



Prepared for

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DRAFT REMEDY SELECTION REPORT
GEORGIA POWER COMPANY
PLANT HAMMOND ASH POND 2 (AP-2)

Prepared by

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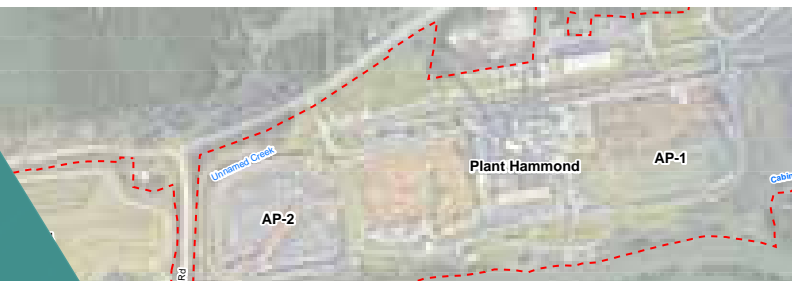
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Plant Hammond AP-2: Executive Summary



Plant Hammond is a former coal-fired electric generation facility, located 10-miles west of Rome, Georgia, that was decommissioned in July 2019. A component of the facility are man-made surface impoundments, or “ash ponds”, historically used to hold coal combustion residuals (CCR). “CCR”, commonly referred to as “coal ash”, is a non-hazardous material generated from burning coal for the purpose of generating electricity by electric utilities¹. Ash ponds were designed, installed, and operated to function as a treatment system for power plant wastewaters, and they have effectively served in this capacity for decades in compliance with the National Pollutant Discharge Elimination System (NPDES) permits under which they were regulated. As part of a comprehensive approach to managing CCR, Georgia Power has undertaken actions to close Ash Pond 2 (AP-2) in accordance with federal and state regulations and completed a detailed evaluation of corrective measures to remove cobalt above the Groundwater Protection Standard (GWPS) at AP-2 at Plant Hammond.

ASH POND CLOSURE

Georgia Power will close AP-2 through the removal of approximately 870,000 cubic yards of CCR material from the CCR unit for disposal at an off-site, permitted lined solid waste disposal facility. The closure of AP-2 is regulated by the United States Environmental Protection Agency (USEPA) and the Georgia Environmental Protection Division (GA EPD). Closure activities are authorized under GA EPD approved closure permit No. 057-024D(CCR). The closure by removal approach provides source control benefits that reduce the potential for migration of CCR constituents to groundwater.

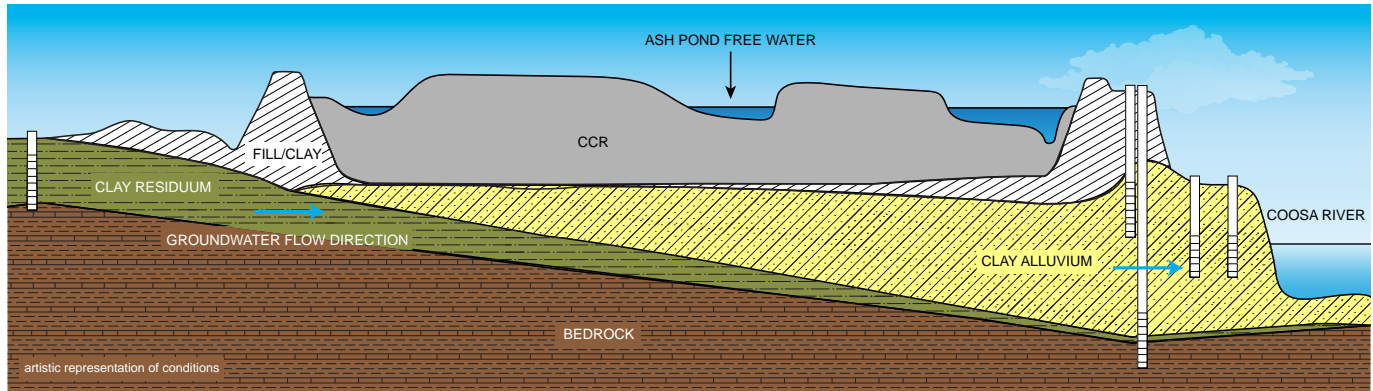
GROUNDWATER MONITORING AND ASSESSMENT

Georgia Power has performed CCR groundwater monitoring at AP-2 since May 2016. Over the period of Georgia Power’s monitoring, concentrations of cobalt (Co) were identified above the GWPS in only three wells (HGWC-18, MW-33, MW-35) downgradient of AP-2. The Co groundwater concentrations above the GWPS are located wholly on Georgia Power property and do not move off-site. Characterization studies indicate that Co in groundwater is directly influenced by groundwater pH, and localized decreases in pH mobilize naturally occurring Co from the aquifer matrix to groundwater.

RISK EVALUATION FOR HUMAN HEALTH & ENVIRONMENT

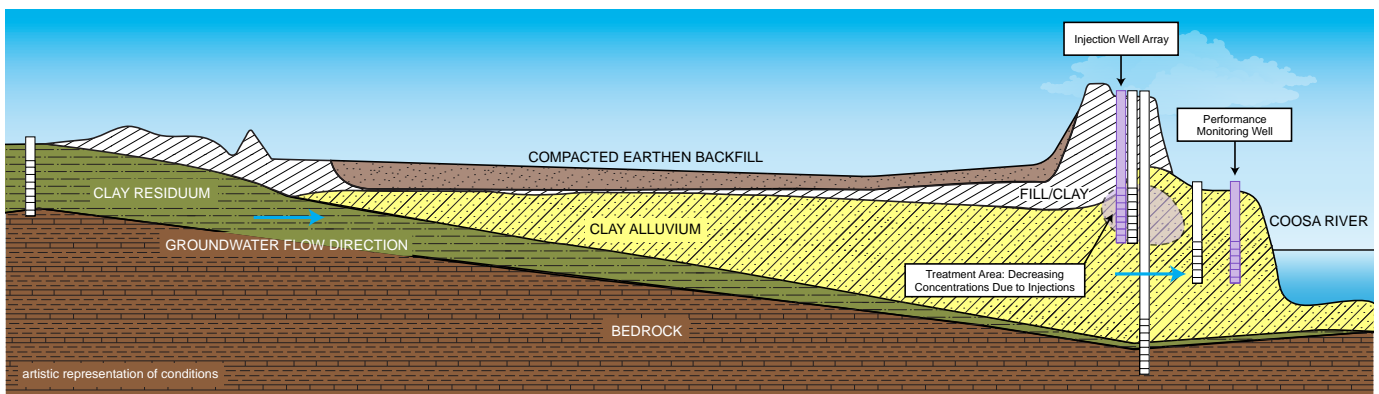
Georgia Power completed a risk evaluation that confirmed that Co identified on-site is not expected to pose a risk to human health or the environment. Extended groundwater monitoring indicates the Co groundwater concentrations identified in HGWC-18, MW-33, and MW-35 are horizontally and vertically delineated on-site to levels below their respective GWPS. Cobalt concentrations are limited in extent due to natural physical and chemical processes currently occurring in the aquifer which reduce dissolved concentrations.

CURRENT PRE-CLOSURE CONDITIONS



PROPOSED CORRECTIVE MEASURES FOR GROUNDWATER

Geochemical manipulation of in-situ conditions and Monitored Natural Attenuation



Georgia Power initiated an assessment of corrective measures (ACM) program for AP-2 in January 2019. Since initiating the ACM program, Georgia Power has worked with GA EPD to adhere to regulations and select a comprehensive and technically sound approach for implementing corrective measures to address Co in groundwater. Using the criteria described in the CCR Rule, 40 Code of Federal Regulations (CFR) Part 257.97, the draft remedy proposed includes:

- **Geochemical Approaches (In-situ Injection):** In-situ injections are a well-recognized remediation approach utilizing a network of injection wells to introduce reagents into the subsurface to improve groundwater quality. Georgia Power will work with GA EPD on the permitting and approval of the reagent prior to use at the site. Injections will target the areas of highest groundwater concentrations of Co to immobilize the constituent. Groundwater monitoring will be performed to confirm the effectiveness of the in-situ injections.
- **Monitored Natural Attenuation (MNA):** Natural attenuation of Co in groundwater at the site is primarily due to adsorption and co-precipitation of the dissolved metal into the aquifer matrix. These mechanisms have been demonstrated to be occurring at the site through extensive laboratory testing and study. Groundwater monitoring will continue to document natural attenuation, which is expected to be enhanced by the geochemical in-situ injections.

ADAPTIVE SITE MANAGEMENT

The remedy performance will be monitored and evaluated, and if needed, the remedy will be adjusted or augmented to meet remedial objectives.

LONG-TERM GROUNDWATER MONITORING

Georgia Power will monitor the performance of applied corrective measures in accordance with regulatory requirements.

CERTIFICATION STATEMENT

I, Whitney B. Law, am a professional engineer and licensed in the State of Georgia. I hereby certify that this Draft Remedy Selection Report was prepared by, or under the direct supervision of, a Qualified Groundwater Scientist, in accordance with the Georgia Environmental Protection Division Rules of Solid Waste Management. According to 391-3-4-.01, a Qualified Groundwater Scientist is “a professional engineer or geologist registered to practice in Georgia who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields that enable individuals to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.” By affixing my professional seal and signature, I hereby acknowledge that this report has been prepared in conformance with the United States Environmental Protection Agency coal combustion residual rule [40 Code of Federal Regulations (CFR) 257 Subpart D] and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10.



Whitney B. Law
Georgia Professional Engineer No. 36641

August 31, 2022

Date

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	Assessment of Corrective Measures
ASD	Alternate Source Demonstration
AP	ash pond
CCR	coal combustion residuals
CFR	Code of Federal Regulations
Co	cobalt
CSM	conceptual site model
DO	dissolved oxygen
DPT	direct-push technology
EPRI	Electric Power Research Institute
ft/day	feet per day
ft/ft	feet per foot
ft MSL	feet above mean sea level
GA EPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
Geosyntec	Geosyntec Consultants, Inc.
Golder	Golder Associates, Inc.
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
MCL	Maximum Contaminant Level
mg/L	milligram per liter
MNA	monitored natural attenuation
NPDES	National Pollutant Discharge Elimination System
O&M	operations and maintenance
PDI	Pre-design Investigation
PRB	permeable reactive barrier
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SSL	statistically significant level
UIC	Underground Injection Control
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

Geosyntec Consultants (Geosyntec) prepared this Draft Remedy Selection Report on behalf of Georgia Power Company (Georgia Power) for Plant Hammond Ash Pond 2 (AP-2, or the CCR unit). As documented here, Georgia Power has completed a detailed evaluation of corrective measures to address one or more constituents in groundwater at statistically significant levels (SSLs) above the Groundwater Protection Standards (GWPS). The evaluation was completed in accordance with the United States Environmental Protection Agency's (USEPA's) Coal Combustion Residuals (CCR) Rule, 40 Code of Federal Regulations (CFR) Parts 257 effective October 19, 2015 (CCR Rule) including subsequent revisions and Georgia Environmental Protection Division's (GA EPD's) Rule for Solid Waste Management Rule 391-3-4-.10 for CCR.

This Draft Remedy Selection Report includes an overview of ongoing geologic and hydrogeologic investigations to refine the conceptual site model (CSM), identifies Appendix IV constituents detected in groundwater at SSLs above the GWPS, discusses the nature and extent of these inorganic constituents in groundwater, evaluates potential corrective measures to address SSLs in groundwater, and presents geochemical approaches (in-situ injections) coupled with monitored natural attenuation (MNA) as the proposed groundwater remedy for preliminary review by GA EPD. At GA EPD's request, following their preliminary review, a public meeting will be held to discuss the assessment of corrective measures and proposed remedy, after which a remedy will be selected, and the Remedy Selection Report will be submitted to GA EPD. Once a remedy is selected and implemented, the remediation will be monitored routinely and is subject to potential modification based on adaptive management strategies, as appropriate.

2.0 BACKGROUND

2.1 Remedy Selection Process

The remedy selection process involves assessment of potentially applicable groundwater remediation approaches. To date, this process has occurred as reported in previous submittals including the *Assessment of Corrective Measures Report (ACM Report)* (Geosyntec, 2019a) and *Semiannual Remedy Selection and Design Progress Reports* ((Semiannual Progress Reports) (Geosyntec, 2019b; 2020a; 2020c; 2021b; 2021c; 2022a).

The remedy selected for the CCR unit must meet the following required criteria:

§257.97 Selection of Remedy [Required Criteria]

(b) Remedies must:

- (1) Be protective of human health and the environment;*
- (2) Attain the groundwater protection standard as specified pursuant to §257.95(h);*
- (3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in Appendix IV to this part into the environment;*
- (4) Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems;*
- (5) Comply with standards for management of wastes as specified in §257.98(d).*

Technologies that meet the required criteria are then evaluated using the following comparative criteria:

§257.97 Selection of remedy [Comparative Criteria]

(c) In selecting a remedy that meets the standards of paragraph (b) of this section, the owner or operator of the CCR unit shall consider the following evaluation factors:

- (1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:*
 - (i) magnitude of reduction of existing risks;*
 - (ii) magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy;*
 - (iii) the type and degree of long-term management required, including monitoring, operation, and maintenance;*

- (iv) short-term risks that might be posed to the community or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal of contaminant;*
 - (v) time until full protection is achieved;*
 - (vi) potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, re-disposal, or containment;*
 - (vii) long-term reliability of the engineering and institutional controls; and*
 - (viii) potential need for replacement of the remedy.*
- (2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:*
- (i) the extent to which containment practices will reduce further releases; and*
 - (ii) the extent to which treatment technologies may be used.*
- (3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:*
- (i) degree of difficulty associated with constructing the technology;*
 - (ii) expected operational reliability of the technologies;*
 - (iii) need to coordinate with and obtain necessary approvals and permits from other agencies;*
 - (iv) availability of necessary equipment and specialists; and*
 - (v) available capacity and location of needed treatment, storage, and disposal services.*
- (4) The degree to which community concerns are addressed by a potential remedy(s).*

Using the above criteria, this document evaluates the potential remedies identified in the ACM Report and subsequent updates to identify an appropriate groundwater remedy for the CCR unit. Selection of an appropriate groundwater remedy is significantly influenced by CCR constituent chemistry and characteristics of Appendix IV constituents, which are inorganic trace elements – metals and metalloids that have unique attenuation and remediation characteristics. Common chemical mechanisms of attenuation for CCR constituents include adsorption to, or coprecipitation with, oxides and hydrous oxides (oxyhydroxides) of iron and manganese; and precipitation as carbonates, sulfides, sulfates, and/or phosphates (USEPA, 2007; EPRI, 2018). The attenuation capacity can be evaluated through site-specific field and lab testing and geochemical modeling. Processes such as precipitation/co-precipitation and adsorption and other methods such as groundwater extraction and treatment and engineered plant uptake (phytoremediation) are also evaluated for the remediation of Appendix IV constituents. The selected remedy will meet the criteria of §257.97(b) and the effectiveness of criteria specified in §257.97(c).

An evaluation of the degree to which community concerns are addressed by a potential remedy is not included in this Draft Remedy Selection Report. A discussion of this criterion will be substantially informed by a forthcoming public meeting following GA EPD preliminary review and comment on this Draft Remedy Selection Report. Following the public meeting, the Remedy Selection Report will be prepared for submission to GA EPD and will include a discussion of the “degree to which community concerns are addressed by a potential remedy.”

2.2 Unit Location and Description

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

Plant Hammond was a coal-fired electric generating facility. Plant Hammond was a four-unit, coal-fired electric generating facility. All four units at Plant Hammond were retired on July 29, 2019, and no longer produce electricity. Four CCR ponds, identified as ponds AP-1, AP-2, AP-3, and AP-4 were utilized over the course of power generation at the facility.

AP-2 is a 21-acre surface impoundment located near the center of the Plant and is surrounded by GA-20 on the north, the former coal storage area to the east, an unnamed creek (Unnamed Creek), Highway 100 and AP-4 on the west, and the Coosa River on the south. AP-2 was constructed in 1969 and was used primarily as a dewatering facility for fly ash and bottom ash. The embankment was constructed with borrow soils from within AP-2 and the nearby area. A diagonal separator dike was added to AP-2 in 1998, effectively dividing AP-2 in half. As of April 17, 2019, all process plant flows to AP-2 ceased.

2.3 Unit Closure

CCR placement in AP-2 ceased in 2019. Closure activities in accordance with § 257.100 have been initiated under GA EPD approved closure permit No. 057-024D(CCR). Closure construction activities for AP-2 consist of closure by removal.

Following closure completion, AP-2 will enter into post-removal monitoring. Post-removal monitoring is detailed in the closure permit. Georgia Power will retain ownership of the Site following closure.

2.4 Groundwater Monitoring

The current groundwater monitoring network associated with AP-2 includes the background/upgradient and downgradient monitoring wells, as summarized in **Table 1** and shown on **Figure 2**.

CCR groundwater monitoring-related activities have been performed at AP-2 since May 2016 in accordance with the CCR Rule. The following Appendix IV SSL constituent and well pairs are the subject of this report:

Appendix IV SSL Constituent¹	Well
Cobalt (Co)	HGWC-18, MW-33, MW-35

¹ An Appendix IV SSL Constituent is determined by comparing the confidence intervals developed to either the constituent's maximum contaminant level (MCL), if available, the USEPA Regional Screening Level (RSL), if no MCL is available, or the calculated background interwell tolerance limit in cases where background concentrations are higher than the MCL or RSL values.

Additional details regarding the statistical analyses are provided in the annual and semiannual *Groundwater and Corrective Action Monitoring Reports* submitted to GA EPD and posted on Georgia Power's website.

In accordance with §257.95(g)(3), an alternate source demonstration (ASD) was prepared and submitted to GA EPD on January 14, 2020; however, GA EPD issued a letter on June 26, 2020, indicating non-concurrence at that time based on the presence of Appendix III constituents at HGWC-18 and other monitoring wells in the groundwater monitoring network. The ASD asserted that naturally occurring Co was mobilized due to acidic pH conditions caused by the oxidation of naturally occurring pyritic minerals and was not associated with a release from AP-2 (Geosyntec, 2020b). GA EPD noted the agency is willing to reevaluate a revised ASD should new supporting data become available at a later date. Co is the subject of this Draft Remedy Selection Report.

3.0 GROUNDWATER CONCEPTUAL SITE MODEL

A CSM is a dynamic tool that contextualizes available geological, hydrogeological, and geochemical information at a site to convey how groundwater and constituents (Appendix III and IV constituents) travel in a given geologic setting. A CSM is not static and may evolve as data are collected and more is known about the setting. A CSM was developed for AP-2. As data were gathered during the ACM process, the CSM was refined and used to pre-screen remedial technologies, retaining technologies that were suitable for consideration in remedial alternatives for groundwater or adaptive site management based on site-specific conditions. The CSM for AP-2 is summarized below.

3.1 Geology

The Site is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) in northwest Georgia. The Valley and Ridge is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc., under the direction of Golder Associates, Inc. (Golder, 2018), indicates that AP-2 is underlain by the lower units of the Cambrian age Conasauga Formation, consisting of mostly calcareous shale. Based on review of subsurface investigations at AP-2, the bedrock was identified as predominantly calcareous shale and fissile black shale. AP-2 is underlain primarily by five lithologic units: (i) terrace alluvium; (ii) colluvium; (iii) residuum; (iv) partially weathered shale bedrock; and (v) unweathered shale bedrock. Geologic cross-sections proximal to AP-2 are included as **Figures 3** and **4**, and additional details on Site geology and hydrogeology can be found in the *Hydrogeologic Assessment Report Revision 01 – Ash Pond 2 (AP-2)* (HAR Rev 01) (Geosyntec, 2019c).

3.2 Hydrogeology and Groundwater Flow

The uppermost aquifer at AP-2 is a regional unconfined groundwater aquifer that occurs primarily in the alluvial, colluvial, and residuum soils and within the underlying weathered and fractured bedrock. The movement of groundwater in the soil can be characterized as low-to moderate permeability porous media flow based on hydraulic field testing at the Site (slug testing). The groundwater flow in the shallow underlying weathered bedrock is characterized as fracture flow and is expected to be very low due to the preponderance of low permeability shale beneath AP-2. The regional groundwater flow direction is expected to be from north to south; however, the local flow direction

beneath AP-2 is predominantly east to west with an additional southerly component. Under post-closure conditions, the groundwater flow direction is anticipated to more closely resemble the regional flow regime (north to south toward the Coosa River).

A potentiometric surface map from January 2022 (**Figure 5**) presents groundwater elevations measured from the existing monitoring wells and piezometers in addition to surface water elevations from existing staff gages. Groundwater in the AP-2 area flows under the influence of topography from higher elevations on the northern and eastern side of the Site in a westerly direction beneath AP-2 toward the unnamed creek, with a southerly flow component toward the Coosa River. Based on water level measurements collected on January 31, 2022, the hydraulic gradient is 0.01 feet per foot (ft/ft) across the central portion of AP-2 (between HGWC-17 and MW-18) yielding an average groundwater flow velocity of 0.1 ft/day underneath AP-2 (Geosyntec, 2022b).

3.3 Geochemical CSM

Cobalt is present in groundwater at SSLs above GWPS at HGWC-18, MW-33, and MW-35. As detailed in the *Geochemical Conceptual Site Model Report (Appendix A)* (Geochemical CSM Report), historical literature (Pierce, 1944) and site-specific data indicate Co is naturally occurring in the geologic formations at the Site.

The concentration of Co in groundwater is directly influenced by groundwater pH, and localized decreases in pH are likely the primary driver for Co mobilization from the aquifer matrix to groundwater. Several mechanisms may explain the localized acidity observed in the vicinity of HGWC-18, MW-33, and MW-35. Geochemical data support oxidative dissolution of pyrite and sulfide minerals, which have been identified in background and downgradient soils, as a likely natural source of localized acidity and Co. Other mechanisms that may contribute to acidity include microbially mediated dissolution of sulfides or cation exchange.

Groundwater monitoring data confirm that Co is limited to a small area due to localized acidity present in the aquifer. The primary mechanisms of natural attenuation of Co include adsorption (surface complexation) and co-precipitation with iron and manganese oxides under neutral to alkaline pH conditions.

3.4 Nature and Extent of Groundwater Above the GWPS

Based on statistical analysis of Appendix IV groundwater data, the Co SSLs identified in the compliance wells HGWC-18, MW-33, and MW-35 are horizontally and vertically delineated to levels below GWPS. Due to the presence of a surface water feature in the downgradient direction of HGWC-18, installation of additional wells to horizontally characterize this area is infeasible. Based on Co data collected from the unnamed tributary west of AP-2 to date, horizontal delineation of HGWC-18 is complete and ongoing semiannual sampling will continue until GWPS have been achieved. Please refer to the February 2022 iso-concentration maps for Co presented in **Figure 6**. Compliance wells with SSLs and the pertinent horizontal and vertical delineation wells are also provided below:

Detected Constituent	GWPS ⁽¹⁾ (mg/L)	Monitoring Well ID	Concentration ⁽²⁾ (mg/L)	Delineation Sample Location IDs
Co	0.038	HGWC-18	0.16	Horizontal: AP-2 MID Vertical: MW-21D
		MW-33	0.048	Horizontal: MW-51 Vertical: MW-34D
		MW-35	0.90	Horizontal: MW-51 Vertical: MW-34D

Notes:

mg/L = milligrams per liter

1. §257.95 Federal GWPS.

2. Reported concentration is from the February 2022 semiannual monitoring event (Geosyntec, 2022b).

4.0 ASSESSMENT OF CORRECTIVE MEASURES SUMMARY

An ACM Report was completed on June 12, 2019, in accordance with 40 CFR §257.96 and identified the following corrective measures as potentially applicable to remediate groundwater at the Site:

- Geochemical Approaches (“In-Situ Injection”)
- Hydraulic Containment (“Pump and Treat”)
- Monitored Natural Attenuation (MNA)
- Permeable Reactive Barrier (PRB)
- Subsurface Vertical Barrier Walls

Georgia Power plans to proactively utilize adaptive site management to support the remedial strategy and address potential changes in site conditions as appropriate (**Figure 7**). Under an adaptive site management strategy, a remedial approach will be selected whereby: (1) a remedy will be installed or implemented to address current conditions; (2) the performance of the remedy will be monitored, evaluated, and reported semiannually; (3) the CSM will be updated as more data are collected; and (4) adjustments and augmentations will be made to the remedy, as warranted, to meet remedial objectives.

Further evaluation and refinement of the groundwater corrective measures were presented in the Semiannual Progress Reports submitted since the ACM Report in 2019. Hydraulic containment (“Pump and Treat”) was screened from consideration subsequent to the submittal of the previous Semiannual Progress Report (Geosyntec, 2022a) to GA EPD on January 31, 2022, based on refinements to the CSM. Although “pump and treat” is applicable to a variable mix of inorganic constituents, including dissolved Co, it is not typically used to address acidification or control groundwater pH. Extended periods of pumping may aerate the aquifer and otherwise exacerbate acidification at AP-2, further mobilizing Co. The corrective measures identified for AP-2 in the ACM Report have been further evaluated using the criteria outlined in §257.96(c) and GA EPD Rule 391-3-4.10(6)(a). The screening of the corrective measures, as presented in the Progress Reports, is summarized on **Table 2**.

