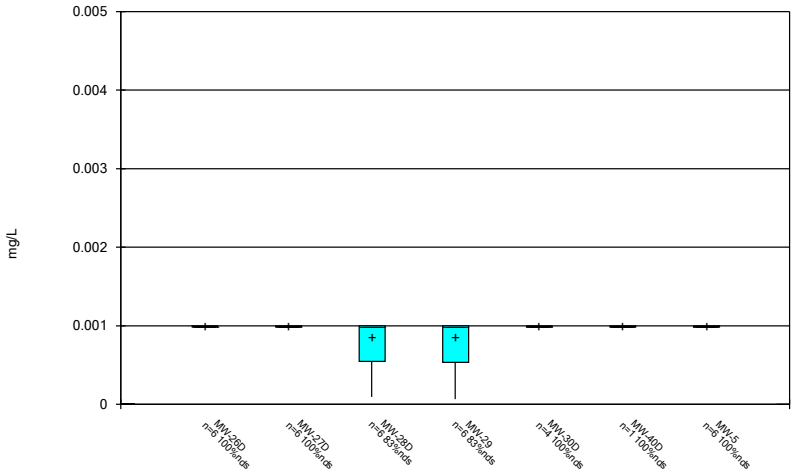


Constituent: Thallium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot

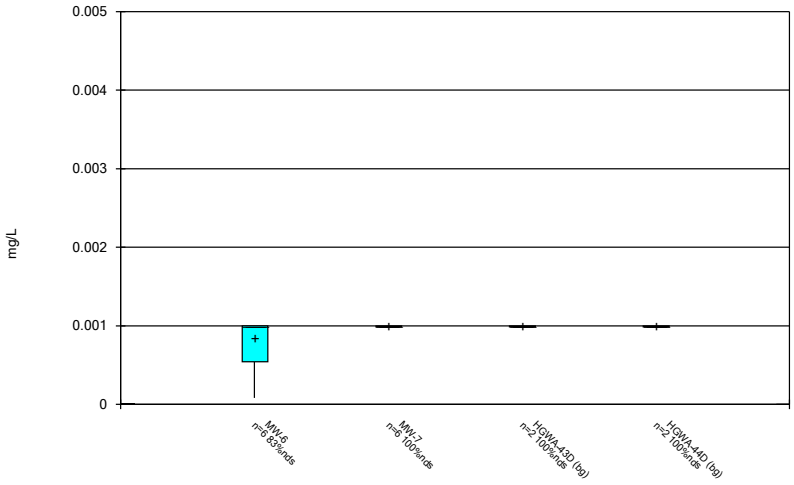


Constituent: Thallium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

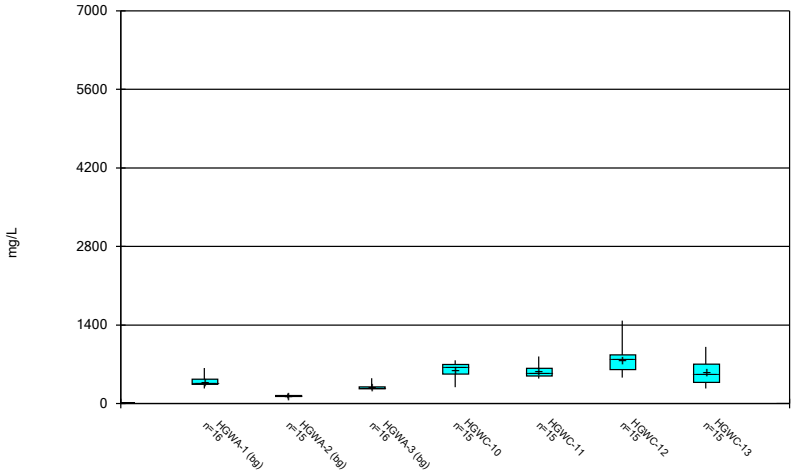
Box & Whiskers Plot



Constituent: Thallium Analysis Run 12/21/2020 3:36 PM

Plant Hammond Client: Southern Company Data: Hammond AP-1

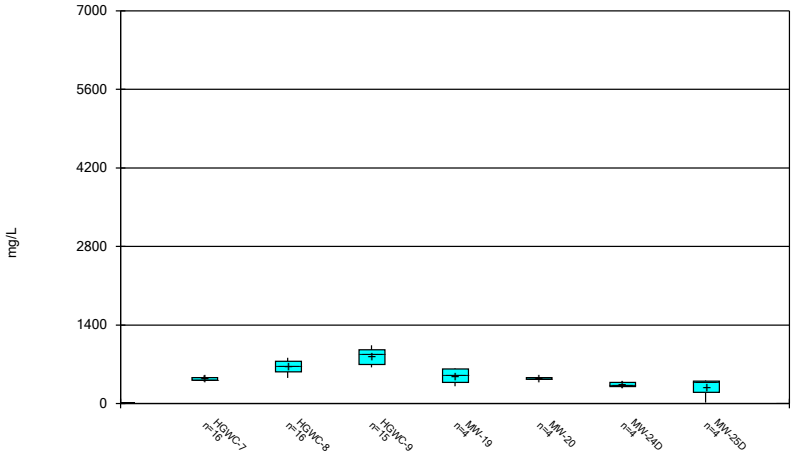
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:36 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:36 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

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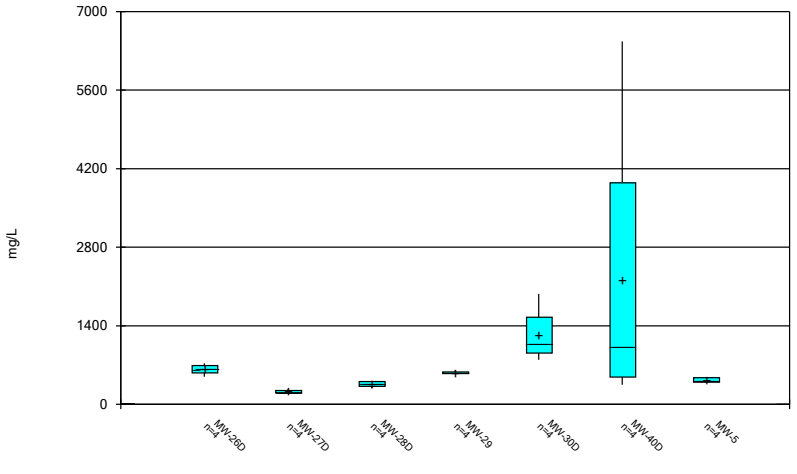
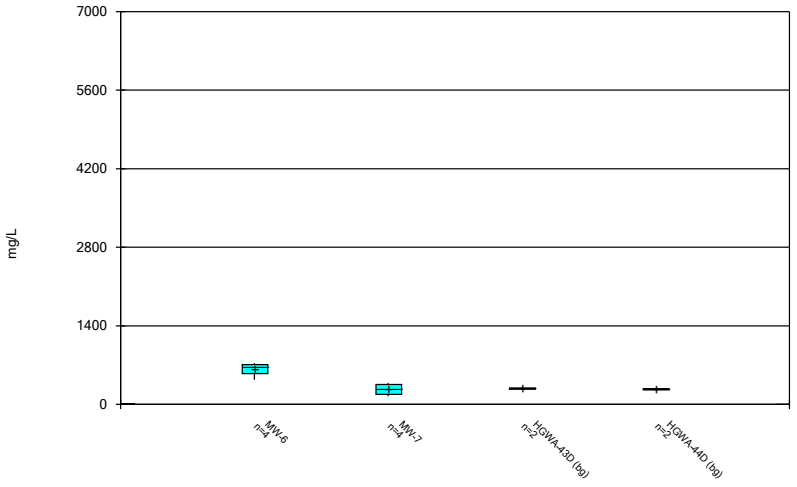
Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:36 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:36 PM
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE C.

Outlier Summary

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 11/12/2020, 1:45 PM

No outliers were flagged.

FIGURE D.

Appendix III Interwell Prediction Limits - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:25 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	HGWC-10	0.1141	n/a	9/16/2020	1.1	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-11	0.1141	n/a	9/18/2020	0.91	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-12	0.1141	n/a	9/18/2020	1.6	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-13	0.1141	n/a	9/21/2020	1.6	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-7	0.1141	n/a	9/16/2020	1.1	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-8	0.1141	n/a	9/16/2020	1.9	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Boron (mg/L)	HGWC-9	0.1141	n/a	9/17/2020	2	Yes	51	-3.8	0.8402	3.922	None	ln(x)	0.001075	Param Inter 1 of 2
Calcium (mg/L)	HGWC-10	138	n/a	9/16/2020	139	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-12	138	n/a	9/18/2020	163	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-13	138	n/a	9/21/2020	173	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-9	138	n/a	9/17/2020	164	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-12	41.1	n/a	9/18/2020	74.6	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-13	41.1	n/a	9/21/2020	41.2	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-7	41.1	n/a	9/16/2020	46.4	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-8	41.1	n/a	9/16/2020	74.6	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-9	41.1	n/a	9/17/2020	105	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-10	88.2	n/a	9/16/2020	169	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-11	88.2	n/a	9/18/2020	272	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-12	88.2	n/a	9/18/2020	266	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-13	88.2	n/a	9/21/2020	359	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-7	88.2	n/a	9/16/2020	109	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-8	88.2	n/a	9/16/2020	194	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Sulfate (mg/L)	HGWC-9	88.2	n/a	9/17/2020	209	Yes	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	HGWC-11	502.4	n/a	9/18/2020	626	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-12	502.4	n/a	9/18/2020	704	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-13	502.4	n/a	9/21/2020	732	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-8	502.4	n/a	9/16/2020	552	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	HGWC-9	502.4	n/a	9/17/2020	680	Yes	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2

Appendix III Interwell Prediction Limits - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:25 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	**HGWC-10**	**0.1141**	**n/a**	**9/16/2020**	**1.1**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-11**	**0.1141**	**n/a**	**9/18/2020**	**0.91**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-12**	**0.1141**	**n/a**	**9/18/2020**	**1.6**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-13**	**0.1141**	**n/a**	**9/21/2020**	**1.6**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-7**	**0.1141**	**n/a**	**9/16/2020**	**1.1**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-8**	**0.1141**	**n/a**	**9/16/2020**	**1.9**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Boron (mg/L)	**HGWC-9**	**0.1141**	**n/a**	**9/17/2020**	**2**	**Yes**	**51**	**-3.8**	**0.8402**	**3.922**	**None**	**ln(x)**	**0.001075**	**Param Inter 1 of 2**
Calcium (mg/L)	**HGWC-10**	**138**	**n/a**	**9/16/2020**	**139**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-11	138	n/a	9/18/2020	122	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-12**	**138**	**n/a**	**9/18/2020**	**163**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**HGWC-13**	**138**	**n/a**	**9/21/2020**	**173**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	HGWC-7	138	n/a	9/16/2020	98	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	HGWC-8	138	n/a	9/16/2020	119	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Calcium (mg/L)	**HGWC-9**	**138**	**n/a**	**9/17/2020**	**164**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	HGWC-10	41.1	n/a	9/16/2020	39.7	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	HGWC-11	41.1	n/a	9/18/2020	34.9	No	51	n/a	n/a	0	n/a	n/a	0.0007158	NP Inter (normality) 1 of 2
Chloride (mg/L)	**HGWC-12**	**41.1**	**n/a**	**9/18/2020**	**74.6**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-13**	**41.1**	**n/a**	**9/21/2020**	**41.2**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-7**	**41.1**	**n/a**	**9/16/2020**	**46.4**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-8**	**41.1**	**n/a**	**9/16/2020**	**74.6**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	**HGWC-9**	**41.1**	**n/a**	**9/17/2020**	**105**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Fluoride (mg/L)	HGWC-10	0.59	n/a	9/16/2020	0.1ND	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-11	0.59	n/a	9/18/2020	0.15	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-12	0.59	n/a	9/18/2020	0.15	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-13	0.59	n/a	9/21/2020	0.44	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-7	0.59	n/a	9/16/2020	0.081J	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-8	0.59	n/a	9/16/2020	0.53	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
Fluoride (mg/L)	HGWC-9	0.59	n/a	9/17/2020	0.1	No	60	n/a	n/a	35	n/a	n/a	0.0005205	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-10	7.84	4.9	9/16/2020	6.66	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-11	7.84	4.9	9/18/2020	6.42	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-12	7.84	4.9	9/18/2020	7.15	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-13	7.84	4.9	9/21/2020	7.34	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-7	7.84	4.9	9/16/2020	7.3	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-8	7.84	4.9	9/16/2020	6.92	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
pH, Field (SU)	HGWC-9	7.84	4.9	9/17/2020	6.99	No	60	n/a	n/a	0	n/a	n/a	0.001041	NP Inter (normality) 1 of 2
Sulfate (mg/L)	**HGWC-10**	**88.2**	**n/a**	**9/16/2020**	**169**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-11**	**88.2**	**n/a**	**9/18/2020**	**272**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-12**	**88.2**	**n/a**	**9/18/2020**	**266**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-13**	**88.2**	**n/a**	**9/21/2020**	**359**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-7**	**88.2**	**n/a**	**9/16/2020**	**109**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-8**	**88.2**	**n/a**	**9/16/2020**	**194**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	**HGWC-9**	**88.2**	**n/a**	**9/17/2020**	**209**	**Yes**	**51**	**n/a**	**n/a**	**0**	**n/a**	**n/a**	**0.0007158**	**NP Inter (normality) 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-10	502.4	n/a	9/16/2020	490	No	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-11**	**502.4**	**n/a**	**9/18/2020**	**626**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-12**	**502.4**	**n/a**	**9/18/2020**	**704**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-13**	**502.4**	**n/a**	**9/21/2020**	**732**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	HGWC-7	502.4	n/a	9/16/2020	392	No	51	276.4	116.5	0	None	No	0.001075	Param Inter 1 of 2
Total Dissolved Solids (mg/L)	**HGWC-8**	**502.4**	**n/a**	**9/16/2020**	**552**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**
Total Dissolved Solids (mg/L)	**HGWC-9**	**502.4**	**n/a**	**9/17/2020**	**680**	**Yes**	**51**	**276.4**	**116.5**	**0**	**None**	**No**	**0.001075**	**Param Inter 1 of 2**

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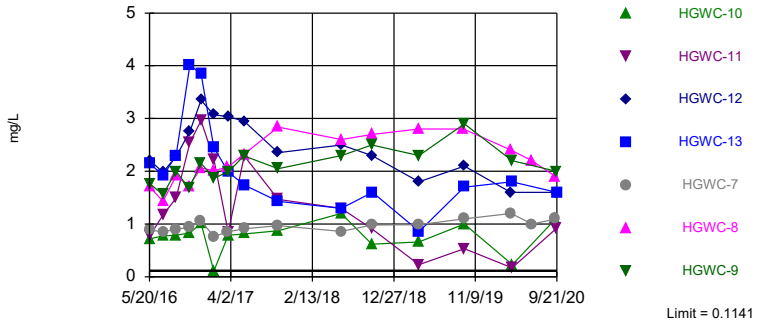
Exceeds Limit: HGWC-10, HGWC-11, HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Parametric



Background Data Summary (based on natural log transformation): Mean=-3.8, Std. Dev.=0.8402, n=51, 3.922% NDs. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9383, critical = 0.935. Kappa = 1.94 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: Boron Analysis Run 12/21/2020 3:17 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

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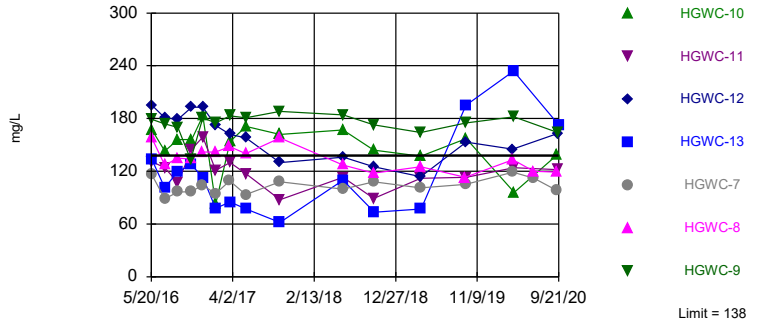
Exceeds Limit: HGWC-10, HGWC-12, HGWC-13, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 51 background values. Annual per-constituent alpha = 0.009975. Individual comparison alpha = 0.0007158 (1 of 2). Comparing 7 points to limit.

Constituent: Calcium Analysis Run 12/21/2020 3:17 PM View: Appendix III

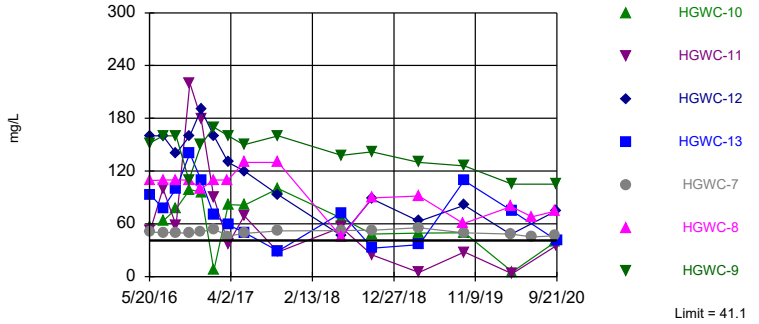
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 51 background values. Annual per-constituent alpha = 0.009975. Individual comparison alpha = 0.0007158 (1 of 2). Comparing 7 points to limit.

Constituent: Chloride Analysis Run 12/21/2020 3:17 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

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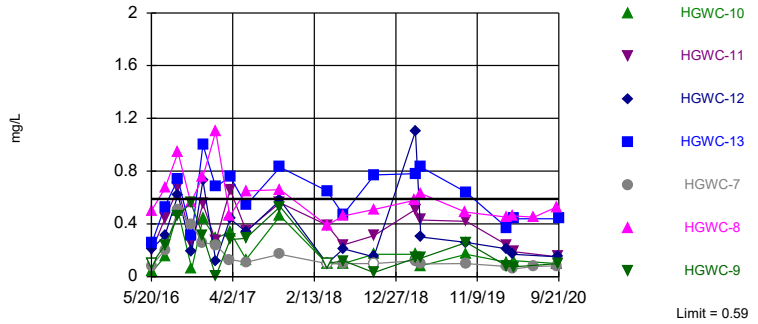
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 60 background values. 35% NDs. Annual per-constituent alpha = 0.007263. Individual comparison alpha = 0.0005205 (1 of 2). Comparing 7 points to limit.

Constituent: Fluoride Analysis Run 12/21/2020 3:17 PM View: Appendix III

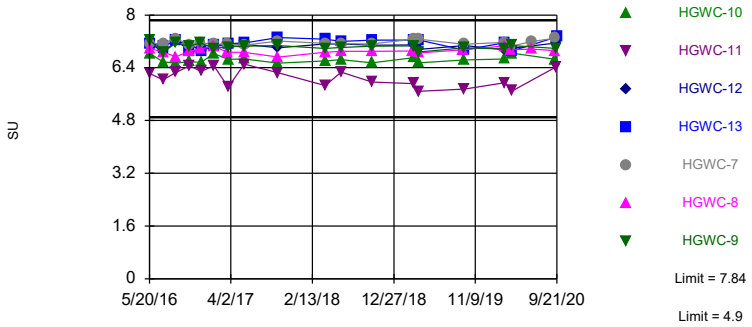
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Within Limits

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 60 background values. Annual per-constituent alpha = 0.01453. Individual comparison alpha = 0.001041 (1 of 2). Comparing 7 points to limit.

Constituent: pH, Field Analysis Run 12/21/2020 3:17 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

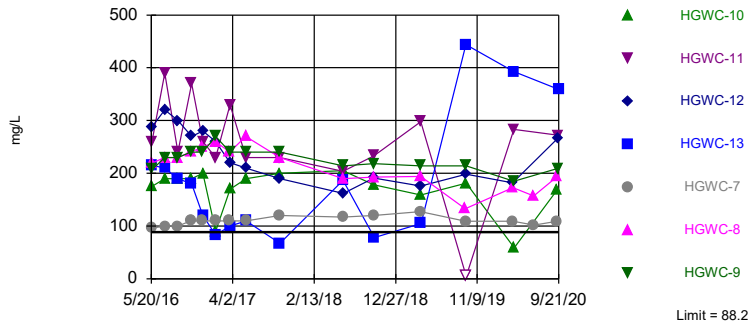
Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Exceeds Limit: HGWC-10, HGWC-11, HGWC-12, HGWC-13, HGWC-7, HGWC-8, HGWC-9

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 51 background values. Annual per-constituent alpha = 0.009975. Individual comparison alpha = 0.0007158 (1 of 2). Comparing 7 points to limit.

Constituent: Sulfate Analysis Run 12/21/2020 3:17 PM View: Appendix III

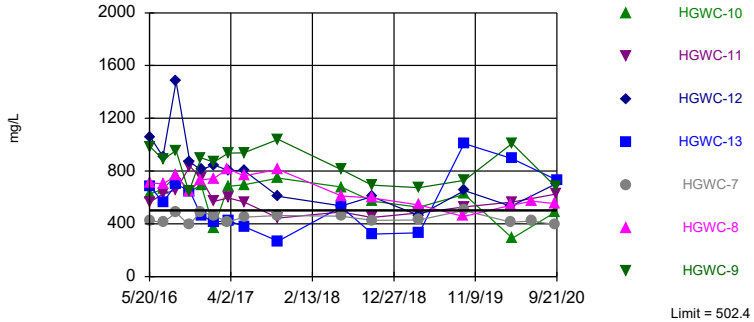
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Exceeds Limit: HGWC-11, HGWC-12, HGWC-13, HGWC-8, HGWC-9

Prediction Limit

Interwell Parametric



Background Data Summary: Mean=276.4, Std. Dev.=116.5, n=51. Normality test: Shapiro Francia @alpha = 0.01, calculated = 0.9441, critical = 0.935. Kappa = 1.94 (c=7, w=7, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.001075. Comparing 7 points to limit.

Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:17 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	0.0214 (J)	0.0321 (J)	<0.1						
5/20/2016				1.71	0.885				
5/23/2016						1.76	2.2	0.787	0.72
7/11/2016	0.0142 (J)	0.0337 (J)							
7/12/2016			0.0074 (J)	1.43	0.857	1.56	1.98	1.17	0.778
8/30/2016	0.0074 (J)	0.0173 (J)	<0.1						
9/1/2016				1.91	0.904	2	2.28	1.49	0.786
10/19/2016	0.0224 (J)	0.0341 (J)	0.0085 (J)						
10/20/2016				1.72	0.936	1.68			
10/24/2016							2.75	2.54	0.831
12/6/2016	0.0211 (J)	0.0326 (J)	0.0085 (J)	2.06	1.06	2.15			
12/7/2016							3.35	2.96	1.01
1/24/2017	0.0165 (J)	0.0365 (J)	0.01 (J)						
1/25/2017				2.01	0.764				
1/26/2017						1.87	3.07	2.23	0.108
3/21/2017	0.0187 (J)	0.0349 (J)	0.0079 (J)	2.08	0.857				
3/22/2017						1.99	3.04	0.84	0.788
5/22/2017	0.0782	0.0475	0.0131 (J)						
5/23/2017				2.32	0.91	2.29			
5/24/2017							2.95	2.29	0.814
10/3/2017	0.0198 (J)	0.0386 (J)	0.0097 (J)	2.84	0.967	2.05	2.35	1.47	0.871
6/4/2018	0.02 (J)	0.036 (J)	0.017 (J)						
6/5/2018					0.86			1.3	1.2
6/6/2018				2.6		2.3	2.5		
10/1/2018	0.013 (J)	0.035 (J)	0.0061 (J)						
10/2/2018				2.7	0.98	2.5			0.62
10/3/2018							2.3	0.91	
10/5/2018									
4/1/2019			0.0066 (J)						
4/2/2019	0.016 (J)	0.034 (J)			0.99				
4/3/2019				2.8		2.3	1.8	0.23	0.66
4/5/2019									
9/23/2019	0.021 (J)	0.04 (J)	0.0081 (J)						
9/24/2019				2.8					
9/25/2019					1.1				
9/26/2019									
9/27/2019						2.9	2.1	0.53	1
3/25/2020	0.025 (J)	0.039 (J)	0.0096 (J)						
3/26/2020							1.6		
3/27/2020				2.4	1.2				
3/30/2020									
3/31/2020						2.2		0.17	
4/1/2020									0.23
6/16/2020	0.021 (J)		0.01 (J)	2.2					
6/17/2020					1				
9/15/2020	0.017 (J)	0.044 (J)	0.0071 (J)						
9/16/2020				1.9	1.1				1.1
9/17/2020						2			
9/18/2020							1.6	0.91	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-44D (bg)	HGWA-43D (bg)
5/19/2016			
5/20/2016			
5/23/2016	2.15		
7/11/2016			
7/12/2016	1.91		
8/30/2016			
9/1/2016	2.3		
10/19/2016			
10/20/2016			
10/24/2016	4.01		
12/6/2016			
12/7/2016	3.85		
1/24/2017			
1/25/2017			
1/26/2017	2.45		
3/21/2017			
3/22/2017	1.99		
5/22/2017			
5/23/2017			
5/24/2017	1.74		
10/3/2017	1.43		
6/4/2018			
6/5/2018	1.3		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	1.6		
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	0.86 (J)		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	1.7		
9/27/2019			
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	1.8		
3/31/2020			
4/1/2020			
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		0.23	0.061 (J)
9/17/2020			
9/18/2020			
9/21/2020	1.6		
11/10/2020		0.29	0.057 (J)

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	138	22.9	76.2						
5/20/2016				159	117				
5/23/2016						179	195	131	167
7/11/2016	97.2	22.3							
7/12/2016			61.5	127	88.8	174	181	124	143
8/30/2016	97.5	26.4	65.1						
9/1/2016				135	96.3	170	179	107	156
10/19/2016	99.2	21.7	73.2						
10/20/2016				134	96.9	133			
10/24/2016							193	145	156
12/6/2016	105	18.2	74.9	142	104	181			
12/7/2016							193	159	183
1/24/2017	95.7	18.5	69.6						
1/25/2017				142	94.5				
1/26/2017						175	172	121	82.6
3/21/2017	106	18.6	75.7	148	109				
3/22/2017						183	162	130	154
5/22/2017	107	17.8	71.5						
5/23/2017				140	93.3	181			
5/24/2017							158	117	171
10/3/2017	102	20.2	76.3	158	108	188	130	87.7	162
6/4/2018	124	19.1	73.4						
6/5/2018					99.8			113	167
6/6/2018				127		184	136		
10/1/2018	108	20.5 (J)	80.9						
10/2/2018				118	108	173			144
10/3/2018							125	89	
10/5/2018									
4/1/2019			80.5						
4/2/2019	132	22.5 (J)			101				
4/3/2019				125		164	114	112	137
4/5/2019									
9/23/2019	118	19.5	71						
9/24/2019				113					
9/25/2019					105				
9/26/2019									
9/27/2019						175	153	113	157
3/25/2020	127	23	89.8						
3/26/2020							145		
3/27/2020				133	119				
3/30/2020									
3/31/2020						182		124	
4/1/2020									96.2
6/16/2020	130		85.1	120					
6/17/2020					112				
9/15/2020	103	21.1	73.1						
9/16/2020				119	98				139
9/17/2020						164			
9/18/2020							163	122	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-44D (bg)	HGWA-43D (bg)
5/19/2016			
5/20/2016			
5/23/2016	133		
7/11/2016			
7/12/2016	101		
8/30/2016			
9/1/2016	120		
10/19/2016			
10/20/2016			
10/24/2016	127		
12/6/2016			
12/7/2016	113		
1/24/2017			
1/25/2017			
1/26/2017	77.9		
3/21/2017			
3/22/2017	85.1		
5/22/2017			
5/23/2017			
5/24/2017	77.1		
10/3/2017	62		
6/4/2018			
6/5/2018	110		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	73.6		
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	77.1		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	195		
9/27/2019			
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	234		
3/31/2020			
4/1/2020			
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		30	56
9/17/2020			
9/18/2020			
9/21/2020	173		
11/10/2020		33.6	63.3

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	9.94	6.14	5.93						
5/20/2016				109	50.4				
5/23/2016						152	160	51.9	56.1
7/11/2016	6.3	5.9							
7/12/2016			6.2	110	50	160	160	100	63
8/30/2016	6	6.2	6.4						
9/1/2016				110	50	160	140	58	77
10/19/2016	5.8	6.1	6.5						
10/20/2016				110	49	110			
10/24/2016							160	220	99
12/6/2016	5.4	6	7.2	100	51	150			
12/7/2016							190	180	96
1/24/2017	5.2	6.1	6.4						
1/25/2017				110	54				
1/26/2017						170	160	90	7
3/21/2017	4.6	5.9	7.5	110	46				
3/22/2017						160	130	37	82
5/22/2017	4.6	5.9	6.5						
5/23/2017				130	49	150			
5/24/2017							120	69	81
10/3/2017	5.6	6.3	6.5	130	52	160	93	28	100
6/4/2018	13.1	6.1	6.3						
6/5/2018					52.3			56.1	66.6
6/6/2018				44.8		138	46.4		
10/1/2018	6.6	6.4	6.4						
10/2/2018				89.4	52.6	142			48.3
10/3/2018							88.4	24.8	
10/5/2018									
4/1/2019			6.5						
4/2/2019	20.3	5.8			55.5				
4/3/2019				91.6		130	62.8	4.6	49.3
4/5/2019									
9/23/2019	17.7	5.1	5.9						
9/24/2019				60.2					
9/25/2019					49.8				
9/26/2019									
9/27/2019						126	81	27.9	49.9
3/25/2020	20.4	5.2	6.1						
3/26/2020							48		
3/27/2020				79.8	48.3				
3/30/2020									
3/31/2020						105		3.2	
4/1/2020									5.4
6/16/2020	41.1		5.8	67.9					
6/17/2020					45.2				
9/15/2020	13.4	5	6						
9/16/2020				74.6	46.4				39.7
9/17/2020						105			
9/18/2020							74.6	34.9	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-44D (bg)	HGWA-43D (bg)
5/19/2016			
5/20/2016			
5/23/2016	93.2		
7/11/2016			
7/12/2016	78		
8/30/2016			
9/1/2016	100		
10/19/2016			
10/20/2016			
10/24/2016	140		
12/6/2016			
12/7/2016	110		
1/24/2017			
1/25/2017			
1/26/2017	70		
3/21/2017			
3/22/2017	59		
5/22/2017			
5/23/2017			
5/24/2017	50		
10/3/2017	29		
6/4/2018			
6/5/2018	72.3		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	32.3		
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	36.4		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	109		
9/27/2019			
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	75.1		
3/31/2020			
4/1/2020			
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		7.2	4.1
9/17/2020			
9/18/2020			
9/21/2020	41.2		
11/10/2020		7.8	4.4