The corrective measures that were not screened out and were retained for further evaluation under the §257.97 remedy selection criteria in this document include the following:

- **Geochemical Approaches (In-Situ Injection):** Geochemical approaches rely on a temporary or permanent injection well network to introduce reagents or air into the subsurface to promote either anaerobic or aerobic attenuation of inorganic constituents either as a sparingly soluble mineral or through sorption mechanisms. Given the demonstrated relationship between low pH and elevated Co concentrations in groundwater at AP-2, geochemical strategies will likely rely on pH adjustments to address localized acidity. Geochemical injections are a proven groundwater remediation technology for CCR constituents (including Co) and are especially effective in treating smaller, localized areas, such as those present at AP-2.
- **Monitored Natural Attenuation (MNA):** MNA relies on natural attenuation processes to achieve site-specific GWPS by effectively reducing dissolved concentrations of inorganic constituents. Attenuation mechanisms for inorganic constituents at CCR sites, including Co at AP-2, are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (sorption, mineral precipitation, or oxidation reduction reactions) (USEPA, 2007; USEPA, 2015). As detailed in the Geochemical CSM Report in **Appendix A**, natural attenuation of Co occurs under circumneutral pH by adsorption and co-precipitation, and does not rely solely on physical means of attenuation.

5.0 CORRECTIVE MEASURES EVALUATION

The purpose of this section is to evaluate and rank the two corrective measures using the required criteria described in §257.97(b) and the comparative criteria described in §257.97(c).

5.1 Required Criteria (§257.97(b))

As described in §257.97(b), for a groundwater corrective measure to be selected it must meet the following criteria:

1. Be protective of human health and the environment;
2. Attain the GWPS as specified pursuant to §257.95(h);
3. Control the source(s) of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of constituents in Appendix IV to this part into the environment;
4. Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems; and
5. Comply with standards for management of wastes as specified in §257.98(d).

Below, the corrective measure options are evaluated against the required criteria.

5.1.1 Protective of Human Health and the Environment (§257.97(b)(1))

CCR is classified as a non-hazardous Resource Conservation and Recovery Act (RCRA) solid waste, a determination confirmed in 40 CFR §257 Preamble part III.A. Nevertheless, Georgia Power conservatively and protectively conducted a risk evaluation. A groundwater *Risk Evaluation Report* (Geosyntec, 2021a) was prepared for AP-2 and included as an appendix to the Semiannual Progress Report submitted to GA EPD in January 2021. The Risk Evaluation Report has subsequently been updated to include groundwater monitoring data collected through February 2022, and is included as **Appendix C**. This evaluation is one of many lines of evidence used herein and factored into the remedy selection process. The risk evaluation for the SSL-related constituents in groundwater at AP-2 was conducted using methods generally consistent with GA EPD and USEPA guidance and included multiple conservative assumptions. Based on the evaluation, which assessed potential receptors and exposure pathways, Co

concentrations observed in groundwater at AP-2 are not expected to pose a risk to human health or the environment².

Accordingly, no further risk evaluation of groundwater or surface water is warranted in connection with the remedy selection process. Human health and the environment will be protected through implementation of any of the corrective measures being considered groundwater conditions at AP-2 are not expected to pose a risk to human health or the environment.

5.1.2 Attain the Groundwater Protection Standards (§257.97(b)(2))

The proposed remedies would each attain the GWPS at the compliance boundary (waste boundary) and throughout the area of groundwater SSL exceedances if circumneutral-to-alkaline pH conditions in groundwater prevail following closure of AP-2. Constituent transport evaluations were used to predict and assess changes in constituent concentrations in groundwater over time following closure of AP-2. These transport evaluations assessed attenuation rates under varying assumed conditions in the aquifer and provide an additional line of evidence on natural attenuation mechanisms at AP-2. These evaluations demonstrate that natural attenuation is expected to achieve GWPS and provide a baseline for comparing the other corrective action options, which would attain GWPS in less time. The groundwater flow and constituent transport evaluations, and associated input parameters, are described in detail in the *Reactive Transport Model Report* included in **Appendix B**. These evaluations suggest that the GWPS can be met at the compliance boundary within 8 to 15 years in the absence of a more active remedy.

5.1.3 Control the Source of Release (§257.97(b)(3))

In connection with a remedy, the source of the contamination must be controlled to reduce or eliminate, to the maximum extent feasible, further releases by identifying and locating the cause of the release. The following section describes how the source control required criterion is met in connection with the each evaluated alternative.

² The 2021 Risk Evaluation Report also considered molybdenum (Mo) as it was identified as an SSL-related constituent using the background-based GWPS established for AP-2 pursuant to the State CCR Rule, Ga. Comp. R. & Regs. 391-3-4-.10 (EPD, 2018). The Risk Evaluation Report concluded that all constituents considered, including Mo, were not expected to pose a risk to human health or the environment.

Closure by removal will be completed safely, in compliance with applicable federal and state regulations, and is protective of public health and the environment. Closure by removal includes excavation and removal of the CCR material from AP-2. Physical removal of the CCR would, over time, be supportive of declining concentrations of Appendix IV constituents in groundwater downgradient of AP-2 and improve overall groundwater quality.

As noted above, Georgia Power also plans to proactively utilize adaptive site management to support the remedial strategy and address potential changes in site conditions as appropriate.

The control provided by the closure ensures that, for purpose of remedy selection, the control requirement is met for all corrective measures being evaluated. None of the remedies being evaluated will interfere with the control provided by the closure, and Appendix IV constituents at and beyond the compliance boundary that are present within the groundwater plume will be controlled by the selected groundwater corrective measure(s):

- **Geochemical Approaches (In-Situ Injection)** – Geochemical processes can be altered to immobilize constituents, thereby removing them from the dissolved phase in groundwater and controlling contaminant release/movement.
- **Monitored Natural Attenuation (MNA)** – Natural attenuation processes act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of constituents in groundwater. These in-situ processes effectively attenuate the movement of inorganic CCR constituents in groundwater, thereby controlling contaminant release/movement. The primary mechanisms governing attenuation and immobilization of Co at AP-2 include sorption under neutral-to-alkaline pH conditions and co-precipitation with naturally occurring minerals in the aquifer.

5.1.4 Removal of Contaminated Material from the Environment (§257.97(b)(4))

The groundwater corrective measures retained for further consideration in the ACM and ACM updates would be effective at removing Appendix IV constituents from groundwater, either through processes of physical removal, immobilization, or chemical attenuation in groundwater. The corrective measures considered herein remove contaminated material from dissolved-phase groundwater as follows:

- **Geochemical Approaches (In-Situ Injection)** – Geochemical processes can be altered to immobilize contaminants, thereby removing them from the dissolved phase in groundwater.
- **Monitored Natural Attenuation** – Natural attenuation processes act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in groundwater. Sorption and precipitation can immobilize contaminants, thereby removing them from the dissolved phase in groundwater.

5.1.5 Comply with Waste Management Standards (§257.97(b)(5))

In accordance with §257.98(d), waste generated during the implementation of any of the remedies under consideration would be managed in a manner that complies with applicable requirements of the RCRA and the Georgia Comprehensive Solid Waste Management Act.

REQUIRED CRITERIA	Corrective Measures	
	Geochemical Approaches (In-Situ Injections)	Monitored Natural Attenuation (MNA)
Be protective of human health and the environment	✓	✓
Attain the groundwater protective standard	✓	✓
Control the source of releases so as to reduce or eliminate, to the maximum extent feasible, further releases of Appendix IV constituents into the environment	✓	✓
Remove from the environment as much of the contaminated material that was released from the CCR unit as is feasible, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems	✓	✓
Management of waste to comply with all applicable RCRA requirements	✓	✓

5.2 Comparative Criteria (§257.97(c))

This section compares the corrective measures options using the comparative criteria listed in §257.97(c). Each of the comparative criteria consists of several sub-criteria listed in the CCR Rule, which are considered in this remedy selection below. The goal of this analysis is to further evaluate the corrective measures that meet the required criteria to support remedy selection. Consistent with §257.98(b), the selected and implemented remedy will be continually evaluated and, if warranted, modified consistent with adaptive management practices.

A graphic is presented at the conclusion of each subsection to provide a visual depiction of the favorability of each corrective measure, where dark green represents that the “option performs *highly favorably* under this criterion”, medium green represents that the “option performs *favorably* under this criterion,” and light green represents that the “option performs *less favorably* under this criterion.”

5.2.1 Long- and Short-Term Effectiveness and Protectiveness

This comparative criterion takes into consideration the following sub-criteria relative to the long-term and short-term effectiveness of each corrective measure. Long-term effectiveness means that the remedy will protect human health and the environment after GWPS have been met and prior to completion of the remedy, as defined by §257.98(c). The completed remedy will be permanent, meaning that the remedy will protect human health and the environment after the remedial objectives have been met.

The short-term effectiveness of a potential remedy is related to the protectiveness of human health and the environment during construction and implementation. The time to achieve remedial action objectives is also considered.

5.2.1.1 Magnitude of reduction of existing risks

As indicated by the nature and extent evaluation, the most recent groundwater sampling results, and the Risk Evaluation Report summarized in Section 5.1.1, Appendix IV constituents in groundwater from AP-2 are not expected to pose a risk to human health or the environment. Therefore, this criterion is considered equally favorable for each of the corrective measures. In addition, each groundwater corrective measure retained for this comparative analysis will be effective at reducing concentrations to levels below the GWPS, as described in section 5.1.2 above.

5.2.1.2 Magnitude of residual risks in terms of likelihood of further releases due to CCR remaining following implementation of a remedy

CCR unit closure through closure by removal provides effective source control, as described in Section 5.1.3 above and will prevent further releases. Consequently, each of the remedies are considered equally favorable under this criterion.

5.2.1.3 *The type and degree of long-term management required, including monitoring, operations, and maintenance*

In accordance with §257.97(c)(1)(iii), this sub-criterion considers the long-term management of each groundwater corrective measure.

MNA is a highly favorable with respect to this criterion, as it requires the least amount of long-term management. MNA long-term management would be limited to monitoring as the lack of any mechanical systems avoids operations and maintenance (O&M) requirements. In-Situ Injection is considered favorable as some limited longer-term management may be required in addition to monitoring. For example, redevelopment of injection wells due to screen fouling or additional maintenance injections to suppress rebounds in acidity may be required.

5.2.1.4 *Short-term risks that might be posed to the community or the environment during implementation of such a remedy*

In accordance with §257.97(c)(1)(iv), this sub-criterion relates to the potential for threats to human health (including, but not limited to, worker safety and the community) and the environment associated with remedy implementation.

Community impacts include general impacts, such as potentially increased truck traffic on public roads during construction of the remedies, as well as increased vehicle emissions, resource consumption, and noise.

MNA is considered highly favorable as no additional construction activities will be required beyond the existing monitoring well network. In-Situ Injection will require minor construction activities to install injection and performance monitoring wells. In-situ Injection may result short-term mobilization of other pH-sensitive constituents; however, this risk would be mitigated by conducting bench- and pilot-scale testing to screen out unfavorable amendments or approaches prior to full scale field implementation. There is an additional short-term risk of spills or releases of geochemical amendments during injections in areas proximal to the unnamed creek, which can be mitigated with appropriate engineering controls. Geochemical injections are therefore considered favorable under this criterion.

5.2.1.5 Time until full protection is achieved

Receptors are already protected because Appendix IV constituents in groundwater at AP-2 are not expected to pose a risk to human health or the environment. However, in accordance with §257.98(c)(1) and (2), a remedy is considered fully complete when the GWPS is achieved at all points within the plume that lie at and beyond the compliance boundary for three consecutive years.

The time to achieve GWPS at the compliance boundary under MNA was considered a baseline for comparison purposes and is estimated to be approximately 8 to 15 years (**Appendix B**). Corrective measures that require less time to achieve GWPS are considered more favorable under this criterion.

In-Situ Injection is considered highly favorable as pH adjustments are likely to achieve GWPS in a shorter amount of time. Preliminary “proof of concept” geochemical injection evaluation included in **Appendix B** suggests that GWPS can be achieved at compliance wells within one year. Reduction of constituent concentrations within a treatment area may proceed very quickly. However, the total time to achieve GWPS will be dependent on many factors, including the time to complete distribution of amendments throughout the subsurface and any time associated with maintenance injections which may be required to suppress rebounds in acidification.

MNA is considered less favorable under this criterion as it is predicted to require more time to achieve GWPS. While localized acidity is expected to decrease following closure of AP-2, some acidification processes, such as oxidative dissolution of pyrite, may result in longer than predicted remediation times under MNA.

5.2.1.6 Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, re-disposal, or containment

In accordance with §257.97(c)(1)(vi), this sub-criterion considers elements such as the generation and handling of wastes or potentially impacted media encountered during construction and operation of the remedy.

MNA is considered highly favorable under this criterion as no construction waste will be generated and exposure to potentially impacted groundwater would be minimal. In-Situ Injection is considered favorable as some minor quantities of construction waste would

be generated during implementation although exposure to potentially impacted media would also be minimal.

5.2.1.7 Long-term reliability of the engineering and institutional controls

The following describes the overall long-term reliability for each of the proposed groundwater corrective measures for purposes of comparison. Of note, the reliability of each of the corrective measures is bolstered by the long-term reliability of the closure method and its expected positive effect on groundwater conditions.

In-Situ Injection and MNA are considered equally favorable under this criterion as minimal long-term engineering controls would be required.

5.2.1.8 Potential need for replacement of the remedy

Any need to replace a remedy would be based on a systematic site review during the remedy implementation process if warranted to improve remedy protectiveness, effectiveness, or facilitate progress toward meeting remedy objectives. In accordance with §257.98(b), adaptive site management practices will be used to modify or replace the remedy if the requirements of §257.97(b) are not being achieved.

In-Situ Injection is considered favorable under this criterion, however, this corrective measure may prove unsustainable if ongoing maintenance injections are required to suppress natural acidification (and resulting Co remobilization) after the closure of AP-2. Additional laboratory and field data is required to evaluate the long-term efficacy of geochemical injections as part of the assessment and design of this corrective measure. A bench scale treatability study would provide information on potential post-closure acidification and injection design parameters. Field data from a pilot study would provide additional data for optimization of geochemical strategies and indication of the long-term performance of in-situ injections.

Natural attenuation processes are expected to decrease Co concentrations in groundwater following closure without further intervention, reducing the likelihood that a replacement remedy would be required. Although the longer time required to achieve GWPS introduces inherent uncertainty on remedy success, natural attenuation will still play a role in achieving GWPS under alternate corrective measures under consideration. MNA therefore ranks less favorably under this criterion.

All corrective measures will be evaluated for effectiveness following implementation, and modified if remedial objectives are not being met, in accordance with adaptive site management practices and §257.98(b).

5.2.1.9 Long- and short-term effectiveness summary

This section provides a summary of the eight §257.97(c)(1) sub-criteria relative to long- and short-term effectiveness that are discussed in Sections 5.2.1.1 to 5.2.1.8 above, and includes a summary table.

Appendix IV constituents in groundwater from AP-2 are not expected to pose an adverse risk to human health or the environment under current conditions and each of the corrective measures will be effective in further reducing groundwater impacts of Co that have been detected above GWPS at or beyond the compliance boundary. Closure by removal is an effective source control measure that will address any potential for further releases of CCR constituents. However, some localized acidification processes, such as oxidative dissolution of pyrite, that mobilize Co in groundwater may continue following closure of AP-2.

In-Situ Injection long- and short-term effectiveness is considered favorable. Although there would be some short-term uncertainty during implementation, the primary favorability stems from the shorter time to achieve GWPS. Long-term uncertainty associated with the sustainability of alkaline conditions post-closure would be evaluated and addressed during remedy design.

MNA long- and short-term effectiveness is considered less favorable as the longer time likely required to achieve GWPS introduces inherent uncertainty of remedy success.

Category 1 – Long- and Short-Term Effectiveness Summary

	In-Situ Injection	Monitored Natural Attenuation
<i>Sub-Criterion i</i> Magnitude of reduction of risks		
<i>Sub-Criterion ii</i> Magnitude of residual risk in terms of likelihood of further release		
<i>Sub-criterion iii</i> Type and degree of long-term management required		
<i>Sub-criterion iv</i> Short term risk to community or environment during implementation		
<i>Sub-criterion v</i> Time until full protection is achieved		
<i>Sub-criterion vi</i> Potential for exposure of humans and environmental receptors to remaining wastes		
<i>Sub-criterion vii</i> Long-term reliability of engineering and institutional controls		
<i>Sub-criterion viii</i> Potential need for replacement of the remedy		
Category 1 Summary		

Color Legend:

	Option performs <i>highly favorably</i> under this criterion
	Option performs <i>favorably</i> under this criterion
	Option performs <i>less favorably</i> under this criterion

5.2.2 Source Control Effectiveness

This comparative criterion takes into consideration the ability of the remedy to control a future release, and the extensiveness of treatment technologies that will be required. Closure by removal will be completed safely, in compliance with applicable federal and state regulations, and is protective of public health and the environment. Physical removal of the CCR would, over time, be supportive of declining concentrations of Appendix IV constituents in groundwater downgradient of AP-1 and improve overall groundwater quality. Closure by removal includes excavation and removal of the CCR material from AP-2. None of the corrective measures under consideration would interfere with or diminish the anticipated benefits of the closure method.

5.2.2.1 The extent to which containment practices will reduce further releases

Through closure by removal, CCR material will be removed from AP-2. Since the source material will be removed at the time of AP-2 closure, there will be no further potential for release from the CCR unit. Appendix IV constituents that are currently present in groundwater at or beyond the waste boundary will be controlled by the selected groundwater remedy. Therefore, each of the groundwater corrective measures are considered equally favorable for this sub-criterion.

5.2.2.2 The extent to which treatment technologies may be used

In accordance with §257.97(c)(2)(ii), corrective measures that include more limited treatment approaches for source control may be considered less favorable. Corrective measures that rely on more extensive treatment approaches may be considered more favorable.

No treatment technologies are under consideration since the source material will be removed at the time of AP-2's closure. Therefore, all groundwater remedy alternatives are considered equally favorable for this sub-criterion.

5.2.2.3 Source Control Effectiveness Summary

This section provides a summary of the two §257.97(c)(2) sub-criteria relative to effectiveness that are discussed in Sections 5.2.2.1 and 5.2.2.2 above. Adaptive site management strategies will be implemented to ensure remedial objectives are met.

As described above source control will be achieved at AP-2 and, over time, be supportive of declining concentrations of Appendix IV constituents in groundwater downgradient of AP-2 and improve the overall groundwater quality. The corrective measures are therefore equally favorable under source control effectiveness criteria, as summarized in the following table.

Category 2 – Source Control Effectiveness

	In-Situ Injection	Monitored Natural Attenuation
<i>Sub-criterion i</i> Extent to which containment practices will reduce further releases		
<i>Sub-criterion ii</i> Extent to which treatment technologies may be used		
Category 2 Summary		

Color Legend:

	Option performs <i>highly favorably</i> under this criterion
	Option performs <i>favorably</i> under this criterion
	Option performs <i>less favorably</i> under this criterion

5.2.3 Ease of Implementation

This comparative criterion takes into consideration technical and logistical challenges required to implement a remedy, including practical considerations such as equipment availability and disposal facility capacity.

5.2.3.1 Degree of difficulty associated with constructing the technology

This sub-criterion considers the relative technical difficulty between implementing each of the remedies.

MNA is considered highly favorable as a monitoring system is already in place and no additional construction would be required. In-Situ Injection is considered favorable under this criterion as some construction would be required for the pilot and full-scale injection well network using common means and methods for well installation.

5.2.3.2 *Expected operational reliability of the technologies*

This section compares the operational reliability of each of the proposed remedies in accordance with §257.97(c)(3)(ii). Typically, simple remedies that do not require the installation of significant infrastructure are generally more reliable and do not require significant O&M; however, more complex remedies that rely on groundwater flow or geochemical manipulation or mechanical systems would be considered less favorable. Ongoing localized acidification and mobilization of Co is assumed to impact the operational reliability of all corrective measures equally.

MNA has a proven history of operational reliability and ranks highly favorable under this criterion. It requires little infrastructure and/or ongoing O&M.

In-Situ Injection is considered favorable under this criterion. In-situ Injection is reliable assuming injected amendments can be distributed throughout the aquifer. Pilot testing will provide valuable data on amendment distribution and reduce the potential reliability issues. However, injection wells may be subject to fouling over time and require reconditioning to maintain performance.

5.2.3.3 *Need to coordinate with and obtain necessary approvals and permits from other agencies*

Section §257.97(c)(3)(iii) requires consideration be given and compared between remedies regarding the various agencies and type of permits that would be required for implementation of the groundwater remedy. A corrective measure that could require several permits would be considered less favorable when compared to a corrective measure that would require fewer permits.

MNA ranks highly favorable under this criterion, as no permits or additional approvals from other agencies will be required. In-Situ Injection perform favorably as an Underground Injection Control (UIC) permit will be required.

5.2.3.4 Availability of necessary equipment and specialists

Generally speaking, remedies that could be implemented by local contractors and without specialty contractors or experts may be considered more favorable. Consideration should be given to specialty contractor/consultant proximity to the CCR unit, contractor or equipment availability, and the effectiveness of the proposed remedy on similar sites.

MNA ranks highly favorably under this criterion as no specialty equipment or personnel will be required to implement this remedy at the Site. In-Situ Injection would require equipment for drilling and well installation, and may require specialists to conduct injections. However, well construction techniques are common. In-situ Injection is therefore considered favorable under this criterion.

5.2.3.5 Available capacity and location of needed treatment, storage, and disposal services

This sub-criterion (§257.97(c)(3)(v)) considers disposal options for materials generated by the groundwater remedy and land area that is available for implementation of the remedy.

MNA and In-Situ Injection are considered equally favorable as no additional treatment, storage, and disposal services will be required and adequate land area is available to conduct in-situ treatment with injections.

5.2.3.6 Ease of implementation summary

This section provides a summary of the five §257.97(c)(3) sub-criteria relative to the ease or difficulty of implementing this remedy that are discussed in Sections 5.2.3.1 to 5.2.3.5 above, and includes a summary table. Ongoing localized acidification, which currently mobilizes Co at AP-2, is assumed to equally impact the ease of implementation of all corrective measures equally.

The MNA ease of implementation is ranked highly favorable, as the infrastructure for this remedy is already in place. In-Situ Injection is considered favorable based on the relative ease of construction, anticipated operational performance, limited permitting requirements, the available means and methods to construct the remedy, and the available capacity and supporting services.

Category 3 – Ease of Implementation

	In-Situ Injection	Monitored Natural Attenuation
<i>Sub-criterion i</i> Degree of difficulty associated with constructing the technology		
<i>Sub-criterion ii</i> Expected operational reliability of the technologies		
<i>Sub-criterion iii</i> Need to coordinate with and obtain necessary approvals and permits from other agencies		
<i>Sub-criterion iv</i> Availability of necessary equipment and specialists		
<i>Sub-criterion v</i> Available capacity and location of needed treatment, storage, and disposal services		
Category 3 Summary		

Color Legend:

	Option performs <i>highly favorably</i> under this criterion
	Option performs <i>favorably</i> under this criterion
	Option performs <i>less favorably</i> under this criterion

5.2.4 Evaluation of Comparison Criteria

The various sub-criteria were evaluated, and relative comparisons were made between the corrective measures to determine which remedy would be expected to be the most and least favorable regarding the certainty of success. The results of this comparison are included in the following table for all of the comparative criteria.

In-Situ Injection is considered favorable under long- and short-term effectiveness (Category 1). While In-situ Injections entail some short-term uncertainties, this corrective measure is expected to achieve GWPS in the shortest time. Although MNA is

considered reliable and entails minimal short-term uncertainties, a substantially longer time to achieve GWPS will be required following closure of AP-2.

Source control (Category 2) will be supported at AP-2 through closure by removal of CCR, which over time, will support declining concentrations of Appendix IV constituents in groundwater downgradient of AP-2 and improve overall groundwater quality. None of the corrective measures under consideration will interfere with or diminish the anticipated benefits of the closure method. Each of the corrective measures therefore rank equally with respect to source control.

The ease of implementation (Category 3) of MNA is highly favorable as the required infrastructure already in place. In-Situ Injection is considered favorable based the relative ease of construction and operational performance.

	In-Situ Injection	Monitored Natural Attenuation
Category 1 Long- and Short-Term Effectiveness, Protectiveness, and Certainty of Success		
Category 2 Effectiveness in controlling the source to reduce further releases		
Category 3 Ease of implementation		

Color Legend:

	Option performs <i>highly favorably</i> under this criterion
	Option performs <i>favorably</i> under this criterion
	Option performs <i>less favorably</i> under this criterion

5.3 Public Meeting and Community Engagement

As noted in Section 2.1 above, this criterion will be addressed in the Remedy Selection Report submitted to GA EPD after a public meeting.

6.0 PROPOSED REMEDY SELECTION

This section provides a summary of the proposed groundwater remedy and provides a schedule for remedy implementation in accordance with §257.97(d). Georgia Power will proactively utilize adaptive site management to support the remedial strategy and address potential changes in site conditions as appropriate. Under an adaptive site management strategy, a remedial approach will be selected whereby: (1) a corrective measure will be installed or implemented to address current conditions; (2) the performance of the corrective measure will be monitored, evaluated, and reported semiannually; (3) the conceptual site model will be updated as more data are collected; and (4) adjustments and augmentations will be made to the corrective measure(s), as needed, to meet performance criteria and site remedial objectives. The remedy adaptive site management framework is included as **Figure 7**.

6.1 Summary of Proposed Remedy Selection

The closure by removal of AP-2 will provide effective source control that minimizes potential further releases as no CCR will remain in place. Closure of the CCR unit will, over time, be supportive of declining concentrations of Appendix IV constituents in groundwater downgradient of AP-2 and improve the overall groundwater quality. The proposed corrective measures will address exceedance of the GWPS at and beyond the compliance boundary. Based on the evaluation of comparative criteria included in §257.97(c), the proposed remedy comprises the following two corrective measures:

- **Geochemical Approaches (In-Situ Injections):** A network of either temporary or permanent injection points or wells will be installed and utilized to introduce reagents to the subsurface to promote attenuation of Co. Initial geochemical modeling results (presented in **Appendix B**) support the feasibility of adjusting pH with in-situ injections to immobilize Co and are indicative of relatively short times to achieve GWPS at or beyond the compliance boundary. Laboratory treatability studies, including batch and column testing, are currently ongoing to aid in selection of an appropriate injection composition, dosing, and protocol. This treatability study will serve as a basis of design for this component of the selected remedy and will evaluate the efficacy of adjusting pH to immobilize Co. Injections will target acidified areas to locally increase groundwater pH and immobilize and sequester Co in-situ. A performance monitoring program will be implemented to assess treatment performance and

groundwater quality within and downgradient of the proposed treatment areas for the duration of the remedy.