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	0.105 (J)	0.0513 (J)	0.0303 (J)						
5/20/2016				0.499	0.0828 (J)				
5/23/2016						<0.1	0.212 (J)	0.203 (J)	0.0394 (J)
7/11/2016	0.16 (J)		0.05 (J)						
7/12/2016		0.12 (J)		0.67	0.2 (J)	0.24 (J)	0.31	0.44	0.15 (J)
8/30/2016	0.09 (J)	0.09 (J)	0.06 (J)						
9/1/2016				0.94	0.51	0.46	0.62	0.67	0.5
10/19/2016	0.1 (J)	0.1 (J)	0.04 (J)						
10/20/2016				0.56	0.4	0.56			
10/24/2016							0.19 (J)	0.26 (J)	0.06 (J)
12/6/2016	0.11 (J)	0.21 (J)	0.36	0.76	0.26 (J)	0.31			
12/7/2016							0.73	0.55	0.44
1/24/2017	0.09 (J)	0.06 (J)	<0.1						
1/25/2017				1.1	0.24 (J)				
1/26/2017						0.004 (J)	0.12 (J)	0.27 (J)	0.29 (J)
3/21/2017	0.13 (J)	0.005 (J)	<0.1	0.46	0.13 (J)				
3/22/2017						0.28 (J)	0.44	0.66	0.34
5/22/2017	0.12 (J)	0.05 (J)	<0.1						
5/23/2017				0.65	0.11 (J)	0.29 (J)			
5/24/2017							0.34	0.35	0.13 (J)
10/3/2017	0.13 (J)	0.13 (J)	<0.1	0.66	0.17 (J)	0.53	0.58	0.56	0.46
4/2/2018	<0.1		<0.1						
4/3/2018		<0.1		0.39	<0.1	<0.1			
4/4/2018							<0.1	0.39	<0.1
6/4/2018	0.074 (J)	<0.1	<0.1						
6/5/2018					0.099 (J)			0.24 (J)	<0.1
6/6/2018				0.46		0.12 (J)	0.21 (J)		
10/1/2018	<0.1	<0.1	<0.1						
10/2/2018				0.51	<0.1	0.031 (J)			0.17 (J)
10/3/2018							0.15 (J)	0.31	
10/5/2018									
3/12/2019	0.29 (J)	0.072 (J)	0.038 (J)	0.58					
3/13/2019					0.12 (J)	0.14 (J)		0.51	0.17 (J)
3/14/2019							1.1		
4/1/2019		0.029 (J)							
4/2/2019	0.1 (J)		0.071 (J)		0.097 (J)				
4/3/2019				0.63		0.14 (J)	0.3 (J)	0.43	0.082 (J)
4/5/2019									
9/23/2019	0.078 (J)	<0.1	<0.1						
9/24/2019				0.49					
9/25/2019					0.1 (J)				
9/26/2019									
9/27/2019						0.26 (J)	0.26 (J)	0.42	0.17 (J)
3/2/2020	0.076 (J)	<0.1	<0.1						
3/3/2020				0.45			0.21 (J)	0.24 (J)	0.11 (J)
3/4/2020					0.077 (J)	0.08 (J)			
3/25/2020	0.098 (J)	<0.1	<0.1						
3/26/2020							0.17 (J)		
3/27/2020				0.46	0.059 (J)				
3/30/2020									
3/31/2020						0.074 (J)		0.19 (J)	
4/1/2020									0.12 (J)

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
6/16/2020	0.071 (J)	<0.1		0.45					
6/17/2020					0.077 (J)				
9/15/2020	0.082 (J)	<0.1	<0.1						
9/16/2020				0.53	0.081 (J)				<0.1
9/17/2020						0.1			
9/18/2020							0.15	0.15	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016			
5/20/2016			
5/23/2016	0.2587 (J)		
7/11/2016			
7/12/2016	0.53		
8/30/2016			
9/1/2016	0.74		
10/19/2016			
10/20/2016			
10/24/2016	0.31		
12/6/2016			
12/7/2016	1		
1/24/2017			
1/25/2017			
1/26/2017	0.68		
3/21/2017			
3/22/2017	0.76		
5/22/2017			
5/23/2017			
5/24/2017	0.54		
10/3/2017	0.83		
4/2/2018			
4/3/2018			
4/4/2018	0.65		
6/4/2018			
6/5/2018	0.47		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	0.77		
3/12/2019			
3/13/2019	0.78		
3/14/2019			
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	0.83		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	0.64		
9/27/2019			
3/2/2020			
3/3/2020			
3/4/2020	0.37		
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	0.44		
3/31/2020			
4/1/2020			

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-43D (bg)	HGWA-44D (bg)
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		0.22	0.52
9/17/2020			
9/18/2020			
9/21/2020	0.44		
11/10/2020		0.19	0.59

Prediction Limit

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	7.27	7.45	5.81						
5/20/2016				6.99	7.14				
5/23/2016						7.23	7.15	6.22	6.83
7/11/2016	7.06		5.68						
7/12/2016		7.32		6.88	7.13	6.87	6.87	6.04	6.58
8/30/2016	7.28	7.43	5.63						
9/1/2016				6.73	7.29	7.15	7.2	6.26	6.54
10/19/2016	7.02	7.03	5.46						
10/20/2016				6.9	7.1	7.05			
10/24/2016							7.1	6.46	6.59
12/6/2016	7.09	7.08	5.38	6.98	7.15	7.15			
12/7/2016							6.92	6.29	6.56
1/24/2017	7.2	7.39	5.37						
1/25/2017				7.04	7.11				
1/26/2017						6.99	7.05	6.46	6.83
3/21/2017	7.01	6.83	4.9	6.87	7.12				
3/22/2017						7.03	7.08	5.81	6.66
5/22/2017	7.11	7.02	5.2						
5/23/2017				6.87	7.08	7.05			
5/24/2017							7.11	6.51	6.67
10/3/2017	7.21	7.47	5.3	6.72	7.21	7.07	7.01	6.25	6.54
4/2/2018	7.1		5.4						
4/3/2018		7.38		6.87	7.14	6.99			
4/4/2018							7.12	5.86	6.61
6/4/2018	7.06	7.38	5.27						
6/5/2018					7.13			6.27	6.65
6/6/2018				6.9		7.02	7.12		
10/1/2018	7.09	7.13	5.31						
10/2/2018				6.9	7.12	7.05			6.55
10/3/2018							7.08	5.97	
10/5/2018									
3/12/2019	7.03	7.29	5.42	6.91					
3/13/2019					7.27	7.06		5.92	6.7
3/14/2019							7.09		
4/1/2019		7.16							
4/2/2019	6.86		5.41		7.27				
4/3/2019				6.85		6.88	6.96	5.69	6.55
4/5/2019									
9/23/2019	7.02	7.3	5.33						
9/24/2019				6.95					
9/25/2019					7.11				
9/26/2019									
9/27/2019						7.01	7.07	5.75	6.64
3/2/2020	7.1	7.12	5.43						
3/3/2020				7.06			6.95	5.95	6.67
3/4/2020					7.17	6.97			
3/25/2020	6.95	7.4	5.36						
3/26/2020							6.99		
3/27/2020				6.95	7.05				
3/30/2020									
3/31/2020						7.07		5.7	
4/1/2020									6.84

Prediction Limit

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-3 (bg)	HGWA-2 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
6/16/2020	6.97 (D)	7.31 (D)		6.97 (D)					
6/17/2020					7.2 (D)				
9/15/2020	7.15	7.29	5.22						
9/16/2020				6.92	7.3				6.66
9/17/2020						6.99			
9/18/2020							7.15	6.42	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-43D (bg)	HGWA-44D (bg)
5/19/2016			
5/20/2016			
5/23/2016	7.14		
7/11/2016			
7/12/2016	7.04		
8/30/2016			
9/1/2016	7.24		
10/19/2016			
10/20/2016			
10/24/2016	6.9		
12/6/2016			
12/7/2016	6.91		
1/24/2017			
1/25/2017			
1/26/2017	7.08		
3/21/2017			
3/22/2017	7.13		
5/22/2017			
5/23/2017			
5/24/2017	7.15		
10/3/2017	7.32		
4/2/2018			
4/3/2018			
4/4/2018	7.27		
6/4/2018			
6/5/2018	7.2		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	7.24		
3/12/2019			
3/13/2019	7.24		
3/14/2019			
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	7.24		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	6.94		
9/27/2019			
3/2/2020			
3/3/2020			
3/4/2020	7.16		
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	6.91		
3/31/2020			
4/1/2020			

Prediction Limit

Constituent: pH, Field (SU) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-43D (bg)	HGWA-44D (bg)
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		7.52	7.83
9/17/2020			
9/18/2020			
9/21/2020	7.34		
11/10/2020		7.27	7.84

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	66.9	48.6	42.3						
5/20/2016				219	96				
5/23/2016						207	288	260	175
7/11/2016	41	45							
7/12/2016			44	230	100	230	320	390	190
8/30/2016	36	42	40						
9/1/2016				230	100	230	300	240	190
10/19/2016	46	44	43						
10/20/2016				240	110	240			
10/24/2016							270	370	190
12/6/2016	59	44	43	250	110	240			
12/7/2016							280	260	200
1/24/2017	46	46	48						
1/25/2017				260	110				
1/26/2017						270	260	230	90
3/21/2017	63	46	45	240	110				
3/22/2017						240	220	330	170
5/22/2017	77	48	46						
5/23/2017				270	110	240			
5/24/2017							210	230	190
10/3/2017	42	47	48	230	120	240	190	230	200
6/4/2018	71.8	47.8	46.6						
6/5/2018					117			204	205
6/6/2018				190		214	162		
10/1/2018	49.1	48.1	48.6						
10/2/2018				193	120	218			178
10/3/2018							191	233	
10/5/2018									
4/1/2019			50.4						
4/2/2019	84.3	48.7			127				
4/3/2019				194		214	176	298	159
4/5/2019									
9/23/2019	70.2	47.2	43.9						
9/24/2019				133					
9/25/2019					109				
9/26/2019									
9/27/2019						214	198	<10	181
3/25/2020	85.9	46.3	50.5						
3/26/2020							182		
3/27/2020				173	109				
3/30/2020									
3/31/2020						185		283	
4/1/2020									59
6/16/2020	88.2		49.5	157					
6/17/2020					102				
9/15/2020	47.3	51.5	44.7						
9/16/2020				194	109				169
9/17/2020						209			
9/18/2020							266	272	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-44D (bg)	HGWA-43D (bg)
5/19/2016			
5/20/2016			
5/23/2016	215		
7/11/2016			
7/12/2016	210		
8/30/2016			
9/1/2016	190		
10/19/2016			
10/20/2016			
10/24/2016	180		
12/6/2016			
12/7/2016	120		
1/24/2017			
1/25/2017			
1/26/2017	83		
3/21/2017			
3/22/2017	100		
5/22/2017			
5/23/2017			
5/24/2017	110		
10/3/2017	67		
6/4/2018			
6/5/2018	187		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	78.3		
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	105		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	444		
9/27/2019			
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	393		
3/31/2020			
4/1/2020			
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		6.9	43
9/17/2020			
9/18/2020			
9/21/2020	359		
11/10/2020		6.3	39

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWA-1 (bg)	HGWA-2 (bg)	HGWA-3 (bg)	HGWC-8	HGWC-7	HGWC-9	HGWC-12	HGWC-11	HGWC-10
5/19/2016	421	143	267						
5/20/2016				711	427				
5/23/2016						984	1060	564	629
7/11/2016	363	125							
7/12/2016			249	704	410	887	909	627	661
8/30/2016	330	168	254						
9/1/2016				763	484	956	1480	656	769
10/19/2016	380	176	357						
10/20/2016				644	393	642			
10/24/2016							868	836	643
12/6/2016	377	145	285	733	492	899			
12/7/2016							811	748	697
1/24/2017	342	129	300						
1/25/2017				744	461				
1/26/2017						869	846	571	368
3/21/2017	340	103	288	818	415				
3/22/2017						936	804	597	683
5/22/2017	338	92	263						
5/23/2017				765	450	939			
5/24/2017							803	566	696
10/3/2017	343	127	300	812	464	1040	608	443	746
6/4/2018	415	140	266						
6/5/2018					459			489	679
6/6/2018				611		810	535		
10/1/2018	354	135	291						
10/2/2018				597	426	693			572
10/3/2018							607	449	
10/5/2018									
4/1/2019			284						
4/2/2019	452	133			428				
4/3/2019				543		673	462	483	525
4/5/2019									
9/23/2019	442	129	268						
9/24/2019				457					
9/25/2019					503				
9/26/2019									
9/27/2019						730	653	528	624
3/25/2020	496	138	284						
3/26/2020							533		
3/27/2020				541	413				
3/30/2020									
3/31/2020						1010		565	
4/1/2020									290
6/16/2020	632		448	573					
6/17/2020					423				
9/15/2020	265	124	258						
9/16/2020				552	392				490
9/17/2020						680			
9/18/2020							704	626	
9/21/2020									
11/10/2020									

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/21/2020 3:25 PM View: Appendix III

Plant Hammond Client: Southern Company Data: Hammond AP-1

	HGWC-13	HGWA-44D (bg)	HGWA-43D (bg)
5/19/2016			
5/20/2016			
5/23/2016	683		
7/11/2016			
7/12/2016	563		
8/30/2016			
9/1/2016	702		
10/19/2016			
10/20/2016			
10/24/2016	647		
12/6/2016			
12/7/2016	465		
1/24/2017			
1/25/2017			
1/26/2017	411		
3/21/2017			
3/22/2017	427		
5/22/2017			
5/23/2017			
5/24/2017	377		
10/3/2017	268		
6/4/2018			
6/5/2018	528		
6/6/2018			
10/1/2018			
10/2/2018			
10/3/2018			
10/5/2018	322		
4/1/2019			
4/2/2019			
4/3/2019			
4/5/2019	331		
9/23/2019			
9/24/2019			
9/25/2019			
9/26/2019	1010		
9/27/2019			
3/25/2020			
3/26/2020			
3/27/2020			
3/30/2020	895		
3/31/2020			
4/1/2020			
6/16/2020			
6/17/2020			
9/15/2020			
9/16/2020		270	272
9/17/2020			
9/18/2020			
9/21/2020	732		
11/10/2020		287	307

FIGURE E.

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**HGWA-2 (bg)**	**0.002014**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-7**	**0.05335**	**68**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	**HGWC-9**	**0.1969**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**HGWC-12**	**-21.24**	**-62**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-12**	**-29.6**	**-71**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	**HGWC-9**	**-11.07**	**-55**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWA-3 (bg)**	**1.639**	**64**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**HGWC-12**	**-38.47**	**-63**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	**HGWC-12**	**-134.4**	**-75**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

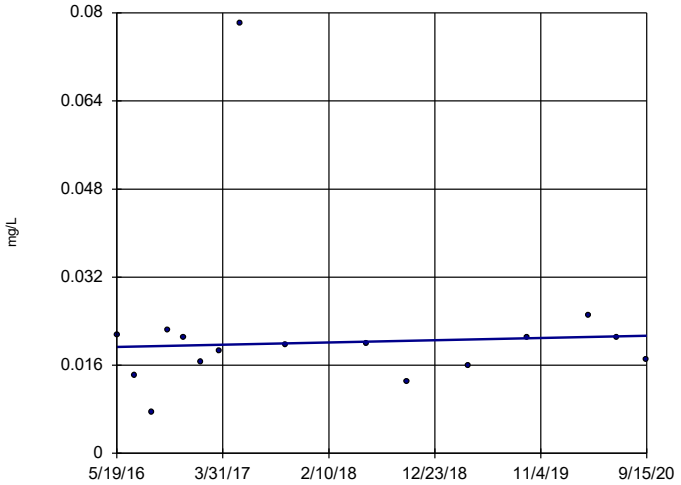
Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	HGWA-1 (bg)	0.0004675	7	58	No	16	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWA-2 (bg)**	**0.002014**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWA-3 (bg)	-0.0006127	-25	-58	No	16	12.5	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-10	0.06503	19	53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-11	-0.3126	-38	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-12	-0.2221	-38	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	HGWC-13	-0.2813	-50	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-7**	**0.05335**	**68**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWC-8	0.267	57	58	No	16	0	n/a	n/a	0.01	NP
Boron (mg/L)	**HGWC-9**	**0.1969**	**57**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	HGWA-43D (bg)	-0.02655	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Boron (mg/L)	HGWA-44D (bg)	0.3982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Calcium (mg/L)	HGWA-1 (bg)	6.226	48	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-2 (bg)	0.02596	1	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-3 (bg)	2.935	46	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-10	-4.899	-25	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**HGWC-12**	**-21.24**	**-62**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	HGWC-13	-2.009	-4	-53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWC-9	0.3014	4	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	HGWA-43D (bg)	48.45	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Calcium (mg/L)	HGWA-44D (bg)	23.89	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Chloride (mg/L)	HGWA-1 (bg)	2.42	43	58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-2 (bg)	-0.238	-41	-53	No	15	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWA-3 (bg)	-0.08889	-27	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-12**	**-29.6**	**-71**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	HGWC-13	-14.49	-35	-53	No	15	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-7	-0.4432	-16	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	HGWC-8	-8.608	-45	-58	No	16	0	n/a	n/a	0.01	NP
Chloride (mg/L)	**HGWC-9**	**-11.07**	**-55**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Chloride (mg/L)	HGWA-43D (bg)	1.991	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Chloride (mg/L)	HGWA-44D (bg)	3.982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Sulfate (mg/L)	HGWA-1 (bg)	7.687	53	58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-2 (bg)	1.235	49	53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWA-3 (bg)**	**1.639**	**64**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-10	-4.594	-20	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-11	-19.17	-25	-53	No	15	6.667	n/a	n/a	0.01	NP
Sulfate (mg/L)	**HGWC-12**	**-38.47**	**-63**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	HGWC-13	-2.78	-5	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-7	2.474	27	58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-8	-16.44	-45	-58	No	16	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWC-9	-5.394	-33	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	HGWA-43D (bg)	-26.55	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Sulfate (mg/L)	HGWA-44D (bg)	-3.982	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Total Dissolved Solids (mg/L)	HGWA-1 (bg)	18.73	26	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-2 (bg)	-3.989	-24	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-3 (bg)	2.145	12	58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-11	-32.24	-31	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	**HGWC-12**	**-134.4**	**-75**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Total Dissolved Solids (mg/L)	HGWC-13	-47.1	-9	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-8	-48.1	-50	-58	No	16	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWC-9	-51.26	-23	-53	No	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	HGWA-43D (bg)	232.3	NaN	NaN	No	2	0	n/a	n/a	NaN	NP
Total Dissolved Solids (mg/L)	HGWA-44D (bg)	112.8	NaN	NaN	No	2	0	n/a	n/a	NaN	NP

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 16

Slope = 0.0004675 units per year.

Mann-Kendall statistic = 7
critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

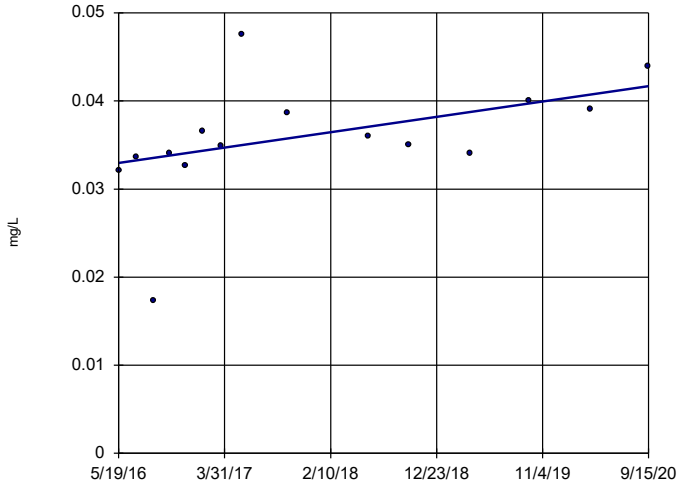
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 15

Slope = 0.002014 units per year.

Mann-Kendall statistic = 57
critical = 53

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

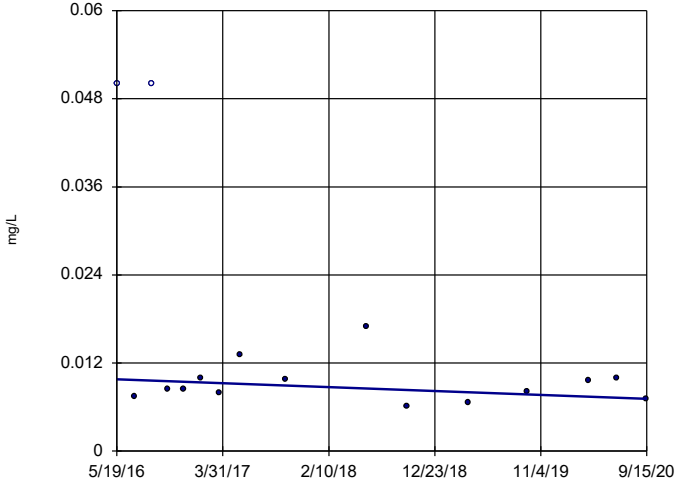
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWA-3 (bg)



n = 16

Slope = -0.0006127 units per year.

Mann-Kendall statistic = -25
critical = -58

Trend not significant at 99% confidence level (α = 0.005 per tail).

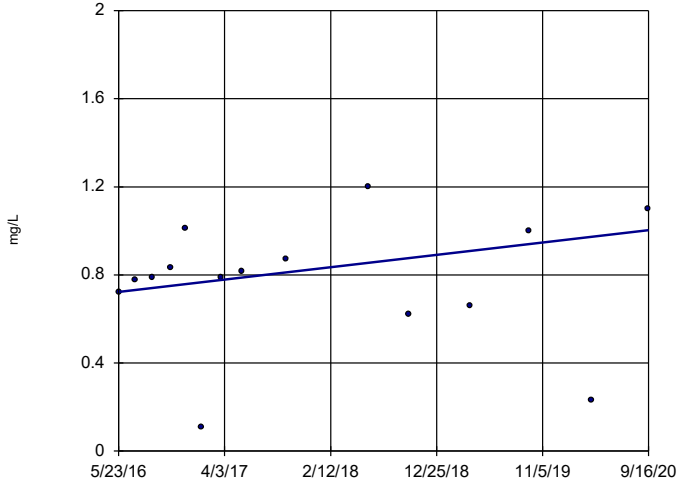
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-10



n = 15

Slope = 0.06503 units per year.

Mann-Kendall statistic = 19
critical = 53

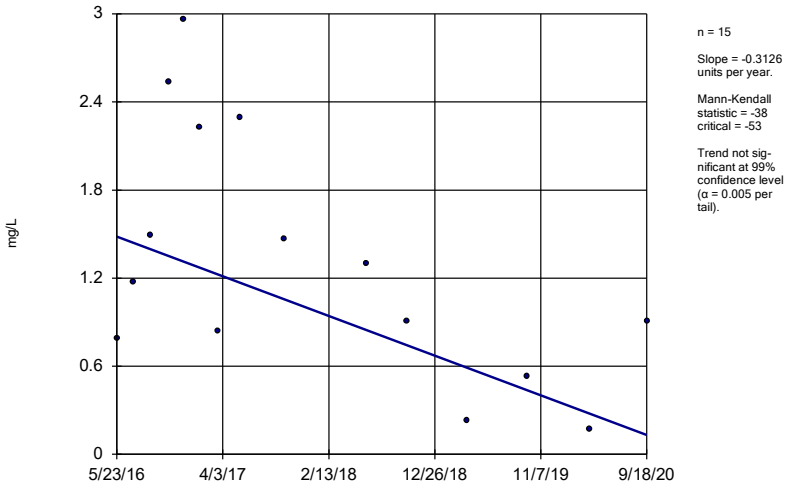
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-11



n = 15

Slope = -0.3126 units per year.

Mann-Kendall statistic = -38 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

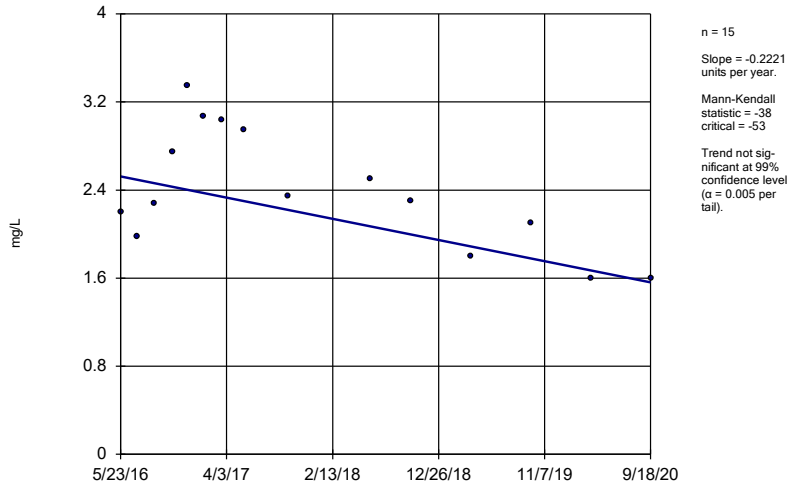
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 15

Slope = -0.2221 units per year.

Mann-Kendall statistic = -38 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

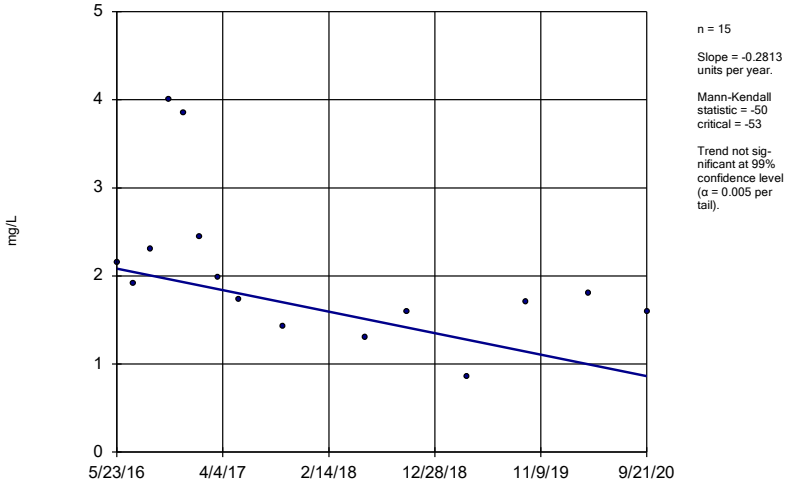
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 15

Slope = -0.2813 units per year.

Mann-Kendall statistic = -50 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

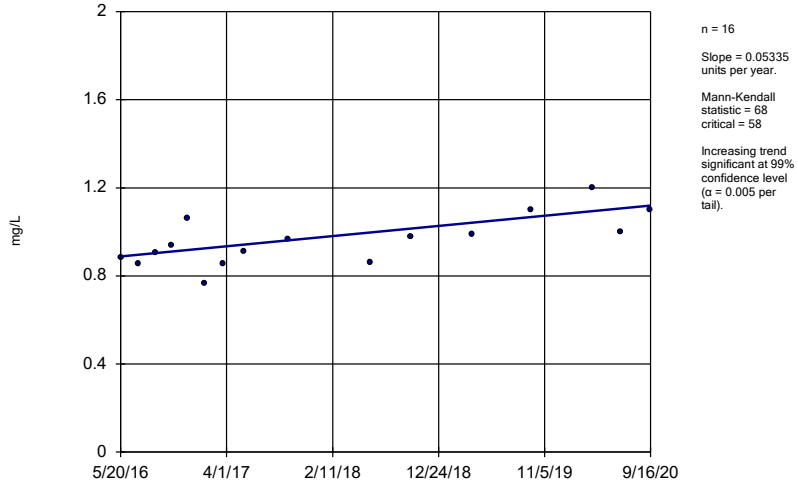
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 16

Slope = 0.05335 units per year.

Mann-Kendall statistic = 68 critical = 58

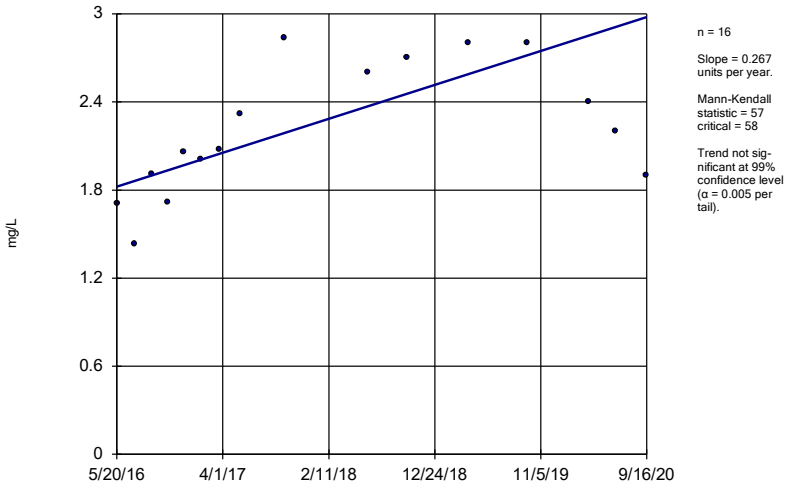
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-8



n = 16

Slope = 0.267 units per year.

Mann-Kendall statistic = 57 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

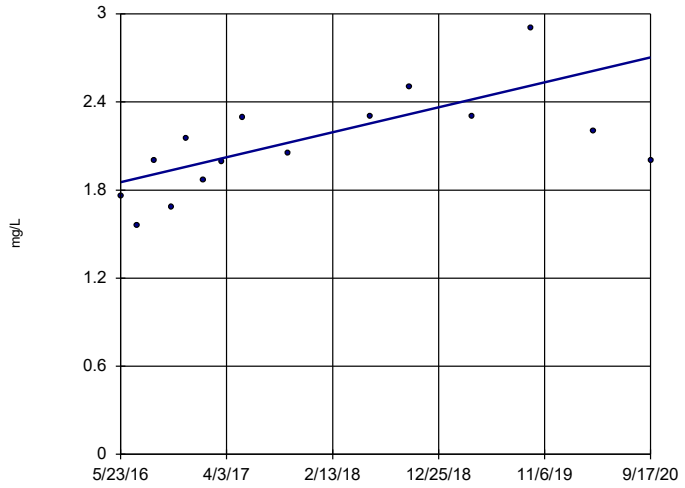
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 15

Slope = 0.1969 units per year.

Mann-Kendall statistic = 57 critical = 53

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

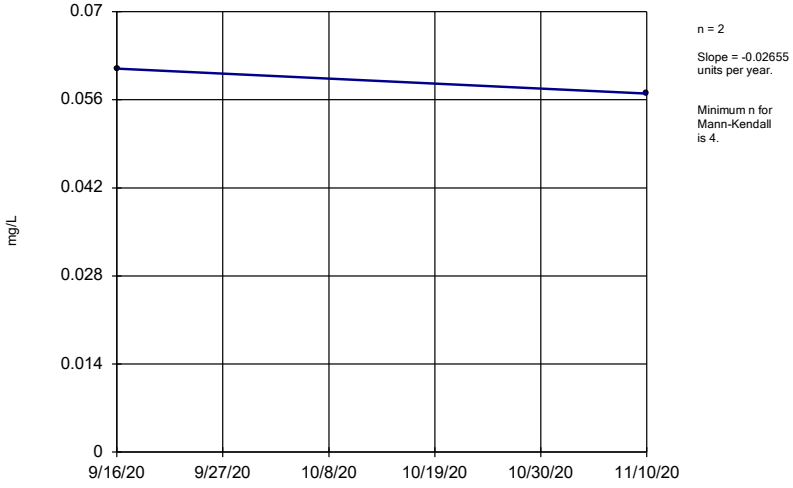
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-43D (bg)



n = 2

Slope = -0.02655 units per year.

Minimum n for Mann-Kendall is 4.

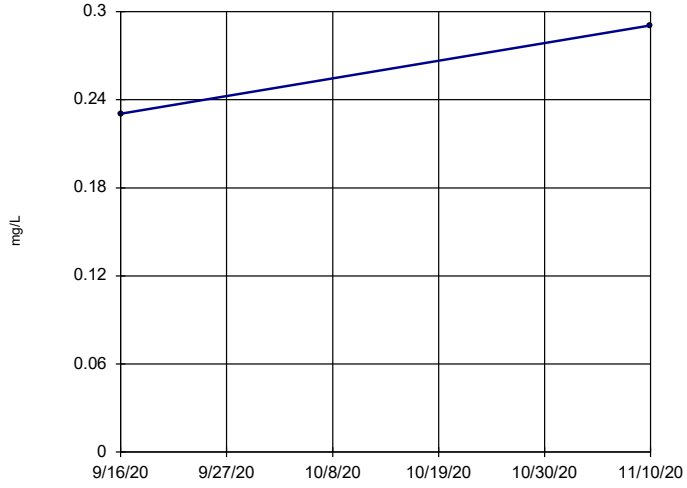
Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-44D (bg)



n = 2

Slope = 0.3982 units per year.

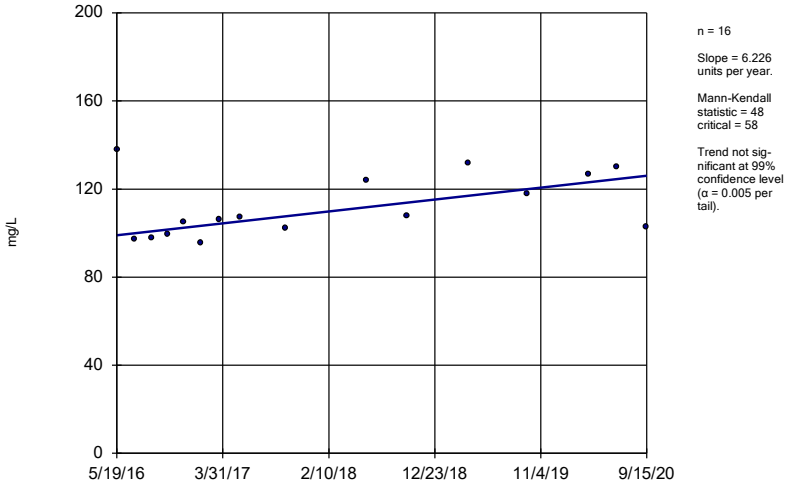
Minimum n for Mann-Kendall is 4.

Constituent: Boron Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-1 (bg)



n = 16

Slope = 6.226 units per year.

Mann-Kendall statistic = 48 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

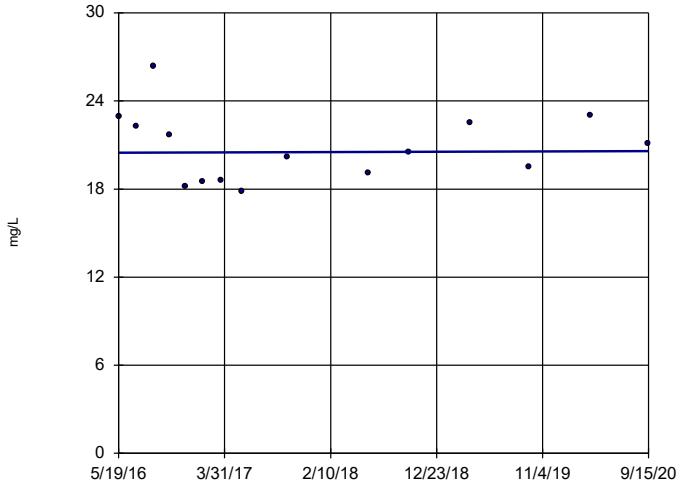
Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 15

Slope = 0.02596 units per year.

Mann-Kendall statistic = 1 critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

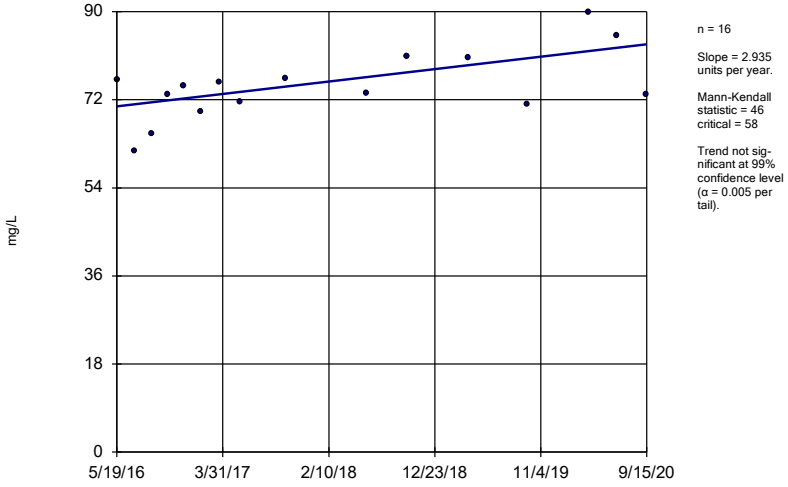
Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 16

Slope = 2.935 units per year.

Mann-Kendall statistic = 46 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

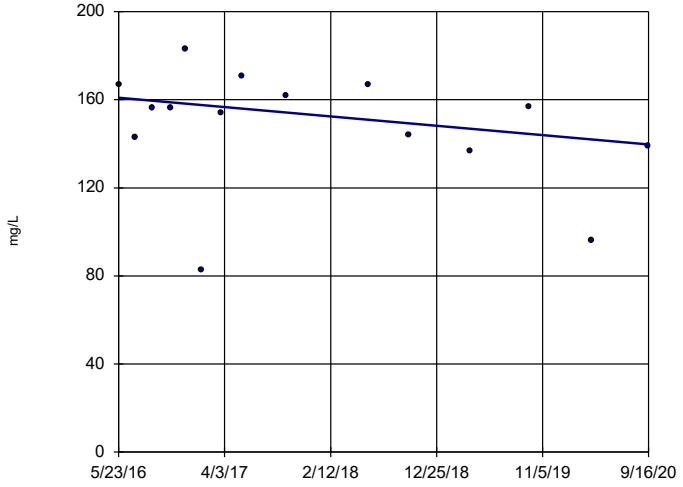
Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-10



n = 15

Slope = -4.899 units per year.

Mann-Kendall statistic = -25 critical = -53

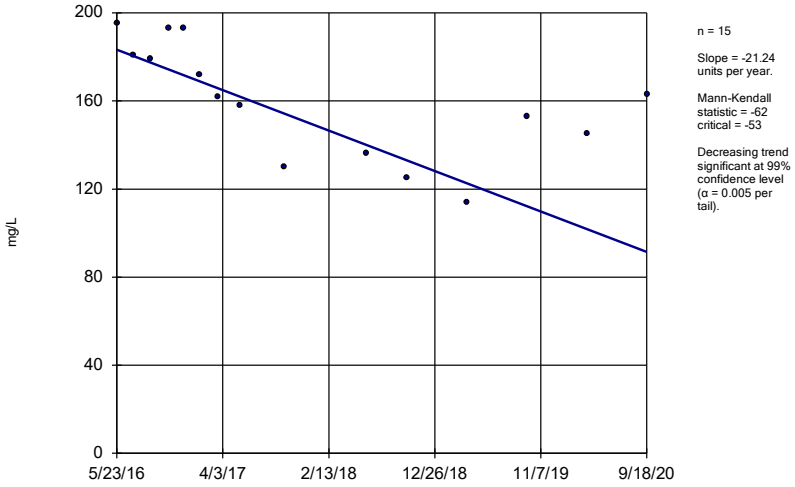
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-12



n = 15

Slope = -21.24 units per year.

Mann-Kendall statistic = -62
critical = -53

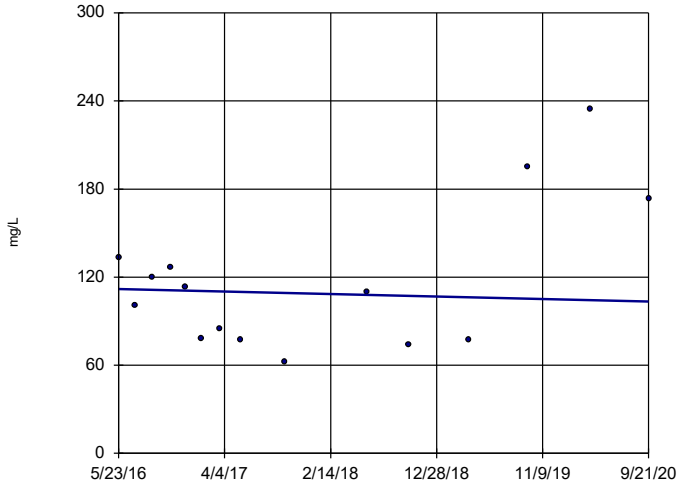
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 15

Slope = -2.009 units per year.

Mann-Kendall statistic = -4
critical = -53

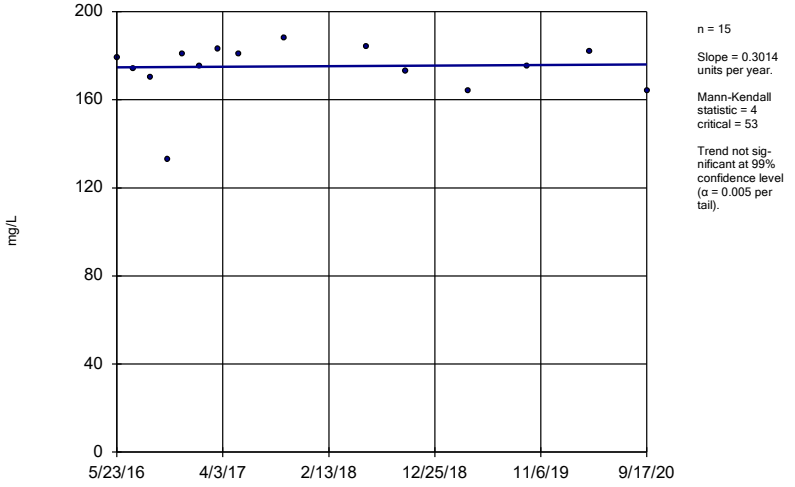
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 15

Slope = 0.3014 units per year.

Mann-Kendall statistic = 4
critical = 53

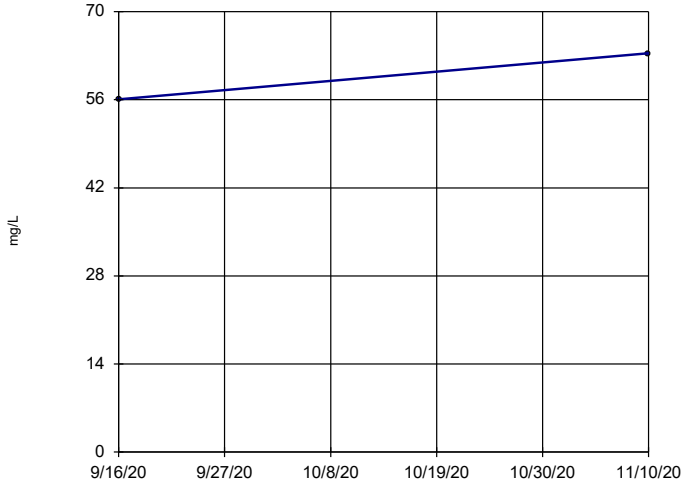
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-43D (bg)



n = 2

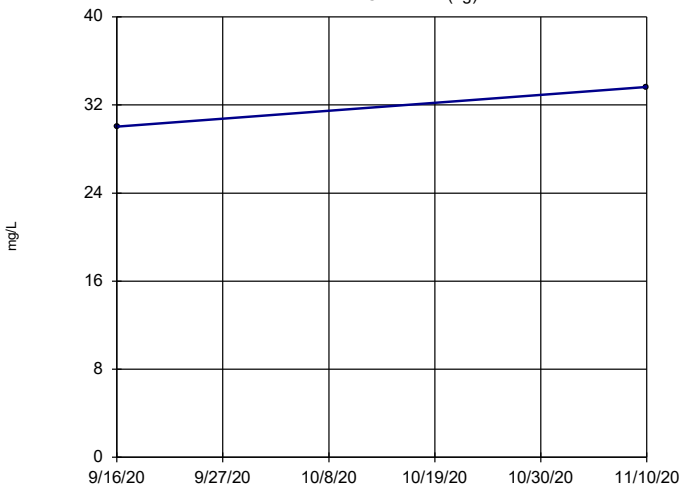
Slope = 48.45 units per year.

Minimum n for Mann-Kendall is 4.

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-44D (bg)



n = 2

Slope = 23.89 units per year.

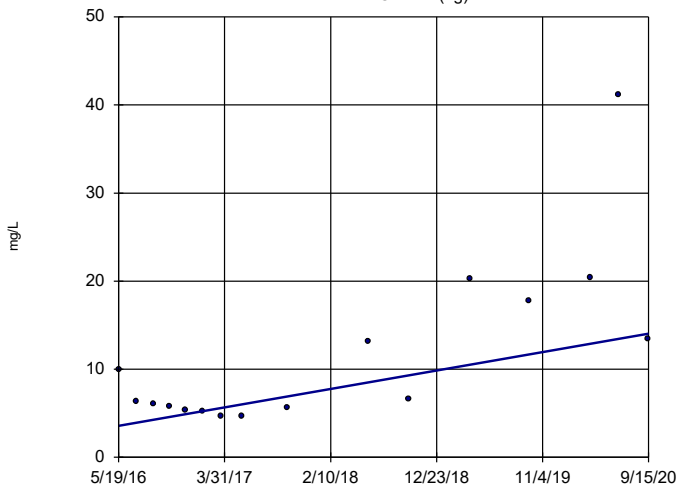
Minimum n for Mann-Kendall is 4.

Constituent: Calcium Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 16

Slope = 2.42 units per year.

Mann-Kendall statistic = 43 critical = 58

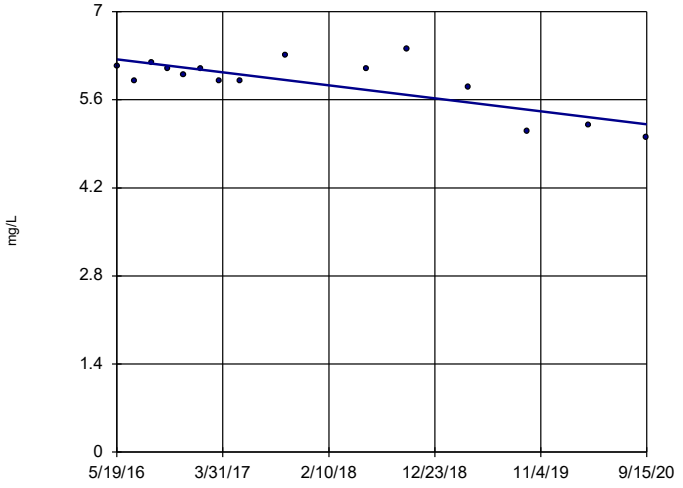
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-2 (bg)



n = 15

Slope = -0.238 units per year.

Mann-Kendall statistic = -41 critical = -53

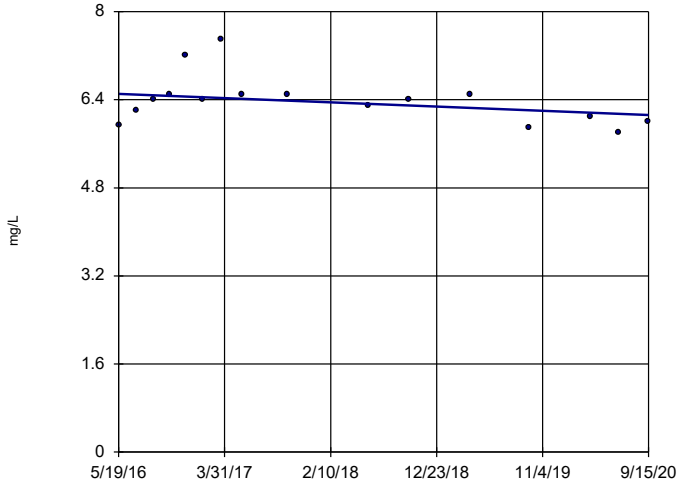
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 16

Slope = -0.08889 units per year.

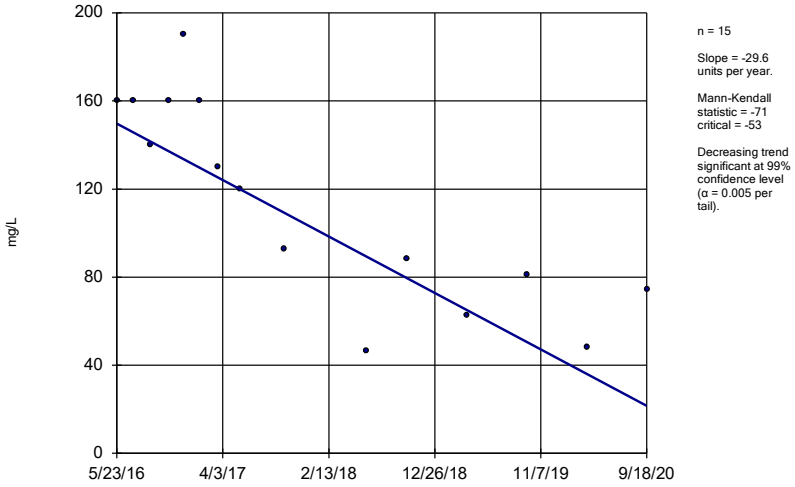
Mann-Kendall statistic = -27 critical = -58

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-12



n = 15

Slope = -29.6 units per year.

Mann-Kendall statistic = -71 critical = -53

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

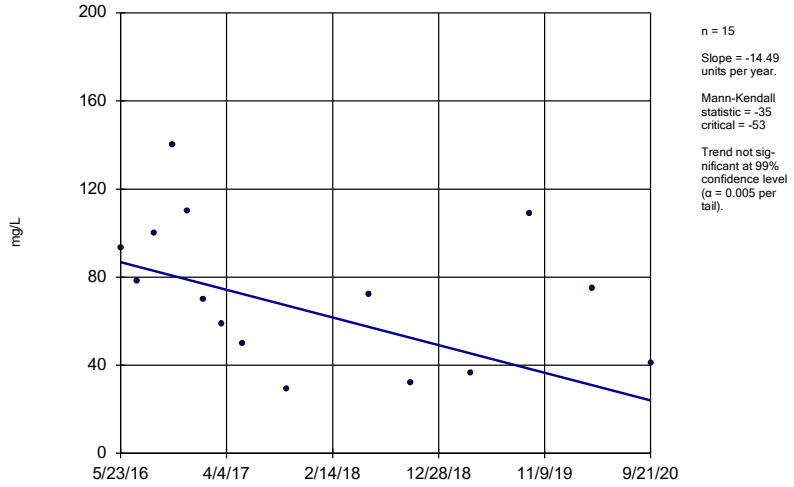
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 15

Slope = -14.49 units per year.

Mann-Kendall statistic = -35 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

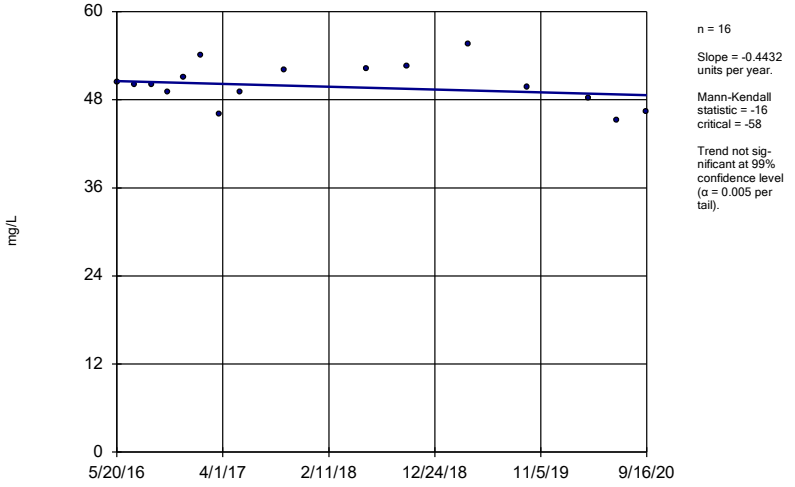
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 16

Slope = -0.4432 units per year.

Mann-Kendall statistic = -16 critical = -58

Trend not significant at 99% confidence level (α = 0.005 per tail).

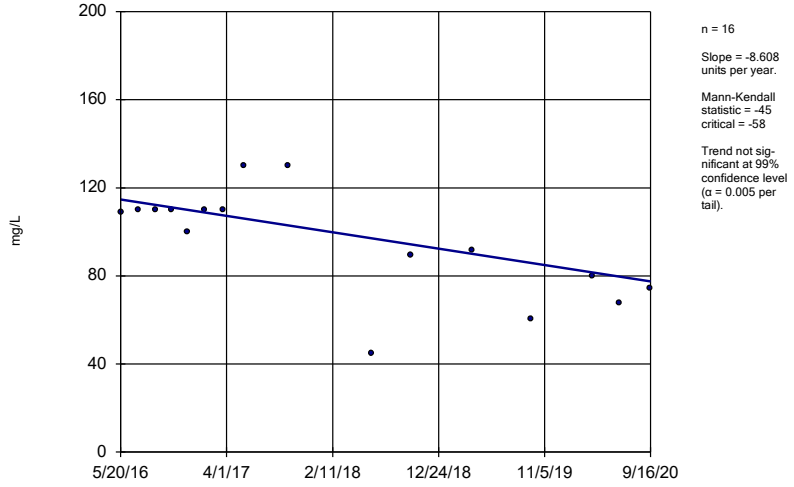
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-8



n = 16

Slope = -8.608 units per year.

Mann-Kendall statistic = -45 critical = -58

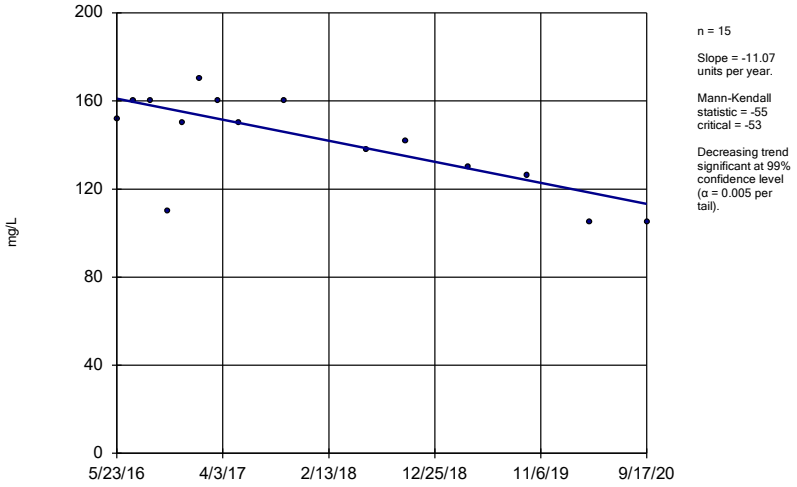
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-9



n = 15

Slope = -11.07 units per year.

Mann-Kendall statistic = -55 critical = -53

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

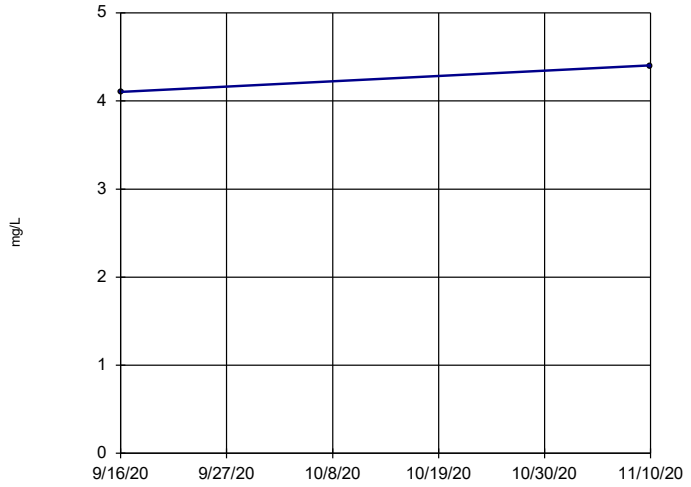
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-43D (bg)



n = 2

Slope = 1.991 units per year.

Minimum n for Mann-Kendall is 4.

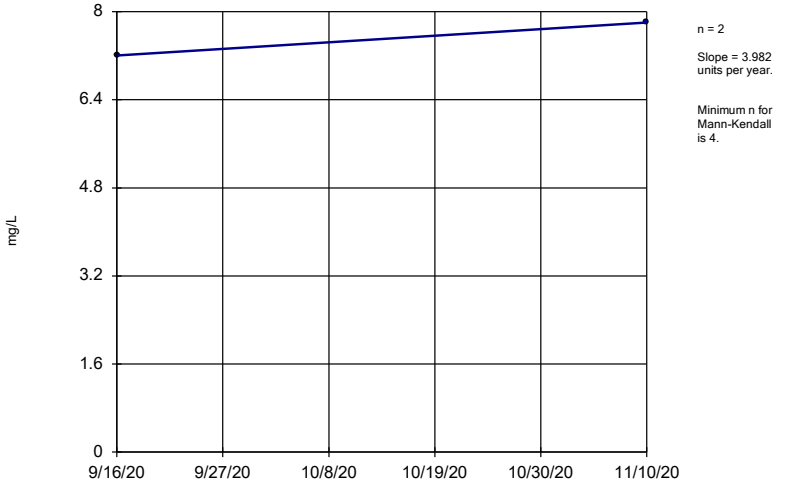
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-44D (bg)



n = 2

Slope = 3.982 units per year.

Minimum n for Mann-Kendall is 4.

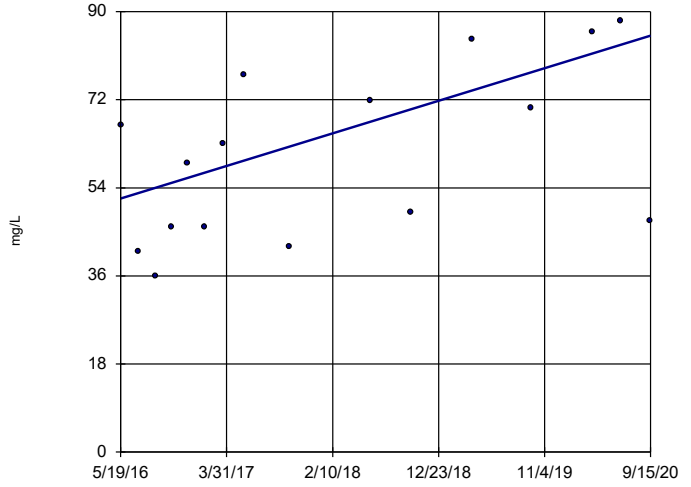
Constituent: Chloride Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 16

Slope = 7.687 units per year.

Mann-Kendall statistic = 53 critical = 58

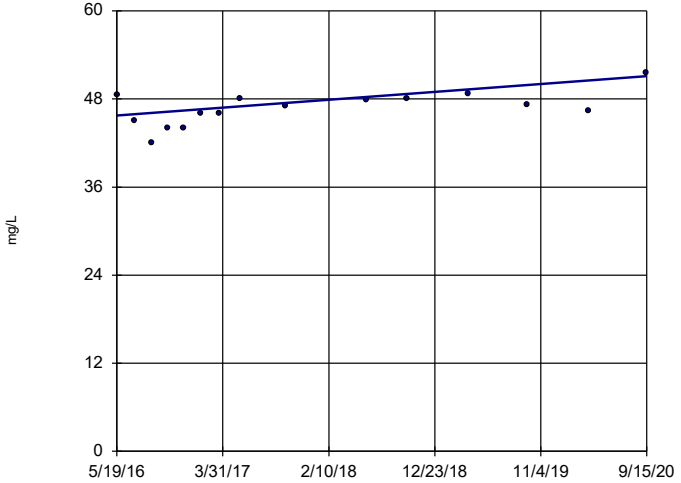
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-2 (bg)



n = 15

Slope = 1.235 units per year.

Mann-Kendall statistic = 49
critical = 53

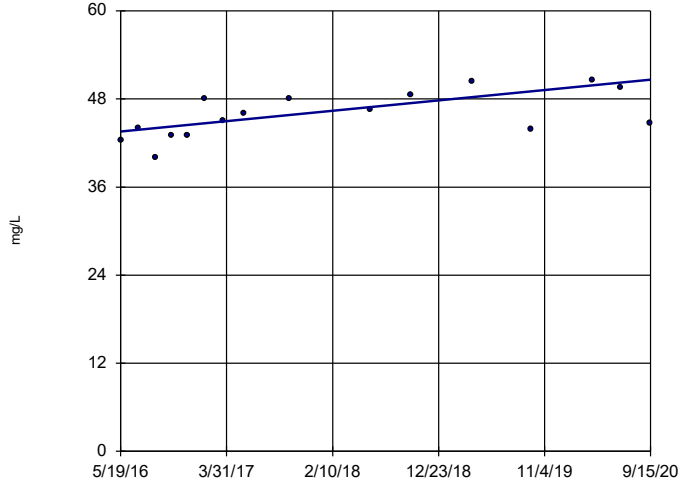
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 16

Slope = 1.639 units per year.

Mann-Kendall statistic = 64
critical = 58

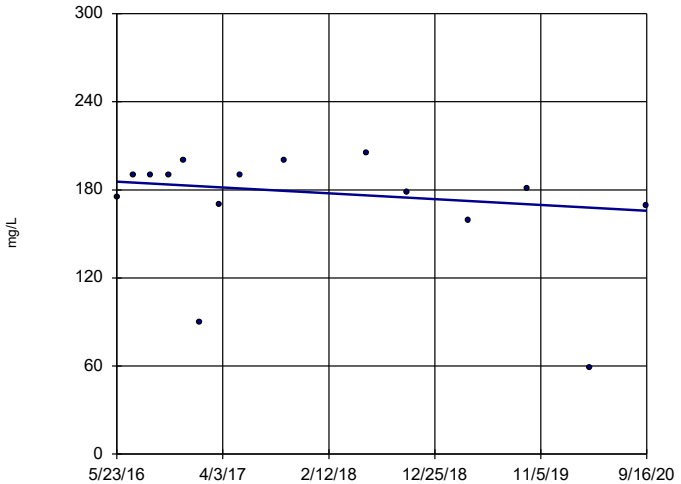
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-10



n = 15

Slope = -4.594 units per year.

Mann-Kendall statistic = -20
critical = -53

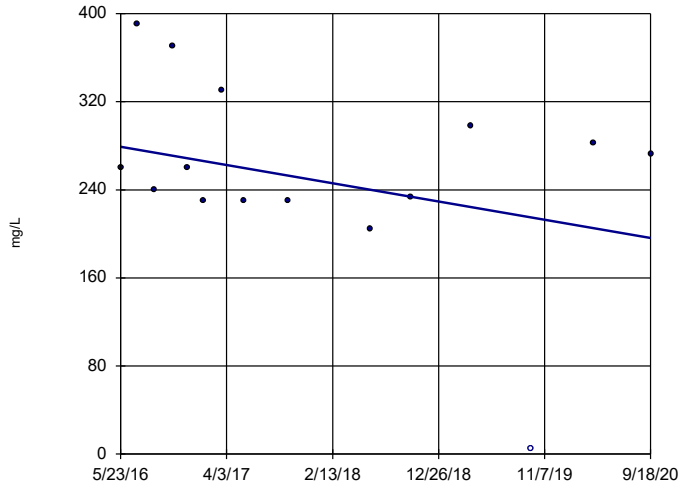
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

HGWC-11



n = 15

Slope = -19.17 units per year.