- **Monitored Natural Attenuation (MNA):** Natural attenuation of Co in areas outside of localized acidity, coupled with monitoring, are already ongoing at the Site. As detailed in the Geochemical CSM Report provided in **Appendix A**, natural attenuation of Co in groundwater is primarily due to adsorption and co-precipitation under circumneutral to alkaline pH conditions. It is anticipated that acidification will dissipate following closure of AP-2. Groundwater monitoring will continue to document natural attenuation processes, which is expected to be enhanced by the in-situ injections. Attenuation mechanisms and reductions in constituent concentrations will continue to be monitored and documented for the duration of the remedy.

A conceptual remedy layout for in-situ injection arrays is shown on **Figure 8**. The MNA component will rely on the same monitoring infrastructure associated as the in-situ injections. Actual remedy injection and monitoring well locations will be assessed during the remedy design. Remedy performance will be monitored to document that remedial objectives are being met in accordance with adaptive site management practices.

6.2 Schedule

In accordance with §257.97(d), the following factors were considered when developing the schedule:

- Extent and nature of contamination: The horizontal and vertical extents of Appendix IV constituents present in groundwater are delineated. Additional characterization and refinement of the treatment area is required for the design and implementation of the remedy. The selected remedy will address the impacts to groundwater and adaptive site management practices will be utilized to evaluate whether to modify the remedial approach.
- Reasonable probabilities of remedial technologies in achieving compliance with the GWPS and other remedial objectives: The selected remedy is expected to achieve compliance with the GWPS well within 10 years of the initiation of injections. As considered in Section 5 of this report, the selected remedy is expected to address Appendix IV constituents in groundwater. If adequate progress is not being made toward addressing groundwater and achieving the GWPS at or beyond the compliance boundary, Georgia Power will enlist adaptive

management strategies to modify the remedial approach, in accordance with §257.98(b). Site and remedy-specific performance metrics will be developed and documented in the Corrective Action Groundwater Monitoring Plan.

- Availability of treatment or disposal capacity for CCR managed during remedy implementation: Because CCR is not expected to be managed during remedy implementation, this factor should not have a material impact on the project schedule.
- Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy: As described in Section 5 of this report, the risk evaluation for Co in groundwater at AP-2 was conducted using methods consistent with GA EPD and USEPA guidance, included multiple conservative assumptions, and concluded that groundwater conditions are not expected to pose a risk to human health or the environment. Thus, this factor should not have a material impact on the project schedule. Additional risks that may be present during remedy implementation were considered in Section 5 of this report, as required under §257.97(c)(1).
- Resource value of the aquifer: As summarized in Section 5 of this report and detailed in the Risk Evaluation Report, Co is not expected to pose a risk to human health or the environment. As such, considerations related to alternative drinking water supply or interim remedial measure, as outlined in §257.98(a)(3), are not currently necessary or expected to become so. Further, Georgia Power will retain ownership of the Site and future development for non-industrial purposes is not currently anticipated. Because AP-2 constituents are not expected to pose a risk to human health or the environment, this factor should not have a material impact on the project schedule.

The general approach and implementation schedule will be modified based on new groundwater quality data obtained during the remedial implementation process, following adaptive site management practices and in accordance with §257.98(b).

6.2.1 Planning and Design

Approximately 24 months will be required to design the selected remedy and develop a corrective action plan. Significant planning and design activities include:

- Pre-design Investigation: A field pre-design investigation (PDI) will be conducted to characterize and refine treatment areas. This investigation will provide valuable data for the design of geochemical injections and provide additional data on acidification throughout the extents of the two plumes. During the PDI, plume extents will be further refined by collecting groundwater samples, possibly using direct-push technology (DPT), which will be assessed for Co and pH. Permanent wells may be installed for further aquifer characterization, and any such permanent wells may be utilized during pilot testing as injection points or performance monitoring wells. The field component of the PDI will take approximately 2 months to complete.
- Pilot Study: To expedite remedy design and implementation, Georgia Power requests written concurrence from GA EPD to initiate pilot studies following receipt of the Draft Remedy Selection Report. Following receipt of GA EPD concurrence to proceed, a pilot study workplan will be developed, submitted to GA EPD, and implemented for each plume. These pilot studies will evaluate optimum injection point spacing and the performance of injectates in-situ. It is anticipated that each pilot will target areas of high acidity (i.e., low pH) and Co; however, alternate pilot locations may be selected based on the results of the PDI. Injection composition and spacing for the final design may be adjusted based on pilot study performance. Prior to injection, a UIC permit application will be prepared and submitted to GA EPD for review and approval (6 months total). Pilot study injections are expected to occur over a period of approximately 1 to 4 months with an additional 8 months of performance monitoring and assessment. The pilot study will be conducted consistent with adaptive site management practices. As such, a second phase pilot study may be implemented prior to completion of the anticipated 8-months of performance monitoring and prior to finalizing the injection design.
- Finalize Design and Corrective Action Plan: A corrective action plan, including detailed remedy design will be developed and submitted to GA EPD for approval. While design activities will be concurrent with the previously listed activities, the corrective action plan will not be finalized until successful completion of the pilot study.

6.2.2 Construction and Implementation

Construction of the injection and performance monitoring well network is anticipated to take approximately 1 to 2 months, with initial geochemical injections occurring over the following 2 to 3 months. Actual construction and implementation times may vary substantially based on the results of the pre-design investigation and other design activities.

6.2.3 Operation

While the estimated timeframe will be refined during design; it is anticipated that the geochemical injection phase of the remedy may only require 6 months to a year of operation followed by a longer period of performance monitoring coupled with monitored natural attenuation for the areas downgradient and/or outside of the injection areas. In total, it is estimated that less than 10 years from the initiation of injections will be required to achieve GWPS within all points of the plumes at and beyond the compliance boundary.

The groundwater remedy will be considered complete when applicable requirements listed under §257.98(c) and 391-3-4-.10(6) are satisfied. In accordance with adaptive site management practices and §257.98(b), the groundwater remedy will be modified if it is determined that GWPS are not being met or will not be met.

6.3 Reporting

In accordance with §257.105(h), Georgia Power will place the Remedy Selection Report into the Site operating record. Thereafter, Georgia Power will develop a corrective action groundwater monitoring program and implement and report on the selected remedy in accordance with applicable regulatory requirements.

7.0 REFERENCES

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TABLES

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

Well ID	Hydraulic Location	Installation Date	Northing ⁽¹⁾	Easting ⁽¹⁾	Ground Surface Elevation (ft)	Top of Casing Elevation ⁽¹⁾ (ft)	Top of Screen Elevation ⁽¹⁾ (ft)	Bottom of Screen Elevation ⁽¹⁾ (ft)	Well Depth (ft BTOC) ⁽²⁾	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-4	Upgradient	12/3/2014	1549930.45	1939385.45	584.94	587.60	572.24	562.24	25.76	10
HGWA-5	Upgradient	12/10/2015	1548633.33	1937184.17	580.52	583.24	564.92	554.92	28.72	10
HGWA-6	Upgradient	12/11/2015	1548636.35	1937177.73	580.72	583.38	543.72	533.72	49.66	10
HGWA-42D	Upgradient	8/27/2020	1549363.72	1938443.86	583.39	586.17	528.39	518.39	68.03	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-14	Downgradient	10/16/2014	1547998.96	1938406.27	594.67	597.25	564.67	554.67	42.98	10
HGWC-15	Downgradient	10/20/2014	1547875.33	1937854.92	578.73	581.49	553.93	543.93	37.96	10
HGWC-16	Downgradient	10/21/2014	1548209.83	1937540.33	577.36	580.02	557.36	547.36	33.06	10
HGWC-17	Downgradient	10/22/2014	1548449.71	1937538.98	581.51	584.30	566.91	556.91	27.79	10
HGWC-18	Downgradient	10/22/2014	1548821.27	1937558.32	581.36	584.18	566.86	556.86	27.71	10
Piezometer										
MW-8	Downgradient	10/29/2014	1548171.86	1940016.70	584.25	587.37	565.05	555.05	32.72	10
MW-9	Downgradient	10/29/2014	1548131.38	1938922.16	588.42	591.67	569.12	559.12	32.95	10
MW-12	Downgradient	10/21/2014	1547853.78	1937525.46	580.59	584.33	555.79	545.79	38.94	10
MW-16	Downgradient	10/27/2014	1549104.17	1937940.06	571.70	575.22	562.20	552.20	23.42	10
MW-17	Downgradient	10/28/2014	1549163.28	1938345.81	583.68	587.67	568.98	558.98	29.09	10
MW-18	Downgradient	10/29/2014	1548984.15	1938712.73	589.75	593.07	571.05	561.05	32.42	10
MW-33	Downgradient	11/21/2019	1547973.50	1938412.13	591.19	593.92	566.60	556.60	37.72	10
MW-34D	Downgradient	5/6/2020	1547996.82	1938392.20	593.83	596.51	530.48	520.48	73.68	10
MW-35	Downgradient	5/13/2020	1547905.33	1938417.82	571.88	574.40	558.70	548.70	23.52	10
MW-36D	Downgradient	5/7/2020	1548435.43	1937538.19	581.44	584.10	534.12	524.12	57.65	10
MW-51	Downgradient	7/22/2021	1547872.35	1938421.46	571.57	574.54	556.47	546.47	28.90	10
MW-52	Upgradient	1/25/2022	1549277.59	1938398.82	583.25	586.11	573.29	563.29	28.90	10
Delineation Monitoring Well										
MW-21D	Downgradient	11/19/2018	1548814.86	1937555.78	581.16	583.84	542.36	532.36	51.88	10
MW-22	Downgradient	11/15/2018	1547854.68	1937832.04	576.05	578.51	551.45	541.45	37.47	10
MW-23D	Downgradient	11/15/2018	1547876.55	1937843.89	579.06	581.30	529.46	519.46	62.24	10
MW-37D	Downgradient	5/8/2020	1548803.01	1937551.05	580.95	583.58	514.65	504.65	76.63	10

Notes:

ft = feet

BTOC = below top of casing

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet. Elevations referenced to the North American Vertical Datum of 1988 (NAVD88). Survey completed by GEL Solutions dated May 19, 2020 and September 10, 2020 (for HGWA-42D, HGWA-43D, and HGWA-44D), September 8, 2021 (for MW-51), and April 11, 2022 (for MW-52).

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

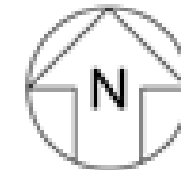
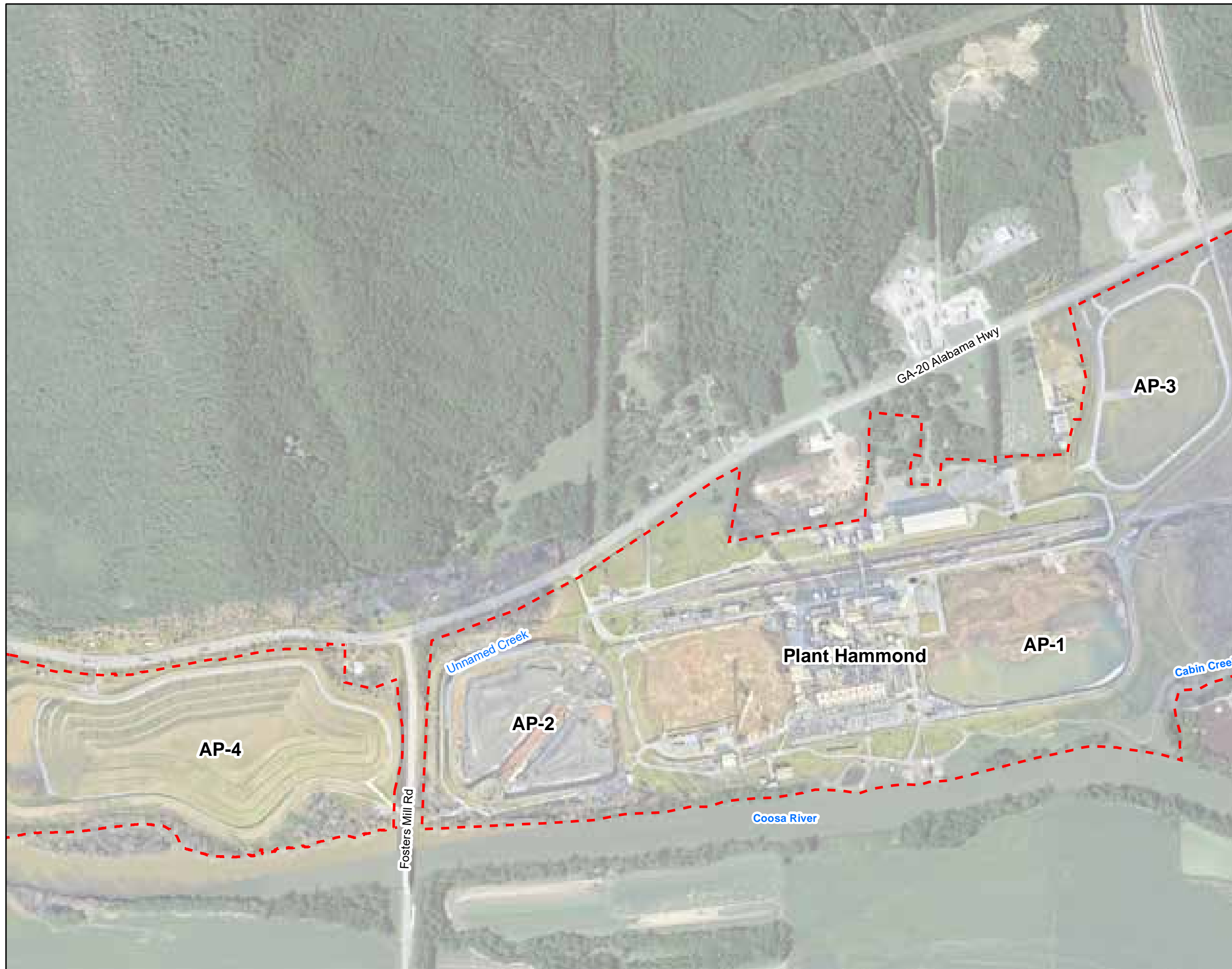
Table 2
Summary of Corrective Measures Screening
Plant Hammond AP-2, Floyd County, Georgia

Corrective Measure	Description	Screening Status
Geochemical Approaches (In-Situ Injection)	Geochemical approaches rely on an injection well network to introduce reagents or air into the subsurface to promote either anaerobic or aerobic attenuation of constituents as a sparingly-soluble mineral or through sorption mechanisms.	<u>Retained</u>
Hydraulic Containment ("Pump and Treat")	Hydraulic containment refers to the use of groundwater extraction to induce a hydraulic gradient for hydraulic capture or to 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 aquifer, or reuse (e.g., land application, CCR conditioning, etc.).	<u>Not retained</u> ⁽¹⁾ (i) Not typically used to address acidification or control pH. (ii) Pumping may aerate or otherwise exacerbate ongoing acidification.
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. Natural attenuation mechanisms for inorganic constituents at CCR sites are either physical (e.g., dilution, dispersion, flushing, and related processes) or chemical (sorption or oxidation reduction reactions).	<u>Retained</u>
Permeable Reactive Barrier (PRB)	Permeable reactive barrier technology typically involves the installation of a permeable subsurface wall constructed with reactive media for the removal of constituents as groundwater passes through.	<u>Not retained</u> (i) Does not address downgradient groundwater when installed along the compliance boundary; (ii) Limited construction feasibility due to variability in depth to competent bedrock; (iii) Potential for increased maintenance due to potential biofouling and mineral precipitation.
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 by providing containment.	<u>Not retained</u> (i) Does not address downgradient groundwater when installed along the compliance boundary; and (ii) Limited construction feasibility due to variability in depth to competent bedrock.

Notes:

(1) Hydraulic Containment was screened from consideration subsequent to the submittal of the *2021 Annual Groundwater Monitoring and Corrective Action Report* based on further refinement of the conceptual site model.

FIGURES



LEGEND

Plant Hammond Property Boundary



Note:
 1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.



SITE LOCATION MAP

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

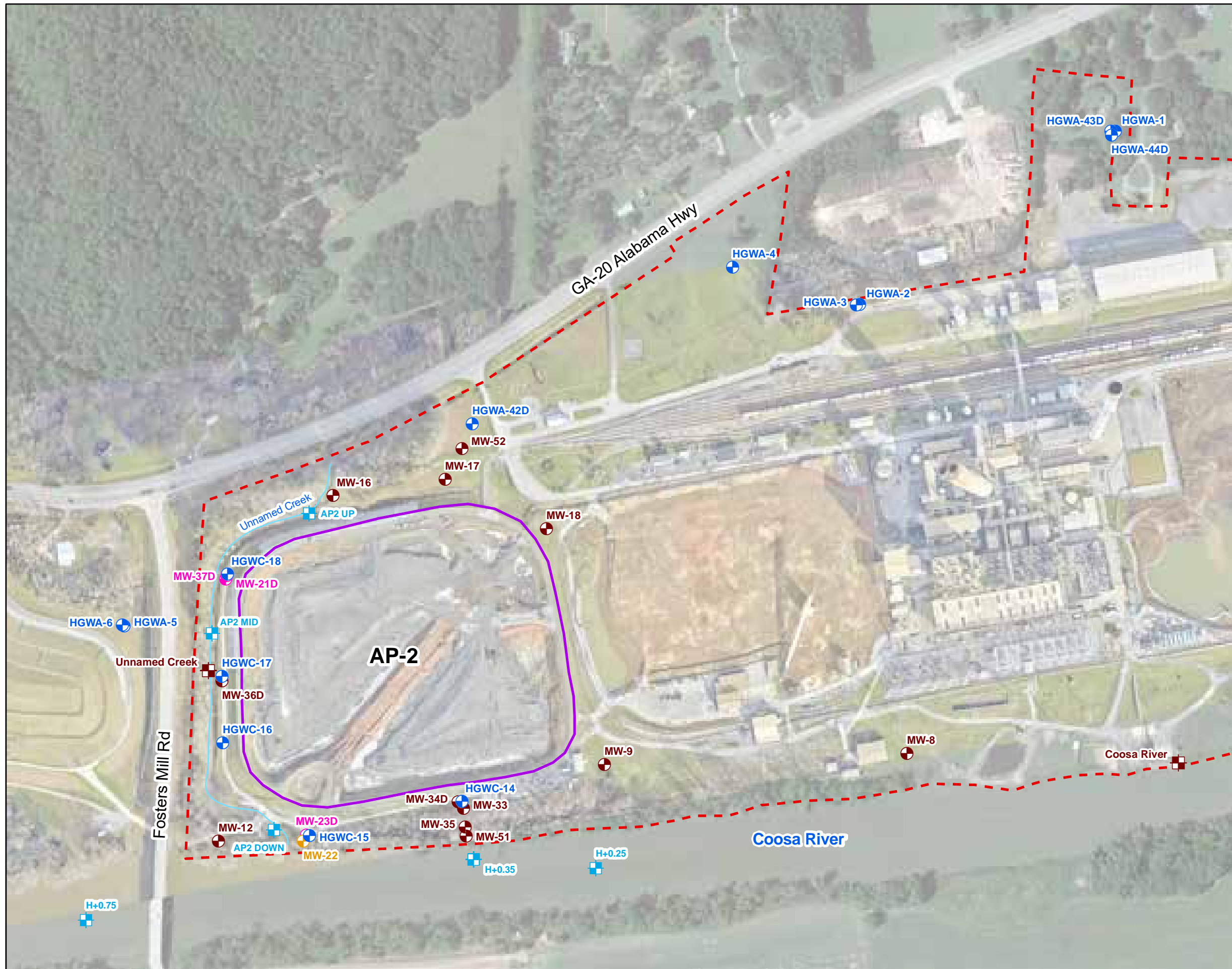
Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

KENNESAW, GA

AUGUST 2022

FIGURE
1



LEGEND

- Compliance Monitoring Well
- Horizontal Delineation Well
- Vertical Delineation Well
- Piezometer
- Surface Water Level Gauge Point
- Surface Water Sample Point
- Unnamed Creek
- Approximate AP-2 Boundary
- Plant Hammond Property Boundary

Notes:
 1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.

0 150 300 600



SCALE IN FEET

MONITORING WELL NETWORK AND SAMPLING LOCATION MAP

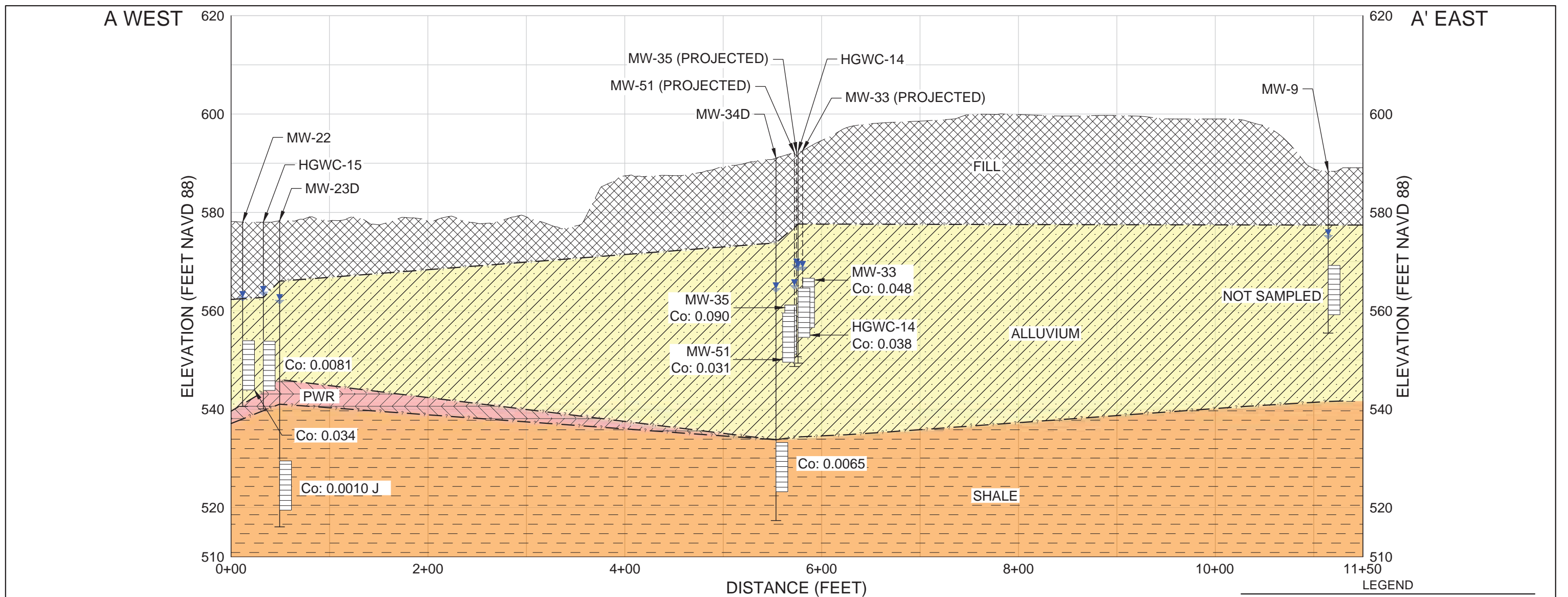
GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

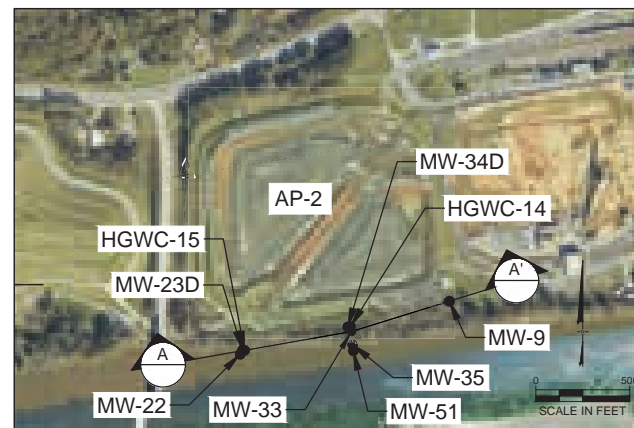
KENNESAW, GA AUGUST 2022

FIGURE
2



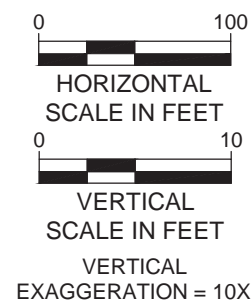
NOTES:

- SUBSURFACE LITHOLOGIC ELEVATIONS BETWEEN BORINGS ARE BASED ON ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) 3D MODEL KRIGING AND SHOULD BE CONSIDERED APPROXIMATE.
- ELEVATION PROVIDED IN FEET REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
- ELEVATIONS OF LITHOLOGIC UNITS WERE ESTIMATED BASED ON GROUND SURFACE ELEVATIONS OF SOIL BORINGS.
- BORING LOGS AND HYDROGEOLOGIC INFORMATION FOR SOIL BORINGS AND MONITORING WELLS NOT INSTALLED BY GEOSYNTEC CONSULTANTS WERE PROVIDED BY GEORGIA POWER COMPANY.
- GROUNDWATER LEVELS MEASURED BY GEOSYNTEC ON 31 JANUARY 2022.
- COBALT (Co) CONCENTRATION DATA ARE FROM FEBRUARY 2022 SEMI-ANNUAL GROUNDWATER MONITORING EVENT. CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER LITER. A "<" INDICATES THE CONSTITUENT WAS NOT DETECTED ABOVE THE ANALYTICAL METHOD DETECTION LIMIT (MDL). A "J" INDICATES THE CONSTITUENT WAS ESTIMATED AND DETECTED BETWEEN THE MDL AND THE REPORTING LIMIT.
- NO SAMPLE WAS OBTAINED WITHIN UPPER 10 TO 13 FEET OF BORING DUE TO HYDRO EXCAVATION AT MW-22, MW-23D, AND MW-34D.
- MW-33, MW-35, AND MW-51 ARE PROJECTED AND LOCATED DOWNGRADED OF THE AP-2. LITHOLOGICAL DESCRIPTIONS FROM THESE BORING LOGS WERE EXCLUDED FROM THE CROSS SECTIONS.
- THE GROUNDWATER PROTECTION STANDARD (GWPS) FOR COBALT IS 0.038 MG/L.