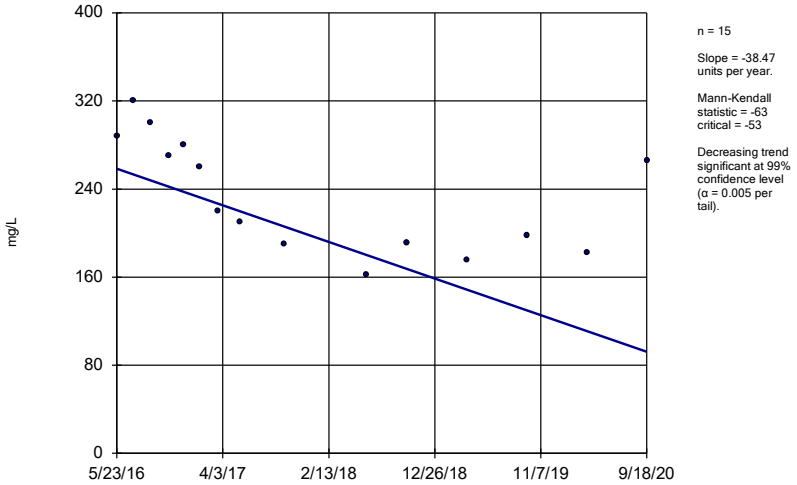
Mann-Kendall statistic = -25
critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-12



n = 15

Slope = -38.47 units per year.

Mann-Kendall statistic = -63 critical = -53

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

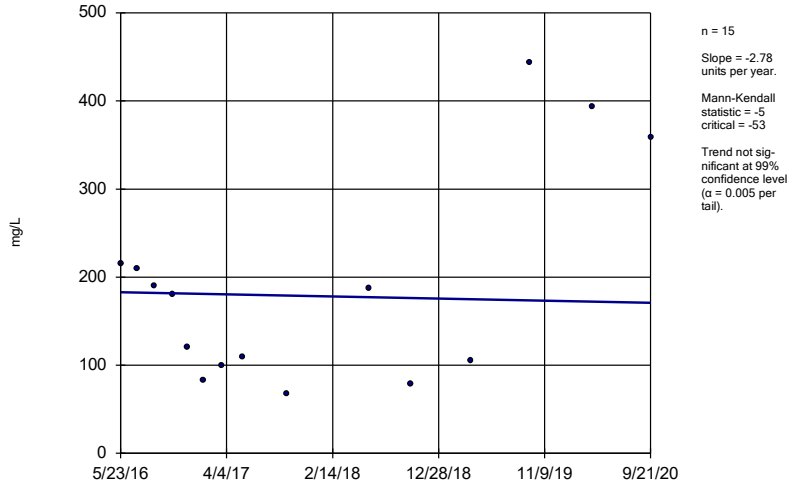
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-13



n = 15

Slope = -2.78 units per year.

Mann-Kendall statistic = -5 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

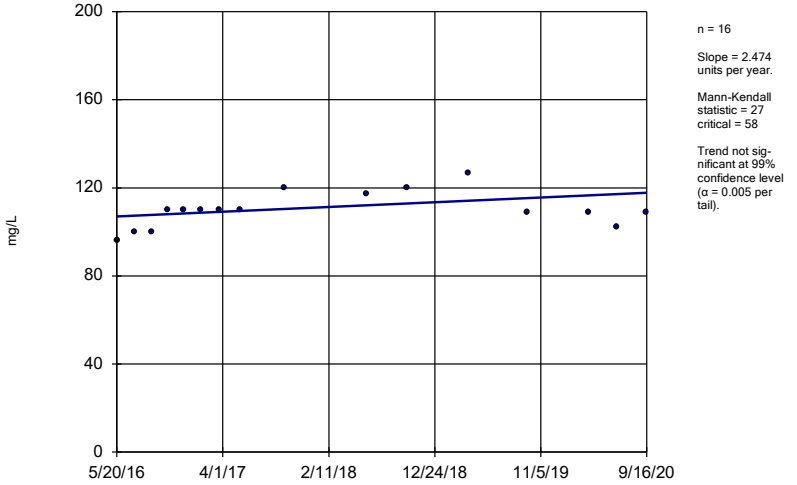
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-7



n = 16

Slope = 2.474 units per year.

Mann-Kendall statistic = 27 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

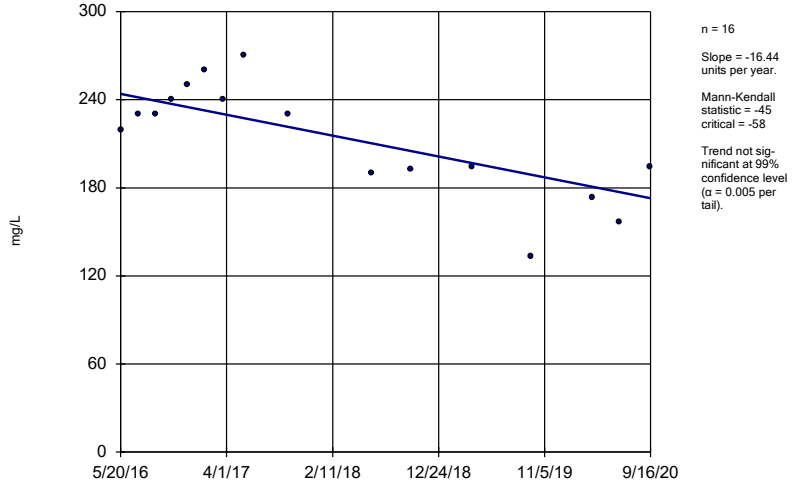
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-8



n = 16

Slope = -16.44 units per year.

Mann-Kendall statistic = -45 critical = -58

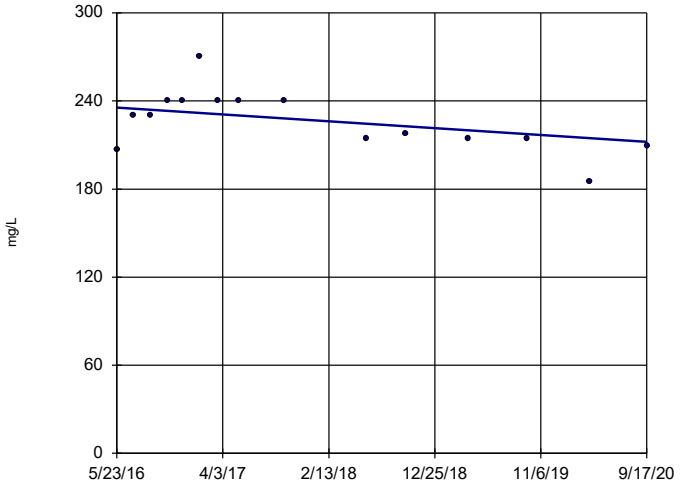
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-9



n = 15

Slope = -5.394 units per year.

Mann-Kendall statistic = -33 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

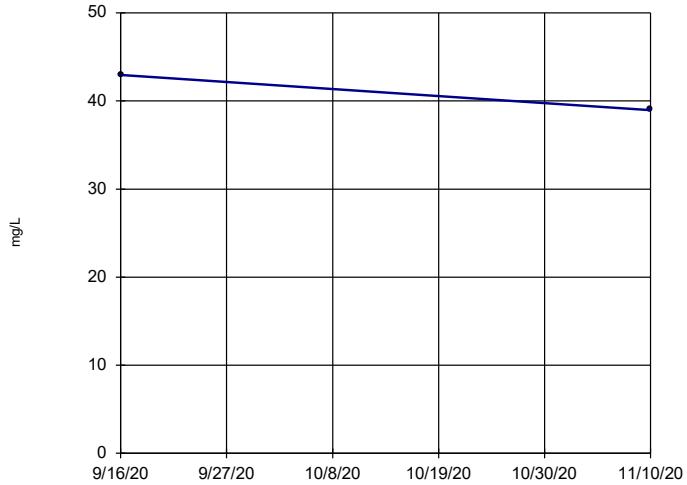
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-43D (bg)



n = 2

Slope = -26.55 units per year.

Minimum n for Mann-Kendall is 4.

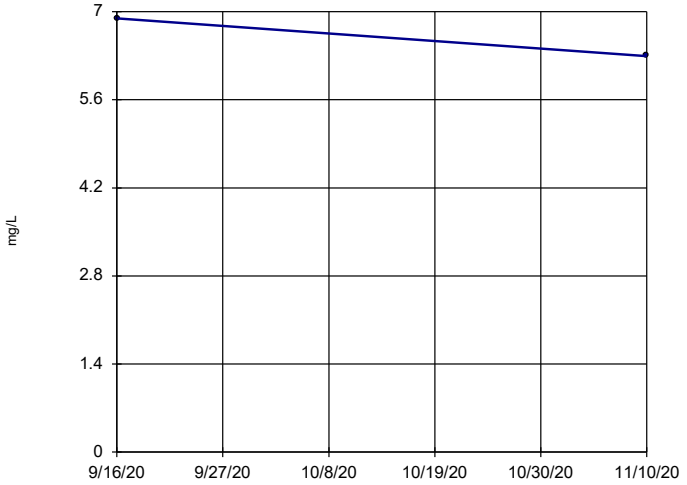
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-44D (bg)



n = 2

Slope = -3.982 units per year.

Minimum n for Mann-Kendall is 4.

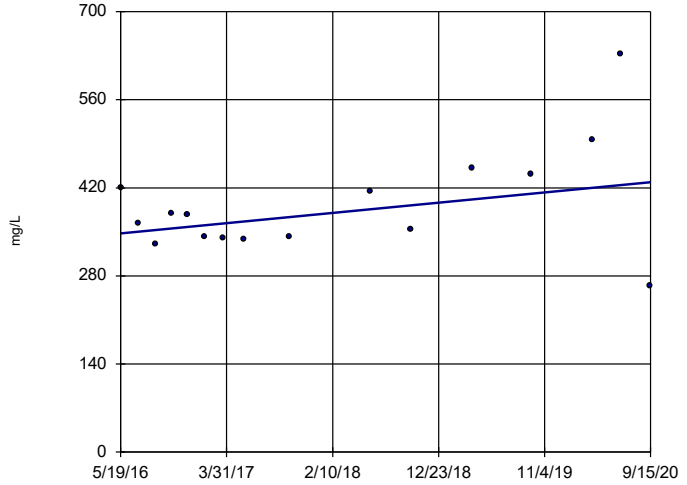
Constituent: Sulfate Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-1 (bg)



n = 16

Slope = 18.73 units per year.

Mann-Kendall statistic = 26 critical = 58

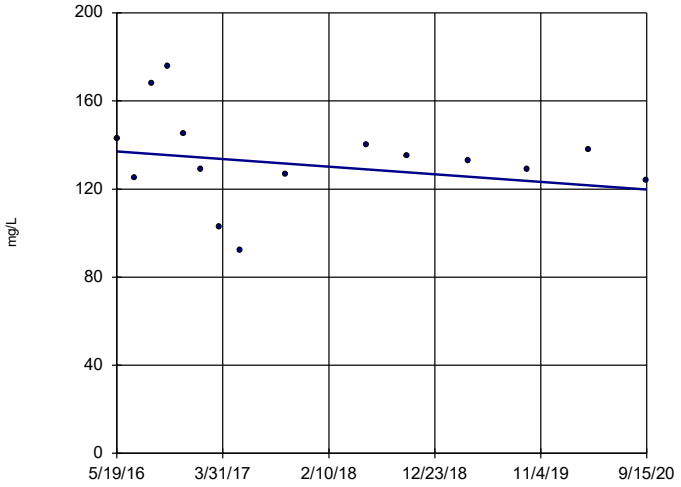
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-2 (bg)



n = 15

Slope = -3.989 units per year.

Mann-Kendall statistic = -24 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

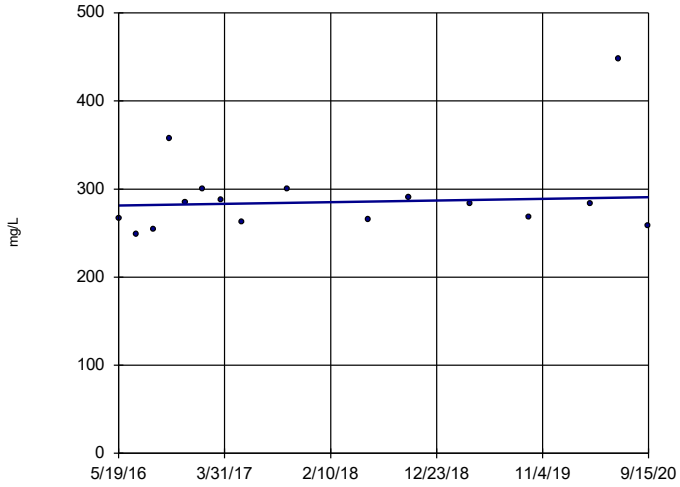
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-3 (bg)



n = 16

Slope = 2.145 units per year.

Mann-Kendall statistic = 12 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

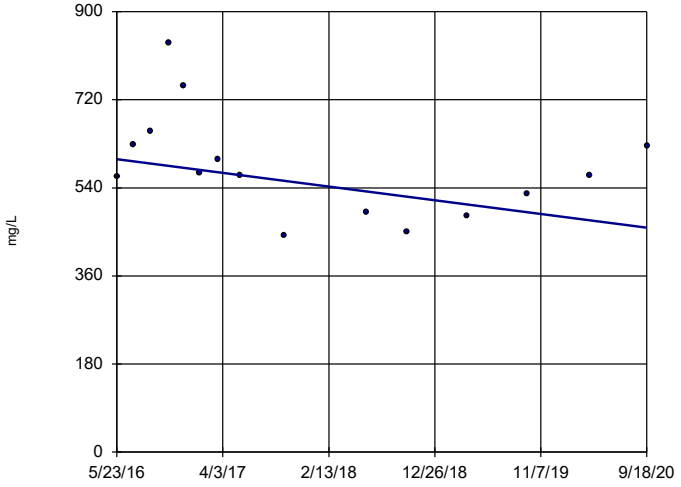
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-11



n = 15

Slope = -32.24 units per year.

Mann-Kendall statistic = -31 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

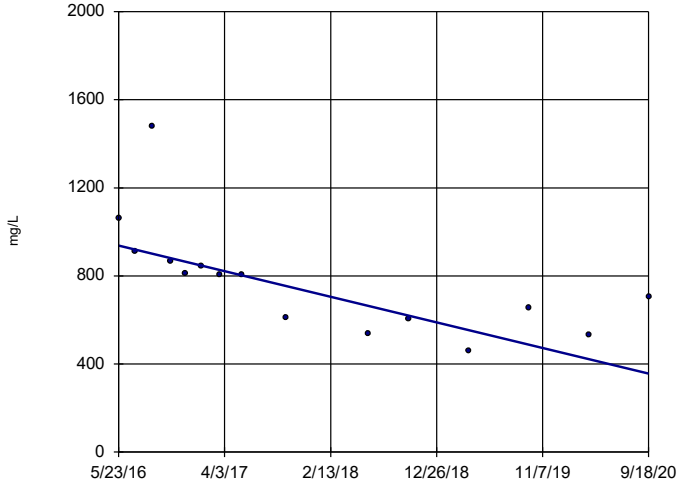
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-12



n = 15

Slope = -134.4 units per year.

Mann-Kendall statistic = -75 critical = -53

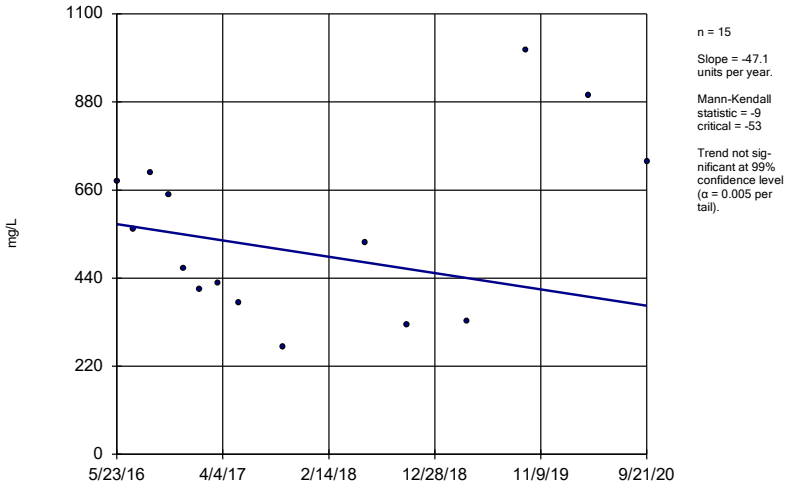
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:27 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWC-13



n = 15

Slope = -47.1 units per year.

Mann-Kendall statistic = -9 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

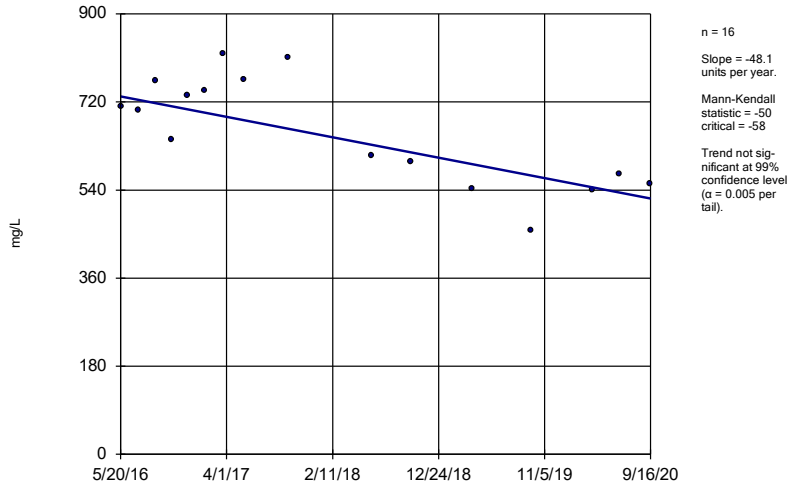
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:28 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-8



n = 16

Slope = -48.1 units per year.

Mann-Kendall statistic = -50 critical = -58

Trend not significant at 99% confidence level (α = 0.005 per tail).

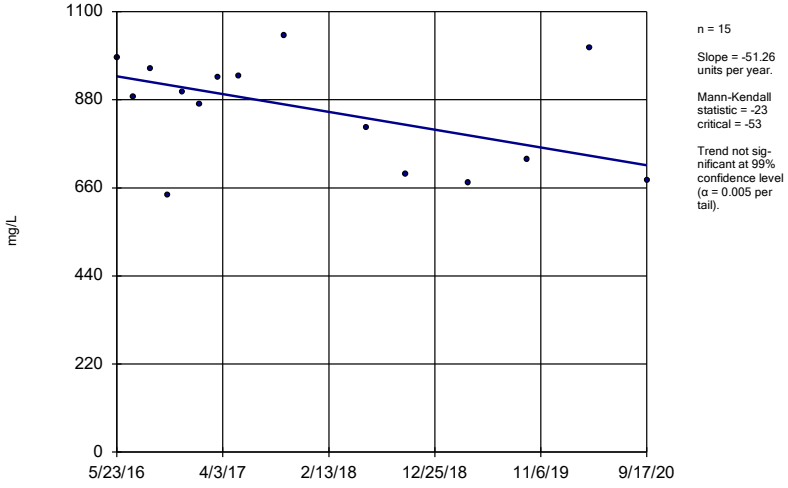
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:28 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWC-9



n = 15

Slope = -51.26 units per year.

Mann-Kendall statistic = -23 critical = -53

Trend not significant at 99% confidence level (α = 0.005 per tail).

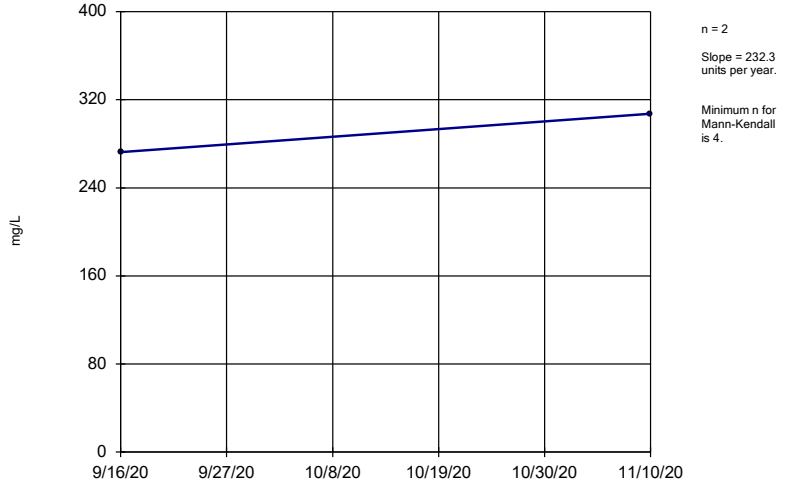
Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:28 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Sen's Slope Estimator

HGWA-43D (bg)



n = 2

Slope = 232.3 units per year.

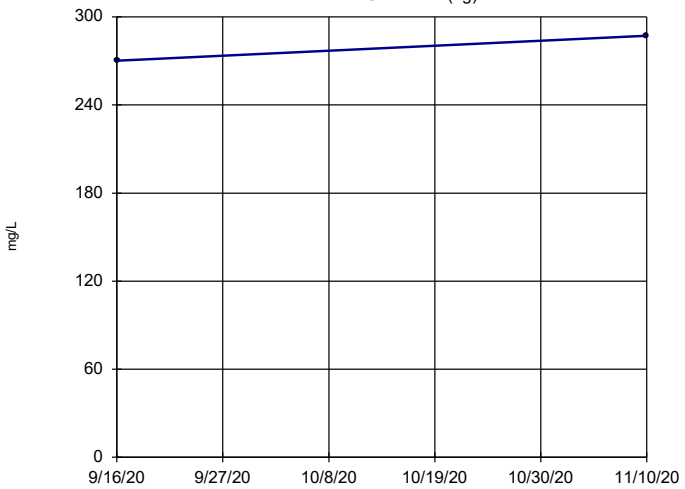
Minimum n for Mann-Kendall is 4.

Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:28 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sen's Slope Estimator

HGWA-44D (bg)



n = 2

Slope = 112.8 units per year.

Minimum n for Mann-Kendall is 4.

Constituent: Total Dissolved Solids Analysis Run 12/21/2020 3:28 PM View: Appendix III - Trend Tests

Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE F.

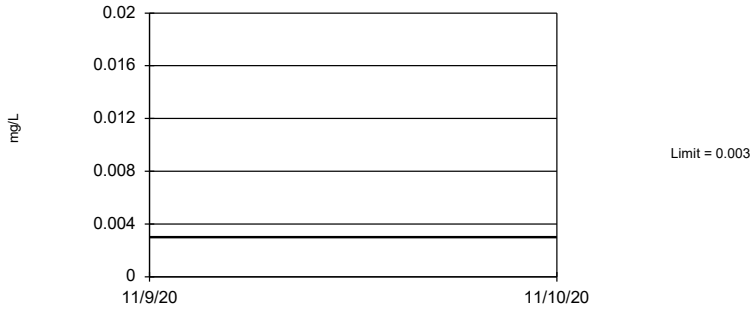
Upper Tolerance Limit Summary Table

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 3:47 PM

Constituent	Upper Lim.	Lower Lim.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.003	n/a	n/a	49	n/a	n/a	89.8	n/a	n/a	0.08099	NP Inter(NDs)
Arsenic (mg/L)	0.005	n/a	n/a	55	n/a	n/a	65.45	n/a	n/a	0.05954	NP Inter(NDs)
Barium (mg/L)	0.38	n/a	n/a	55	n/a	n/a	0	n/a	n/a	0.05954	NP Inter(normality)
Beryllium (mg/L)	0.003	n/a	n/a	49	n/a	n/a	75.51	n/a	n/a	0.08099	NP Inter(NDs)
Cadmium (mg/L)	0.0025	n/a	n/a	49	n/a	n/a	85.71	n/a	n/a	0.08099	NP Inter(NDs)
Chromium (mg/L)	0.01	n/a	n/a	49	n/a	n/a	83.67	n/a	n/a	0.08099	NP Inter(NDs)
Cobalt (mg/L)	0.038	n/a	n/a	49	n/a	n/a	67.35	n/a	n/a	0.08099	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	4.36	n/a	n/a	55	n/a	n/a	0	n/a	n/a	0.05954	NP Inter(normality)
Fluoride (mg/L)	0.59	n/a	n/a	60	n/a	n/a	35	n/a	n/a	0.04607	NP Inter(normality)
Lead (mg/L)	0.005	n/a	n/a	46	n/a	n/a	67.39	n/a	n/a	0.09447	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	55	n/a	n/a	29.09	n/a	n/a	0.05954	NP Inter(normality)
Mercury (mg/L)	0.0005	n/a	n/a	37	n/a	n/a	94.59	n/a	n/a	0.1499	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	57	n/a	n/a	92.98	n/a	n/a	0.05373	NP Inter(NDs)
Selenium (mg/L)	0.01	n/a	n/a	55	n/a	n/a	100	n/a	n/a	0.05954	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	55	n/a	n/a	98.18	n/a	n/a	0.05954	NP Inter(NDs)

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 49 background values. 89.8% NDs. 91.21% coverage at alpha=0.01; 93.95% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.08099.

Constituent: Antimony Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric

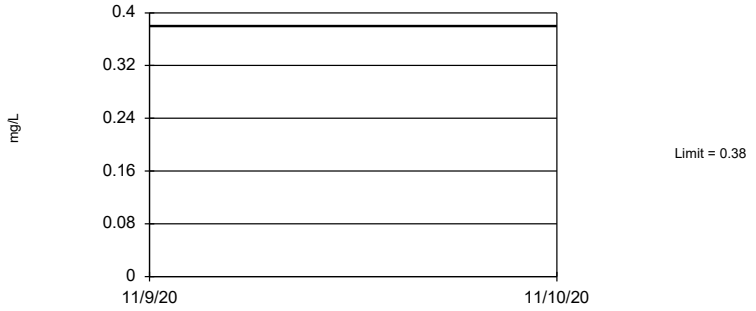
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 55 background values. 65.45% NDs. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Arsenic Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



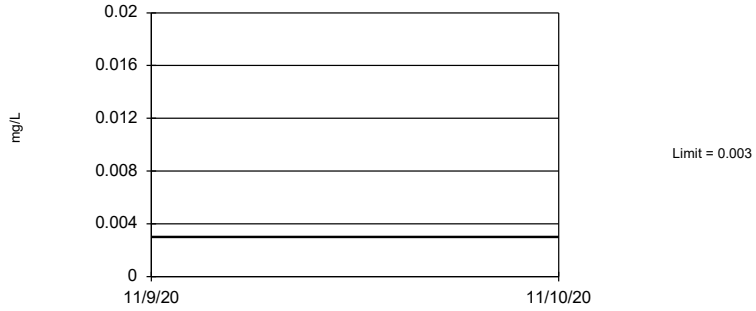
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 55 background values. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Barium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



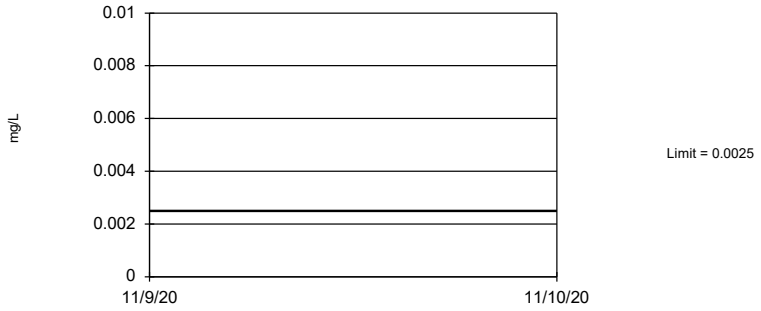
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 49 background values. 75.51% NDs. 91.21% coverage at alpha=0.01; 93.95% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.08099.

Constituent: Beryllium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 49 background values. 85.71% NDs. 91.21% coverage at alpha=0.01; 93.95% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.08099.

Constituent: Cadmium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 49 background values. 83.67% NDs. 91.21% coverage at alpha=0.01; 93.95% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.08099.

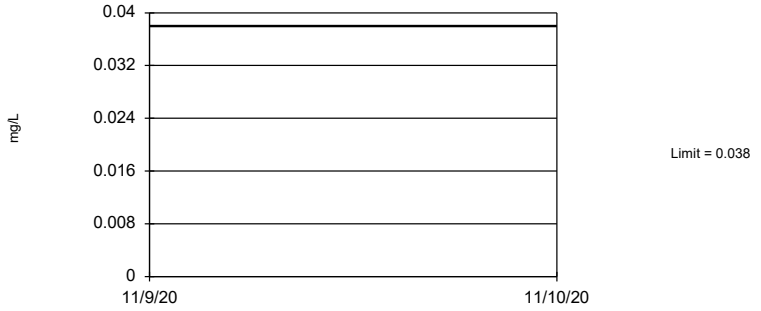
Constituent: Chromium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 49 background values. 67.35% NDs. 91.21% coverage at alpha=0.01; 93.95% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.08099.

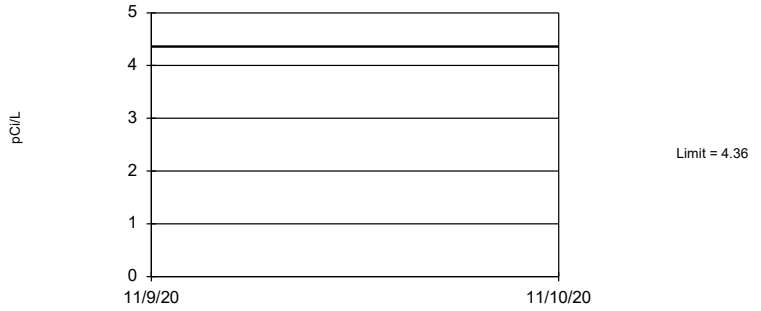
Constituent: Cobalt Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



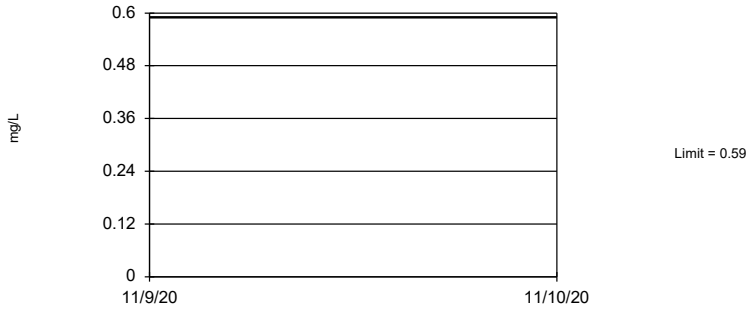
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 55 background values. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 60 background values. 35% NDs. 92.77% coverage at alpha=0.01; 95.12% coverage at alpha=0.05; 99.02% coverage at alpha=0.5. Report alpha = 0.04607.