SECTION A-A' KEY MAP

LEGEND	
	ESTIMATED LITHOLOGICS
	EXTRAPOLATED SURFACE
	WELL
	PROJECTED WELL
	SCREEN INTERVAL
	GROUNDWATER LEVEL (NOTE 5)
	FILL: SILTY CLAY, LEAN CLAY, SANDY CLAY WITH SOME GRAVEL
	ALLUVIUM: CLAY, SILT, SANDY CLAY, CLAYEY GRAVEL, GRAVELLY CLAY
	PARTIALLY WEATHERED ROCK (PWR)
	SLIGHTLY TO MODERATELY WEATHERED SHALE



GEOLOGIC SECTION A-A'
GEORGIA POWER COMPANY
PLANT HAMMOND ASH POND 2 (AP-2)
ROME, FLOYD COUNTY, GEORGIA

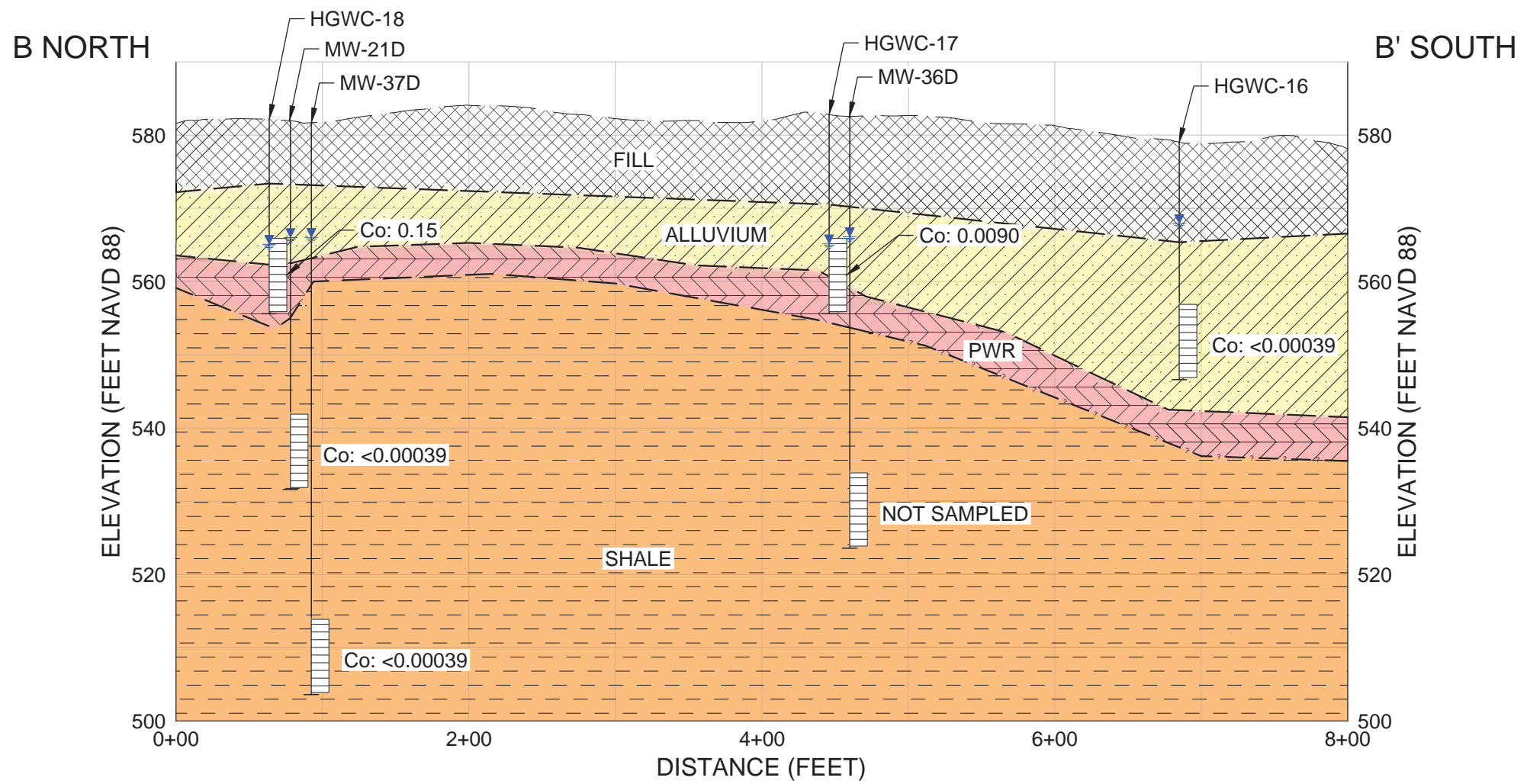
Geosyntec
 consultants
 KENNESAW, GA

FIGURE

3

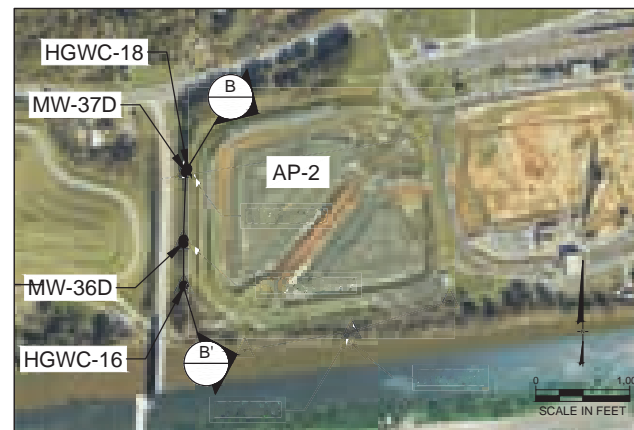
PROJECT NO: GW6581B

AUGUST 2022



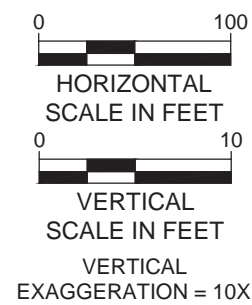
NOTES:

1. SUBSURFACE LITHOLOGIC ELEVATIONS BETWEEN BORINGS ARE BASED ON ENVIRONMENTAL VISUALIZATION SYSTEM (EVS) 3D MODEL KRIGING AND SHOULD BE CONSIDERED APPROXIMATE.
2. ELEVATION PROVIDED IN FEET REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. ELEVATIONS OF LITHOLOGIC UNITS WERE ESTIMATED BASED ON GROUND SURFACE ELEVATIONS OF SOIL BORINGS.
4. BORING LOGS AND HYDROGEOLOGIC INFORMATION FOR SOIL BORINGS AND MONITORING WELLS NOT INSTALLED BY GEOSYNTEC CONSULTANTS WERE PROVIDED BY GEORGIA POWER COMPANY.
5. GROUNDWATER LEVELS MEASURED BY GEOSYNTEC ON 31 JANUARY 2022.
6. COBALT (Co) CONCENTRATION DATA ARE FROM FEBRUARY 2022 SEMI-ANNUAL GROUNDWATER MONITORING EVENT. CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER LITER. A "<" INDICATES THE CONSTITUENT WAS NOT DETECTED ABOVE THE ANALYTICAL METHOD DETECTION LIMIT (MDL).
7. NO SAMPLE WAS OBTAINED WITHIN UPPER 10 FEET OF BORING DUE TO HYDRO EXCAVATION AT MW-21D, MW-36D, AND MW-37D.
8. THE GROUNDWATER PROTECTION STANDARD (GWPS) FOR COBALT IS 0.038 MG/L.



SECTION B-B' KEY MAP

LEGEND	
	ESTIMATED LITHOLOGICS
	EXTRAPOLATED SURFACE
	WELL
	SCREEN INTERVAL
	GROUNDWATER LEVEL (NOTE 5)
	FILL: SILTY CLAY, LEAN CLAY, SANDY CLAY WITH SOME GRAVEL
	ALLUVIUM: CLAY, SILT, SANDY CLAY, CLAYEY GRAVEL, GRAVELLY CLAY
	PARTIALLY WEATHERED ROCK (PWR)
	SLIGHTLY TO MODERATELY WEATHERED SHALE



GEOLOGIC SECTION B-B'
 GEORGIA POWER COMPANY
 PLANT HAMMOND ASH POND 2 (AP-2)
 ROME, FLOYD COUNTY, GEORGIA

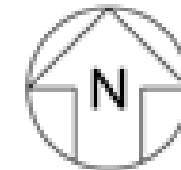
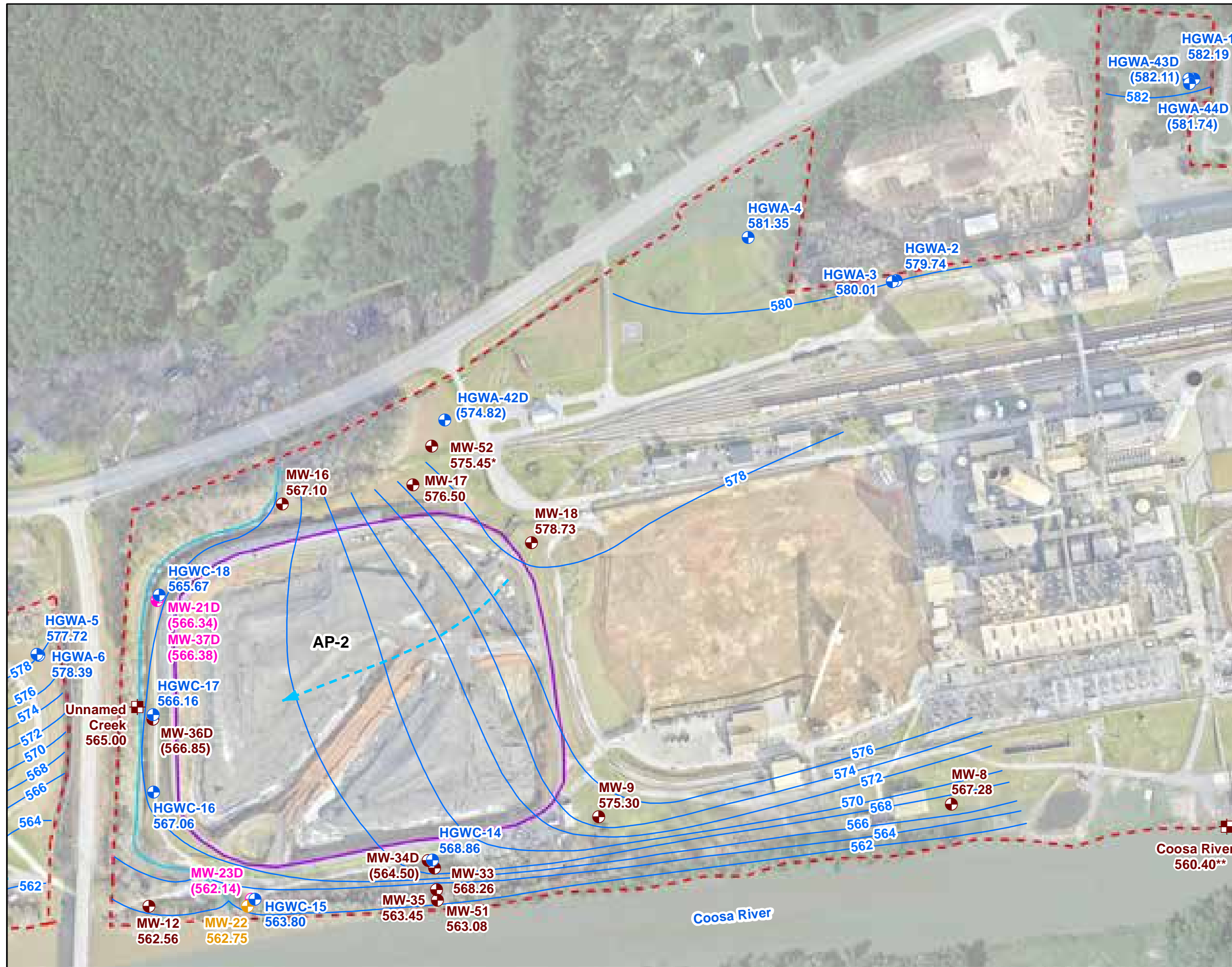
Geosyntec
 consultants
 KENNESAW, GA

FIGURE

4

PROJECT NO: GW6581B

AUGUST 2022



- LEGEND**
- Compliance Monitoring Well
 - Horizontal Delineation Well
 - Vertical Delineation Well
 - Piezometer
 - Surface Water Level Gauge Point
 - Groundwater Elevation Iso-Contour
 - Approximate Groundwater Flow Direction
 - ▭ Approximate AP-2 Boundary
 - - - Plant Hammond Property Boundary

- Notes:
1. Water level elevation recorded on January 31, 2022. Elevation provided in feet (ft) referenced to the North American Vertical Datum of 1988 (NAVD 88).
 2. Groundwater elevations in parentheses were not used to make the groundwater contours because these wells are screened at a different elevation in the formation/aquifer.
 3. An asterisk (*) denotes that the groundwater elevation at MW-52 was not used to develop groundwater contours because the water elevation is likely not presenting accurate static level at the time due to very recent well development and potential slow recharge of the well.
 4. A double asterisk (**) denotes the water level for the Coosa River was gauged approximately 950 feet upstream of MW-8 at the staff gauge near AP-1.
 5. Aerial photograph source: Google Earth Pro, August 2019, And Georgia Power Company, January 2022.



**POTENTIOMETRIC SURFACE CONTOUR
MAP - JANUARY 2022**

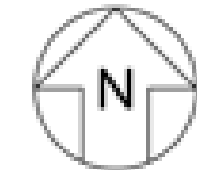
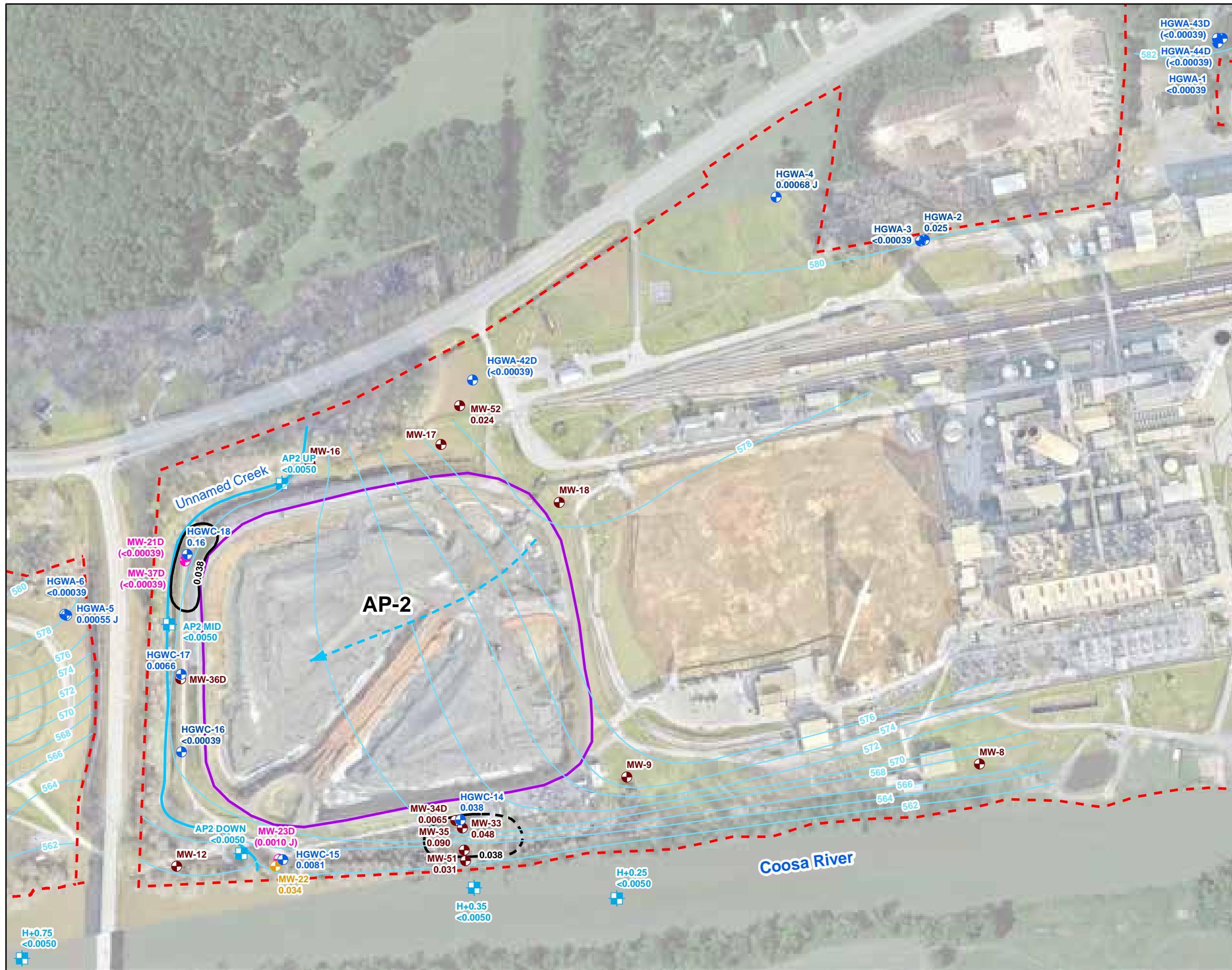
GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec
consultants

KENNESAW, GA AUGUST 2022

**FIGURE
5**



- LEGEND**
- Compliance Monitoring Well
 - Horizontal Delineation Well
 - Vertical Delineation Well (Not Used for Contouring)
 - Piezometer
 - Surface Water Sample Point
 - GWPS Cobalt Iso-Concentration Contour (mg/L) (dashed where inferred)
 - Groundwater Elevation Iso-Contour
 - Approximate Groundwater Flow
 - Approximate AP-2 Boundary
 - Plant Hammond Property Boundary

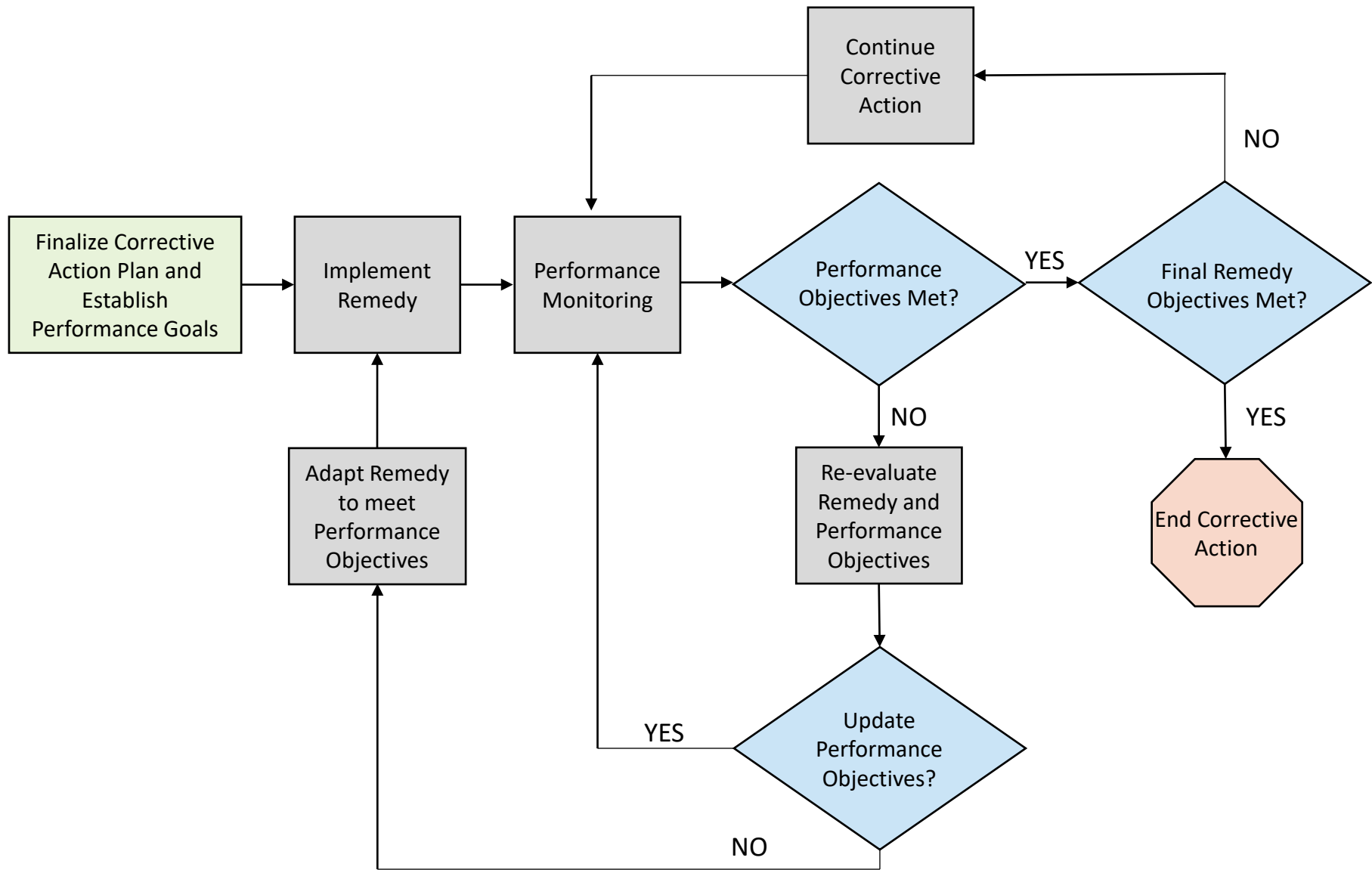
- Notes:**
1. Concentration data from groundwater samples collected during the February 2022 semiannual monitoring event. Surface water data collected in January 2022. Data reported for wells screened deeper in the aquifer were not used to generate the iso-concentration contour (HGWA-42D, HGWA-43D, HGWA-44D, MW-21D, MW-23D, MW-37D). Concentrations are reported in mg/L.
 2. Water level elevation recorded on January 31, 2022. Elevation provided in feet (ft) referenced to the North American Vertical Datum (NAVD) 88.
 3. The Groundwater Protection Standard (GWPS) for cobalt is 0.038 mg/L.
 4. Aerial photograph source: Google Earth Pro, August 2019, And Georgia Power Company, January 2022.



**ISO-CONCENTRATION MAP
COBALT - FEBRUARY 2022**

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:		FIGURE 6
Prepared By:		
KENNESAW, GA	AUGUST 2022	



Notes:

REMEDY ADAPTIVE SITE MANAGEMENT

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:

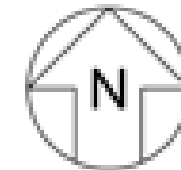
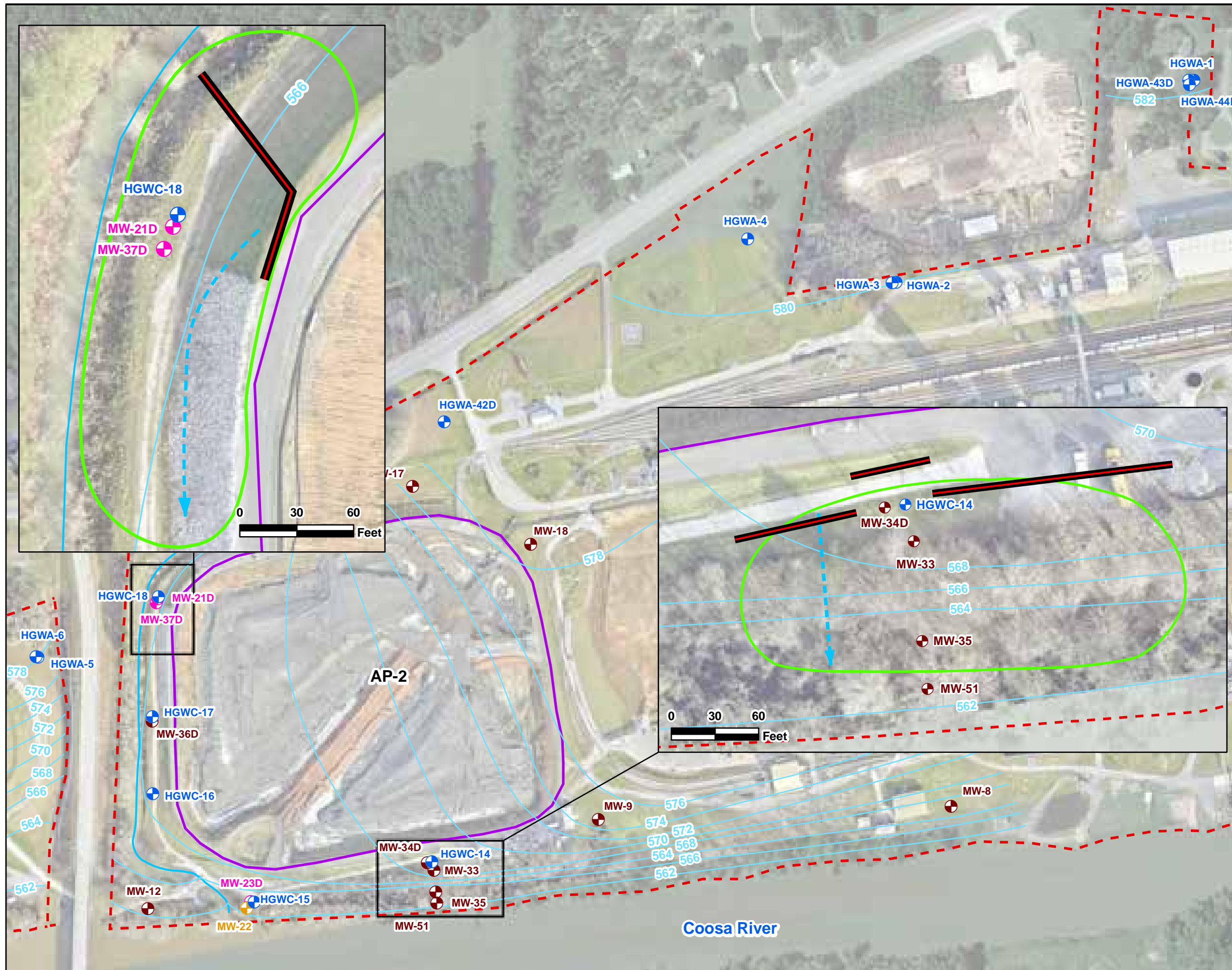


Figure

7

KENNESAW, GA

AUGUST 2022



- LEGEND**
- Compliance Monitoring Well
 - Horizontal Delineation Well
 - Vertical Delineation Well
 - Piezometer
 - ▬ Proposed Injection
 - ▬ Proposed Treatment
 - ▬ Groundwater Elevation Iso-Contour
 - ➔ Approximate Post-Closure Groundwater Flow Direction
 - ▬ Approximate AP-2 Boundary
 - - - Plant Hammond Property Boundary

- Notes:**
1. Proposed injection array locations are conceptual and consider post-closure groundwater flow conditions. Injection and performance monitoring well locations will be assessed during remedy design.
 2. Proposed Treatment area boundaries are collocated with Cobalt iso-concentration lines presented in Figure 6. Treatment areas will be refined during pre-design investigation efforts.
 3. Water level elevation recorded on January 31, 2022. Elevation provided in feet (ft) referenced to the North American Vertical Datum (NAVD) 88.
 4. Aerial photograph source: Google Earth Pro, August 2019, And Georgia Power Company, January 2022.



REMEDY CONCEPTUAL DESIGN

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

FIGURE
8

KENNESAW, GA AUGUST 2022

APPENDIX A

Geochemical Conceptual Site Model Report



Prepared for

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

GEOCHEMICAL CONCEPTUAL SITE MODEL REPORT

PLANT HAMMOND ASH POND 2 (AP-2)

Prepared by

Geosyntec 
consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW7300

August 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

ACM	Assessment of Corrective Measures
AEC	Anion Exchange Capacity
AP-2	Plant Hammond Ash Pond 2
CEC	Cation Exchange Capacity
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
CSM	Conceptual Site Model
DPT	Direct-Push Technology
EDXA	Energy Dispersive X-Ray Analysis
GA EPD	Georgia Environmental Protection Division
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
mg/L	milligrams per liter
SEM	Scanning Electron Microscopy
SEP	Sequential extraction procedure
SiREM	SiREM analytical laboratory
SSL	Statistically Significant Level
TOC	Total Organic Carbon
USEPA	United States Environmental Protection Agency
WRA	Whole Rock Analysis
XRD	X-Ray Diffraction

1.0 INTRODUCTION

1.1 Purpose

This geochemical conceptual site model (GCSM) report has been prepared for Georgia Power Company (Georgia Power) Plant Hammond Ash Pond 2 (AP-2 or Site) to support the remedy selection efforts being completed at the Site. The purpose of this GCSM report is to document site-specific geochemical conditions influencing the fate and transport of cobalt (Co). This report summarizes data previously submitted to EPD as part of routine Semiannual Remedy Selection and Design Progress Reports as well as recent data.

1.2 Site Background and Overview of AP-2 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. A site location map is provided in the *Draft Remedy Selection Report – Plant Hammond Ash Pond 2 (AP-2)* (**Figure 1**, Draft Remedy Selection Report) (Geosyntec, 2022b), to which this GCSM is attached. AP-2 is a 21-acre surface impoundment at Plant Hammond. Georgia Power will close AP-2 through removal of the coal combustion residuals (CCR) material from the CCR unit.

1.3 Site Geology and Hydrogeologic Setting

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

1.3.1 Site Geology

AP-2 is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) of northwest Georgia which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site indicates that the Site is underlain by the middle units of the Cambrian age Conasauga Formation, consisting of mostly calcareous shale. Subsurface investigations at the Site describe the bedrock as predominately calcareous shale and fissile black shale. AP-2 is underlain primarily by five lithologic units: (i) terrace alluvium, (ii) colluvium, (iii) residuum, (iv) partially

weathered shale bedrock, and (v) unweathered shale bedrock. Additional lithology descriptions of these units can be found in the HAR Rev 01 (Geosyntec, 2019b).

1.3.2 Hydrology and Groundwater Flow

The uppermost aquifer at AP-2 is a regional unconfined groundwater aquifer that occurs primarily in the alluvial, colluvial, and residuum soils and within the weathered and fractured bedrock. Recharge is by precipitation falling on bedrock outcrop areas and infiltration through alluvial, colluvial, and residual soils to the bedrock. The movement of groundwater in the soil can be characterized as low-to moderate permeability, porous media flow. The groundwater flow in the shallow underlying bedrock is characterized as fracture flow due to the preponderance of low permeability shale beneath AP-2. The regional groundwater flow direction is expected to be from north to south; however, the local flow direction beneath AP-2 is predominantly east to west with an additional southwesterly component. Groundwater elevation data and potentiometric surface contours that depict groundwater flow direction are provided in the *Draft Remedy Selection Report* (**Figure 5**, Geosyntec, 2022b), to which this GCSM is attached. Monitoring well construction details are provided in the *Draft Remedy Selection Report* (**Table 1**, Geosyntec, 2022b), to which this GCSM is attached.

1.4 Groundwater Exceedances

According to the *2021 Annual Groundwater Monitoring and Corrective Action Report* (Geosyntec, 2022a), submitted to GA EPD in January 2022, statistical analysis of the August 2021 assessment monitoring event identified statistically significant levels (SSLs) of cobalt (Co) exceeding the site-specific groundwater protection standard (GWPS) of 0.038 milligrams per liter (mg/L) at HGWC-18, MW-33, MW-35. Thus, Co was identified as the constituent of interest for this GCSM. Time series graphs of Co concentrations at HGWC-18, MW-33, and MW-35 are depicted on **Figure 1**, **Figure 2**, and **Figure 3**, respectively.

2.0 SUMMARY OF SITE CHARACTERISTICS

The following section summarizes the field investigations and data evaluations completed at the Site which have been used to develop the current GCSM. This section also summarizes work performed following initiation of the ACM process in 2019 and incorporates material presented in the ACM Report, semiannual ACM Progress Reports, and the Annual and Semiannual Groundwater Monitoring and Corrective Action Reports. These reports are available on Georgia Power’s CCR Rule Compliance, Hammond AP-2, public website¹.

2.1 Groundwater and CCR Pore Water Geochemistry

2.1.1 Groundwater and Pore Water Analysis

During select sampling events, additional geochemical constituents were collected from groundwater and pore water sampling locations to supplement Appendix III and Appendix IV constituents. The analytical data for these sampling events are presented in **Table 1**. Analytical laboratory reports for the supplemental data are available as **Appendix A**.

Data from select locations, including a representative upgradient location (HGWA-4), two pore water piezometers screened within the AP-2 CCR material (PMW-03 and PMW-04) and the downgradient locations of interest were used to construct Piper and Stiff diagrams. These diagrams are among the most common tools for assessing geochemical similarities and differences between aqueous samples. The resulting Piper diagram is presented as **Figure 4**, and the Stiff diagrams for select locations are provided on **Figure 5**.

The data presented on **Figure 4** show two distinct plot areas. Data from the representative background monitoring well HGWA-4 represent a calcium-bicarbonate (Ca-HCO₃) type water, as plotted on the middle-left corner of the diamond-shape plot and reflects a background signature for the Site. Data from the downgradient wells and the pore water piezometers plot near the top apex of the Piper plot. This area represents a chemical composition commonly found in CCR material (high calcium [Ca] and sulfate [SO₄]) and reflects an ionic signature for pore water or pore water-affected groundwater flow from AP-2. **Figure 5** presents the Stiff diagrams for the locations of interest. HGWA-4, a representative background compliance monitoring well, has an ionic strength approximately four times lower than the pore water piezometers, and approximately six

¹ <https://www.georgiapower.com/company/environmental-compliance/plant-list/plant-hammond.html>

times lower than the downgradient wells of interest. The analysis of groundwater and pore water data indicates a CCR signature in the downgradient wells of interest.

2.1.2 Spatial Evaluation of Geochemical Conditions

To assess the spatial variation in geochemistry between pore water within AP-2 and groundwater immediately downgradient of AP-2 (**Figure 5**), groundwater samples were collected in February 2021 along a flow transect from pore water piezometer PMW-04 towards the groundwater well HGWC-18. Groundwater samples were collected from: (i) piezometer PMW-04; (ii) temporary piezometers TPZ-01, and TPZ-02; and (iii) the monitoring well HGWC-18.

Analytical data presented in **Table 2** indicate that the pH generally decreases downgradient from AP-2 along the transect from PMW-04 and TPZ-01 [7.13 to 9.73 standard units (s.u.), respectively] to HGWC-18 (4.53 to 4.55 s.u.). Bicarbonate alkalinity is highly variable along the flow transect. The bicarbonate concentration in pore water at PMW-04 is 156 mg/L and decreases to 36.7 mg/L in groundwater at TPZ-02 before declining further to below the method detection limit of 5.0 mg/L at monitoring well HGWC-18. The bicarbonate concentration of 8.2 mg/L in pore water at TPZ-01 is much lower than at PMW-04; however, the concentration of bicarbonate is likely affected by the higher pH at TPZ-01 (9.38 s.u.). The significant decrease in pH along the flow transect coupled with variable bicarbonate concentrations, suggests that the aquifer has limited to low buffering capacity. Dissolved carbon dioxide in groundwater further supports the lack of buffering capacity, with carbon dioxide concentrations increasing from 9.65 mg/L in PMW-04 to 100 mg/L in HGWC-18. The general increasing trend in carbon dioxide concentrations along the flow transect suggests that as pH decreases, bicarbonate ions in groundwater are converted to dissolved carbon dioxide.

Based on these results, carbonate alkalinity appears to have a limited effect on the pH of groundwater, suggesting that other potential mechanisms (e.g., oxidation of sulfide minerals, localized microbially-mediated reductive dissolution of minerals, etc.) contribute to the localized groundwater acidity and low pH observed along the flow transect. The buffering capacity of the aquifer appears to be insufficient to counteract the effect of acidity generated by these other mechanisms. Potential mechanisms that could generate localized areas of high acidity and low pH are discussed in detail in Section 3.

In terms of general aquifer redox conditions, upgradient groundwater has a low dissolved oxygen (DO) concentration, generally below 1 mg/L; at several upgradient monitoring wells, DO is lower than 0.5 mg/L (Table 1). Downgradient groundwater shows nearly

prevailing anoxic conditions because the DO concentrations are generally < 0.5 mg/L (except MW-35). Iron reducing conditions are common, as many downgradient monitoring wells show an iron concentration > 0.5 mg/L (**Table 1**)

2.2 Aquifer Solids Characterizations

2.2.1 Site Characterization of Unconsolidated (Soil/Weathered Bedrock) Aquifer Solids

Geosyntec completed an analysis of aquifer matrix samples collected using a direct-push technology (DPT) rig in January and February 2021 from the saturated unconsolidated zone at five locations in the vicinity of AP-2 (DPT-07 through DPT-11). The DPT sample collection locations are shown on **Figure 5**. At the four downgradient locations, sample depths generally correspond with the screen interval depths of the compliance monitoring wells reporting groundwater concentrations of Co elevated relative to the GWPS (i.e., identified as SSLs). Aquifer materials were also sampled at one upgradient location (DPT-07) in the vicinity of background compliance well HGWA-42D, albeit at a shallower depth interval compared to this deeper background well installed in bedrock.

The aquifer matrix samples were sent to SiREM analytical laboratory (SiREM) located in Guelph, Ontario, for a baseline chemical and mineralogical characterization by application of the following analytical testing/methods:

- *Cation Exchange Capacity (CEC) and Anion Exchange Capacity (AEC):* 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 and negatively charged ions, such as many metals, (micro-) nutrients, and anions such as sulfate or chloride.
- *Total Sulfur, Sulfide:* 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, might be present in the aquifer matrix. Alternatively, total sulfur and sulfide data may also provide information on the presence of sulfide minerals that may dissolve under site-specific conditions.
- *Organic Carbon Content:* Presence of substrate for adsorption and energy source for microbially mediated metal(loid)s transformations. Organic

carbon, if present, can contribute to the CEC and AEC of a soil. 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.

- *Total Metals Concentration*: Total concentrations of targeted constituents in the solid phase. The samples were analyzed for Co, iron (Fe), aluminum (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.
- *X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Energy Dispersive X-Ray Analysis (EDXA) and Whole Rock Analysis (WRA)*: Qualitative and quantitative confirmation of mineral phases present, including WRA for quantitative confirmation of XRD results. Identifying crystalline and non-crystalline mineral phases aids in evaluating mineral phases that may be associated with the constituents of concern (i.e., cobalt herein).

A summary of the aquifer solids results is provided below, and the results from these analyses are presented in **Tables 3** through **6**. The complete SiREM report associated with these analyses is included in **Appendix C** of this report.

2.2.1.1 Anion and Cation Exchange Capacity

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).

As presented in **Table 3**, the CEC ranges from 6.61 milliequivalents per 100 grams (meq/100 g) in boring DPT-08 to 11.91 meq/100 g in boring DPT-09. Similarly, the AEC varies within a narrow range between 5.17 meq/100 g in DPT-09 and 6.84 meq/ 100 g in background boring DPT-07.

2.2.1.2 Total Sulfur, Total Sulfide, and Total Organic Carbon

The total sulfur content in samples collected from downgradient DPT locations (DPT-08 through DPT-11) ranges from 0.014% in DPT-10 to 0.034% in DPT-11 (**Table 3**). The

total sulfur content is higher in the sample collected from background location DPT-07 with 0.811%. The total sulfide in samples ranges from <0.04% in DPT-10 to 0.85% in background boring DPT-07. The sulfur/sulfide concentrations in soil samples could be indicative of the presence of sulfide minerals. However, additional analyses including XRD and SEM/EDXA are typically used to confirm the presence of specific minerals in soil samples. These analyses are further discussed in Section 2.2.1.4.

The total organic carbon (TOC) content of DPT samples ranges from 0.11% in DPT-11 to 1.06% in background boring DPT-07 (**Table 3**). The TOC data suggest that organic carbon compounds are not abundant in the aquifer matrix. The relatively low abundance of TOC is consistent with samples collected at depth within the aquifer matrix made up of mostly residuum (i.e., clays) and partially weathered bedrock at that depth. Therefore, organic carbon is not expected to play a major role in the behavior of site-specific constituents.

2.2.1.3 Total Metals and Whole Rock Analyses

The total metals concentrations in the DPT soil samples are summarized in **Table 4**, and include the site-specific constituent of interest Co. Iron, Al, and Mn in DPT samples were also analyzed to assess if oxides/oxyhydroxides of these metals may be present at the Site. Oxides/oxyhydroxides of Fe, Al and Mn could influence the fate and transport of metal ions in groundwater (including Co) by the formation of surface complexes.

The aquifer materials contain Co within a fairly narrow range. Cobalt detections range from 7.0 micrograms per gram ($\mu\text{g/g}$), which is equivalent to milligrams per kilogram (mg/kg), in boring DPT-11 to 14 mg/kg in downgradient boring DPT-10 and background boring DPT-07. Importantly, the background boring DPT-07 exhibited the highest concentrations of Co, suggesting that a naturally occurring source Co likely exists in the aquifer materials near AP-2.

As expected for residuum and highly weathered bedrock materials at this Site, the Fe and Al contents are substantial, with Fe concentrations ranging from 24,000 mg/kg (2.4%) in boring DPT-08 to 39,000 mg/kg (3.9%) in DPT-11, and Al concentrations ranging from 48,000 mg/kg (4.8%) in DPT-08 to 77,000 mg/kg (7.7%) in background boring DPT-07. Aluminum can also be present within feldspars or aluminosilicates. Manganese concentrations range from 170 mg/kg in background boring DPT-07 to 540 mg/kg in boring DPT-10.

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 **Table 5**) shows the relative abundance of major rock-forming elements present in each sample. With this analytical method, each element is reported as an oxide (i.e., not as its mineral form in the sample). As expected in this geologic setting, the most abundant elements detected include silicon (Si) and Al, followed by Fe. Ca, Mg, Na, K, and titanium (Ti) were also consistently detected at relatively low levels.

2.2.1.4 XRD and SEM/EDXA Analyses

XRD as well as SEM/EDXA analyses were completed to characterize both the crystalline and non-crystalline phases of the unconsolidated aquifer matrix. Overall, the analysis of the aquifer matrix indicates the abundance of quartz, muscovite, kaolinite, iron oxyhydroxides, and albite.

As expected (and confirmed through WRA), the quantitative XRD analysis (**Table 6**) indicated that the largest percentage of the aquifer matrix is made up of quartz, ranging from 43.7% (by weight) in background boring DPT-07 to 65.6% (by weight) in boring DPT-08. The second-highest percentage of the mineralogy was characterized by muscovite, a hydrous silicate of aluminum and potassium mica, at weight percentages between 7.9% and 33.1%, and the 1:1 clay mineral kaolinite at weight percentages between 12.7% and 22.0%. Clay minerals are major contributors to the CEC of soil and aquifer solid materials. Other minerals consistently detected include the feldspar mineral albite and the titanium oxide (TiO₂) minerals anatase and rutile. XRD analysis indicates the presence of pyrite in 2 out of 5 samples with concentrations of 1.3% in the background location DPT-07 and 0.4% in the downgradient location DPT-09, suggesting that pyrite is present in the aquifer matrix. As documented in the laboratory reports (**Appendix B**), XRD has a detection limit of 0.5% to 2% by weight (or 5,000 mg/kg to 20,000 mg/kg). Minerals not identified could still be present at lower concentrations but were not detected in the analysis. As such, XRD analysis does not offer conclusive proof of the absence of particular mineral phases in a sample and hence, XRD analysis is often supplemented by other analyses including SEM/EDXA.

The SEM/EDXA images and results are included in the SiREM report (**Appendix B**). 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 five

borings. The main minerals identified include quartz, various feldspar minerals and silicates, clays and clay minerals such as kaolinite, muscovite and chlorite, and an abundance of Fe-oxides and oxyhydroxides that could either be present within the soil matrix or as coatings on feldspar grains or clay minerals. It should be noted that SEM/EDXA cannot detect hydrogen atoms (due to the physics of the analysis), so it is possible that these Fe oxide phases are present as hydrated Fe oxyhydroxides. Other minerals such as zircon, ilmenite and rutile were also consistently identified across all borings. Pyrite was identified by SEM/EDXA in three out of five samples. In addition to DPT-07 and DPT-09 where pyrite was identified by XRD, SEM/EDXA identified pyrite in DPT-08. However, iron oxide/oxyhydroxides were identified in each boring location, suggesting that surface complexation sites are available within the aquifer matrix for site-specific constituents.

2.2.2 Sequential Extraction Procedure

Aquifer solids collected from background location DPT-07 and downgradient locations DPT-08 and DPT-11 were submitted for a sequential extraction procedure (SEP) at the Eurofins/TestAmerica laboratory in Knoxville, Tennessee to assess the geochemical fractionation of trace elements within aquifer solids. SEPs are chemical extractions used to remove metals from specific solid-associated phases. SEPs use progressively stronger reagents to solubilize metals from increasingly stable phases. Although these procedures do not identify the specific metal phases in a soil/aquifer matrix, they do provide a means to evaluate the class of solids and relative stability in relation to oxidation/reduction (redox) potential and pH fluctuations (Tessier et al, 1979; Kuo et al., 1983; Sposito et al., 1984; Hickey and Kittrick, 1984; Gruebel et al., 1988).

SEP data can be used to interpret the mechanism and potential reversibility of attenuation processes. SEP data typically supplement information collected during the baseline characterization, such as CEC and AEC, as well as the presence of certain minerals and/or metal oxyhydroxides. The Eurofins/TestAmerica uses a 7-step extraction procedure, which is described in **Appendix C** and in previous reports. The results of the SEP analysis are provided in **Table 7**.

As a first step to evaluate data quality in an SEP analysis, the sum of individual extraction steps from the SEP was compared to the total concentration of a metal. The sum of SEP is not expected to be exactly equal to the total metals analysis, but should generally be consistent with the total metals analysis. For materials collected at the Site, the total metals analyses for Co and the sum of Co from extraction steps 1 through 7 match reasonably well, indicating good metal recovery in the SEP steps and data quality (**Table**

7). Total Co concentrations in the SEP samples varied within a narrow range from 7.0 mg/kg (estimated) in boring DPT-11 to 11 mg/kg in background boring DPT-07. These results are consistent with the independent analysis of these samples presented in Section 2.2.1.3.

In the background boring DPT-07, the majority of Co was recovered in Step 1 (Exchangeable Phase) which suggests the presence of a weakly sorbed fraction of Co. Some Co was also released in Step 5 (Organic Phase) and Step 6 (Acid/Sulfide Fraction) in boring DPT-07, indicating that Co at this location is also associated with organic carbon and sulfide minerals. The release of Co in Steps 5 and 6 from the DPT-07 sample is generally consistent with the TOC and sulfur/sulfide analysis presented in earlier sections.

At the downgradient boring locations DPT-08 (near HGWC-18) and DPT-11 (near HGWC-14) little to no Co was recovered in the SEP Step 1 and Step 2 (Carbonate Phase). The majority of Co released from the downgradient boring DPT-08 sample was associated with the Non-Crystalline Phase (Step 3), and some Co was associated with Step 4 (Metal Hydroxide Phase), indicating that Co in this sample is mostly associated with amorphous and crystalline metal oxides and oxyhydroxides. Most of the Co in downgradient boring DPT-11 was associated with Step 4 (Metal Hydroxide Phase) and Step 6 (Acid/Sulfide Fraction).

The variability of Co associations in the SEP results suggests that naturally occurring Co may be associated with multiple phases at AP-2. Generally, Co may be: (i) weakly sorbed to the surface and readily exchangeable; (ii) sorbed on to metal oxyhydroxides, non-crystalline phases; (iii) associated with organic compounds and phases; and (iv) sorbed or co-precipitated with sulfide minerals.

2.3 Sorption and Desorption Batch Studies

Aquifer solids and groundwater samples were shipped to SiREM for laboratory batch studies to assess the sorption and desorption behavior of Co, as further described below. In general, sorption studies use soils collected from background locations and groundwater with constituent concentrations above GWPSs to evaluate attenuation mechanisms and capacity. Desorption studies can be used to assess attenuation stability of the constituents of interest, and generally utilize soils collected proximal to areas with exceedances of GWPSs and groundwater with background constituent concentrations. Sorption tests are used to calculate a site-specific distribution coefficient (K_d) between the solid phase and the aqueous phase. The K_d values can be used in a fate and transport

model to estimate future groundwater concentrations and evaluate potential corrective actions at the Site.

2.3.1 Sorption Studies

As can be seen in **Table 8**, all five spiked concentration levels for Co added to aquifer solids from DPT-07 (background) unexpectedly led to mobilization of Co rather than sorption of Co. While groundwater from background location HGWA-5 was spiked with Co at target concentrations of up to 0.55 mg/L, the average Co concentration in the aqueous phase after combining background aquifer solids with spiked groundwater were as high as 4.08 mg/L after seven days of incubation. At the same time, the average pH of the aqueous solutions decreased to as low as 3.39 s.u. The groundwater pH values at HGWA-5 were reported between 6.3 and 6.8 s.u., suggesting an almost immediate decline in pH from circumneutral to 4.3 s.u. once in contact with aquifer solids from DPT-07, with additional declines in pH as the groundwater remained in contact with the aquifer solids. These results suggest that the mobilization of Co is linked to acidification, which is consistent with the observations during groundwater monitoring that low pH conditions correlate to elevated Co concentrations at this Site. However, the magnitude of the laboratory results was unexpected, both in terms of the acidity as well as the level of Co concentrations. This is likely due to the fact that background boring DPT-07 contained an abundant amount of pyrite (**Table 6**), which likely led to pyrite oxidation and the resulting acidification of the batch reactors. Since no sorption but only Co mobilization was observed, these batch reactor results could not be used to develop sorption isotherms and/or calculate K_d values.

As also summarized in **Table 8**, the downgradient sample from DPT-08 indicated some limited sorption of spiked Co onto the aquifer solids, especially at higher spiked Co concentration levels. However, there was also a decrease in pH of approximately one s.u. observed in these batch reactors, which likely led to some mobilization of Co. This, in turn, masked (or counter-acted) the sorption of spiked Co onto aquifer solids. Overall, the acidification and the resulting mobilization of Co are consistent with groundwater monitoring results and the GCSM for the Site, and suggests that low pH conditions within the aquifer lead to mobilization of naturally-occurring Co.