Constituent: Fluoride Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric

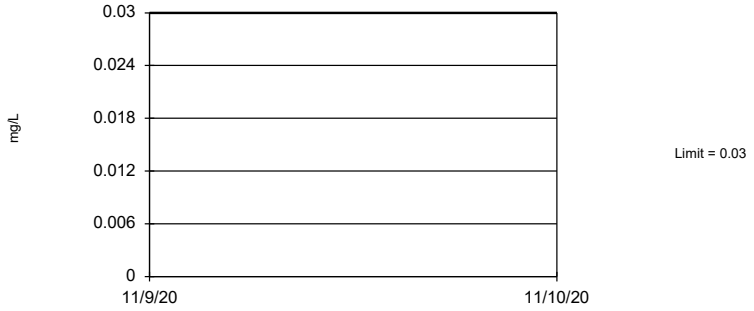
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 46 background values. 67.39% NDs. 90.43% coverage at alpha=0.01; 93.55% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.09447.

Constituent: Lead Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



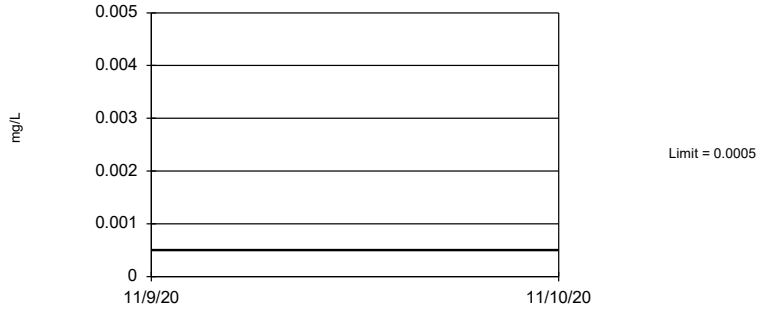
Non-parametric test used in lieu of parametric tolerance limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 55 background values. 29.09% NDs. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Lithium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



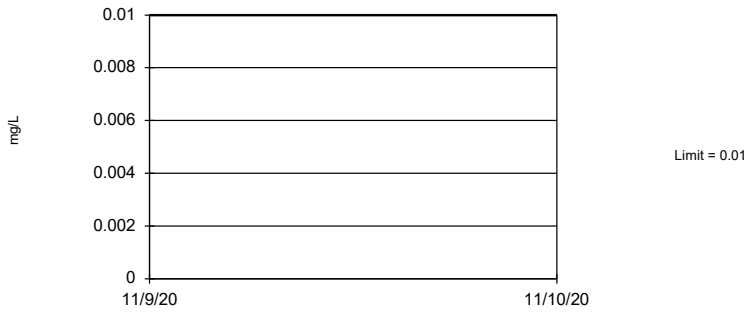
Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 37 background values. 94.59% NDs. 88.48% coverage at alpha=0.01; 92.38% coverage at alpha=0.05; 98.24% coverage at alpha=0.5. Report alpha = 0.1499.

Constituent: Mercury Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 57 background values. 92.98% NDs. 92.38% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05373.

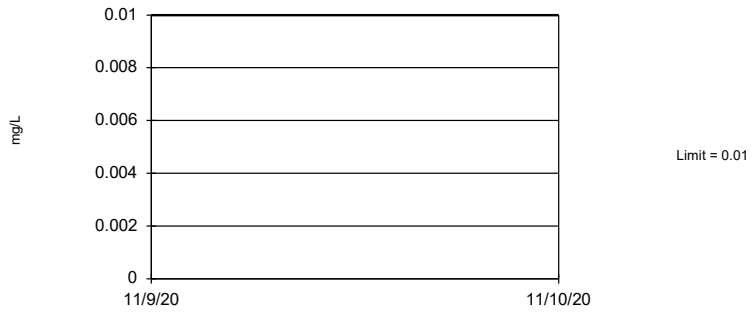
Constituent: Molybdenum Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. All background values were censored; limit is most recent reporting limit. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Selenium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Tolerance Limit

Interwell Non-parametric

Non-parametric test used in lieu of parametric tolerance limit because censored data exceeded 50%. Limit is highest of 55 background values. 98.18% NDs. 91.99% coverage at alpha=0.01; 94.73% coverage at alpha=0.05; 98.63% coverage at alpha=0.5. Report alpha = 0.05954.

Constituent: Thallium Analysis Run 12/21/2020 3:44 PM View: Appendix IV - UTLs

Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE G.

PLANT HAMMOND AP-1 GWPS (Federal)				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal 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		0.38	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.59	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.03	0.04
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

PLANT HAMMOND AP-1 GWPS (State)				
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal 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		0.38	2
Beryllium, Total (mg/L)	0.004		0.003	0.004
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.01	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.038	0.038
Combined Radium, Total (pCi/L)	5		4.36	5
Fluoride, Total (mg/L)	4		0.59	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.03	0.03
Mercury, Total (mg/L)	0.002		0.0005	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.01	0.05
Thallium, Total (mg/L)	0.002		0.001	0.002

**Grey cell indidcates background is higher than MCL or CCR-Rule*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residuals*

**GWPS = Groundwater Protection Statard*

FIGURE H.

Federal Confidence Intervals Summary - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.04**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.04**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.1**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-11	0.003	0.00038	0.006	No	15	0.002825	0.0006765	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.0003	0.006	No	15	0.002118	0.001294	66.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-7	0.003	0.00034	0.006	No	15	0.002823	0.0006868	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	15	0.002649	0.0009256	86.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	6	0.002783	0.0005307	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	6	0.00255	0.0007314	66.67	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	6	0.00074	0.001109	16.67	None	No	0.0155	NP (normality)
Antimony (mg/L)	MW-30D	0.0005793	0.0002541	0.006	No	4	0.001695	0.001508	50	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (mg/L)	MW-6	0.003	0.0014	0.006	No	6	0.002733	0.0006532	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-7	0.001403	0.0004901	0.006	No	6	0.001945	0.001183	50	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	17	0.003432	0.001798	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004647	0.003012	0.01	No	17	0.003829	0.001305	11.76	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	17	0.004818	0.0007519	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	6	0.004242	0.001858	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	6	0.00378	0.001985	66.67	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001774	0.0006793	0.01	No	6	0.002458	0.002006	33.33	Kaplan-Meier	x^(1/3)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	6	0.004267	0.001796	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	6	0.003482	0.002357	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	6	0.004228	0.00189	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-30D	0.002969	0.001297	0.01	No	4	0.00285	0.00148	25	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	HGWC-10	0.09199	0.06746	2	No	17	0.07972	0.01958	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.05571	0.03082	2	No	17	0.04454	0.02182	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.13	0.086	2	No	17	0.1048	0.0214	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-13	0.09563	0.07185	2	No	17	0.08374	0.01897	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.07583	0.06828	2	No	17	0.07206	0.006024	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.0829	0.06	2	No	17	0.07029	0.01176	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1242	0.106	2	No	17	0.1151	0.01448	0	None	No	0.01	Param.
Barium (mg/L)	MW-19	0.07219	0.05114	2	No	6	0.06167	0.007659	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.09991	0.08009	2	No	6	0.09	0.007211	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1064	0.03448	2	No	6	0.06767	0.02861	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-25D	0.4598	0.3802	2	No	6	0.42	0.02898	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1548	0.08929	2	No	6	0.1197	0.02639	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-27D	1.5	0.95	2	No	6	1.1	0.2168	0	None	No	0.0155	NP (normality)
Barium (mg/L)	MW-28D	0.8939	0.08273	2	No	6	0.4883	0.2953	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.08932	0.07468	2	No	6	0.082	0.005329	0	None	No	0.01	Param.
Barium (mg/L)	MW-30D	0.3785	-0.119	2	No	4	0.1298	0.1095	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05427	0.04206	2	No	6	0.04817	0.004446	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09757	0.08177	2	No	6	0.08967	0.00575	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07017	0.04483	2	No	6	0.0575	0.009225	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	15	0.001848	0.001461	60	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	15	0.002032	0.001418	66.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	15	0.002805	0.0007547	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.0001	0.004	No	15	0.002612	0.001025	86.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	6	0.002523	0.001168	83.33	None	No	0.0155	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	6	0.002509	0.001204	83.33	None	No	0.0155	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	15	0.001388	0.001231	53.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	15	0.00202	0.0009942	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	15	0.001883	0.00106	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	15	0.00188	0.001064	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	15	0.0004533	0.0006881	6.667	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	15	0.002025	0.0009844	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	6	0.00096	0.001194	33.33	None	No	0.0155	NP (normality)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	15	0.01067	0.002582	93.33	None	No	0.01	NP (NDs)

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	15	0.008727	0.003359	86.67	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	15	0.008254	0.003638	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	15	0.008103	0.003927	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	15	0.01225	0.01668	73.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0015	0.1	No	15	0.00818	0.003773	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	15	0.009368	0.002448	93.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	6	0.005422	0.005025	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	6	0.00687	0.004849	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	6	0.008403	0.003911	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	6	0.008435	0.003833	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-26D	0.01	0.00076	0.1	No	6	0.00576	0.004698	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-27D	0.01	0.0007	0.1	No	6	0.00845	0.003797	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	6	0.005727	0.004731	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	6	0.0085	0.003674	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-30D	0.001624	-0.0000942	40.1	No	4	0.000765	0.0003785	0	None	No	0.01	Param.
Chromium (mg/L)	MW-5	0.005218	0.002082	0.1	No	6	0.00365	0.001141	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	6	0.006838	0.004898	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	6	0.00315	0.003376	16.67	None	No	0.0155	NP (normality)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	15	0.003307	0.002152	60	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002079	0.0009715	0.038	No	15	0.002344	0.001569	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	15	0.00196	0.001267	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004428	0.002627	0.038	No	15	0.003527	0.001329	6.667	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	15	0.001663	0.001806	20	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	15	0.002238	0.0008065	6.667	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	15	0.001317	0.001542	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	MW-19	0.04831	0.02469	0.038	No	6	0.0365	0.008597	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	6	0.00435	0.001592	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001232	0.0002333	0.038	No	6	0.002818	0.002405	50	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	6	0.003472	0.002369	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	6	0.003423	0.002445	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	6	0.004322	0.001662	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-29	0.001453	0.0003841	0.038	No	6	0.0009183	0.0003889	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-6	0.005	0.00036	0.038	No	6	0.001308	0.00182	16.67	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.042	0.5393	5	No	17	0.7908	0.4015	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.184	0.5942	5	No	17	0.8889	0.4703	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.174	0.6107	5	No	17	0.8926	0.4498	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	1.011	0.54	5	No	17	0.7756	0.3761	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.052	0.4807	5	No	17	0.8048	0.505	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.9699	0.6521	5	No	17	0.811	0.2536	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.966	0.5203	5	No	17	0.7432	0.3556	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-19	1.394	0.3605	5	No	6	0.8775	0.3763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.292	0.08455	5	No	6	0.6883	0.4395	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	1.144	-0.0003897	5	No	6	0.572	0.4167	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.418	0.6515	5	No	6	1.035	0.2792	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.592	0.1023	5	No	6	0.8473	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.261	0.6874	5	No	6	1.474	0.5726	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.663	0.5681	5	No	6	1.115	0.3984	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.252	0.1332	5	No	6	0.6927	0.4072	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-30D	1.669	0.2466	5	No	4	0.9578	0.3132	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.107	0.5707	5	No	6	0.8388	0.1952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	6	0.9997	0.5264	0	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.472	0.7805	5	No	6	1.126	0.2516	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2413	0.08503	4	No	18	0.1879	0.1518	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4775	0.2828	4	No	18	0.3802	0.1609	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4532	0.1805	4	No	18	0.3412	0.2647	5.556	None	sqrt(x)	0.01	Param.

Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	HGWC-13	0.7369	0.4896	4	No	18	0.6133	0.2043	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.1792	0.08268	4	No	19	0.1533	0.1234	10.53	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.6676	0.4878	4	No	19	0.5921	0.1806	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.2822	0.08669	4	No	18	0.2066	0.172	11.11	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-19	0.4715	0.01387	4	No	6	0.2427	0.1665	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.072	0.05	4	No	6	0.05367	0.008981	83.33	None	No	0.0155	NP (NDs)
Fluoride (mg/L)	MW-24D	0.18	0.048	4	No	6	0.07783	0.05105	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-25D	2.2	1.4	4	No	6	1.65	0.2811	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-26D	0.19	0.044	4	No	6	0.07617	0.05639	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-27D	0.42	0.22	4	No	6	0.2783	0.07223	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-28D	0.2947	0.1253	4	No	6	0.21	0.06164	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.18	0.045	4	No	6	0.07417	0.05258	50	None	No	0.0155	NP (normality)
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-5	0.1035	0.05183	4	No	6	0.07767	0.01881	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.19	0.05	4	No	6	0.1153	0.0689	33.33	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-7	0.17	0.05	4	No	6	0.07317	0.04804	66.67	None	No	0.0155	NP (NDs)
Lead (mg/L)	HGWC-10	0.005	0.00005	0.015	No	13	0.004619	0.001373	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00009	0.015	No	13	0.003151	0.002436	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.000096	0.015	No	13	0.003891	0.002109	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.015	No	13	0.003497	0.002347	69.23	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.015	No	13	0.002395	0.002513	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.0002	0.015	No	13	0.004256	0.001816	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.015	No	13	0.002757	0.002522	53.85	None	No	0.01	NP (NDs)
Lead (mg/L)	MW-19	0.005	0.000085	0.015	No	4	0.002549	0.00283	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-20	0.005	0.00013	0.015	No	4	0.002575	0.0028	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-24D	0.0003387	0.00001887	0.015	No	4	0.001324	0.002452	25	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-26D	0.005	0.0001	0.015	No	4	0.003775	0.00245	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-27D	0.005	0.00013	0.015	No	4	0.003782	0.002435	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-28D	0.001654	-0.000029090	0.015	No	4	0.00156	0.002331	25	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-29	0.005	0.00009	0.015	No	4	0.00255	0.002829	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-5	0.005	0.000047	0.015	No	4	0.003762	0.002476	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	MW-6	0.0004038	0.0000837	0.015	No	4	0.002597	0.002775	50	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-7	0.005	0.000062	0.015	No	4	0.003765	0.002469	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01113	0.008008	0.04	No	17	0.009571	0.002494	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-13	0.03908	0.03082	0.04	No	17	0.03495	0.006588	0	None	No	0.01	Param.
Lithium (mg/L)	HGWC-7	0.003	0.0021	0.04	No	17	0.003159	0.003075	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0032	0.0024	0.04	No	17	0.003406	0.003002	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.04	No	17	0.004806	0.002669	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	MW-19	0.01459	0.006745	0.04	No	6	0.01067	0.002855	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.015	0.00082	0.04	No	6	0.005853	0.00709	33.33	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-24D	0.00301	0.002423	0.04	No	6	0.002717	0.0002137	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.04**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0032	0.04	No	6	0.007933	0.01082	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-27D	0.009521	0.004479	0.04	No	6	0.007	0.001835	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.015	0.0052	0.04	No	6	0.009333	0.004576	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-29	0.002491	0.002042	0.04	No	6	0.002267	0.0001633	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.04**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.1	No	17	0.003759	0.001741	64.71	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	HGWC-11	0.02587	0.0146	0.1	No	17	0.02024	0.008991	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-12	0.05018	0.04571	0.1	No	17	0.04795	0.003567	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-13	0.03598	0.02947	0.1	No	17	0.03272	0.005191	0	None	No	0.01	Param.
Molybdenum (mg/L)	HGWC-7	0.0415	0.03329	0.1	No	18	0.03739	0.006778	0	None	No	0.01	Param.
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.1**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-9	0.031	0.0234	0.1	No	17	0.05286	0.1094	0	None	No	0.01	NP (normality)
Molybdenum (mg/L)	MW-19	0.06861	0.02773	0.1	No	6	0.04817	0.01488	0	None	No	0.01	Param.

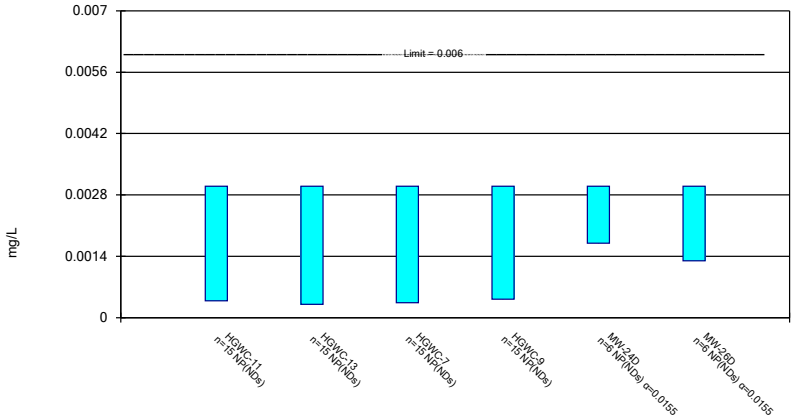
Federal Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:15 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	MW-24D	0.005	0.00027	0.1	No	6	0.003543	0.002268	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.005	0.00094	0.1	No	6	0.003857	0.001816	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01813	0.005014	0.1	No	7	0.01157	0.00552	14.29	None	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.005417	0.001223	0.1	No	6	0.0036	0.001673	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02574	0.004861	0.1	No	6	0.0153	0.007599	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003573	0.001827	0.1	No	6	0.0027	0.0006356	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.0369	0.006584	0.1	No	7	0.02174	0.01276	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-40D	0.01692	0.01258	0.1	No	4	0.01475	0.0009574	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.1	No	6	0.00235	0.0002429	0	None	No	0.0155	NP (normality)
Molybdenum (mg/L)	MW-7	0.005	0.0015	0.1	No	6	0.004133	0.001458	66.67	None	No	0.0155	NP (NDs)
Selenium (mg/L)	HGWC-10	0.01	0.0041	0.05	No	17	0.008229	0.003327	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01601	0.006257	0.05	No	17	0.01114	0.007785	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	17	0.009476	0.002159	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.0016	0.05	No	17	0.008928	0.003036	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	17	0.009553	0.001843	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	17	0.009629	0.001528	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	MW-19	0.006888	0.001632	0.05	No	6	0.005217	0.003025	16.67	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	6	0.008353	0.004033	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Selenium (mg/L)	MW-5	0.004199	0.002101	0.05	No	6	0.00315	0.0007635	0	None	No	0.01	Param.
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	6	0.0045	0.004283	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	17	0.0008918	0.0003055	88.24	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.00009	0.002	No	17	0.0006838	0.0004422	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004356	0.000343	0.002	No	17	0.0003893	0.00007388	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.00008	0.002	No	17	0.0006758	0.0004526	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	6	0.000515	0.000376	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	6	0.0008487	0.0003707	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	6	0.000844	0.0003821	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	6	0.000847	0.0003748	83.33	None	No	0.0155	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Antimony Analysis Run 12/21/2020 4:13 PM View: Appendix IV
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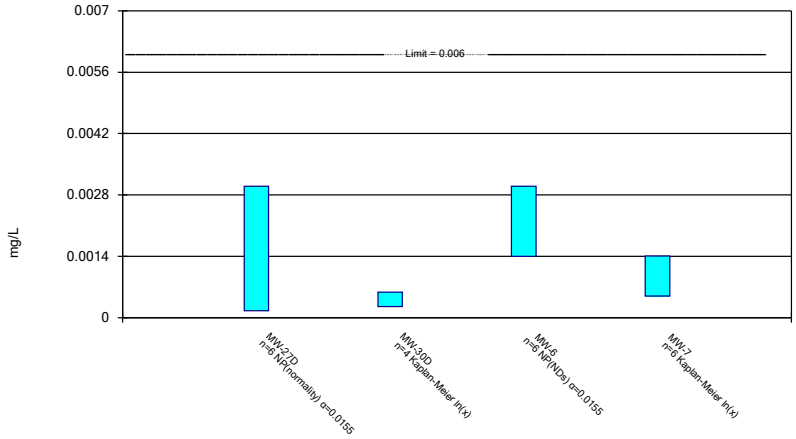
Parametric and Non-Parametric (NP) Confidence Interval

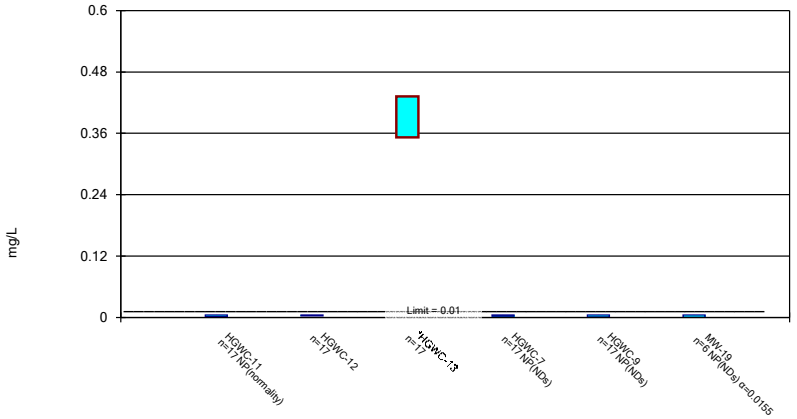
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Antimony Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

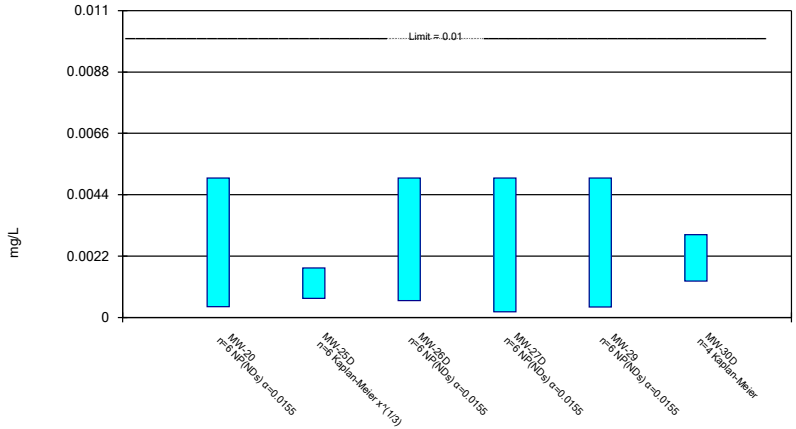
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

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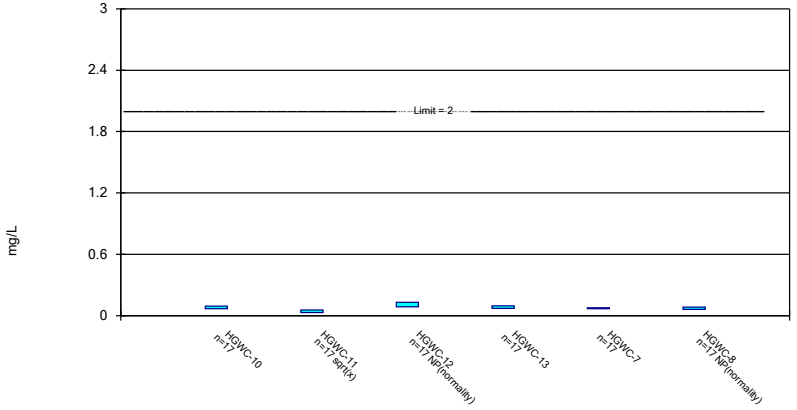
Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

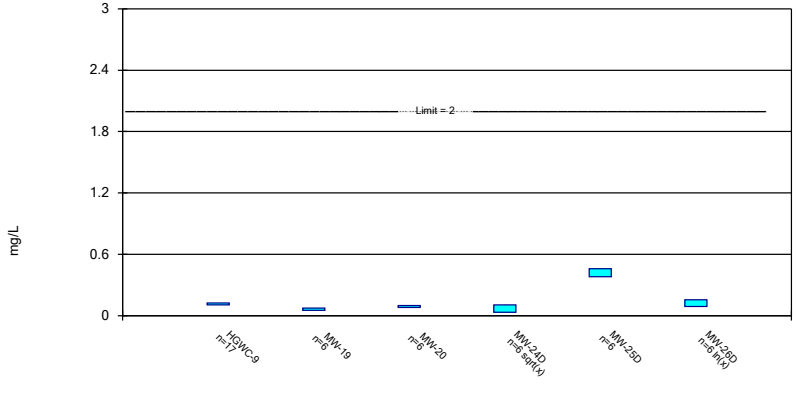


Constituent: Barium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

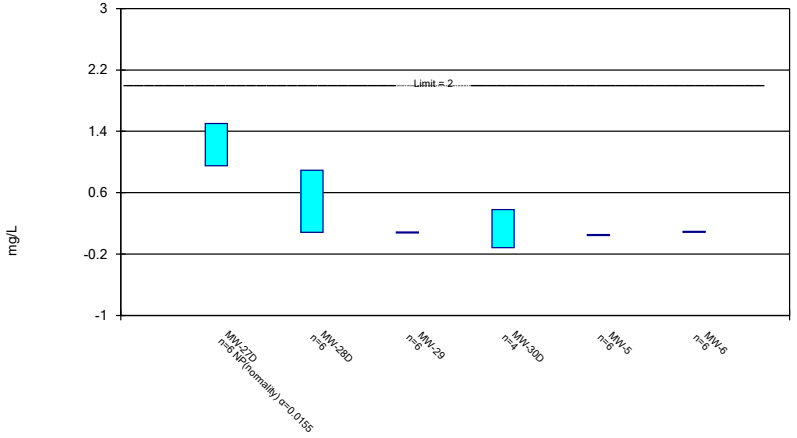


Constituent: Barium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

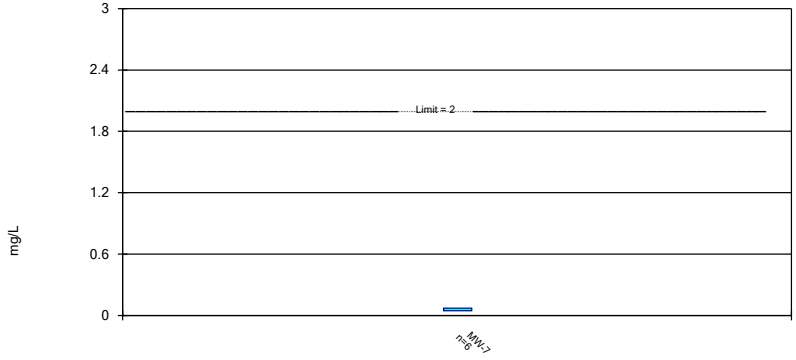


Constituent: Barium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

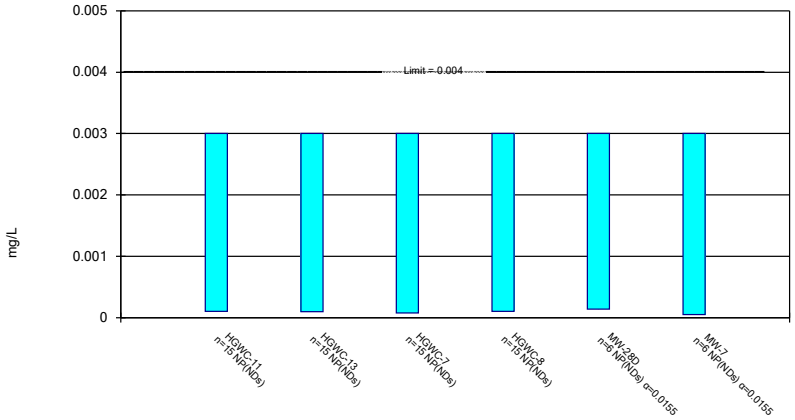
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Beryllium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

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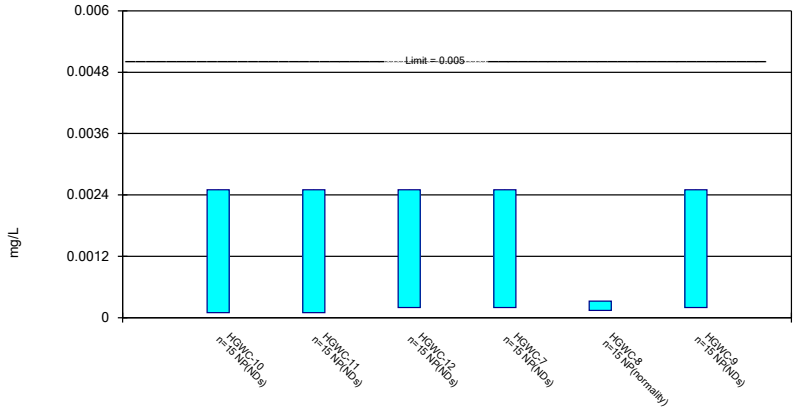
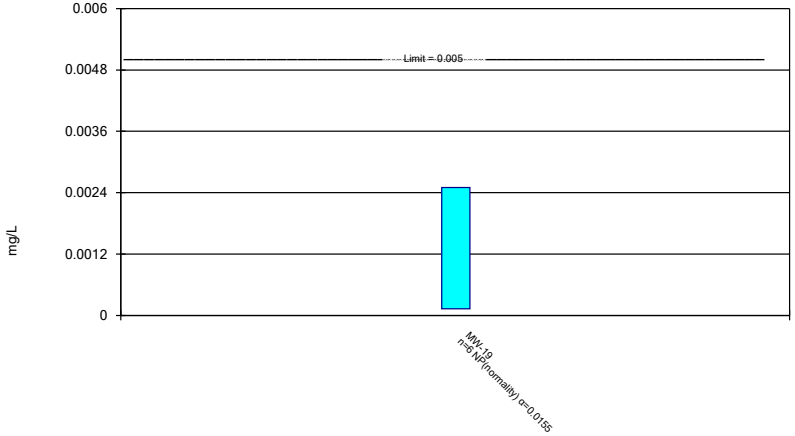


Constituent: Cadmium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

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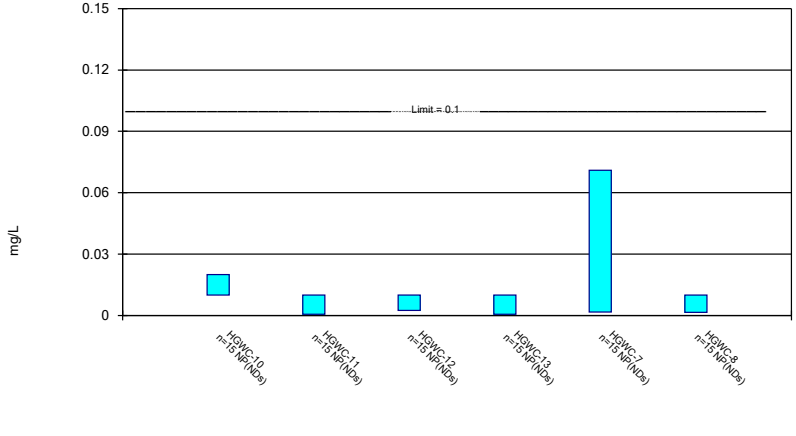
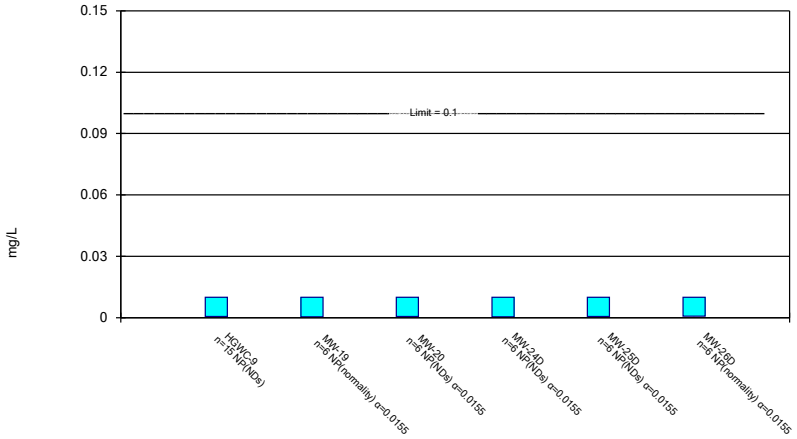


Constituent: Chromium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

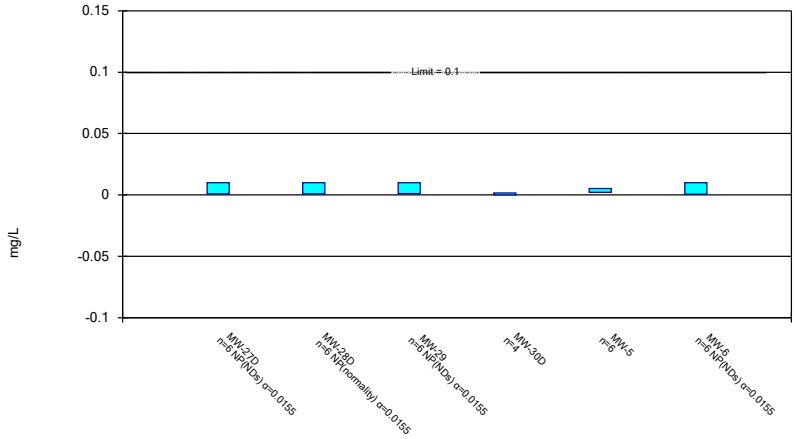
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Chromium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

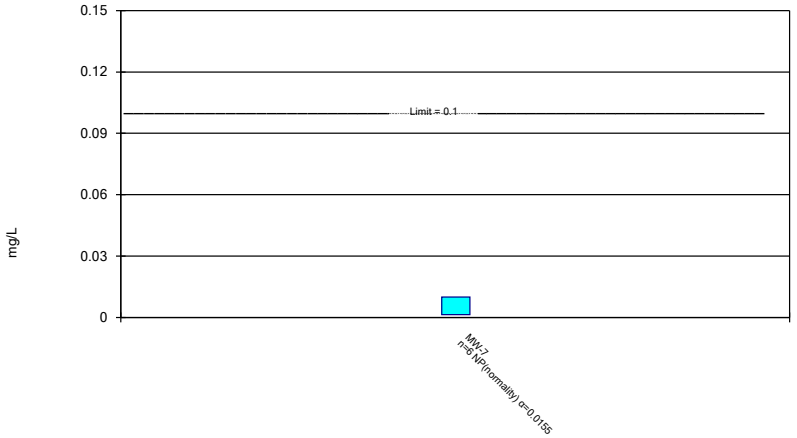
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



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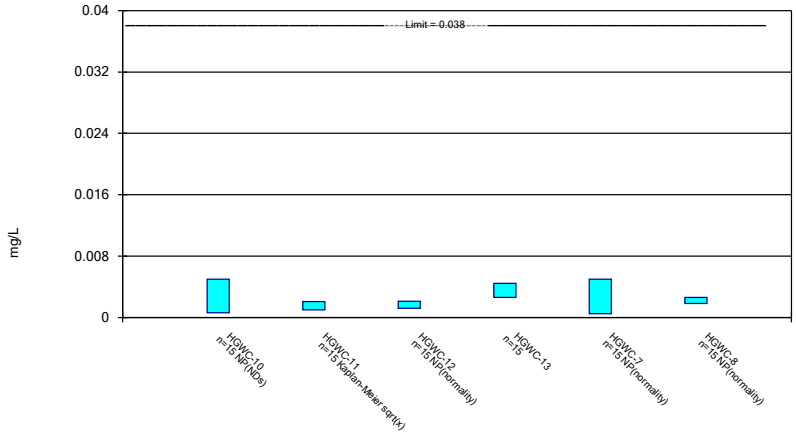
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

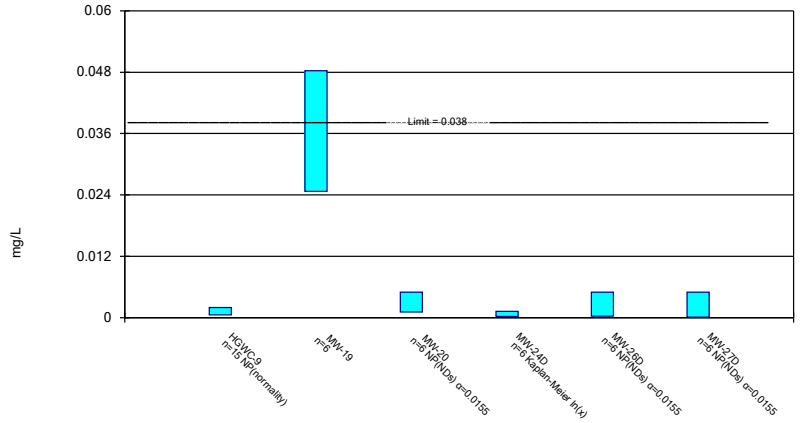
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

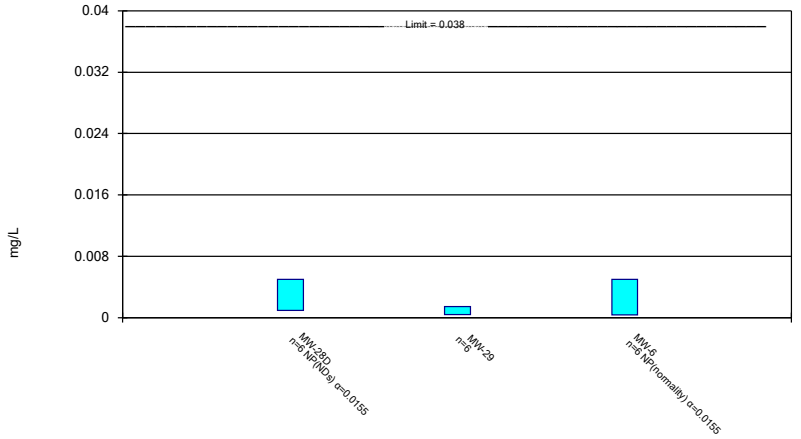


Constituent: Cobalt Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

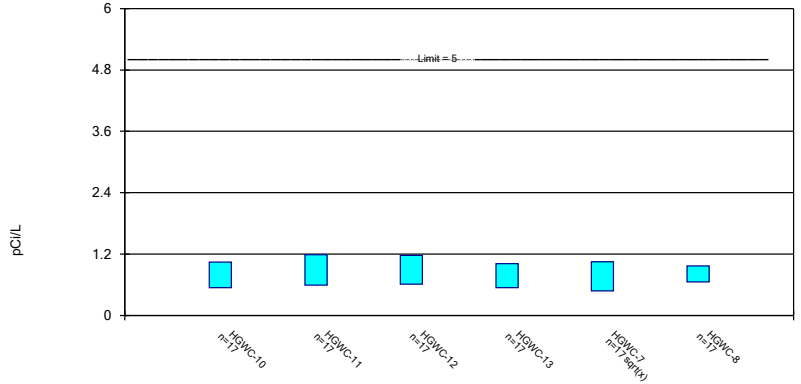


Constituent: Cobalt Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

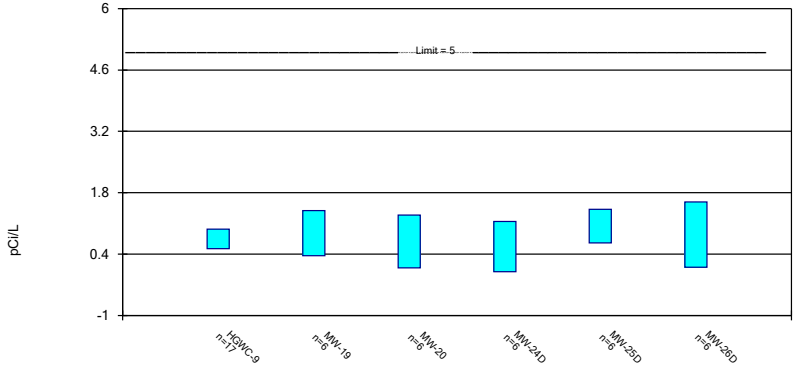


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

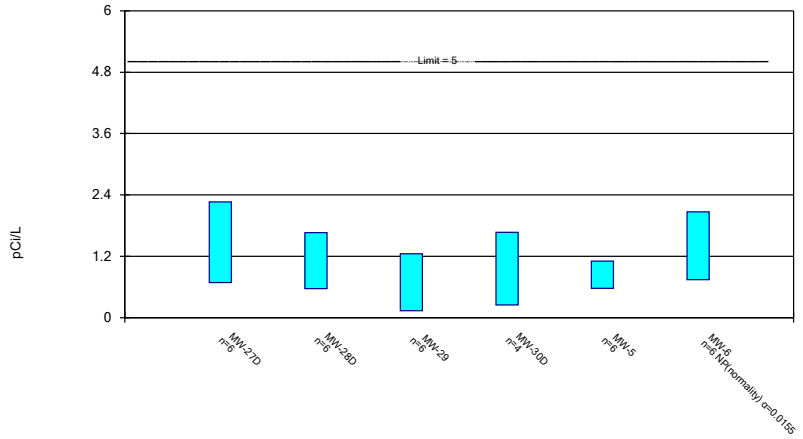
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

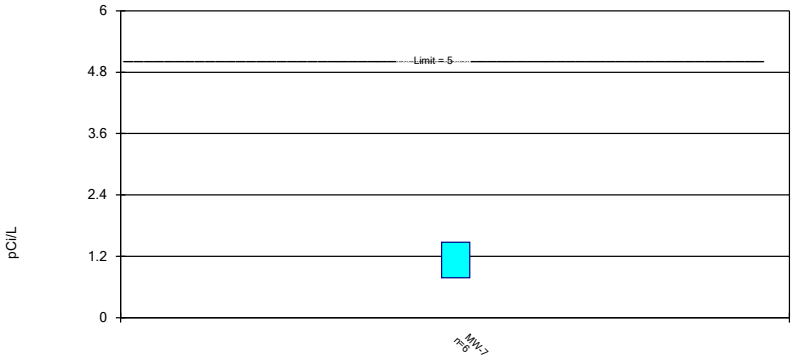
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:13 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

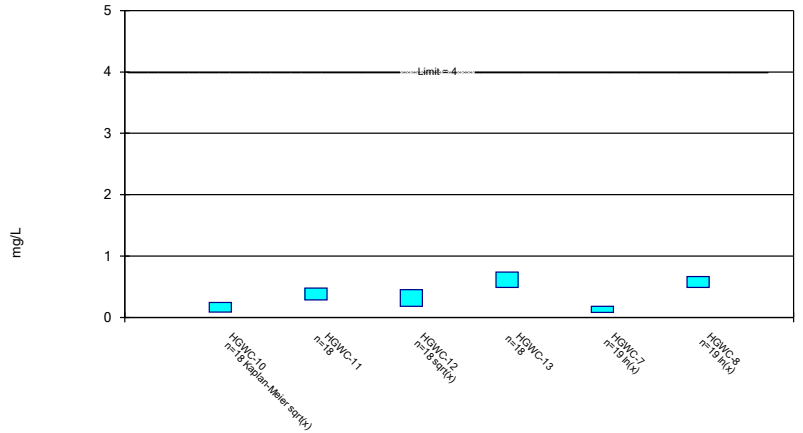
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

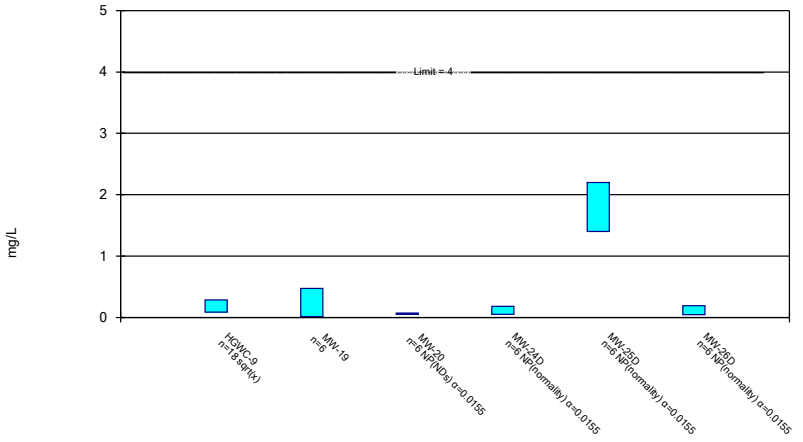
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

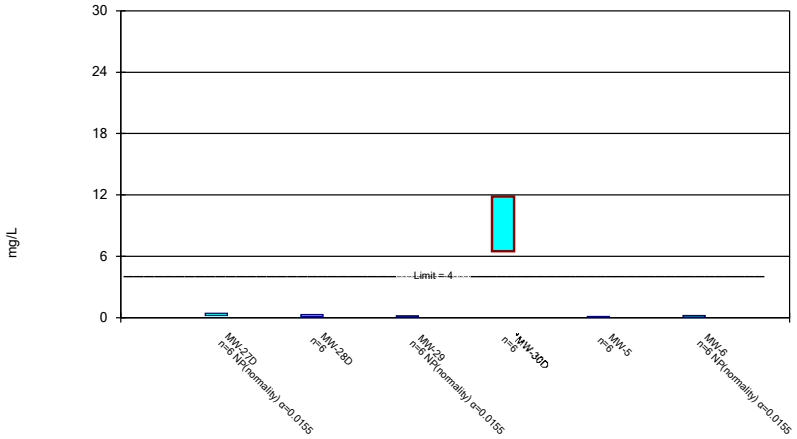
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

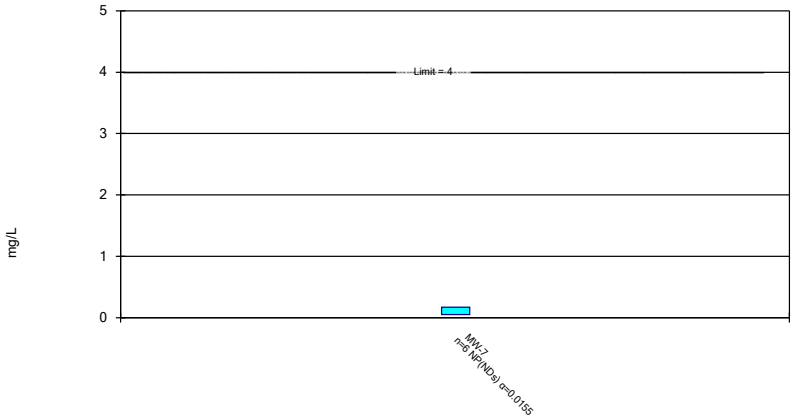
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

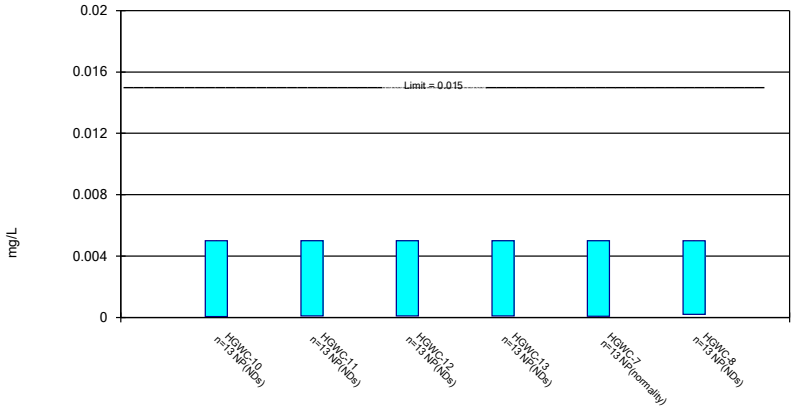
Compliance Limit is not exceeded.



Constituent: Fluoride Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

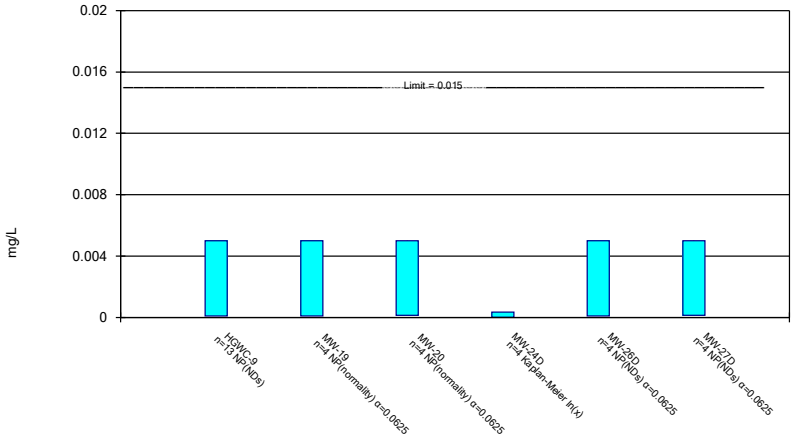
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

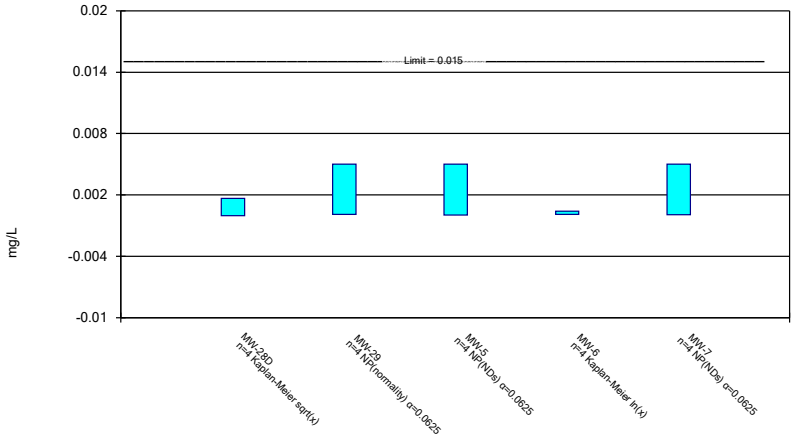
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

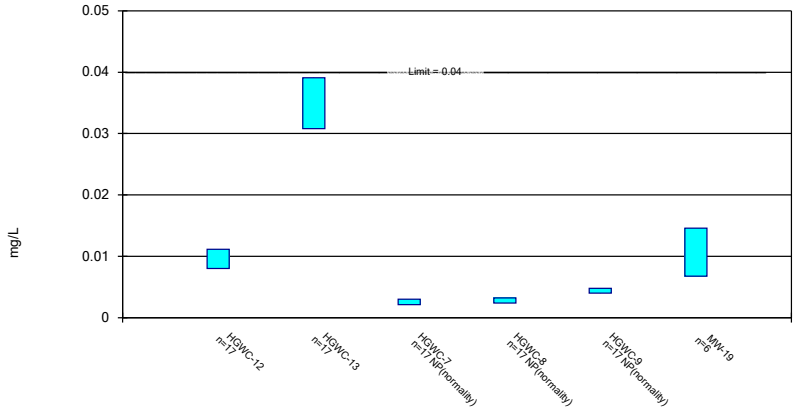
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

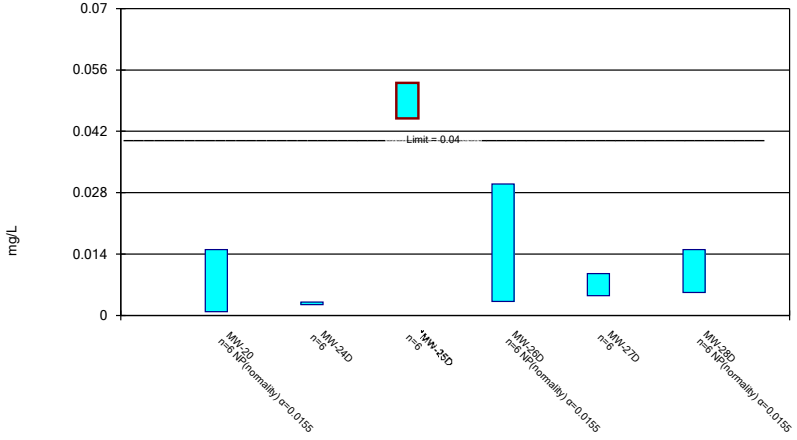
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

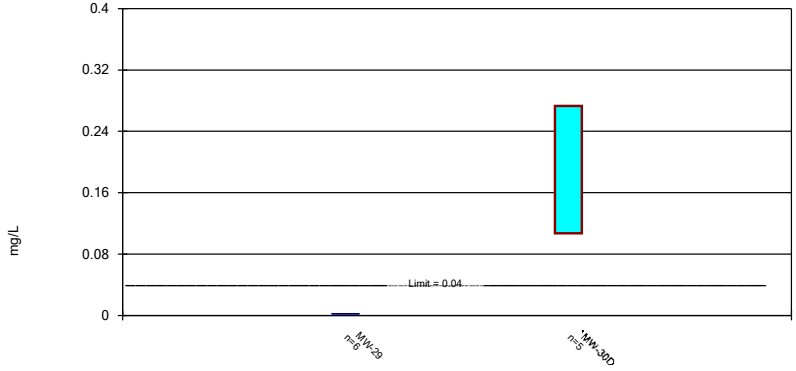
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

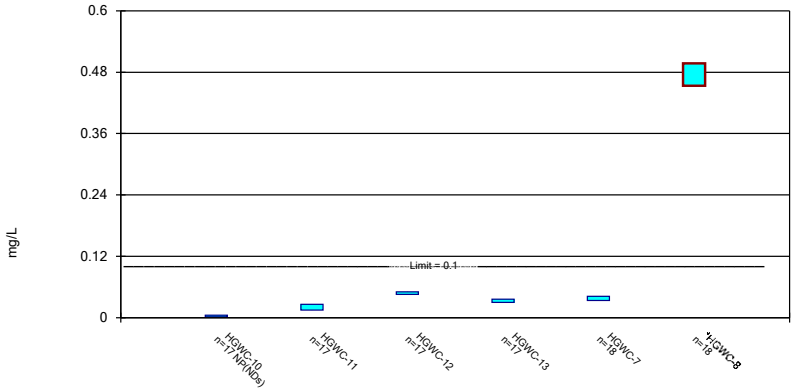
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

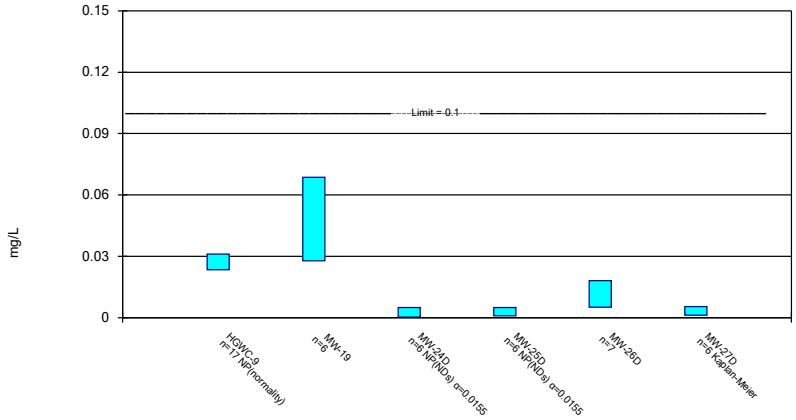
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

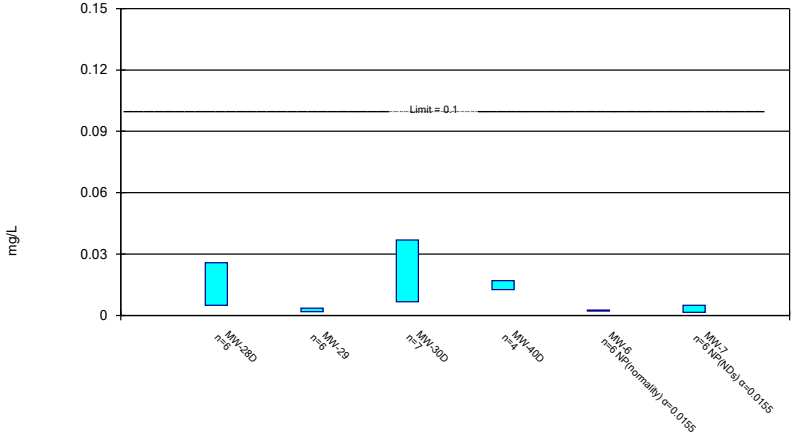
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

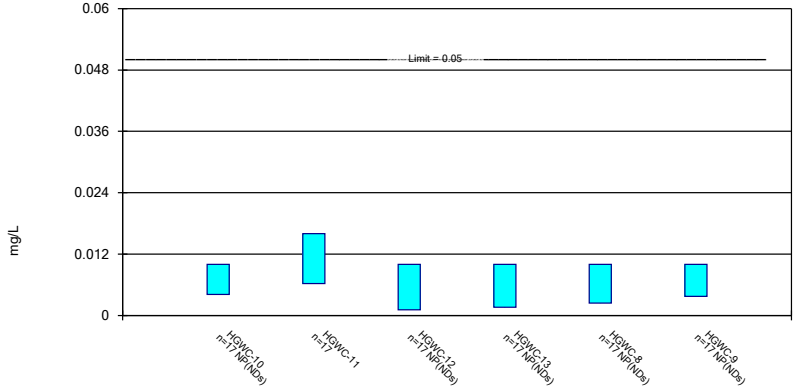
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Molybdenum Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

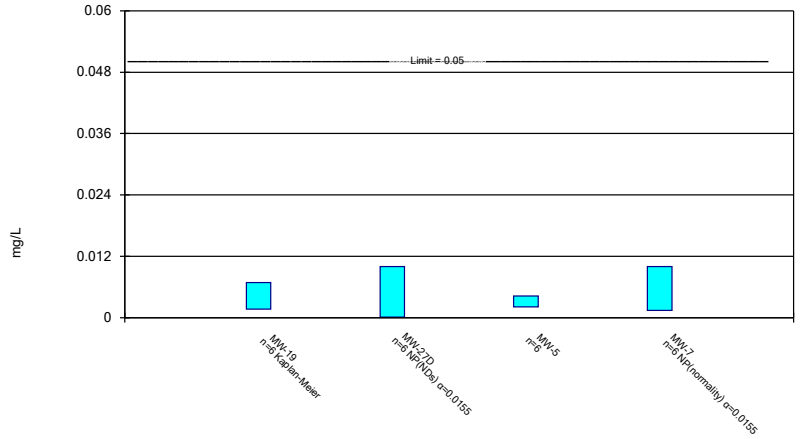
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

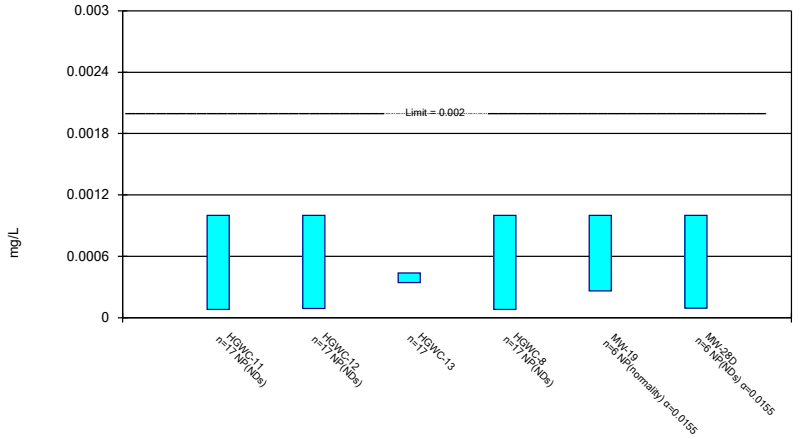


Constituent: Selenium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

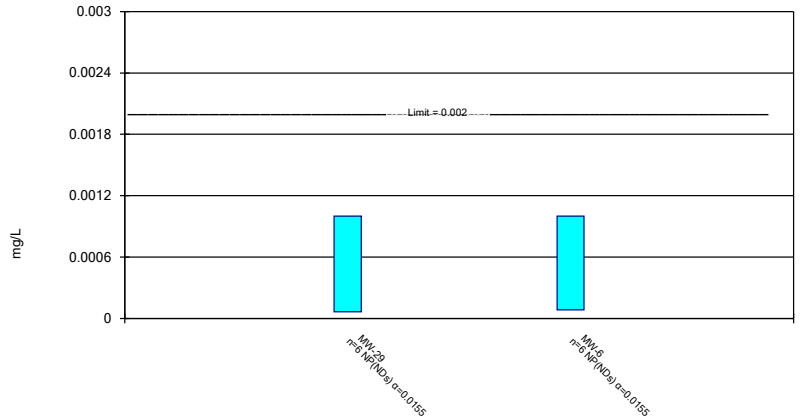


Constituent: Thallium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 12/21/2020 4:14 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

FIGURE I.