2.3.2 Desorption Studies

The results of the desorption batch study are summarized in **Table 9**. Aquifer solids from boring DPT-08 located downgradient of HGWC-18 were used to evaluate desorption behavior of Co under laboratory atmospheric conditions.

As can be seen in **Table 9**, following incubation of aquifer materials from DPT-08 with background groundwater from HGWA-5, Co concentrations in the aqueous solution increased from 0.059 mg/L at the beginning of the study to 0.141 mg/L at the end of the seven-day incubation period. The pH decreased by approximately one s.u. during the incubation period. The results suggest that background groundwater is capable of mobilizing Co from the aquifer matrix, consistent with the findings of the sorption study discussed above. Note that the Co concentration of 0.141 mg/L is consistent with the Co concentrations detected in well HGWC-18 during routine groundwater monitoring events. Overall, both the sorption as well as the desorption study results are consistent with the GCSM and suggests that low pH conditions mobilize naturally-occurring Co at this Site.

3.0 GEOCHEMICAL CONCEPTUAL SITE MODEL

3.1 Cobalt

This section summarizes the current GCSM of Co mobilization at the Site. Specifically, this section describes the occurrence of Co in Site soils and details potential mechanism for mobilization of Co from soils to groundwater. The GCSM was developed based on the data and analysis presented in the previous section. Additional data are anticipated to be collected to support the remedy design and implementation process. As new data become available, the GCSM will continue to be evaluated and refined as necessary.

3.1.1 Cobalt Occurrence

The presence of cobalt in samples collected from the background DPT-07 boring suggests that cobalt occurs naturally in the overburden soils at the Site. The concentration of cobalt in soil boring samples collected at the Site (DPT-07 through DPT-11) ranges from 7 to 14 mg/kg (**Table 4**). The observed cobalt concentrations in the overburden soils are comparable to average Co concentrations (6.9 mg/kg) in southeastern US but lower than average crustal concentrations of 25 mg/kg (Haynes, 2017).

The occurrence of cobalt in regional groundwater has been attributed to the cobalt-bearing manganese oxide deposits in dolomites and shales (Pierce, 1944). Similar dolomite and shale formations underlie the Site and are potential natural sources for cobalt-bearing oxides in the weathered overburden soils. While manganese oxides weren't specifically identified in soil samples collected for analysis, iron oxides/oxyhydroxides were identified in all boring samples. Cobalt from weathered rock could complex with iron oxides/hydroxide surfaces depending on geochemical conditions.

Additionally, cobalt is also known to undergo isomorphic substitution for iron in crystalline iron minerals such as pyrite due to their similar ionic radii (Hitzman et al, 2017). Pyrite in regional rock formations such as Floyd Shale is well documented in the published works of Pierce (1944), and Kesler (1950). The occurrence of pyrite in Site soils is further supported by the XRD and SEM/EDXA analysis (Section 2.2.1.4) performed on materials collected at the Site.

As such, Co in Site soils is likely associated with Fe/Mn oxides and pyrite. SEP analysis of soil samples (Section 2.2.2) collected from background and downgradient boring locations indicates that Co in site soils is associated with multiple phases including

crystalline and non-crystalline oxides/oxyhydroxides, and sulfide minerals, consistent with the literature and soil characterization data discussed above.

The occurrence of cobalt at shallow aquifer depths, particularly at background locations at the Site, suggests the presence of a naturally source of cobalt. The presence of Co in background groundwater (HGWA-2, **Table 1**) further indicates that naturally occurring Co could be mobilized from the aquifer matrix to the Site groundwater depending on local geochemical conditions. Data collected as part of the remedy design and implementation process will continue to be evaluated to assess the nature and occurrence of Co in Site soils.

3.1.2 Speciation and Distribution

Cobalt speciation in natural surface and near-surface environments is predominated by the aqueous cation $\text{Co}^{2+}_{(\text{aq})}$. However, Co can also be oxidized to Co^{3+} , although this form of Co has very low solubility and typically precipitates out of solution (Collins and Kinsela, 2010). The predominant phase for cobalt at the Site is expected to be Co^{2+} , as shown on the Eh-pH diagram for cobalt is provided as **Figure 6**.

At the Site, pH ranges from 4.47 s.u. at HGWC-18 to 7.62 s.u. at HGWA-42D (**Table 1**) while Eh ranges from 76.2 mV at MW-37D to 797 mV at MW-36D (**Table 1**²). Under the Eh-pH conditions encountered at the Site, Co in groundwater is predominantly present as Co^{2+} (**Figure 6**), while Fe and Mn in groundwater are likely to be present as dissolved species (**Figure 7**). Under site conditions, Co is likely to be present as either dissolved Co^{2+} or adsorbed (complexed) with oxide phases of Fe and Mn, consistent with the literature (ATSDR, 2004; Krupke and Serne, 2002). Additionally, as presented on **Figure 7**, Eh-pH conditions at the wells of interest are favorable for the dissolution of pyrite and oxides/oxyhydroxides of Fe and Mn, if these solid phases are present in the aquifer matrix.

Figure 8 presents the correlation between Co concentration and pH in groundwater at the Site. The highest Co concentration in groundwater at Hammond AP-2 corresponds to low groundwater pH, as seen in well HGWC-18, where the pH has consistently remained at around pH 4.5 s.u. (**Tables 1 and 2**) since the start of monitoring in 2016. Similarly, elevated concentrations of Co have been observed in MW-33 and MW-35, where the pH has generally been lower than 5 s.u.; pH in pore water piezometer PMW-04 (that is no longer in service as it was abandoned in 2021) is slightly alkaline (pH = 7.13 to 7.62 s.u.,

² Eh is calculated as field ORP + 200 mV (reference electrode)

Table 2) and Co concentrations were significantly lower (<0.002 mg/L, **Table 2**) than HGWC-18 which is located downgradient from PMW-04. Exceedances of the Co GWPS at AP-2, are observed consistently only in wells with pH values less than 5.6 s.u. (**Tables 1 and 2**). Elevated Co concentrations are also only noted in pore water piezometers with lower pH (**Table 2**).

The correlation of Co and pH suggests that a decrease in pH is likely the most important driver of Co mobilization. The relationship between pH and dissolved Co is apparent at along the flow transect around HGWC-18 - the pH in groundwater at TPZ-02 is approximately 6.75 and decreases to approximately 4.5 around HGWC-18, and the decrease in pH correlated with an increase in Co concentration from 0.009 mg/L in TPZ-02 to 0.14 mg/L in HGWC-18. Additionally, as presented in Eh-pH diagrams for iron and manganese (**Figure 7**), a decrease in pH could drive the dissolution of pyrite as well as oxide/oxyhydroxide phases of Fe and Mn. As such, Co that is associated with sulfide minerals such as pyrite or crystalline and non-crystalline phases of Fe/Mn oxides are likely mobilized under low pH conditions. This pH control on the distribution of Co in groundwater systems has been documented by numerous published studies. For example, Kairies (2005) reports decreased dissolved Co concentrations and increased Co sorption as pH increases. The relationship between pH and Co concentration in groundwater is further supported by the sorption tests, where background water when reacted with the background boring soil sample resulted in both a significant decrease in pH and a significant increase in Co. Potential geochemical mechanisms that could drive a decrease in pH are discussed in Section 3.1.3.

3.1.3 Site-Specific Cobalt Mobilization

Data presented in previous sections indicate that the primary driver for mobilization of Co from site soils to groundwater is a decrease in pH. **Figure 9** presents the conceptual model for Co mobilization at the Site. At the downgradient locations of interest (HGWC-18; MW-33 and MW-35), where Co concentrations are greater than the GWPS, the pH has consistently remained below 5 s.u. Further, the acidity (or low pH) in groundwater in these locations appears to be localized (as evidenced by a wide range in pH between different downgradient compliance wells). The three mechanisms that could likely explain the localized acidity and low pH at the Site include: (i) oxidative dissolution of sulfide minerals (e.g., pyrite); (ii) localized biogeochemical reduction of iron and manganese oxides; and (iii) localized proton exchange with surfaces in the aquifer.

- (i) Oxidative dissolution of sulfide minerals: acidification of groundwater may be caused by oxidation of pyrite or other sulfide minerals at the Site (**Figure 7**). Pyrite has been observed in site soils (Section 2) in both upgradient and downgradient locations. The dissolution of pyrite or other sulfide mineral phases typically leads to the reduction of pH by the formation of sulfuric acid. The resulting acidity generated by the dissolution of sulfide minerals, in the absence of buffering capacity, would lead to the dissolution of Fe/Mn oxides and oxyhydroxide phases. As discussed in detail in earlier sections, Co is associated with both sulfide minerals and oxide/oxyhydroxide phases in site soils. The dissolution of sulfide minerals and oxides/oxyhydroxides could mobilize Co from site soils to groundwater. This mechanism is consistent with the sorption study, where reacting background soils (DPT-07) and downgradient soils (DPT-08) with background groundwater resulted in a decrease in pH and an accompanying increase in dissolved Co concentration. Strong fluctuations in pH observed in sorption/desorption testing may be due to limited buffering capacity along certain flow paths in AP-2 groundwater. This variability in buffering capacity may be related to heterogenous carbonate content in the residuum, partially weathered shale bedrock, and shale bedrock units.
- (ii) Localized biogeochemical reduction of Fe/Mn oxides and oxyhydroxides: acidification may also be caused by bacterial reduction of Fe and Mn-oxyhydroxides (e.g. Gounot, 1994). The resulting localized acidity could mobilize cobalt associated with these hydroxides through desorption and dissolution. Iron concentrations in the downgradient groundwater average about 2.6 mg/L (ranging from 0.02 mg/L to 23 mg/L, median = 4 mg/L), whereas Mn concentrations average higher with 5.9 mg/L (ranging from 0.04 to 18 mg/L, median = 0.8 mg/L). The occurrence of Fe and Mn in downgradient groundwater could indicate that both Mn and Fe-reducing processes are occurring in groundwater at the Site. Microbially-mediated Mn(IV) reduction under anoxic, low nitrate condition could mobilize Mn in groundwater, as shown in many studies (e.g. McMahon and Chappelle, 2008). While overburden TOC data are relatively low in the downgradient locations, additional data that will be collected as part of the remedy design and implementation process will continue to be assessed to evaluate this mechanism for localized acidity.
- (iii) Proton exchange: localized acidity may also be a result of proton exchange between through cation assimilation in site soils (Holmberg, 1986). Analysis of DPT samples indicates that in downgradient locations of interest, the CEC ranges from 6.61 meq/100g at DPT-08 to 8.98 meq/100g at DPT-11. CEC is typically

attributed to negatively charged surfaces including clay minerals and organic matter. XRD analysis of soil samples indicates an abundance of kaolinite and muscovite in samples collected from the borings, which could provide CEC and exchangeable acidity. As groundwater with high concentrations of cations such as Ca^{2+} , and Mg^{2+} interact with a surface with high CEC and exchangeable acidity (i.e., H^+ protons), these ions are retained by the surface in exchange for protons or Al ions. The acidity generated in this way could lead to the dissolution of sulfide minerals as well as oxides of Fe/Mn leading to the mobilization of Co to groundwater.

As described above, several mechanisms could lead to localized acidity and low pH at the Site. However, irrespective of the source of acidity, the potential corrective remedy for the Site is likely to remain unchanged. As additional data are collected as part of the remedy design and implementation process, the source of acidity will continue to be evaluated and the GCSM revised as necessary.

3.1.4 Site-Specific Cobalt Attenuation

Adsorption (surface complexation) of Co on Fe and Mn-hydroxides under neutral to alkaline pH conditions and co-precipitation of Co are expected to drive the attenuation of Co in the overburden soils. **Figure 10** presents the conceptual site model for Co attenuation at the Site. Dissolved Co^{2+} in groundwater bonds to surface species of aquifer matrix materials. Alkaline pH conditions induce a negative surface charge on these mineral surfaces, allowing Co cations to adsorb; this process appears to have been counter-acted at AP-2 due to the localized acidifying processes observed at the Site. Total metals, mineralogical and SEP data indicate that clay minerals and Al/Fe/Mn-hydroxides are present in significant amounts to favor adsorption and attenuation of Co. Iron and Mn hydroxides, due to their high surface area, tend to be excellent sorbents of trace elements (e.g., As, Co, Ni and Zn) and subsequently control their mobility, fate and transport in water (e.g. Herbert, 1996; Schemel et al., 2000). Cobalt is preferentially sorbed to Mn oxide phases when these phases are present (Kaires, et al, 2005). Further, sulfate concentrations can influence the sorption of trace metals to the Fe-hydroxide surface by creating a net negative charge at the Fe hydroxide surface and thus, sulfate can enhance sorption of Co onto the Fe hydroxide (Kaires, et al, 2005).

In addition to adsorption, Co initially complexed with the mineral surfaces of Fe/Mn oxides and oxyhydroxides become entrained in the crystal structure as the mineral continues to grow. This process more commonly occurs with poorly crystalline, fast growing iron and manganese oxyhydroxides that precipitate under oxidizing conditions.

These mechanisms of attenuation of Co through surface complexation and co-precipitation are likely occurring around HGWC-18 and MW-33 and MW-35. However, the extent of attenuation has not been investigated in detail. Additional data collected as part of remedy design and implementation may be evaluated to further characterize cobalt attenuation at the Site as necessary.

3.2 Conceptual Site Model - Summary

AP-2 will be closed by removal of CCR materials from the unit, thereby providing a source control measure that reduces the potential for migration of CCR-related constituents to groundwater. Illustrations depicting the GCSM for Co are presented in **Figure 9** and **Figure 10**. A summary of key findings supported by site-specific data discussed in previous section is as follows:

- Cobalt occurs naturally in the overburden soils at the Site. The concentrations of Co in soil samples range from 7 to 14 mg/kg (**Table 4**);
- SEP data indicate that Co may be associated with multiple phases in site soils including crystalline and non-crystalline oxides/oxyhydroxides and sulfide minerals;
- Pyrite was identified in soil samples collected from background and downgradient locations;
- The concentration of Co in groundwater is influenced by groundwater pH. A localized decrease in pH is likely the primary driver for Co mobilization from the aquifer matrix to the groundwater;
- Several mechanisms may explain the localized acidity observed in the vicinity of HGWC-18, MW-33, and MW-35. Geochemical data support oxidative dissolution of pyrite and sulfide minerals and proton exchange as the primary source of acidity, other mechanisms including microbially mediated dissolution may be applicable;
- Regardless of the source of acidity, the decrease in pH drives the dissolution of Co bearing sulfide minerals and oxides/oxyhydroxides leading to the mobilization of Co to the groundwater;

- The primary mechanism of attenuation of Co at the Site is adsorption (surface complexation) and coprecipitation to Fe/Mn oxides and oxyhydroxides under neutral to alkaline pH conditions; and
- Irrespective of the source of acidity, the potential corrective measure for Co in groundwater at the Site is likely to be unaffected. As additional data are collected to support remedy design and implementation, this GCSM (including the occurrence of Co and mechanisms for acidification and Co mobilization) will continue to be refined.

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TABLES

Table 1
Summary of Groundwater And Pore Water Analytical Data
Plant Hammond AP-2, Floyd County, Georgia

Category	Parameter ^{1,2}	Units	Background Groundwater																	
			HGWA-1	HGWA-1	HGWA-1	HGWA-2	HGWA-2	HGWA-3	HGWA-3	HGWA-3	HGWA-3	HGWA-4	HGWA-4	HGWA-5	HGWA-5	HGWA-6	HGWA-6	HGWA-42D	HGWA-43D	HGWA-44D
			9/23/2019	6/16/2020	9/15/2020	9/23/2019	9/15/2020	9/23/2019	9/15/2020	9/23/2019	6/16/2020	9/15/2020	9/24/2019	9/15/2020	9/24/2019	9/15/2020	9/24/2019	9/15/2020	9/17/2020	9/16/2020	9/16/2020
Appendix III	Boron	mg/L	0.021 J	0.021 J	0.017 J	0.034 - 0.04 J	0.044 J	0.0081 J	0.01 J	0.0071 J	0.013 J	0.013 J	0.0088 J	0.012 J	0.016 J	0.016 J	0.098 J	0.061 J	0.23	
	Calcium	mg/L	118	130	103	19.5	21.1	71	85.1	73.1	36.6	20.4	29.3	27.9	52.5	49.9	43.8	56	30	
	Chloride	mg/L	17.7	41.1	13.4	5.1	5	5.9	5.8	6	3.6	3.3	1.7	1.7	1.3	1.2	5.8	4.1	7.2	
	Fluoride	mg/L	0.078 J	0.071 J	0.082 J	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	0.058 J	0.061 J	<0.05 ND	<0.05 ND	0.2	0.22	0.52	
	Sulfate	mg/L	70.2	88.2	47.3	47.2	51.5	43.9	49.5	44.7	<0.5 ND	<0.5 ND	20.7	21.2	35.4	35.3	10.9	43	6.9	
	TDS	mg/L	442	632	265	129	124	268	448	258	131	93	133	116	222	217	188	272	270	
Appendix IV	Comb. Radium 226/228	pCi/L	-	-	0.748 U	-	0.124 U	-	-	0.161 U	0.455 U	0.179 U	0.201 U	0.601 U	0.874 U	1.36 U	0.665 U	0.531 U	0.422 U	
	Antimony	mg/L	<0.00027 ND	-	<0.00028 ND	<0.00027 ND	<0.00028 ND	<0.00027 ND	-	<0.00028 ND	-	-	-	-	-	-	0.00055 J	0.00051 J	0.00049 J	
	Arsenic	mg/L	0.00046 J	-	<0.00078 ND	0.00067 J	<0.00078 ND	0.0011 J	-	<0.00078 ND	<0.00035 ND	<0.00078 ND	0.00055 J	<0.00078 ND	<0.00035 ND	<0.00078 ND	<0.00078 ND	<0.00078 ND	<0.00078 ND	<0.00078 ND
	Barium	mg/L	0.042	-	0.035	0.13	0.12	0.13	-	0.12	0.03	0.024	0.053	0.045	0.22	0.19	0.13	0.26	0.24	
	Beryllium	mg/L	<0.000074 ND	-	<0.000046 ND	<0.0026 - 0.00011 J	0.00013 J	<0.000074 ND	-	<0.000046 ND	<0.000074 ND	<0.000046 ND	<0.000074 ND	<0.000046 ND	<0.000074 ND	<0.000046 ND	<0.000046 ND	<0.000046 ND	<0.000046 ND	<0.000046 ND
	Cadmium	mg/L	<0.00011 ND	-	<0.00012 ND	<0.00011 ND	0.00012 J	<0.00011 ND	-	<0.00012 ND	<0.00011 ND	<0.00012 ND	<0.00011 ND	<0.00012 ND	<0.00011 ND	<0.00012 ND	<0.00012 ND	<0.00012 ND	<0.00012 ND	<0.00012 ND
	Chromium (III+VI)	mg/L	<0.00039 ND	-	<0.00055 ND	0.00058 J	<0.00055 ND	<0.00039 ND	-	<0.00055 ND	<0.00039 ND	<0.00055 ND	<0.00039 ND	<0.00055 ND	<0.00039 ND	<0.00055 ND	<0.00055 ND	<0.00055 ND	0.0012 J	
	Cobalt	mg/L	<0.0003 ND	-	<0.00038 ND	0.038 - 0.039	0.021	<0.0003 ND	-	<0.00038 ND	<0.0003 ND	<0.00038 ND	0.00063 J	0.00047 J	<0.0003 ND	<0.00038 ND	<0.00038 ND	<0.00038 ND	<0.00038 ND	
	Lead	mg/L	0.000078 J	-	<0.000036 ND	0.000092 J	0.00008 J	<0.000046 ND	-	0.000042 J	<0.000046 ND	0.000049 J	<0.000046 ND	<0.000036 ND	0.000071 J	<0.000036 ND	0.000062 J	0.00005 J	0.00021 J	
	Lithium	mg/L	0.0011 J	-	0.00087 J	0.0016 J	0.0015 J	0.0029 J	-	0.0026 J	<0.00078 ND	<0.00081 ND	0.0035 J	0.003 J	0.011 J	0.0095 J	0.0039 J	0.0018 J	0.014 J	
	Mercury	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000078 ND	<0.000078 ND	<0.000078 ND
	Molybdenum	mg/L	<0.00095 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	0.0037 J	0.0044 J	0.0019 J	
	Selenium	mg/L	<0.0013 ND	-	<0.0016 ND	<0.0013 ND	<0.0016 ND	<0.0013 ND	-	<0.0016 ND	<0.0013 ND	<0.0016 ND	<0.0013 ND	<0.0016 ND	<0.0013 ND	<0.0016 ND	<0.0016 ND	<0.0016 ND	<0.0016 ND	
Thallium	mg/L	<0.00052 ND	-	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00052 ND	-	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00014 ND		
Inorganics	Alkalinity (Bicarbonate as CaCO ₃)	mg/L	279	345	307	29	26.1	174	195	187	109	70.2	90	94	158	166	158	251	294	
	Alkalinity (Carbonate as CaCO ₃)	mg/L	-	<5 ND	<5 ND	-	<5 ND	-	<5 ND	<5 ND	-	<5 ND	-	<5 ND	-	<5 ND	<5 ND	<5 ND	<5 ND	
	Alkalinity (total) as CaCO ₃	mg/L	279	345	307	29	26.1	174	195	187	109	70.2	90	94	158	166	158	251	294	
	Dissolved Organic Carbon	mg/L	1.1 U*	-	-	2.1 U*	-	<0.5 ND	-	-	0.85 J	-	<0.5 ND	-	<0.5 ND	-	-	-	-	
	Nitrogen (Total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sodium	mg/L	20.4	58.5	21.1	8.7	7.4	5.2	5.9	4.9	8.3	7.7	6.2	5.7	7.9	6.8	7.9	14	50.3	
Other	Sulfide	mg/L	<0.2 ND	<0.05 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	0.082 J	<0.05 ND	0.11	
	Carbon Dioxide	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Iron	mg/L	0.022 J	<0.015 ND	0.087	1.7	0.78	0.53	1.3	0.26	0.021 J	0.028 J	1.5	1.6	0.49	0.32	0.21	0.02 J	0.42	
	Magnesium	mg/L	5.4	4.7	4.3	2.4	2.5	4.8	5.2	4.6	1.3	0.88	5.6	5.3	10	9	5.9	18.3	15.1	
	Manganese	mg/L	0.2	0.034 J	0.18	1.1	0.61	0.21	0.24	0.22	0.035	0.0083 J	0.077	0.071	0.071	0.071	0.062	0.01 J	0.02 J	
	Phosphorus	mg/L	<0.023 ND	-	-	<0.023 ND	-	0.026 J	-	-	<0.014 ND	-	0.039 J	-	0.036 J	-	-	-	-	
Metals	Potassium	mg/L	0.33	0.32	0.34	0.88	0.89	0.42	0.44	0.46	0.24 J	0.28	0.65 J	0.72	0.56 J	0.61	1.4	0.97	3.2	
	Radium-226	pCi/L	-	-	0.0193 U	-	0.124 U	-	-	0.161 U	0.422 U*	0.0964 U	0.119 U	0.28 U	0.412 U*	0.425 U	0.0264 U	0.531 U	0.129 U	
Radionuclides	Radium-228	pCi/L	-	-	0.729 U	-	-0.233 U	-	-	-0.305 U	0.0327 U	0.0826 U	0.0823 U	0.321 U	0.462 U	0.937 U	0.639 U	-0.0158 U	0.293 U	
	DO (Field)	mg/L	0.28	0.73	0.74	0.16	0.3	0.31	0.2	0.19	0.54	1.37	0.37	0.43	0.07	0.29	0.16	3.55	0.31	
Field	Oxidation-reduction potential	mV	64.4	58.88	42.92	22.3	178	18.3	12.49	117.4	362.5	97.01	34.4	27.29	-16.5	-34.76	54.56	126.2	77.43	
	Temp (Field)	°C	18.88	17.01	18.57	21.65	20.26	21.5	17.93	19.73	21.42	21.29	20.83	19.73	19.81	18.88	21.33	19.59	19.1	
	EC (field)	µS/cm	677.7	862.2	637.8	170.7	193.4	420.1	449.8	433.8	212.5	135.4	221.5	234.4	378.7	374.8	323.5	490.5	484.7	
	pH (Field)	pH_Units	7.02	6.97	7.15	5.33	5.22	7.3	7.31	7.29	6.16	5.75	6.4	6.33	7.41	7.37	7.62	7.52	7.83	
	Turbidity	NTU	4.59	0	2.15	4.44	3.45	3.53	3.43	1.39	0.57	1.6	3.96	3.02	2.17	1.03	4.96	2	4.93	

Notes:
- = parameter was not analyzed
< = parameter was not detected above the specified method detection limit (MDL)
J = indicates the parameter was estimated and detected between the MDL and the reporting limit (RL)
ND = parameter was not detected above the specified MDL
TDS = total dissolved solids
U = indicates the parameter was not detected above the analytical minimum detectable concentration (MDC)
(1) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, and TDS was analyzed by SM2540C.
(2) Field parameters were collected using In-Situ Inc. SmarTROLL MP units.
(3) The pH and oxidative-reductive potential values presented were recorded at the time of sample collection in the field.