State Confidence Intervals Summary - Significant Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**HGWC-13**	**0.03908**	**0.03082**	**0.03**	**Yes**	**17**	**0.03495**	**0.006588**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.03**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.03**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-11**	**0.02587**	**0.0146**	**0.01**	**Yes**	**17**	**0.02024**	**0.008991**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05018**	**0.04571**	**0.01**	**Yes**	**17**	**0.04795**	**0.003567**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03598**	**0.02947**	**0.01**	**Yes**	**17**	**0.03272**	**0.005191**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.0415**	**0.03329**	**0.01**	**Yes**	**18**	**0.03739**	**0.006778**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.01**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0234**	**0.01**	**Yes**	**17**	**0.05286**	**0.1094**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	**MW-19**	**0.06861**	**0.02773**	**0.01**	**Yes**	**6**	**0.04817**	**0.01488**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**MW-40D**	**0.01692**	**0.01258**	**0.01**	**Yes**	**4**	**0.01475**	**0.0009574**	**0**	**None**	**No**	**0.01**	**Param.**

State Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	HGWC-11	0.003	0.00038	0.006	No	15	0.002825	0.0006765	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-13	0.003	0.0003	0.006	No	15	0.002118	0.001294	66.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-7	0.003	0.00034	0.006	No	15	0.002823	0.0006868	93.33	None	No	0.01	NP (NDs)
Antimony (mg/L)	HGWC-9	0.003	0.00042	0.006	No	15	0.002649	0.0009256	86.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MW-24D	0.003	0.0017	0.006	No	6	0.002783	0.0005307	83.33	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-26D	0.003	0.0013	0.006	No	6	0.00255	0.0007314	66.67	None	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-27D	0.003	0.00016	0.006	No	6	0.00074	0.001109	16.67	None	No	0.0155	NP (normality)
Antimony (mg/L)	MW-30D	0.0005793	0.0002541	0.006	No	4	0.001695	0.001508	50	Kaplan-Meier	ln(x)	0.01	Param.
Antimony (mg/L)	MW-6	0.003	0.0014	0.006	No	6	0.002733	0.0006532	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Antimony (mg/L)	MW-7	0.001403	0.0004901	0.006	No	6	0.001945	0.001183	50	Kaplan-Meier	ln(x)	0.01	Param.
Arsenic (mg/L)	HGWC-11	0.005	0.0015	0.01	No	17	0.003432	0.001798	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	HGWC-12	0.004647	0.003012	0.01	No	17	0.003829	0.001305	11.76	None	No	0.01	Param.
Arsenic (mg/L)	**HGWC-13**	**0.4323**	**0.3524**	**0.01**	**Yes**	**17**	**0.3924**	**0.06373**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	HGWC-7	0.005	0.0019	0.01	No	17	0.004818	0.0007519	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	HGWC-9	0.005	0.0008	0.01	No	17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	MW-19	0.005	0.00045	0.01	No	6	0.004242	0.001858	83.33	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-20	0.005	0.00038	0.01	No	6	0.00378	0.001985	66.67	None	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-25D	0.001774	0.0006793	0.01	No	6	0.002458	0.002006	33.33	Kaplan-Meier	x^(1/3)	0.01	Param.
Arsenic (mg/L)	MW-26D	0.005	0.0006	0.01	No	6	0.004267	0.001796	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-27D	0.005	0.0002	0.01	No	6	0.003482	0.002357	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-29	0.005	0.00037	0.01	No	6	0.004228	0.00189	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Arsenic (mg/L)	MW-30D	0.002969	0.001297	0.01	No	4	0.00285	0.00148	25	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	HGWC-10	0.09199	0.06746	2	No	17	0.07972	0.01958	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-11	0.05571	0.03082	2	No	17	0.04454	0.02182	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	HGWC-12	0.13	0.086	2	No	17	0.1048	0.0214	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-13	0.09563	0.07185	2	No	17	0.08374	0.01897	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-7	0.07583	0.06828	2	No	17	0.07206	0.006024	0	None	No	0.01	Param.
Barium (mg/L)	HGWC-8	0.0829	0.06	2	No	17	0.07029	0.01176	0	None	No	0.01	NP (normality)
Barium (mg/L)	HGWC-9	0.1242	0.106	2	No	17	0.1151	0.01448	0	None	No	0.01	Param.
Barium (mg/L)	MW-19	0.07219	0.05114	2	No	6	0.06167	0.007659	0	None	No	0.01	Param.
Barium (mg/L)	MW-20	0.09991	0.08009	2	No	6	0.09	0.007211	0	None	No	0.01	Param.
Barium (mg/L)	MW-24D	0.1064	0.03448	2	No	6	0.06767	0.02861	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	MW-25D	0.4598	0.3802	2	No	6	0.42	0.02898	0	None	No	0.01	Param.
Barium (mg/L)	MW-26D	0.1548	0.08929	2	No	6	0.1197	0.02639	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MW-27D	1.5	0.95	2	No	6	1.1	0.2168	0	None	No	0.0155	NP (normality)
Barium (mg/L)	MW-28D	0.8939	0.08273	2	No	6	0.4883	0.2953	0	None	No	0.01	Param.
Barium (mg/L)	MW-29	0.08932	0.07468	2	No	6	0.082	0.005329	0	None	No	0.01	Param.
Barium (mg/L)	MW-30D	0.3785	-0.119	2	No	4	0.1298	0.1095	0	None	No	0.01	Param.
Barium (mg/L)	MW-5	0.05427	0.04206	2	No	6	0.04817	0.004446	0	None	No	0.01	Param.
Barium (mg/L)	MW-6	0.09757	0.08177	2	No	6	0.08967	0.00575	0	None	No	0.01	Param.
Barium (mg/L)	MW-7	0.07017	0.04483	2	No	6	0.0575	0.009225	0	None	No	0.01	Param.
Beryllium (mg/L)	HGWC-11	0.003	0.0001	0.004	No	15	0.001848	0.001461	60	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-13	0.003	0.000099	0.004	No	15	0.002032	0.001418	66.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-7	0.003	0.000077	0.004	No	15	0.002805	0.0007547	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	HGWC-8	0.003	0.0001	0.004	No	15	0.002612	0.001025	86.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MW-28D	0.003	0.00014	0.004	No	6	0.002523	0.001168	83.33	None	No	0.0155	NP (NDs)
Beryllium (mg/L)	MW-7	0.003	0.000051	0.004	No	6	0.002509	0.001204	83.33	None	No	0.0155	NP (NDs)
Cadmium (mg/L)	HGWC-10	0.0025	0.0001	0.005	No	15	0.001388	0.001231	53.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-11	0.0025	0.0001	0.005	No	15	0.00202	0.0009942	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-12	0.0025	0.0002	0.005	No	15	0.001883	0.00106	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-7	0.0025	0.0002	0.005	No	15	0.00188	0.001064	73.33	None	No	0.01	NP (NDs)
Cadmium (mg/L)	HGWC-8	0.00032	0.00014	0.005	No	15	0.0004533	0.0006881	6.667	None	No	0.01	NP (normality)
Cadmium (mg/L)	HGWC-9	0.0025	0.0002	0.005	No	15	0.002025	0.0009844	80	None	No	0.01	NP (NDs)
Cadmium (mg/L)	MW-19	0.0025	0.00013	0.005	No	6	0.00096	0.001194	33.33	None	No	0.0155	NP (normality)
Chromium (mg/L)	HGWC-10	0.02	0.01	0.1	No	15	0.01067	0.002582	93.33	None	No	0.01	NP (NDs)

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	HGWC-11	0.01	0.00061	0.1	No	15	0.008727	0.003359	86.67	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-12	0.01	0.0025	0.1	No	15	0.008254	0.003638	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-13	0.01	0.00059	0.1	No	15	0.008103	0.003927	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-7	0.071	0.0016	0.1	No	15	0.01225	0.01668	73.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-8	0.01	0.0015	0.1	No	15	0.00818	0.003773	80	None	No	0.01	NP (NDs)
Chromium (mg/L)	HGWC-9	0.01	0.00052	0.1	No	15	0.009368	0.002448	93.33	None	No	0.01	NP (NDs)
Chromium (mg/L)	MW-19	0.01	0.00047	0.1	No	6	0.005422	0.005025	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-20	0.01	0.00051	0.1	No	6	0.00687	0.004849	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-24D	0.01	0.00042	0.1	No	6	0.008403	0.003911	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-25D	0.01	0.00061	0.1	No	6	0.008435	0.003833	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-26D	0.01	0.00076	0.1	No	6	0.00576	0.004698	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-27D	0.01	0.0007	0.1	No	6	0.00845	0.003797	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-28D	0.01	0.00081	0.1	No	6	0.005727	0.004731	50	None	No	0.0155	NP (normality)
Chromium (mg/L)	MW-29	0.01	0.001	0.1	No	6	0.0085	0.003674	83.33	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-30D	0.001624	-0.0000942	40.1	No	4	0.000765	0.0003785	0	None	No	0.01	Param.
Chromium (mg/L)	MW-5	0.005218	0.002082	0.1	No	6	0.00365	0.001141	0	None	No	0.01	Param.
Chromium (mg/L)	MW-6	0.01	0.00044	0.1	No	6	0.006838	0.004898	66.67	None	No	0.0155	NP (NDs)
Chromium (mg/L)	MW-7	0.01	0.0013	0.1	No	6	0.00315	0.003376	16.67	None	No	0.0155	NP (normality)
Cobalt (mg/L)	HGWC-10	0.005	0.0006	0.038	No	15	0.003307	0.002152	60	None	No	0.01	NP (NDs)
Cobalt (mg/L)	HGWC-11	0.002079	0.0009715	0.038	No	15	0.002344	0.001569	20	Kaplan-Meier	sqrt(x)	0.01	Param.
Cobalt (mg/L)	HGWC-12	0.0021	0.0012	0.038	No	15	0.00196	0.001267	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-13	0.004428	0.002627	0.038	No	15	0.003527	0.001329	6.667	None	No	0.01	Param.
Cobalt (mg/L)	HGWC-7	0.005	0.0005	0.038	No	15	0.001663	0.001806	20	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-8	0.0026	0.0018	0.038	No	15	0.002238	0.0008065	6.667	None	No	0.01	NP (normality)
Cobalt (mg/L)	HGWC-9	0.002	0.00053	0.038	No	15	0.001317	0.001542	13.33	None	No	0.01	NP (normality)
Cobalt (mg/L)	MW-19	0.04831	0.02469	0.038	No	6	0.0365	0.008597	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-20	0.005	0.0011	0.038	No	6	0.00435	0.001592	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-24D	0.001232	0.0002333	0.038	No	6	0.002818	0.002405	50	Kaplan-Meier	ln(x)	0.01	Param.
Cobalt (mg/L)	MW-26D	0.005	0.0003	0.038	No	6	0.003472	0.002369	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-27D	0.005	0.000091	0.038	No	6	0.003423	0.002445	66.67	Kaplan-Meier	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-28D	0.005	0.00093	0.038	No	6	0.004322	0.001662	83.33	None	No	0.0155	NP (NDs)
Cobalt (mg/L)	MW-29	0.001453	0.0003841	0.038	No	6	0.0009183	0.0003889	0	None	No	0.01	Param.
Cobalt (mg/L)	MW-6	0.005	0.00036	0.038	No	6	0.001308	0.00182	16.67	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	HGWC-10	1.042	0.5393	5	No	17	0.7908	0.4015	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-11	1.184	0.5942	5	No	17	0.8889	0.4703	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-12	1.174	0.6107	5	No	17	0.8926	0.4498	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-13	1.011	0.54	5	No	17	0.7756	0.3761	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-7	1.052	0.4807	5	No	17	0.8048	0.505	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-8	0.9699	0.6521	5	No	17	0.811	0.2536	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	HGWC-9	0.966	0.5203	5	No	17	0.7432	0.3556	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-19	1.394	0.3605	5	No	6	0.8775	0.3763	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-20	1.292	0.08455	5	No	6	0.6883	0.4395	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-24D	1.144	-0.0003897	5	No	6	0.572	0.4167	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-25D	1.418	0.6515	5	No	6	1.035	0.2792	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-26D	1.592	0.1023	5	No	6	0.8473	0.5424	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-27D	2.261	0.6874	5	No	6	1.474	0.5726	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-28D	1.663	0.5681	5	No	6	1.115	0.3984	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-29	1.252	0.1332	5	No	6	0.6927	0.4072	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-30D	1.669	0.2466	5	No	4	0.9578	0.3132	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-5	1.107	0.5707	5	No	6	0.8388	0.1952	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MW-6	2.07	0.745	5	No	6	0.9997	0.5264	0	None	No	0.0155	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MW-7	1.472	0.7805	5	No	6	1.126	0.2516	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-10	0.2413	0.08503	4	No	18	0.1879	0.1518	16.67	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	HGWC-11	0.4775	0.2828	4	No	18	0.3802	0.1609	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-12	0.4532	0.1805	4	No	18	0.3412	0.2647	5.556	None	sqrt(x)	0.01	Param.

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Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	HGWC-13	0.7369	0.4896	4	No	18	0.6133	0.2043	0	None	No	0.01	Param.
Fluoride (mg/L)	HGWC-7	0.1792	0.08268	4	No	19	0.1533	0.1234	10.53	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-8	0.6676	0.4878	4	No	19	0.5921	0.1806	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	HGWC-9	0.2822	0.08669	4	No	18	0.2066	0.172	11.11	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MW-19	0.4715	0.01387	4	No	6	0.2427	0.1665	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-20	0.072	0.05	4	No	6	0.05367	0.008981	83.33	None	No	0.0155	NP (NDs)
Fluoride (mg/L)	MW-24D	0.18	0.048	4	No	6	0.07783	0.05105	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-25D	2.2	1.4	4	No	6	1.65	0.2811	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-26D	0.19	0.044	4	No	6	0.07617	0.05639	16.67	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-27D	0.42	0.22	4	No	6	0.2783	0.07223	0	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-28D	0.2947	0.1253	4	No	6	0.21	0.06164	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-29	0.18	0.045	4	No	6	0.07417	0.05258	50	None	No	0.0155	NP (normality)
Fluoride (mg/L)	**MW-30D**	**11.85**	**6.484**	**4**	**Yes**	**6**	**9.167**	**1.953**	**0**	**None**	**No**	**0.01**	**Param.**
Fluoride (mg/L)	MW-5	0.1035	0.05183	4	No	6	0.07767	0.01881	0	None	No	0.01	Param.
Fluoride (mg/L)	MW-6	0.19	0.05	4	No	6	0.1153	0.0689	33.33	None	No	0.0155	NP (normality)
Fluoride (mg/L)	MW-7	0.17	0.05	4	No	6	0.07317	0.04804	66.67	None	No	0.0155	NP (NDs)
Lead (mg/L)	HGWC-10	0.005	0.00005	0.005	No	13	0.004619	0.001373	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-11	0.005	0.00009	0.005	No	13	0.003151	0.002436	61.54	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-12	0.005	0.000096	0.005	No	13	0.003891	0.002109	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-13	0.005	0.0001	0.005	No	13	0.003497	0.002347	69.23	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-7	0.005	0.00008	0.005	No	13	0.002395	0.002513	46.15	None	No	0.01	NP (normality)
Lead (mg/L)	HGWC-8	0.005	0.0002	0.005	No	13	0.004256	0.001816	84.62	None	No	0.01	NP (NDs)
Lead (mg/L)	HGWC-9	0.005	0.0001	0.005	No	13	0.002757	0.002522	53.85	None	No	0.01	NP (NDs)
Lead (mg/L)	MW-19	0.005	0.000085	0.005	No	4	0.002549	0.00283	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-20	0.005	0.00013	0.005	No	4	0.002575	0.0028	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-24D	0.0003387	0.00001887	0.005	No	4	0.001324	0.002452	25	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-26D	0.005	0.0001	0.005	No	4	0.003775	0.00245	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-27D	0.005	0.00013	0.005	No	4	0.003782	0.002435	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lead (mg/L)	MW-28D	0.001654	-0.000029090	0.005	No	4	0.00156	0.002331	25	Kaplan-Meier	sqrt(x)	0.01	Param.
Lead (mg/L)	MW-29	0.005	0.00009	0.005	No	4	0.00255	0.002829	50	None	No	0.0625	NP (normality)
Lead (mg/L)	MW-5	0.005	0.000047	0.005	No	4	0.003762	0.002476	75	None	No	0.0625	NP (NDs)
Lead (mg/L)	MW-6	0.0004038	0.0000837	0.005	No	4	0.002597	0.002775	50	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	MW-7	0.005	0.000062	0.005	No	4	0.003765	0.002469	75	Kaplan-Meier	No	0.0625	NP (NDs)
Lithium (mg/L)	HGWC-12	0.01113	0.008008	0.03	No	17	0.009571	0.002494	0	None	No	0.01	Param.
Lithium (mg/L)	**HGWC-13**	**0.03908**	**0.03082**	**0.03**	**Yes**	**17**	**0.03495**	**0.006588**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	HGWC-7	0.003	0.0021	0.03	No	17	0.003159	0.003075	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-8	0.0032	0.0024	0.03	No	17	0.003406	0.003002	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	HGWC-9	0.0048	0.004	0.03	No	17	0.004806	0.002669	5.882	None	No	0.01	NP (normality)
Lithium (mg/L)	MW-19	0.01459	0.006745	0.03	No	6	0.01067	0.002855	0	None	No	0.01	Param.
Lithium (mg/L)	MW-20	0.015	0.00082	0.03	No	6	0.005853	0.00709	33.33	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-24D	0.00301	0.002423	0.03	No	6	0.002717	0.0002137	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-25D**	**0.05308**	**0.04492**	**0.03**	**Yes**	**6**	**0.049**	**0.002966**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MW-26D	0.03	0.0032	0.03	No	6	0.007933	0.01082	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-27D	0.009521	0.004479	0.03	No	6	0.007	0.001835	0	None	No	0.01	Param.
Lithium (mg/L)	MW-28D	0.015	0.0052	0.03	No	6	0.009333	0.004576	0	None	No	0.0155	NP (normality)
Lithium (mg/L)	MW-29	0.002491	0.002042	0.03	No	6	0.002267	0.0001633	0	None	No	0.01	Param.
Lithium (mg/L)	**MW-30D**	**0.2729**	**0.1071**	**0.03**	**Yes**	**5**	**0.19**	**0.0495**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	HGWC-10	0.005	0.0014	0.01	No	17	0.003759	0.001741	64.71	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	**HGWC-11**	**0.02587**	**0.0146**	**0.01**	**Yes**	**17**	**0.02024**	**0.008991**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-12**	**0.05018**	**0.04571**	**0.01**	**Yes**	**17**	**0.04795**	**0.003567**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-13**	**0.03598**	**0.02947**	**0.01**	**Yes**	**17**	**0.03272**	**0.005191**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-7**	**0.0415**	**0.03329**	**0.01**	**Yes**	**18**	**0.03739**	**0.006778**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-8**	**0.4976**	**0.4537**	**0.01**	**Yes**	**18**	**0.4756**	**0.0363**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	**HGWC-9**	**0.031**	**0.0234**	**0.01**	**Yes**	**17**	**0.05286**	**0.1094**	**0**	**None**	**No**	**0.01**	**NP (normality)**
Molybdenum (mg/L)	**MW-19**	**0.06861**	**0.02773**	**0.01**	**Yes**	**6**	**0.04817**	**0.01488**	**0**	**None**	**No**	**0.01**	**Param.**

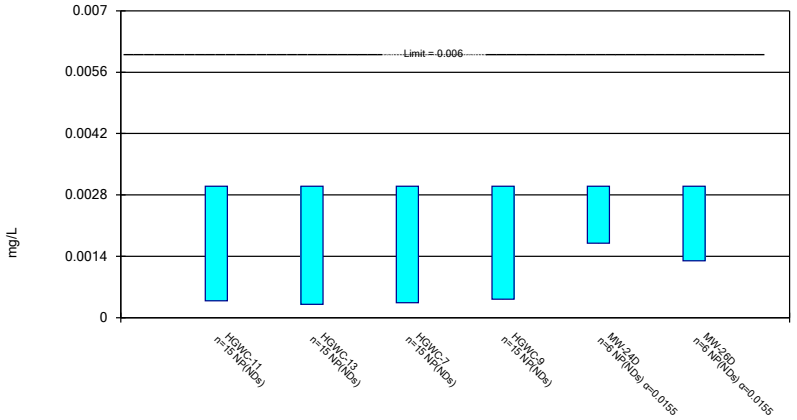
State Confidence Intervals Summary - All Results

Plant Hammond Client: Southern Company Data: Hammond AP-1 Printed 12/21/2020, 4:07 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	MW-24D	0.005	0.00027	0.01	No	6	0.003543	0.002268	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-25D	0.005	0.00094	0.01	No	6	0.003857	0.001816	66.67	None	No	0.0155	NP (NDs)
Molybdenum (mg/L)	MW-26D	0.01813	0.005014	0.01	No	7	0.01157	0.00552	14.29	None	No	0.01	Param.
Molybdenum (mg/L)	MW-27D	0.005417	0.001223	0.01	No	6	0.0036	0.001673	16.67	Kaplan-Meier	No	0.01	Param.
Molybdenum (mg/L)	MW-28D	0.02574	0.004861	0.01	No	6	0.0153	0.007599	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-29	0.003573	0.001827	0.01	No	6	0.0027	0.0006356	0	None	No	0.01	Param.
Molybdenum (mg/L)	MW-30D	0.0369	0.006584	0.01	No	7	0.02174	0.01276	0	None	No	0.01	Param.
Molybdenum (mg/L)	**MW-40D**	**0.01692**	**0.01258**	**0.01**	**Yes**	**4**	**0.01475**	**0.0009574**	**0**	**None**	**No**	**0.01**	**Param.**
Molybdenum (mg/L)	MW-6	0.0026	0.0021	0.01	No	6	0.00235	0.0002429	0	None	No	0.0155	NP (normality)
Molybdenum (mg/L)	MW-7	0.005	0.0015	0.01	No	6	0.004133	0.001458	66.67	None	No	0.0155	NP (NDs)
Selenium (mg/L)	HGWC-10	0.01	0.0041	0.05	No	17	0.008229	0.003327	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-11	0.01601	0.006257	0.05	No	17	0.01114	0.007785	0	None	No	0.01	Param.
Selenium (mg/L)	HGWC-12	0.01	0.0011	0.05	No	17	0.009476	0.002159	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-13	0.01	0.0016	0.05	No	17	0.008928	0.003036	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-8	0.01	0.0024	0.05	No	17	0.009553	0.001843	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	HGWC-9	0.01	0.0037	0.05	No	17	0.009629	0.001528	94.12	None	No	0.01	NP (NDs)
Selenium (mg/L)	MW-19	0.006888	0.001632	0.05	No	6	0.005217	0.003025	16.67	Kaplan-Meier	No	0.01	Param.
Selenium (mg/L)	MW-27D	0.01	0.00012	0.05	No	6	0.008353	0.004033	83.33	Kaplan-Meier	No	0.0155	NP (NDs)
Selenium (mg/L)	MW-5	0.004199	0.002101	0.05	No	6	0.00315	0.0007635	0	None	No	0.01	Param.
Selenium (mg/L)	MW-7	0.01	0.0014	0.05	No	6	0.0045	0.004283	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	HGWC-11	0.001	0.00008	0.002	No	17	0.0008918	0.0003055	88.24	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-12	0.001	0.00009	0.002	No	17	0.0006838	0.0004422	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	HGWC-13	0.0004356	0.000343	0.002	No	17	0.0003893	0.00007388	0	None	No	0.01	Param.
Thallium (mg/L)	HGWC-8	0.001	0.00008	0.002	No	17	0.0006758	0.0004526	64.71	None	No	0.01	NP (NDs)
Thallium (mg/L)	MW-19	0.001	0.00026	0.002	No	6	0.000515	0.000376	33.33	None	No	0.0155	NP (normality)
Thallium (mg/L)	MW-28D	0.001	0.000092	0.002	No	6	0.0008487	0.0003707	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-29	0.001	0.000064	0.002	No	6	0.000844	0.0003821	83.33	None	No	0.0155	NP (NDs)
Thallium (mg/L)	MW-6	0.001	0.000082	0.002	No	6	0.000847	0.0003748	83.33	None	No	0.0155	NP (NDs)

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

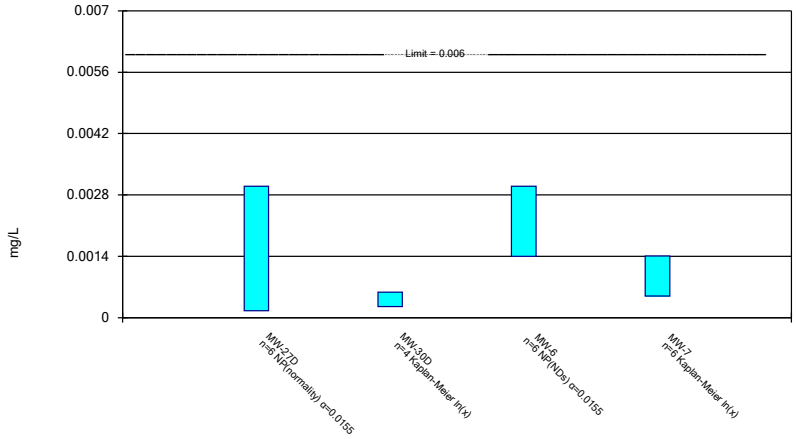


Constituent: Antimony Analysis Run 12/21/2020 4:03 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

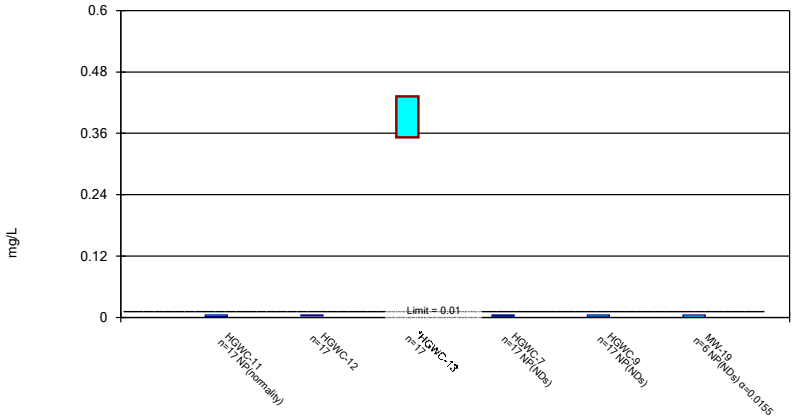


Constituent: Antimony Analysis Run 12/21/2020 4:03 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

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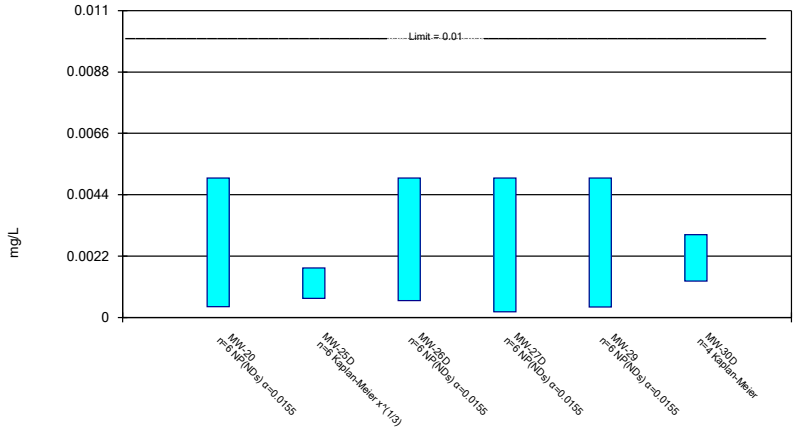

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Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

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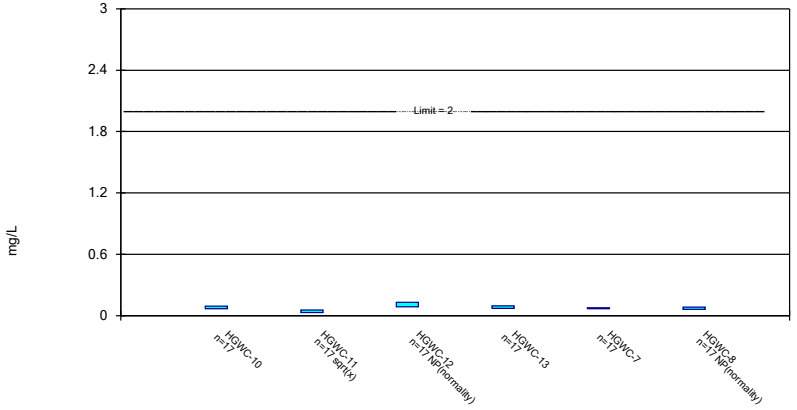

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Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

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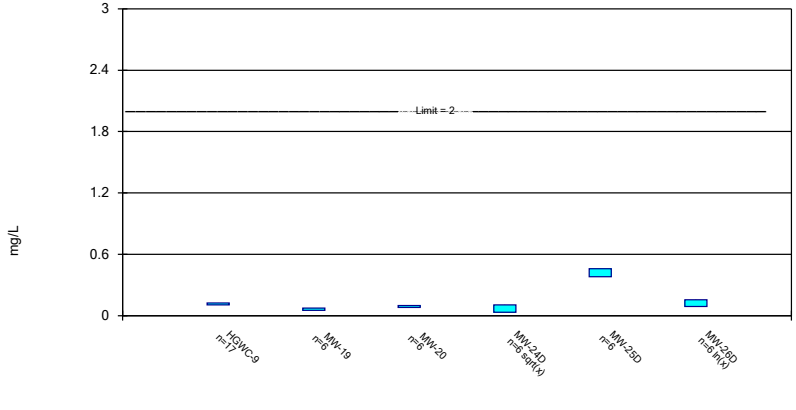

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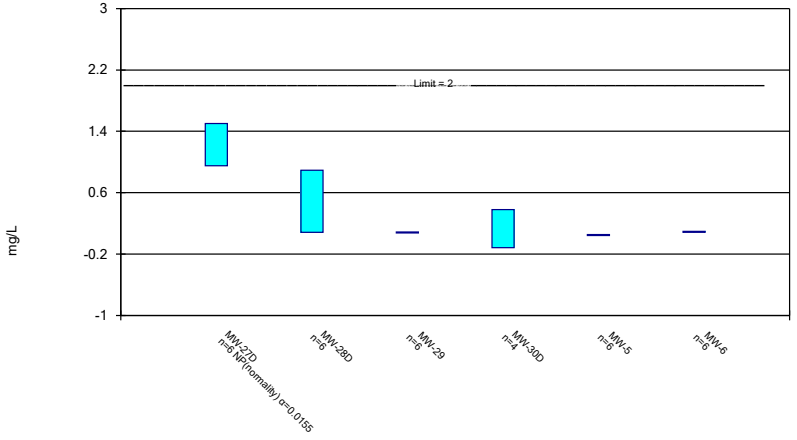
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



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Plant Hammond Client: Southern Company Data: Hammond AP-1

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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 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

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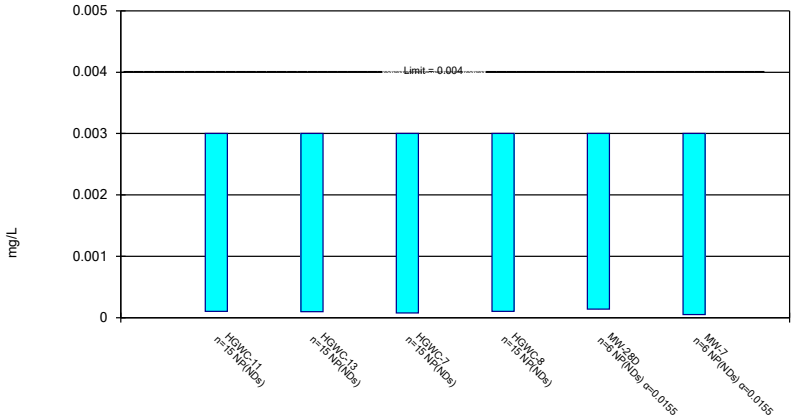
Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Beryllium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

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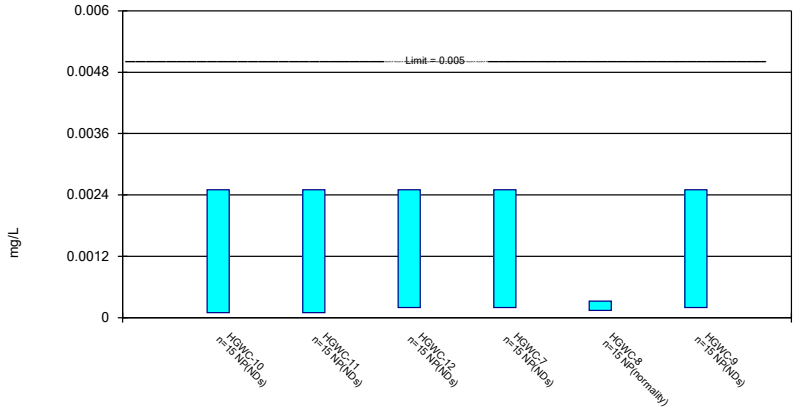
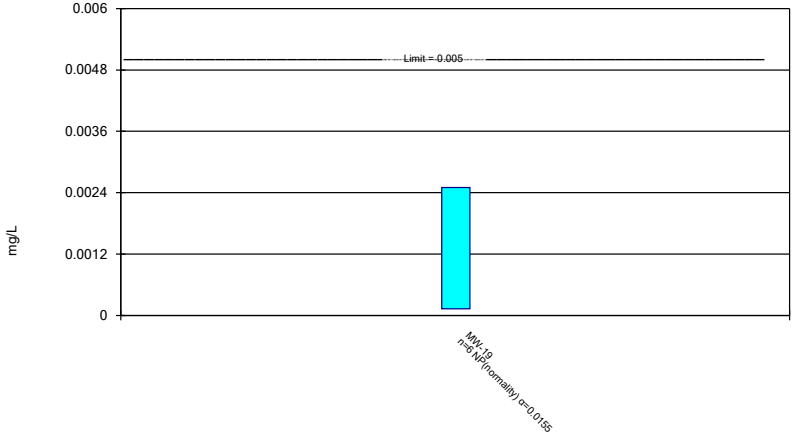