Table 1
Summary of Groundwater And Pore Water Analytical Data
Plant Hammond AP-2, Floyd County, Georgia

	Parameter ^{1,2}		Downgradient Groundwater															
			HGWC-14	HGWC-14	HGWC-15	HGWC-15	HGWC-16	HGWC-16	HGWC-17	HGWC-17	HGWC-18	HGWC-18	HGWC-18	MW-21D	MW-21D	MW-21D	MW-22	MW-22
			9/24/2019	9/18/2020	9/24/2019	9/17/2020	9/25/2019	9/17/2020	9/25/2019	9/16/2020	9/25/2019	9/16/2020	9/25/2019	9/15/2020	2/10/2021	9/25/2019	6/17/2020	9/21/2020	9/27/2019	9/17/2020
Appendix III	Boron	mg/L	14.7	11	2.9	2.2	2.7	2.4	8.1	6.7	11.7	9.4	-	6.4	5.8	5.6	2.9	2.3
	Calcium	mg/L	507	623	202	188	185	190	305	277	437	430	397	420	434	428	202	203
	Chloride	mg/L	188	288	120	108	84.4	99.3	139	156	181	150	93.4	245	223	236	176	153
	Fluoride	mg/L	0.053 J	<0.05 ND	0.12 J	<0.05 ND	<0.05 ND	<0.05 ND	0.081 J	0.058 J	0.73	0.31	-	<0.05 ND	<0.05 ND	<0.05 ND	0.28 J	<0.05 ND
	Sulfate	mg/L	1110	1260	382	416	223	254	434	467	920	1080	1040	767	901	1010	520	468
	TDS	mg/L	2470	2440	1140	956	813	804	1280	1220	1960	1890	-	1970	2100	2060	1110	1090
Appendix IV	Comb. Radium 226/228	pCi/L	1.17 U*	1.8 U	0.582 U	0.395 U	0.643 U	1.1 U	1.54	0.295 U	2.77 J	1.65	-	0.751 U	0.691 U	0.436 U	1.44 U	0.0879 U
	Antimony	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Arsenic	mg/L	0.0039 J	0.0029 J	0.00037 J	<0.00078 ND	<0.00035 ND	<0.00078 ND	<0.00035 ND	<0.00078 ND	0.0044 J	0.0074	-	<0.00035 ND	<0.00035 ND	<0.00078 ND	0.00045 J	<0.00078 ND
	Barium	mg/L	0.021	0.019	0.019	0.017	0.11	0.11	0.025	0.025	0.03	0.03	-	0.066	0.054	0.049	0.028	0.02
	Beryllium	mg/L	0.00044 J	0.00043 J	<0.000074 ND	<0.000046 ND	<0.000074 ND	<0.000046 ND	<0.000074 ND	<0.000046 ND	0.0031	0.0033	-	<0.000074 ND	<0.000074 ND	<0.000046 ND	<0.000074 ND	0.000047 J
	Cadmium	mg/L	<0.00011 ND	<0.00012 ND	0.0014 J	0.0016 J	<0.00011 ND	<0.00012 ND	<0.00011 ND	<0.00012 ND	0.0023 J	0.0019 J	-	<0.00011 ND	<0.00011 ND	<0.00012 ND	0.0014 J	0.0021 J
	Chromium (III+VI)	mg/L	<0.00039 ND	<0.00055 ND	0.00041 J	<0.00055 ND	<0.00039 ND	<0.00055 ND	<0.00039 ND	<0.00055 ND	<0.00039 ND	0.00063 J	-	<0.00039 ND	0.00057 J	<0.00055 ND	0.0004 J	<0.00055 ND
	Cobalt	mg/L	0.026	0.027	0.022	0.026	<0.0003 ND	<0.00038 ND	0.015	0.013	0.18	0.16	0.14	<0.0003 ND	<0.0003 ND	<0.00038 ND	0.035	0.029
	Lead	mg/L	0.0013 J	0.0012 J	0.0002 J	<0.000036 ND	<0.00046 ND	0.00078 J	0.000089 J	0.000065 J	0.0015 J	0.0014 J	-	<0.00046 ND	<0.00046 ND	<0.00036 ND	0.0001 J	<0.00036 ND
	Lithium	mg/L	<0.00078 ND	<0.00081 ND	0.0012 J	0.0094 J	0.0038 J	0.0043 J	0.0011 J	0.0012 J	0.015 J	0.014 J	-	0.024 J	0.023 J	0.022 J	0.0013 J	0.0011 J
	Mercury	mg/L	-	-	0.024	-	-	-	-	-	<0.00014 ND	-	-	-	-	-	-	-
	Molybdenum	mg/L	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	-	0.038	0.019	0.017	<0.00095 ND	<0.00069 ND
	Selenium	mg/L	0.0064 J	0.0045 J	<0.0013 ND	<0.0016 ND	<0.0013 ND	<0.0016 ND	<0.0013 ND	<0.0016 ND	0.02	0.059	-	<0.0013 ND	<0.0013 ND	<0.0016 ND	<0.0013 ND	0.002 J
	Thallium	mg/L	0.0003 J	0.00028 J	<0.000052 ND	<0.00014 ND	<0.000052 ND	<0.00014 ND	0.00012 J	<0.00014 ND	0.00019 J	0.00016 J	-	<0.000052 ND	<0.000052 ND	<0.00014 ND	<0.000052 ND	<0.00014 ND
Inorganics	Alkalinity (Bicarbonate as CaCO₃)	mg/L	<1 ND	<5 ND	124	92	192	213	182	205	<1 ND	<5 ND	<5 U	62	41.2	32.8	93	61.4
	Alkalinity (Carbonate as CaCO₃)	mg/L	-	<5 ND	-	<5 ND	-	<5 ND	-	<5 ND	-	<5 ND	<5 U	-	<5 ND	<5 ND	-	<5 ND
	Alkalinity (total) as CaCO₃	mg/L	<1 ND	<5 ND	124	92	192	213	182	205	<1 ND	<5 ND	-	62	41.2	32.8	93	61.4
	Dissolved Organic Carbon	mg/L	0.52 J	-	0.61 J	-	<0.5 ND	-	0.72 J	-	<0.5 ND	-	-	<0.5 ND	-	-	<0.5 ND	-
	Nitrogen (Total)	µg/L	-	-	<400 ND	-	-	-	-	-	400	-	-	-	-	-	-	-
	Sodium	mg/L	12.1	10.9	14.7	12.1	9.9	9.9	15.3	13.8	10.4	12.2	11.9	15.3	15.8	15.1	15	13.9
Sulfide	mg/L	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.2 ND	<0.05 ND	<0.05 U	<0.2 ND	<0.05 ND	<0.05 ND	<0.2 ND	<0.05 ND	
Other	Carbon Dioxide	mg/L	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-
	Iron	mg/L	0.84	0.9	0.053	0.017 J	1.5	1	0.18	0.11	0.11	0.82	0.22 J	14.6	22.3	23	0.66	0.026 J
Metals	Magnesium	mg/L	53.5	49.2	37.9	30.3	15.5	15.4	31.2	30	36	47	42.1	67	71.7	63.3	46.3	42.6
	Manganese	mg/L	5.5	5	16.3	18.2	0.036	0.036 J	4.4	3.3	3.7	3.4	3.1	0.99	1.3	1.4	16.7	17.6
	Phosphorus	mg/L	<0.014 ND	-	0.1	-	0.069 U*	-	<0.014 ND	-	<0.014 ND	-	-	0.032 J	-	-	0.054 U*	-
	Potassium	mg/L	12.1	12.6	0.89	1	0.76 J	0.92	2.7	2.6	8.9	10.3	10.2	1.1	1.1	1.2	1	0.87
Radionuclides	Radium-226	pCi/L	0.609 U*	0.749	0.464 U*	0.395	0.55 U	0.166 U	0.865	0.0642 U	1.09	0.47 U	-	0.477	0.157 U	0.149 U	0.493 U*	-0.127 U
	Radium-228	pCi/L	0.559 U	1.05 U	0.118 U	-0.0424 U	0.0933 U	0.938 U	0.678 U	0.231 U	1.68 U*	1.18	-	0.274 U	0.534 U	0.287 U	0.942 U	0.0879 U
Field	DO (Field)	mg/L	0.17	0.17	0.16	0.18	0.16	0.22	0.17	0.32	0.2	0.24	0.37	0.23	0.1	0.33	0.65	0.38
	Oxidation-reduction potential	mV	390	194.4	212	246.5	20.6	-14.8	68.8	114.7	143.5	171	175.4	29.2	-31.58	-74.32	82.3	223.7
	Temp (Field)	°C	22.01	20.87	20.17	20.04	20.24	21.06	21.06	19.83	22.88	21.33	17.29	22.89	18.64	19.17	19.72	21.19
	EC (field)	µS/cm	2722	2895	1446	1324	1101	1132	1692	1671	2370	2263	2149	2324	2439	2449	1581	1463
	pH (Field)	pH Units	4.77	4.88	6.33	6.11	6.92	7.11	6.28	6.35	4.54	4.47	4.55	6.54	6.47	6.92	5.81	5.66
	Turbidity	NTU	3.94	0.49	2.39	0.91	4.51	5.03	4.06	4	4.89	2.2	1.05	1.1	4.95	0.8	4.87	0.86

Notes:

- = parameter was not analyzed

< = parameter was not detected above the specified method detection limit (MDL)

J = indicates the parameter was estimated and detected between the MDL and the reporting limit (RL)

ND = parameter was not detected above the specified MDL

TDS = total dissolved solids

U = indicates the parameter was not detected above the analytical minimum detectable concentration (MDC)

(1) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, and TDS was analyzed by SM2540C.

(2) Field parameters were collected using In-Situ Inc. SmarTROLL MP units.

(3) The pH and oxidative-reductive potential values presented were recorded at the time of sample collection in the field.

Table 1
Summary of Groundwater And Pore Water Analytical Data
Plant Hammond AP-2, Floyd County, Georgia

Appendix	Parameter ^{1,2}	Unit	Downgradient Groundwater													CCR Pore Water				
			MW-23D	MW-23D	MW-33	MW-33	MW-34D	MW-34D	MW-35	MW-35	MW-36D	MW-36D	MW-37D	MW-37D	TPZ-02	PMW-03	PMW-03	PMW-04	PMW-04	TPZ-01
			9/26/2019	9/17/2020	6/17/2020	9/21/2020	6/18/2020	9/23/2020	6/18/2020	9/21/2020	6/18/2020	9/23/2020	6/18/2020	9/23/2020	6/18/2020	9/23/2020	2/12/2021	4/8/2020	2/11/2021	4/10/2020	2/9/2021	2/10/2021
Appendix III	Boron	mg/L	3.8	2.7	10.3	9	9.4	10.2	11.9	12.3	0.067 J	0.055 J	0.14	0.12	-	2.4	3.2	15.4	9.7	-
	Calcium	mg/L	306	361	561	562	584	556	517	503	65.2	62.1	165	158	429	230	237	362	277 M1	773
	Chloride	mg/L	204	171	250	273	259	294	229	257	2.3	2.2	151	166	115	39	91.5	34.9	15.7	296
	Fluoride	mg/L	0.16 J	<0.05 ND	0.25	0.14	0.082 J	<0.05 ND	0.053 J	<0.05 ND	0.053 J	<0.05 ND	0.1	0.065 J	-	0.34	0.37	1.3	2.1	-
	Sulfate	mg/L	556	490	1210	1290	1100	1080	1160	1220	50.5	56	286	256	1330	920	638	854	489 M6	1370
	TDS	mg/L	1400	1360	2540	2340	2320	2430	2310	2210	237	256	888	894	-	1300	1210	1420	1260	-
Appendix IV	Comb. Radium 226/228	pCi/L	1.25 U*	0.32 U	1.43 U	2.53 J+	1.36	0.563 U	2.02	3.85 J+	1.85	0.41 U	1.79	0.98 U	-	1.25 U	-	1.9	-	-
	Antimony	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00043 J	-	0.0056	-	-
	Arsenic	mg/L	<0.00035 ND	<0.00078 ND	0.0031 J	0.0083	0.0032 J	0.001 J	0.005 J	0.0059	0.00046 J	<0.00078 ND	0.0021 J	0.00095 J	-	0.24	-	0.88	-	-
	Barium	mg/L	0.064	0.057	0.024	0.024	0.044	0.038	0.029	0.028	0.15	0.17	0.19	0.14	-	0.045	-	0.4	-	-
	Beryllium	mg/L	<0.00074 ND	<0.000046 ND	0.00099 J	0.0009 J	0.0015 J	<0.00046 ND	0.00032 J	0.0004 J	<0.00074 ND	<0.00046 ND	0.00012 J	<0.00046 ND	-	0.00048 J	-	0.0029 J	-	-
	Cadmium	mg/L	<0.00011 ND	0.0006 J	0.00021 J	0.00016 J	<0.00011 ND	<0.00012 ND	0.00053 J	0.001 J	<0.00011 ND	<0.00012 ND	<0.00011 ND	<0.00012 ND	-	0.00029 J	-	0.0027	-	-
	Chromium (III+VI)	mg/L	<0.00039 ND	<0.00055 ND	<0.00039 ND	<0.00055 ND	0.0059 J	<0.00055 ND	<0.00039 ND	0.00079 J	0.00045 J	<0.00055 ND	0.0048 J	<0.00055 ND	-	<0.00039 ND	-	0.016	-	-
	Cobalt	mg/L	0.00098 J	0.00096 J	0.053	0.047	0.011	0.0056	0.091	0.084	<0.0003 ND	<0.00038 ND	0.0015 J	<0.00038 ND	0.0091	0.12	0.062	0.0096	0.0017 J	<0.00038 U
	Lead	mg/L	<0.00046 ND	0.00016 J	0.0017 J	0.0017 J	0.00087 J	<0.00036 ND	0.00016 J	0.00099 J	<0.00046 ND	0.00088 J	0.0017 J	0.00082 J	-	0.00023 J	-	0.017	-	-
	Lithium	mg/L	0.0023 J	0.0021 J	0.00097 J	0.00086 J	0.0021 J	0.0011 J	0.0046 J	0.0036 J	0.0087 J	0.0084 J	0.038 J	0.031	-	0.094	-	0.083	-	-
	Mercury	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.00014 ND	-	<0.00014 ND	-	-
	Molybdenum	mg/L	0.0025 J	0.0026 J	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	<0.00095 ND	<0.00069 ND	0.023	0.015	-	0.028	0.0031 J	6.6	7.5	-
	Selenium	mg/L	<0.0013 ND	<0.0016 ND	0.014	0.041	0.0025 J	<0.0016 ND	0.014	0.037	<0.0013 ND	<0.0016 ND	<0.0013 ND	<0.0016 ND	-	<0.0013 ND	-	0.0045 J	-	-
Thallium	mg/L	<0.00052 ND	<0.00014 ND	0.00028 J	0.00029 J	0.00015 J	<0.00014 ND	0.00013 J	<0.00014 ND	<0.00052 ND	<0.00014 ND	<0.00052 ND	<0.00014 ND	-	0.0037	-	0.00097 J	-	-	
Inorganics	Alkalinity (Bicarbonate as CaCO ₃)	mg/L	216	249	<5 ND	<5 ND	96.5	94.5	<5 ND	<5 ND	164	159	116	133	36.7	32.5	<5 U	109	156	8.2
	Alkalinity (Carbonate as CaCO ₃)	mg/L	-	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 ND	<5 U	-	<5 U	-	<5 U	66.4
	Alkalinity (total) as CaCO ₃	mg/L	216	249	<5 ND	<5 ND	96.5	94.5	<5 ND	<5 ND	164	159	116	133	-	-	-	-	-	-
	Dissolved Organic Carbon	mg/L	<0.5 ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nitrogen (Total)	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sodium	mg/L	13.1	13.5	10.8	10.8	16	15.4	11.5	11.7	7.2	6.8	59.6	53.6	24.6	12.1	14.9	22.8	3.5 J+	13.4
	Sulfide	mg/L	<0.2 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	<0.05 ND	0.055 J	<0.05 ND	0.26	<0.05 U	<0.05 ND	<0.05 U	<0.05 ND	<0.05 U	<0.05 U
Other	Carbon Dioxide	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	31.7 J	-	15.7 J	-	9.65	<0.127 U
	Iron	mg/L	0.17	0.34	1.2	1.3	1.8	0.023 J	2.4	2.3	0.58	0.62	3.4	0.74	54.9	108	16.6	5.4	3	0.039 J
	Magnesium	mg/L	35.4	31.6	55.9	50.2	59.3	49.7	71.5	61.6	7.7	7.1	30.5	28.1	80.3	30.8	31.8	33	37.2 M1	11
Metals	Manganese	mg/L	9	7.9	4.5	4.5	4.7	3.7	10.6	10.8	0.055	0.045	0.15	0.12	4	1.5	1.6	0.25	0.33	0.0084 J
	Phosphorus	mg/L	0.025 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Potassium	mg/L	2.1	2.3	11.1	12.4	10.8	9.6	8.3	9.2	0.47	0.44	2.9	1.4	13	27.8	28.7	15.4	5 M1	29
Radionuclides	Radium-226	pCi/L	0.512 U*	0.0723 U	0.881	0.916 U	0.401	0.217 U	0.386 U	0.563 U	0.177 U	-0.0688 U	0.709	0.386 U	-	0.743	-	1.32	-	-
	Radium-228	pCi/L	0.741 U	0.248 U	0.544 U	1.61	0.963 U	0.346 U	1.63	3.29	1.67	0.41 U	1.08	0.594 U	-	0.507 U	-	0.577 U	-	-
Field	DO (Field)	mg/L	0.36	0.08	0.29	0.23	0.02	0.38	0.63	1.61	0.06	0.2	13.37	0.32	0.27	-	-	-	2.17	1.23
	Oxidation-reduction potential	mV	70.5	72.14	224.7	202.8	151.4	173.8	76.75	65.52	77.12	597.3	166.4	-123.8	-84.8	-	-	-	-99.6	78.3
	Temp (Field)	°C	19.7	20.04	20.87	20.66	21.71	21.02	19.58	20.53	20.13	19.55	19.97	18.57	16.36	-	-	-	18.35	17.67
	EC (field)	µS/cm	1763	1762	2743	2890	2830	2808	2637	2749	392.5	402.6	1315	1284	2473	-	-	-	1442	3217
	pH (Field)	pH Units	6.64	6.71	4.36	4.48	6.95 - 7.35	7.05	5.46	5.4	6.45 - 7.35	7.62	7.78	7.62	6.75	5.59	5.73	7.99	7.13	9.38
	Turbidity	NTU	0.77	4.97	4.64	0.82	8.88	42.5	1.97	4.34	4.52	4.37	44.5	1.83	4.95	-	-	-	10.47	4.41

Notes:

- = parameter was not analyzed

< = parameter was not detected above the specified method detection limit (MDL)

J = indicates the parameter was estimated and detected between the MDL and the reporting limit (RL)

ND = parameter was not detected above the specified MDL

TDS = total dissolved solids

U = indicates the parameter was not detected above the analytical minimum detectable concentration (MDC)

(1) Metals were analyzed by EPA Method 6020B, anions were analyzed by EPA Method 300.0, and TDS was analyzed by SM2540C.

(2) Field parameters were collected using In-Situ Inc. SmarTROLL MP units.

(3) The pH and oxidative-reductive potential values presented were recorded at the time of sample collection in the field.

Table 2
 Summary of Key Conditions Inside and Outside of AP-2
 Plant Hammond AP-2, Floyd County, Georgia

Sample Location	PMW-04	TPZ-01	TPZ-02	HGWC-18
Location Description	Pore Water	Pore Water	Downgradient	Downgradient
Sample Date	2/9/2021	2/10/2021	2/12/2021	2/10/2021- 2/11/2021
Parameter ^(1,2)				
Bicarb. Alkalinity	156	8.2	36.7	<5.0
Calcium	277	773	429	397
Carbon Dioxide	9.65	<0.127	31.7	100
Chloride	15.7	296	115	93.4
Cobalt	0.0017 J	<0.00038	0.0091	0.14
Iron	3.0	0.039 J	54.9	0.22
Magnesium	37.2	11.0	80.3	42.1
Manganese	0.33	0.0084 J	4.0	3.1
pH	7.13	9.38	6.75	4.53 - 4.55
Potassium	5.0	29.0	13.0	10.2
Sodium	3.5	13.4	24.6	11.9
Sulfate	489	1370	1330	1040
Sulfide	<0.050	<0.050	<0.050	<0.050

Notes:

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

< = Indicates the parameter was not detected above the analytical MDL.

(1) Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as standard units (s.u.).

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

Table 3
 Baseline Characterization Results - Ionic Exchange Capacity, Total Sulfur, Total Sulfide, Total Organic Carbon
 Plant Hammond AP-2, Floyd County, Georgia

Sample ID	DPT11(30-40)	DPT08(10-20)	DPT07(10-20)	DPT09(20-30)	DPT10(25-35)
Adjacent Well ID	HGWC-14	HGWC-18	HGWA-42D	HGWC-16	HGWC-15
Sample Collection Date	1/27/2021	1/26/2021	2/21/2021	1/26/2021	1/27/2021
Anion Exchange Capacity (meq/100g)	6.78	5.96	6.84	5.17	6.19
Cation Exchange Capacity (meq/100g)	8.98	6.61	10.25	11.91	10.62
Total Sulfur (%)	0.034	0.033	0.811	0.03	0.014
Total Sulfide (%)	0.04	0.05	0.85	0.04	< 0.04
Total Organic Carbon (%)	0.11	0.16	1.06	0.48	0.15

Notes:

% = percentage

< = Indicates the constituent was not detected above the analytical method detection limit (MDL)

meq/100g = milliequivalents per 100 grams

Table 4
 Baseline Characterization Results - Total Metals
 Plant Hammond AP-2, Floyd County, Georgia

Sample ID	DPT11(30-40)	DPT08(10-20)	DPT07(10-20)	DPT09(20-30)	DPT10(25-35)
Adjacent Well ID	HGWC-14	HGWC-18	HGWA-42D	HGWC-16	HGWC-15
Sample Collection Date	1/27/2021	1/26/2021	2/21/2021	1/26/2021	1/27/2021
Cobalt (mg/kg)	7	10	14	13	14
Iron (mg/kg)	39,000	24,000	31,000	27,000	36,000
Aluminum (mg/kg)	57,000	48,000	77,000	59,000	69,000
Manganese (mg/kg)	190	230	170	380	540

Notes:

mg/kg = milligrams per kilogram

(1) Milligrams per kilogram (mg/kg) is equivalent to micrograms per gram ($\mu\text{g/g}$). The SiREM report provided in Appendix C presents select data in $\mu\text{g/g}$, however, the applicable data are presented within this semiannual progress report as “mg/kg” for easier comparison with the results of the sorption and desorption studies.

Table 5
 Baseline Characterization Results - Whole Rock Analysis
 Plant Hammond AP-2, Floyd County, Georgia

Sample ID	DPT11(30-40)	DPT08(10-20)	DPT07(10-20)	DPT09(20-30)	DPT10(25-35)
Adjacent Well ID	HGWC-14	HGWC-18	HGWA-42D	HGWC-16	HGWC-15
Sample Collection Date	1/27/2021	1/26/2021	2/21/2021	1/26/2021	1/27/2021
Quartz (SiO₂) (%)	72.2	78.6	65.6	72.9	67.3
Aluminum Oxide (Al₂O₃) (%)	11.9	10.3	16.3	12.0	14.2
Ferric Oxide (Fe₂O₃) (%)	6.23	3.90	4.99	4.17	5.66
Magnesium Oxide (MgO) (%)	0.61	0.46	1.04	0.66	1.03
Calcium Oxide (CaO) (%)	0.19	0.14	0.24	0.38	0.43
Sodium Oxide (Na₂O) (%)	0.12	0.14	0.39	0.26	0.56
Potassium Oxide (K₂O) (%)	1.40	1.53	2.70	1.54	2.21
Titanium Dioxide (TiO₂) (%)	0.97	0.60	0.74	0.96	1.02
Phosphorous Pentoxide (P₂O₅) (%)	0.09	0.07	0.11	0.07	0.12
Manganese Oxide (MnO) (%)	0.02	0.04	0.02	0.06	0.07
Chromium (III) Oxide (Cr₂O₃) (%)	< 0.01	0.01	0.03	< 0.01	0.01
Vanadium Oxide (V₂O₅) (%)	0.02	< 0.01	0.02	0.01	0.01
Loss on Ignition (%)	5.90	4.03	7.11	6.11	6.69

Notes:

% = percentage

< = Indicates the constituent was not detected above the analytical method detection limit (MDL)

Table 6
 Baseline Characterization Results - Rietveld Quantitative X-Ray Diffraction
 Plant Hammond AP-2, Floyd County, Georgia

Sample ID	DPT11(30-40)	DPT08(10-20)	DPT07(10-20)	DPT09(20-30)	DPT10(25-35)
Adjacent Well ID	HGWC-14	HGWC-18	HGWA-42D	HGWC-16	HGWC-15
Sample Collection Date	1/27/2021	1/26/2021	2/21/2021	1/26/2021	1/27/2021
Quartz (wt%)	59.3	65.6	43.7	62.6	45.1
Kaolinite (wt%)	19.1	12.7	12.7	20.4	22.0
Muscovite (wt%)	16.4	17.2	33.1	7.9	23.0
Microcline (wt%)	1.50	1.70	3.00	--	--
Rutile (wt%)	0.9	0.5	1.1	0.3	0.7
Albite (wt%)	2.3	2.1	4.5	4.3	7.0
Anatase (wt%)	0.5	0.2	0.8	1.0	0.4
Pyrite (wt%)	--	--	1.3	0.4	--
Orthoclase (wt%)	--	--	--	0.6	1.9
Calcite (wt%)	--	--	--	0.2	--
Diopside (wt%)	--	--	--	2.4	--

Notes:

-- = Not identified by analyst

wt % = weight percent

Table 7
Cobalt Sequential Extraction Procedure Results
Plant Hammond AP-2, Floyd County, Georgia

Sample ID	DPT11(30-40)	DPT08(10-20)	DPT07(10-20)
Adjacent Well ID	HGWC-14	HGWC-18	HGWA-42D
Sample Collection Date	1/27/2021	1/26/2021	2/2/2021
SEP Step 1 (Exchangeable Phase) ⁽²⁾	<0.23	1.0 J	7.7 J
SEP Step 2 (Carbonate Phase) ⁽²⁾	<0.24	0.30 J	0.79 J
SEP Step 3 (Non-Crystalline Materials Phase) ⁽²⁾	0.33 J	5.7	0.25 J
SEP Step 4 (Metal Hydroxide Phase) ⁽²⁾	2.1 J	2.6 J	0.68 J
SEP Step 5 (Organic Phase) ⁽²⁾	<0.77	<0.68	2.2 J
SEP Step 6 (Acid/Sulfide Fraction) ⁽²⁾	2.0 J	1.8 J	2.2 J
SEP Step 7 (Residual Fraction) ⁽²⁾	1.4 J	0.41 J	0.64 J
Sum of SEP Steps 1-7	5.9	12.0	14.0
Total Metals Concentration ⁽³⁾	7.0 J	7.5	11.0

Notes:

< = Indicates the constituent was not detected above the analytical method detection limit (MDL)

J = Indicates the constituent was estimated and detected between the MDL and the reporting limit (RL)

mg/kg = milligrams per kilogram

SEP = Sequential extraction procedure

All results are reported in mg/kg

(2) SEP Steps include:

- 1: Exchangeable Fraction: addition of 1M MgSO₄ to extract elements reversibly bound to mineral surfaces by ion exchange;
- 2: Carbonate Fraction: addition of mild acidic solution (1 M acetate in 25% acetic acid at pH 5) to extract elements bound to carbonate minerals;
- 3: Non-crystalline Fraction: addition of 25 ml of 0.2M ammonium oxalate (pH 3) to extract elements complexed by, and co-precipitated with amorphous solids (e.g. iron oxides);
- 4: Metal Hydroxide Fraction: addition of 1M HONH₂-HCL in 25% acetic acid to extract elements bound to crystalline hydroxides;
- 5: Organic-bound Fraction: addition of 5% Nicoll (pH 9.5) to extract elements strongly bound to organic functional groups;
- 6: Acid/Sulfide Fraction: addition of 3:1:2 v/v solution of HCl:HNO₃:H₂O solution to dissolve metal sulfide minerals;
- 7: Residual Fraction: total dissolution of sample in HF, HCl, HNO₃ and H₃BO₃ to remove remaining elements distributed between silicates, phosphates, and refractory oxides.