Constituent: Cadmium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



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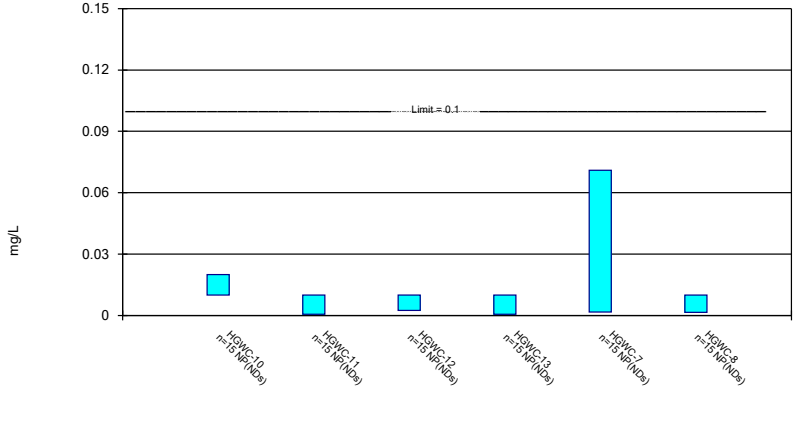
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

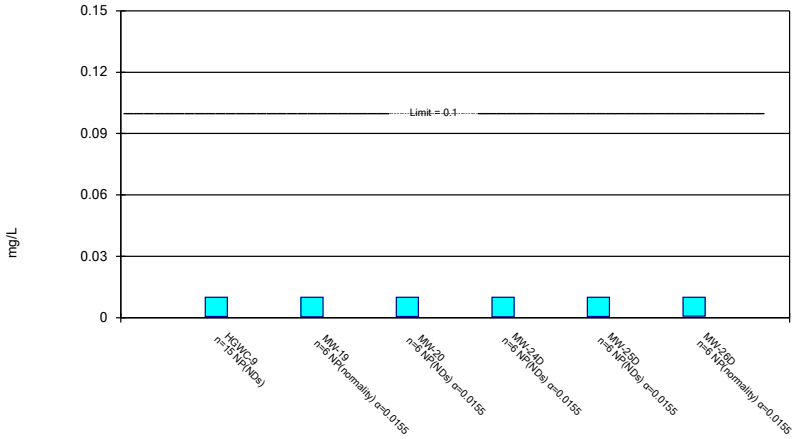


Constituent: Chromium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

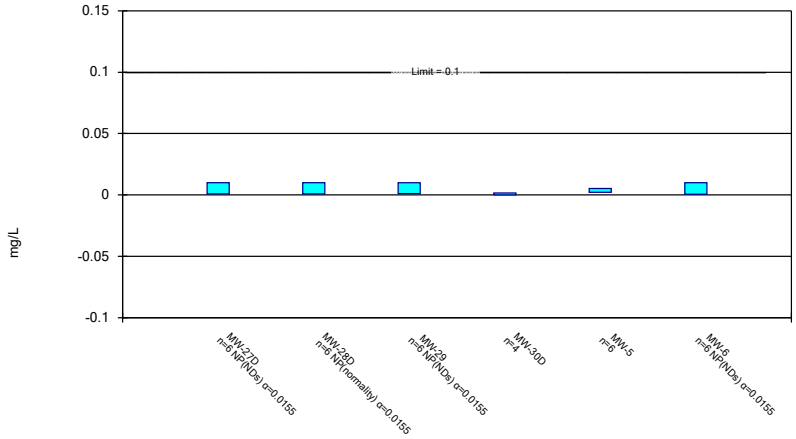


Constituent: Chromium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



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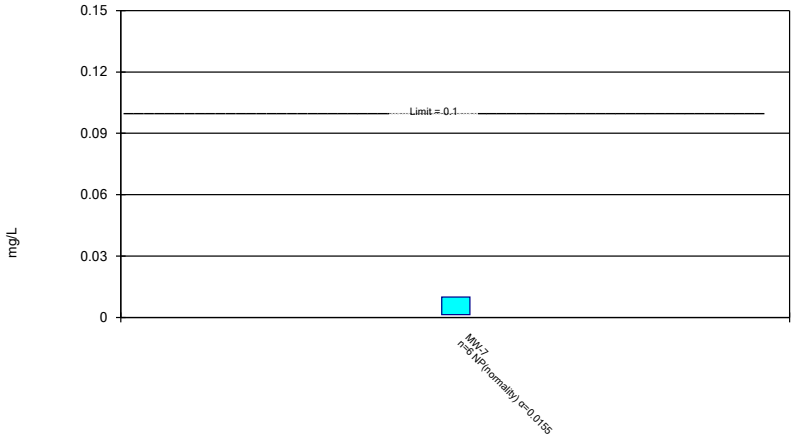
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

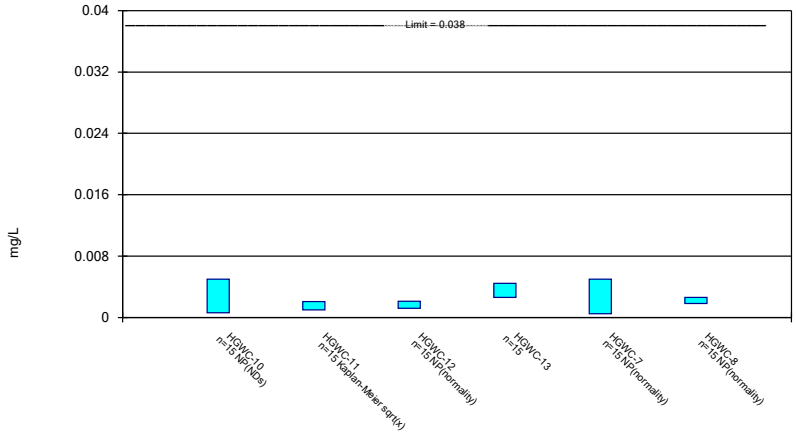


Constituent: Chromium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

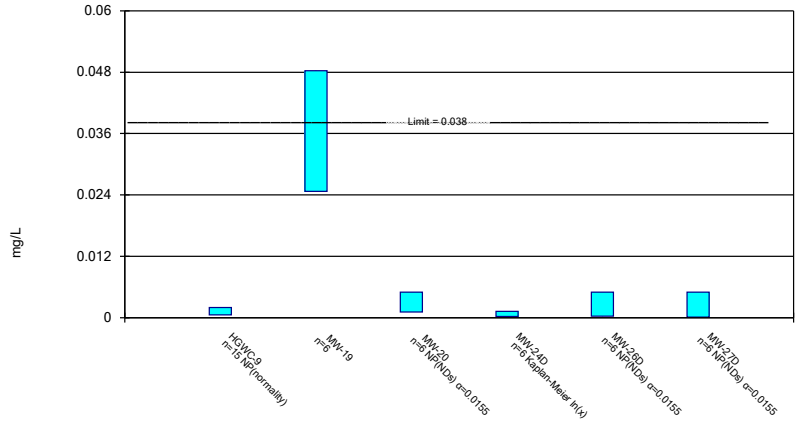
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Cobalt Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

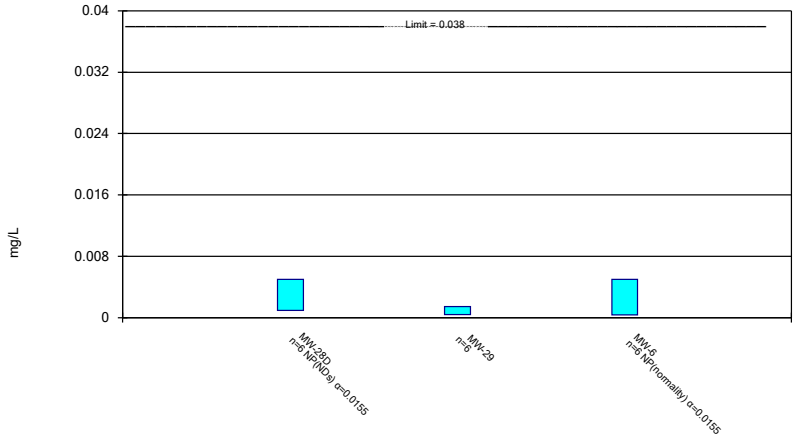


Constituent: Cobalt Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

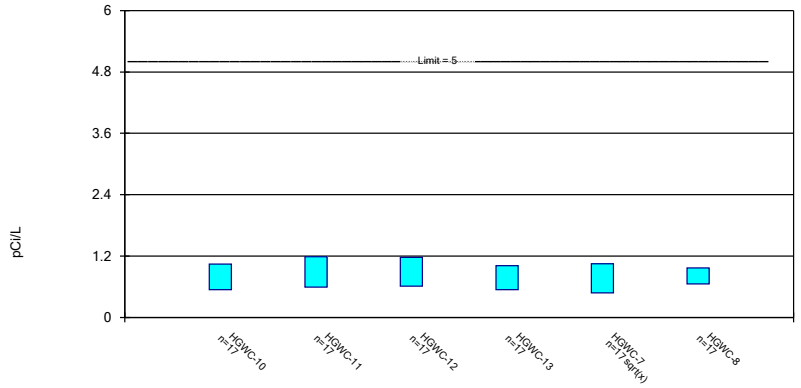


Constituent: Cobalt Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

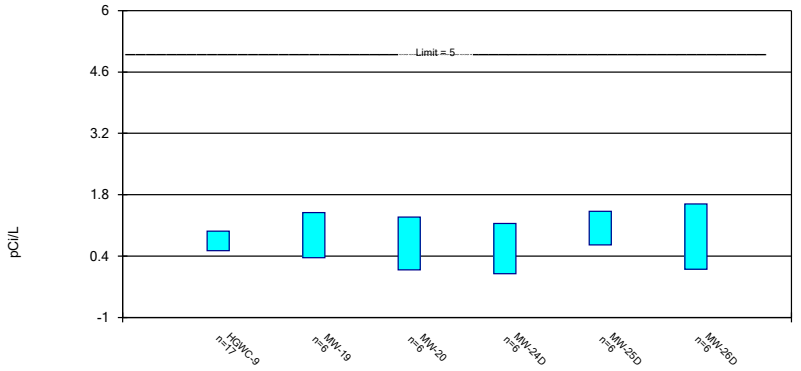


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

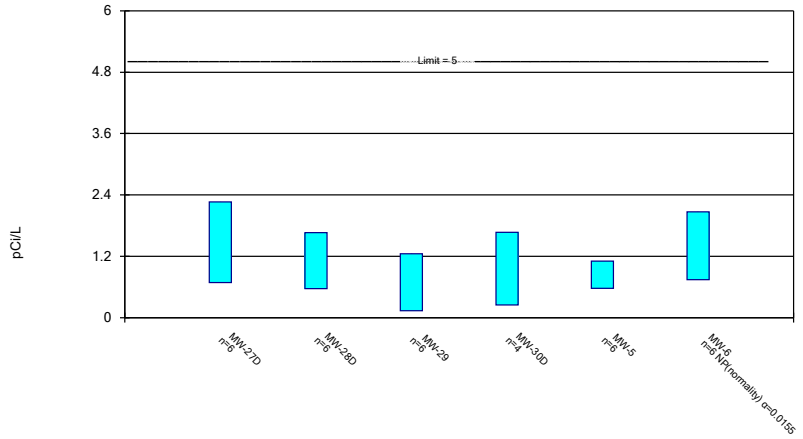
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

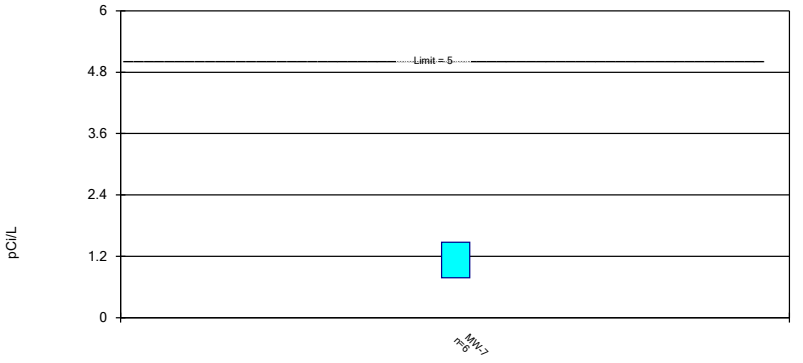


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

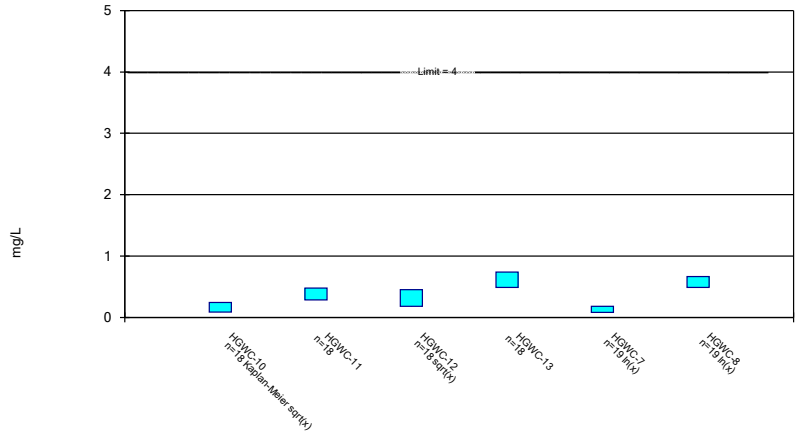


Constituent: Combined Radium 226 + 228 Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

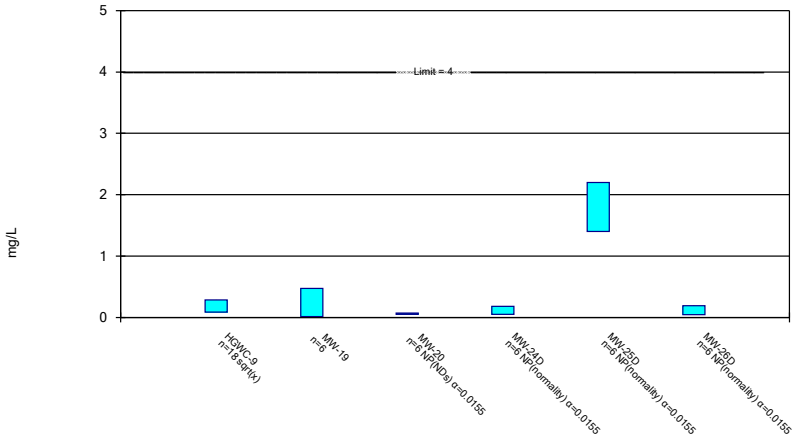


Constituent: Fluoride Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

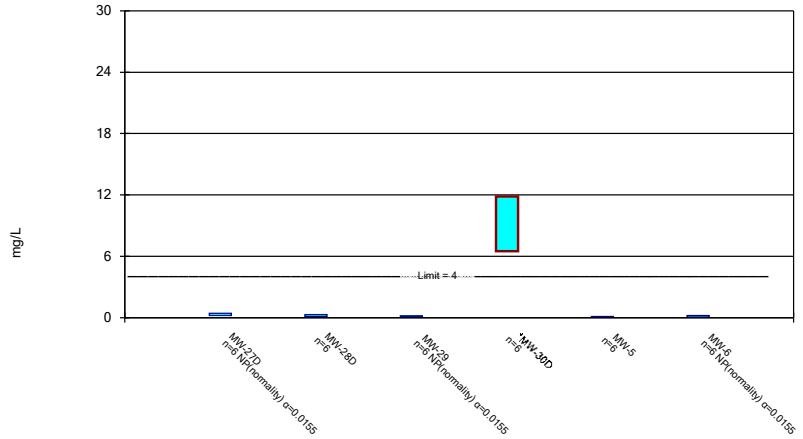
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

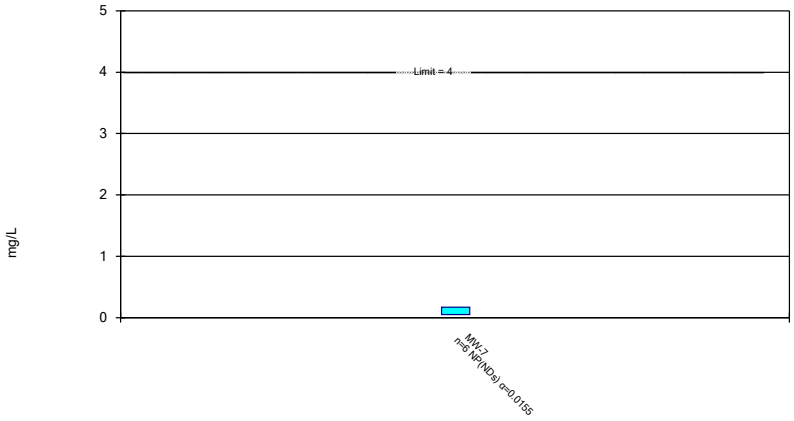
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

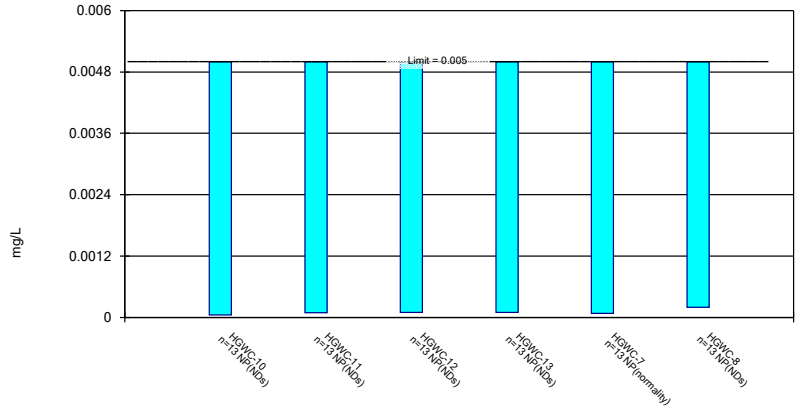
Compliance Limit is not exceeded.



Constituent: Fluoride Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Non-Parametric Confidence Interval

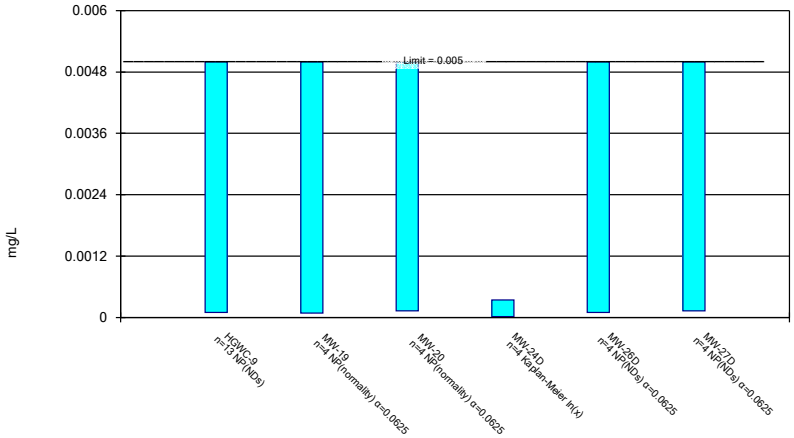
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

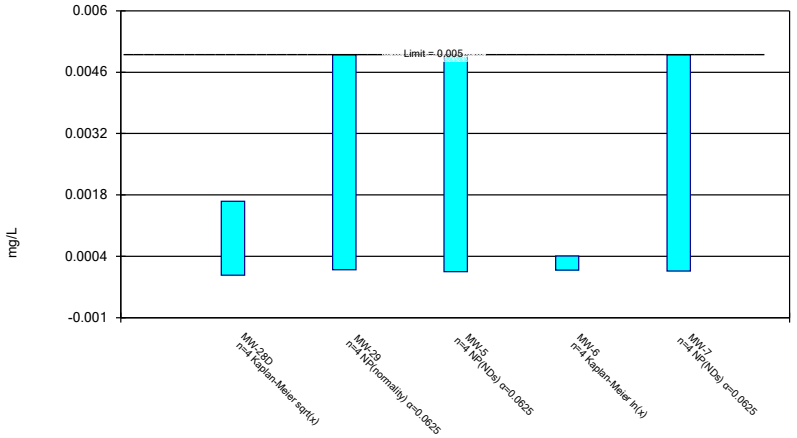
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

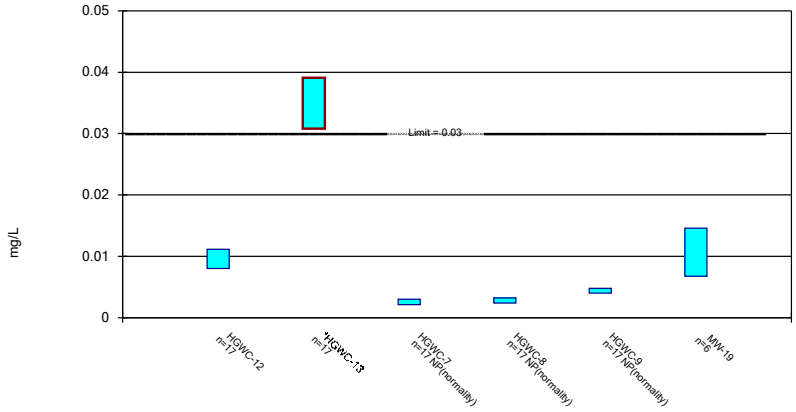
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

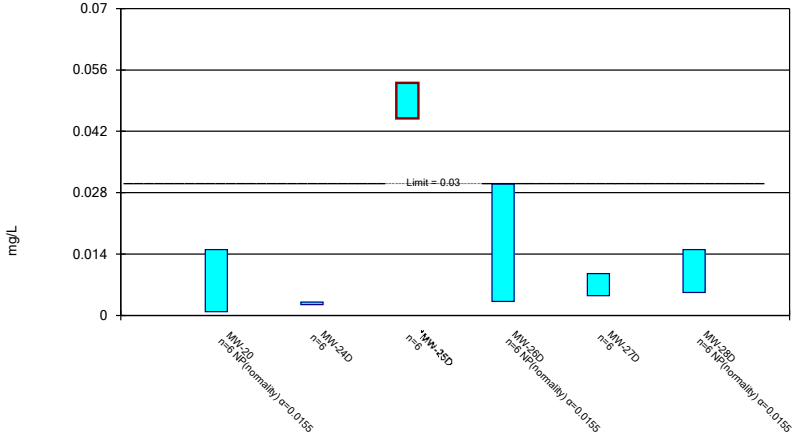
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

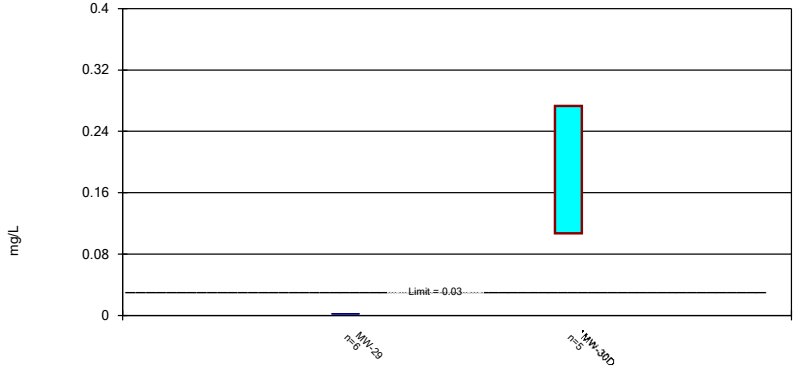
Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric Confidence Interval

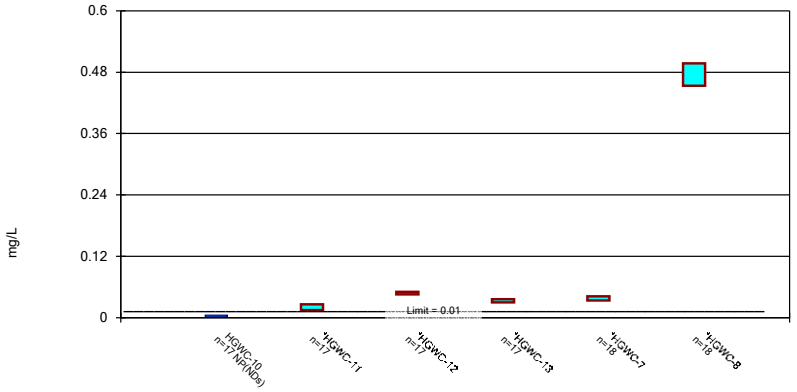
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

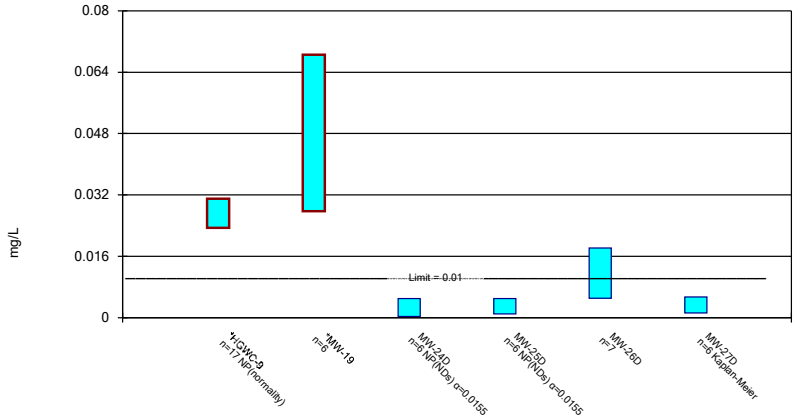


Constituent: Molybdenum Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

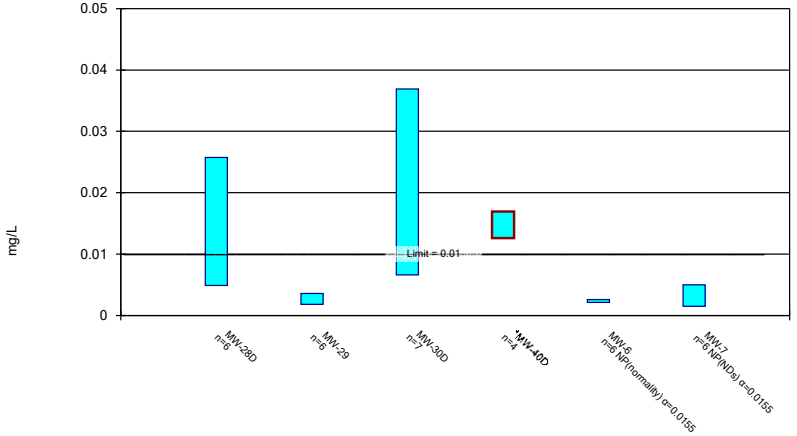


Constituent: Molybdenum Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

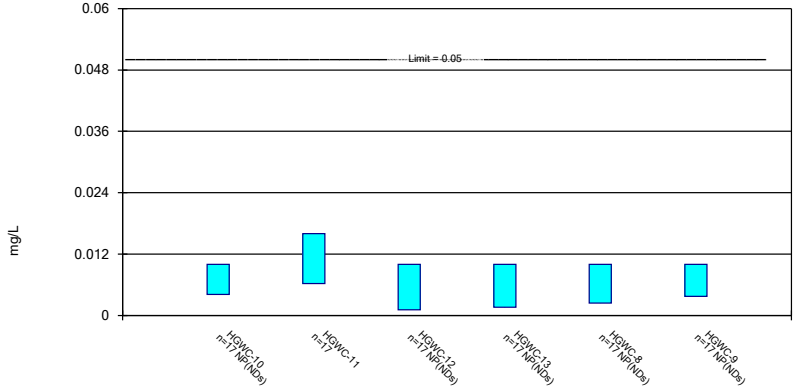


Constituent: Molybdenum Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

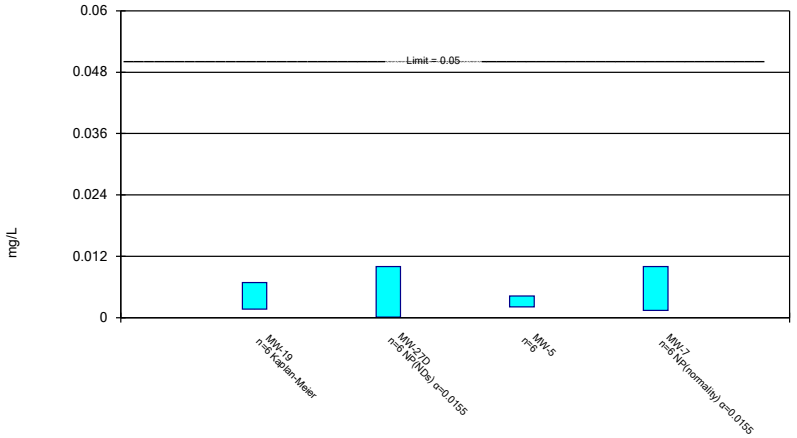
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Selenium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

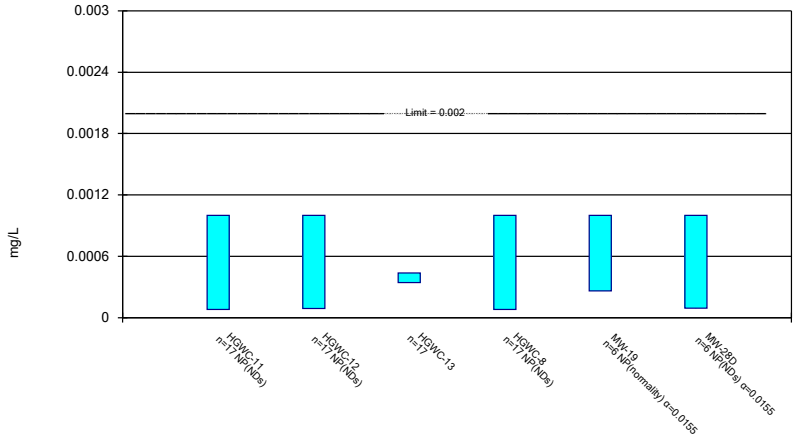


Constituent: Selenium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk, alpha based on n.

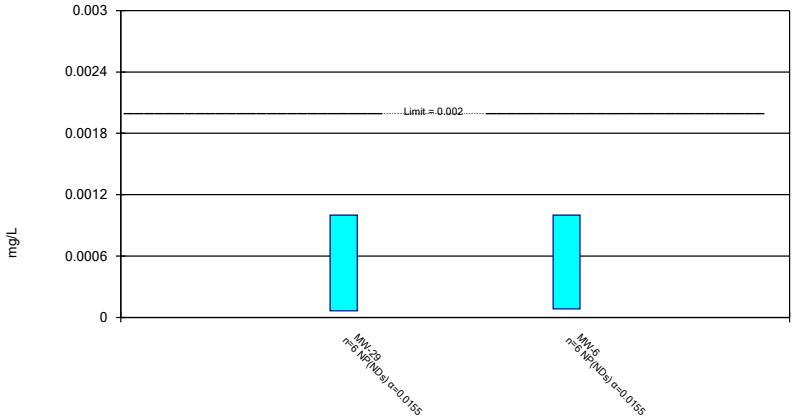


Constituent: Thallium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1

Sanitas™ v.9.6.27b Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Thallium Analysis Run 12/21/2020 4:04 PM View: Appendix IV
Plant Hammond Client: Southern Company Data: Hammond AP-1