(3) Total Metals: sample digestion using HF, HNO₃ and H₃BO₃ (i.e. SEP Step 7 only).

Table 8
Summary of Sorption Test Results: Cobalt
Plant Hammond AP-2, Floyd County, Georgia

Groundwater Sample ID	Site Material Sample ID	Treatment ⁽¹⁾	Date	Day ⁽²⁾	Replicate	Dissolved Cobalt (mg/L)	Mass of Aquifer Solids in Reactor (g)	Mass of Water in Reactor (g)	Sorbed Cobalt (mg/kg) ⁽³⁾	pH (s.u.)	ORP (mV)
HGWA-5	DPT07(10-20)	Concentration Level 1	7/5/2021	0	<i>Spiked Aqueous Concentration</i>	0.10	--	--	--	--	--
					HAP2DPT07_13a	1.54	100.01	146.90	-2.12	4.23	200
					HAP2DPT07_14a	1.49	99.39	146.72	-2.06	4.24	204
			Average Concentration (mg/L)	1.52	99.70	146.81	-2.09	4.24	202		
			7/12/2021	7	HAP2DPT07_13b	3.25	99.93	145.33	-4.59	3.41	217
					HAP2DPT07_14b	3.46	99.44	147.76	-5.00	3.43	246
		Average Concentration (mg/L)			3.36	99.69	146.55	-4.79	3.42	232	
		Concentration Level 2	7/5/2021	0	<i>Spiked Aqueous Concentration</i>	0.23	--	--	--	--	--
					HAP2DPT07_15a	1.43	100.43	146.98	-1.76	4.33	225
					HAP2DPT07_16a	1.50	98.91	150.58	-1.94	4.30	220
			Average Concentration (mg/L)	1.47	99.67	148.78	-1.85	4.32	223		
			7/12/2021	7	HAP2DPT07_15b	3.35	99.31	151.66	-4.77	3.83	239
					HAP2DPT07_16b	3.74	99.40	144.75	-5.12	3.28	279
		Average Concentration (mg/L)			3.55	99.36	148.21	-4.95	3.56	259	
		Concentration Level 3	7/6/2021	0	<i>Spiked Aqueous Concentration</i>	0.33	--	--	--	--	--
					HAP2DPT07_17a	1.65	99.98	142.28	-1.88	4.27	155
					HAP2DPT07_18a	1.84	102.74	143.34	-2.10	4.26	204
			Average Concentration (mg/L)	1.75	101.36	142.81	-1.99	4.27	180		
			7/13/2021	7	HAP2DPT07_17b	3.65	99.34	144.06	-4.81	3.26	233
					HAP2DPT07_18b	3.73	100.36	144.28	-4.89	3.76	226
		Average Concentration (mg/L)			3.69	99.85	144.17	-4.85	3.51	230	
		Concentration Level 4	7/7/2021	0	<i>Spiked Aqueous Concentration</i>	0.44	--	--	--	--	--
					HAP2DPT07_19a	1.76	99.39	147.67	-1.96	4.33	216
					HAP2DPT07_20a	1.82	98.81	144.32	-2.01	4.24	222
			Average Concentration (mg/L)	1.79	99.10	146.00	-1.99	4.29	219		
			7/14/2021	7	HAP2DPT07_19b	3.90	98.01	147.56	-5.21	3.45	238
					HAP2DPT07_20b	3.82	95.32	142.30	-5.04	3.38	260
		Average Concentration (mg/L)			3.86	96.67	144.93	-5.13	3.42	249	
Concentration Level 5	7/8/2021	0	<i>Spiked Aqueous Concentration</i>	0.55	--	--	--	--	--		
			HAP2DPT07_21a	1.49	100.57	149.16	-1.39	4.29	186		
			HAP2DPT07_22a	1.57	98.63	145.82	-1.51	4.45	187		
	Average Concentration (mg/L)	1.53	99.60	147.49	-1.45	4.37	187				
	7/15/2021	7	HAP2DPT07_21b	4.10	99.53	146.80	-5.23	3.27	233		
			HAP2DPT07_22b	4.06	99.60	142.89	-5.03	3.51	230		
Average Concentration (mg/L)			4.08	99.57	144.85	-5.13	3.39	232			

Notes:

-- = Not applicable

mg/L = milligrams per liter

mV = millivolts

ORP = oxidation reduction potential

s.u. = standard units

(1) The highest spike concentration (Level 5) of cobalt was at least three times greater than the highest cobalt concentration observed in either coal combustion residue pore water or groundwater at the Site.

(2) Day 0 samples were collected approximately one hour after reactor setup.

(3) The sorbed concentration per unit mass of aquifer solids is calculated as shown in the equation below. An increase in the final aqueous concentration versus the spiked concentrations indicates that that desorption occurred, thus the calculated sorbed concentration is negative.

Negative values for sorbed cobalt represent desorption of cobalt from the solid phase.

$$S_{Solids} = \frac{(C_{Spike} - C_{Final}) \times M_{Water}}{M_{Solids} \times \rho_{Water}}$$

Where:

S_{Solids} = sorbed concentration per unit mass of aquifer solids (mg/kg)

$C_{Spike,Final}$ = dissolved concentration of the initial spike or final dissolved concentration at Day 0 or Day 7 (mg/L)

$M_{Solids,Water}$ = mass of water or aquifer solids in reactor (g)

ρ_{Water} = density of water (equal to 1 L/kg)

(4) Samples were transported to the laboratory and analyzed under atmospheric conditions.

Table 8
Summary of Sorption Test Results: Cobalt
Plant Hammond AP-2, Floyd County, Georgia

Groundwater Sample ID	Site Material Sample ID	Treatment ⁽¹⁾	Date	Day ⁽²⁾	Replicate	Dissolved Cobalt (mg/L)	Mass of Aquifer Solids in Reactor (g)	Mass of Water in Reactor (g)	Sorbed Cobalt (mg/kg) ⁽³⁾	pH (s.u.)	ORP (mV)
HGWA-5	DPT08(10-20)	Concentration Level 1	7/5/2021	0	<i>Spiked Aqueous Concentration</i>	0.10	--	--	--	--	--
					HAP2DPT08_23a	0.0844	99.33	147.32	0.02	6.51	172
					HAP2DPT08_24a	0.0789	98.53	149.37	0.03	6.45	166
			Average Concentration (mg/L)	0.0817	98.93	148.35	0.02	6.48	169		
			7/12/2021	7	HAP2DPT08_23b	0.114	99.71	144.41	-0.02	5.64	263
					HAP2DPT08_24b	0.116	98.79	144.37	-0.03	5.29	265
		Average Concentration (mg/L)			0.115	99.25	144.39	-0.03	5.47	264	
		Concentration Level 2	7/5/2021	0	<i>Spiked Aqueous Concentration</i>	0.23	--	--	--	--	--
					HAP2DPT08_25a	0.102	98.33	145.41	0.18	6.50	155
					HAP2DPT08_26a	0.0926	100.04	146.41	0.20	6.44	155
			Average Concentration (mg/L)	0.0973	99.19	145.91	0.19	6.47	155		
			7/12/2021	7	HAP2DPT08_25b	0.122	100.02	145.82	0.15	5.55	257
					HAP2DPT08_26b	0.138	99.36	147.40	0.13	5.45	261
		Average Concentration (mg/L)			0.130	99.69	146.61	0.14	5.50	259	
		Concentration Level 3	7/6/2021	0	<i>Spiked Aqueous Concentration</i>	0.33	--	--	--	--	--
					HAP2DPT08_27a	0.120	99.56	143.51	0.31	6.51	114
					HAP2DPT08_28a	0.113	100.01	143.96	0.32	6.45	116
			Average Concentration (mg/L)	0.117	99.79	143.74	0.31	6.48	115		
			7/13/2021	7	HAP2DPT08_27b	0.149	98.24	140.75	0.26	5.61	190
					HAP2DPT08_28b	0.129	99.48	141.75	0.29	5.51	188
		Average Concentration (mg/L)			0.139	98.86	141.25	0.28	5.56	189	
		Concentration Level 4	7/7/2021	0	<i>Spiked Aqueous Concentration</i>	0.44	--	--	--	--	--
					HAP2DPT08_29a	0.138	99.87	144.46	0.44	6.36	196
					HAP2DPT08_30a	0.150	100.51	142.51	0.41	6.48	194
Average Concentration (mg/L)	0.144		100.19	143.49	0.43	6.42	195				
7/14/2021	7		HAP2DPT08_29b	0.0948	100.00	144.76	0.50	5.69	156		
			HAP2DPT08_30b	0.131	98.51	147.71	0.46	5.65	155		
		Average Concentration (mg/L)	0.113	99.26	146.24	0.48	5.67	156			
Concentration Level 5	7/8/2021	0	<i>Spiked Aqueous Concentration</i>	0.55	--	--	--	--	--		
			HAP2DPT08_31a	0.191	100.07	143.34	0.52	6.43	160		
			HAP2DPT08_32a	0.168	100.36	143.84	0.55	6.54	156		
	Average Concentration (mg/L)	0.180	100.22	143.59	0.53	6.49	158				
	7/15/2021	7	HAP2DPT08_31b	0.168	99.64	147.27	0.57	5.42	164		
			HAP2DPT08_32b	0.140	100.47	143.23	0.59	5.57	164		
Average Concentration (mg/L)			0.154	100.06	145.25	0.58	5.50	164			

Notes:

-- = Not applicable

mg/L = milligrams per liter

mV = millivolts

ORP = oxidation reduction potential

s.u. = standard units

(1) The highest spike concentration (Level 5) of cobalt was at least three times greater than the highest cobalt concentration observed in either coal combustion residue pore water or groundwater at the Site.

(2) Day 0 samples were collected approximately one hour after reactor setup.

(3) The sorbed concentration per unit mass of aquifer solids is calculated as shown in the equation below. An increase in the final aqueous concentration versus the spiked concentrations indicates that that desorption occurred, thus the calculated sorbed concentration is negative.

Negative values for sorbed cobalt represent desorption of cobalt from the solid phase.

$$S_{Solids} = \frac{(C_{Spike} - C_{Final}) \times M_{Water}}{M_{Solids} \times \rho_{Water}}$$

Where:

S_{Solids} = sorbed concentration per unit mass of aquifer solids (mg/kg)

$C_{Spike,Final}$ = dissolved concentration of the initial spike or final dissolved concentration at Day 0 or Day 7 (mg/L)

$M_{Solids,Water}$ = mass of water or aquifer solids in reactor (g)

ρ_{Water} = density of water (equal to 1 L/kg)

(4) Samples were transported to the laboratory and analyzed under atmospheric conditions.

Table 9
Summary of Desorption Test: Dissolved Cobalt
Plant Hammond AP-2, Floyd County, Georgia

Groundwater Sample ID	Site Material Sample ID	Chemical Characteristics (Baseline Characterization) ⁽¹⁾	Treatment	Date	Day ⁽²⁾	Replicate	Dissolved Cobalt (mg/L)	pH (s.u.)	ORP (mV)
HGWA-5	DPT08	Aquifer Solids: Cobalt: 10 mg/kg Groundwater: Cobalt: <0.00039 to 0.0013 J mg/L pH: 6.63 s.u. ORP: 6.1 mV	Laboratory Atmospheric Conditions	8/31/2021	0	HAP2DPT08_7a	0.0571	6.50	241
						HAP2DPT08_8a	0.0605	6.45	232
						Average Concentration (mg/L)	0.0588	6.48	237
				9/8/2021	7	HAP2DPT08_7b	0.114	5.66	160
HAP2DPT08_8b	0.167	5.38	172						
		Average Concentration (mg/L)	0.141	5.52	166				

Notes:

< = Indicates the constituent was not detected above the analytical method detection limit (MDL)

J = Indicates the constituent was estimated and detected between the MDL and the reporting limit (RL)

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

mV = millivolts

ORP = oxidation reduction potential

s.u. = standard units

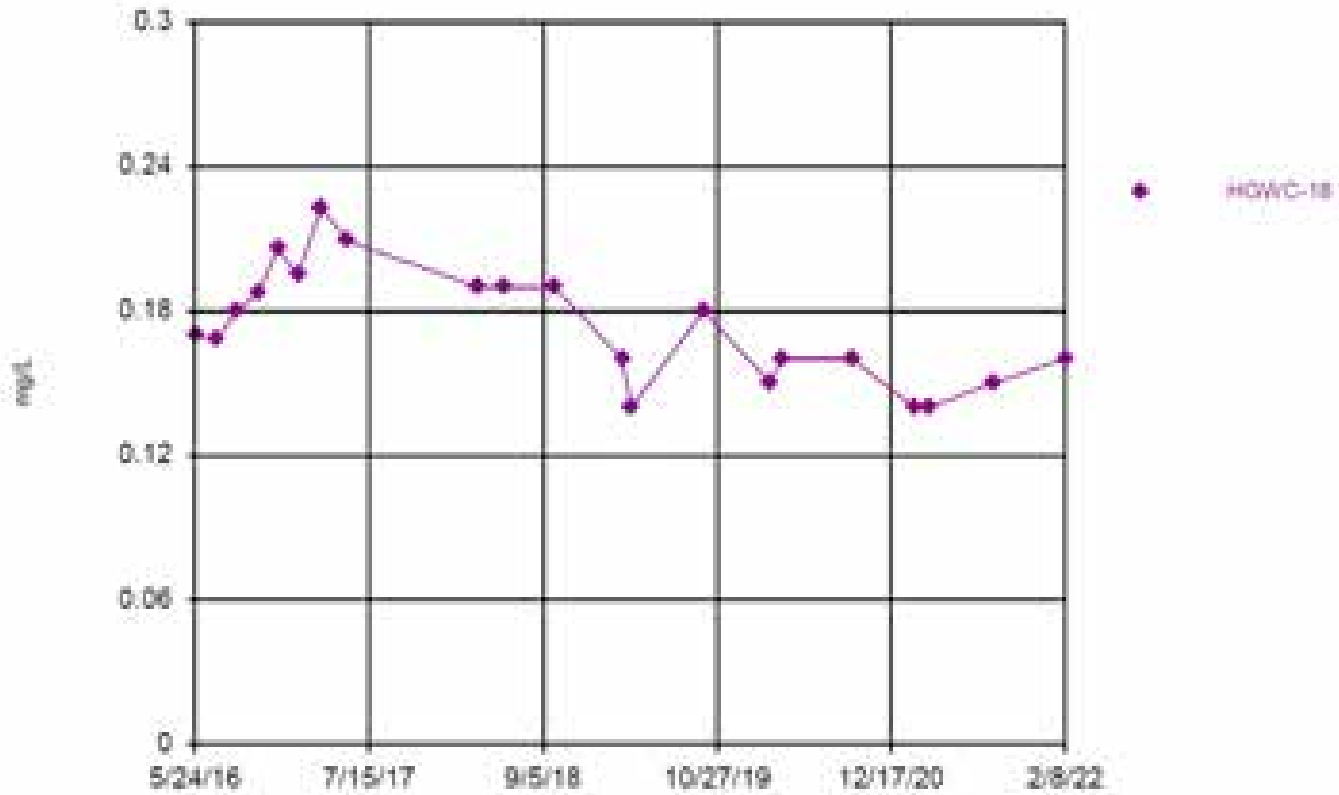
(1) Reported cobalt concentrations in HGWA-5 groundwater were measured during the 2021 semiannual sampling events. Reported pH and ORP values were measured during batch sample collection on 5/26/21 and are consistent with values observed during the 2021 semiannual sampling events.

(2) Day 0 samples were collected approximately one hour after reactor setup.

(3) Samples were transported to to the laboratory and analyzed under atmospheric conditions.

FIGURES

Time Series



Constituent: Cobalt Analysis Run 4/8/2022 2:07 PM View: App. IV
 Hammond AP Client: Georgia Power Data: Hammond AP-2

Notes:

1. mg/L = milligrams of constituent per liter
2. This figure was created using the Sanitas™ Statistical Software Version 9.6.32

TIME SERIES – HGWC-18 COBALT

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



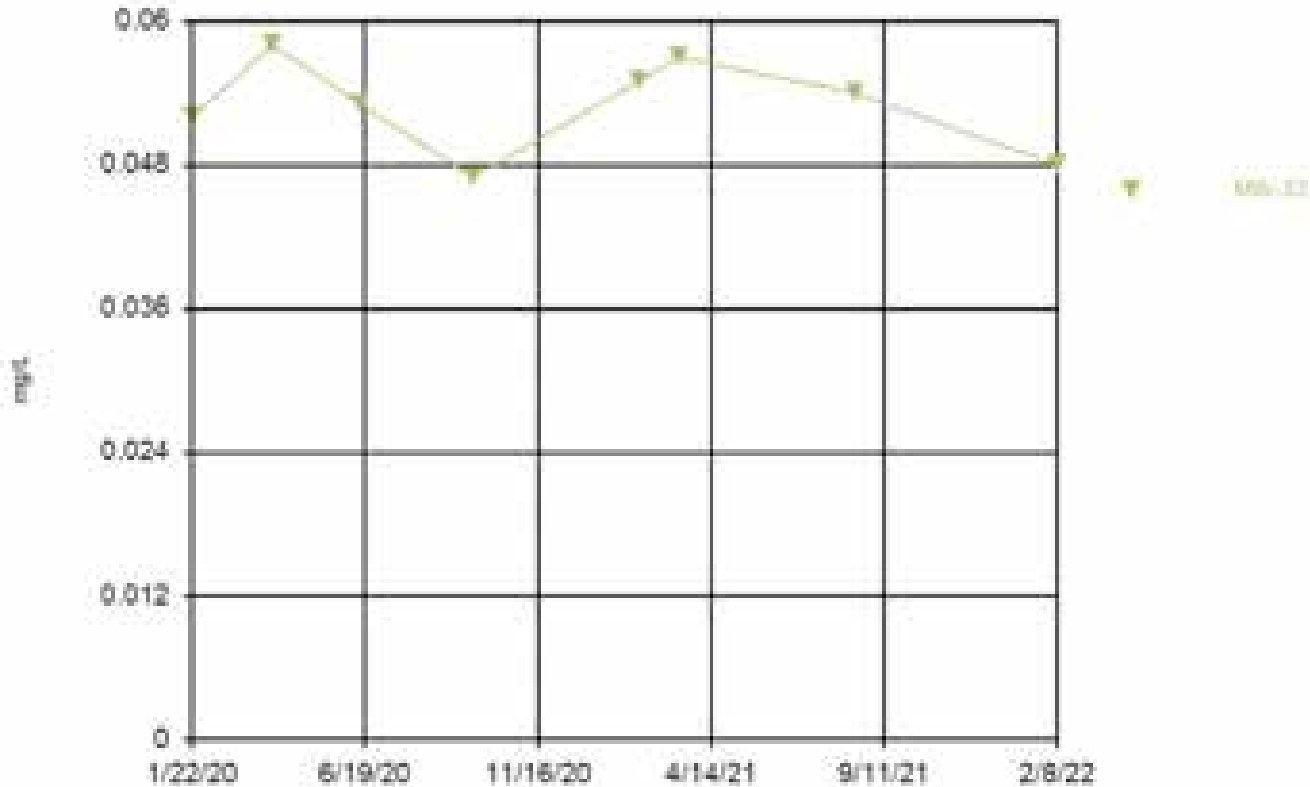
KENNESAW, GA

AUGUST 2022

FIGURE

1

Time Series



Constituent: Cobalt Analysis Run 4/8/2022 2:07 PM View: App. IV
 Hammond AP Client: Georgia Power Data: Hammond AP-2

Notes:

1. mg/L = milligrams of constituent per liter
2. This figure was created using the Sanitas™ Statistical Software Version 9.6.32

TIME SERIES – MW-33 COBALT

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:

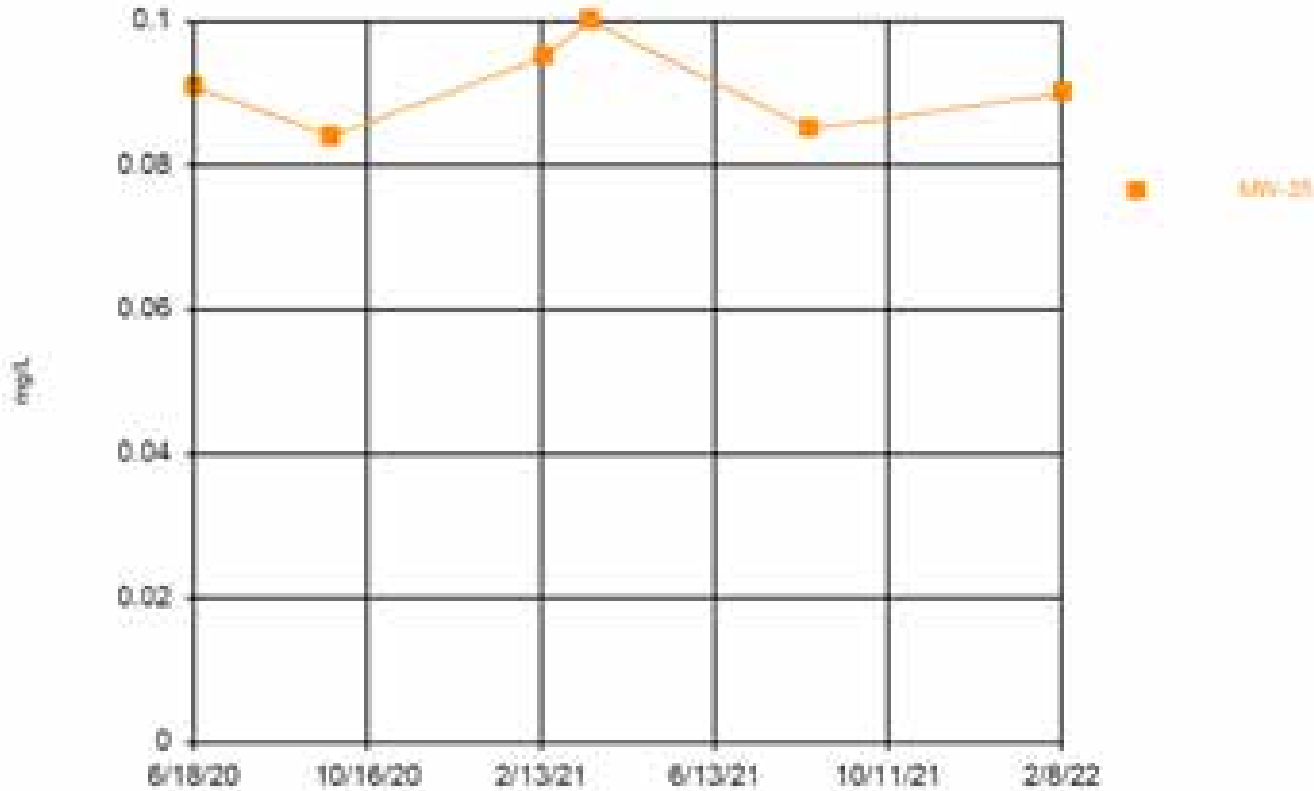


KENNESAW, GA

AUGUST 2022

**FIGURE
2**

Time Series



Constituent: Cobalt Analysis Run 4/8/2022 2:07 PM View: App. IV
 Hammond AP Client: Georgia Power Data: Hammond AP-2

Notes:

1. mg/L = milligrams of constituent per liter
2. This figure was created using the Sanitas™ Statistical Software Version 9.6.32

TIME SERIES – MW-35 COBALT

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:

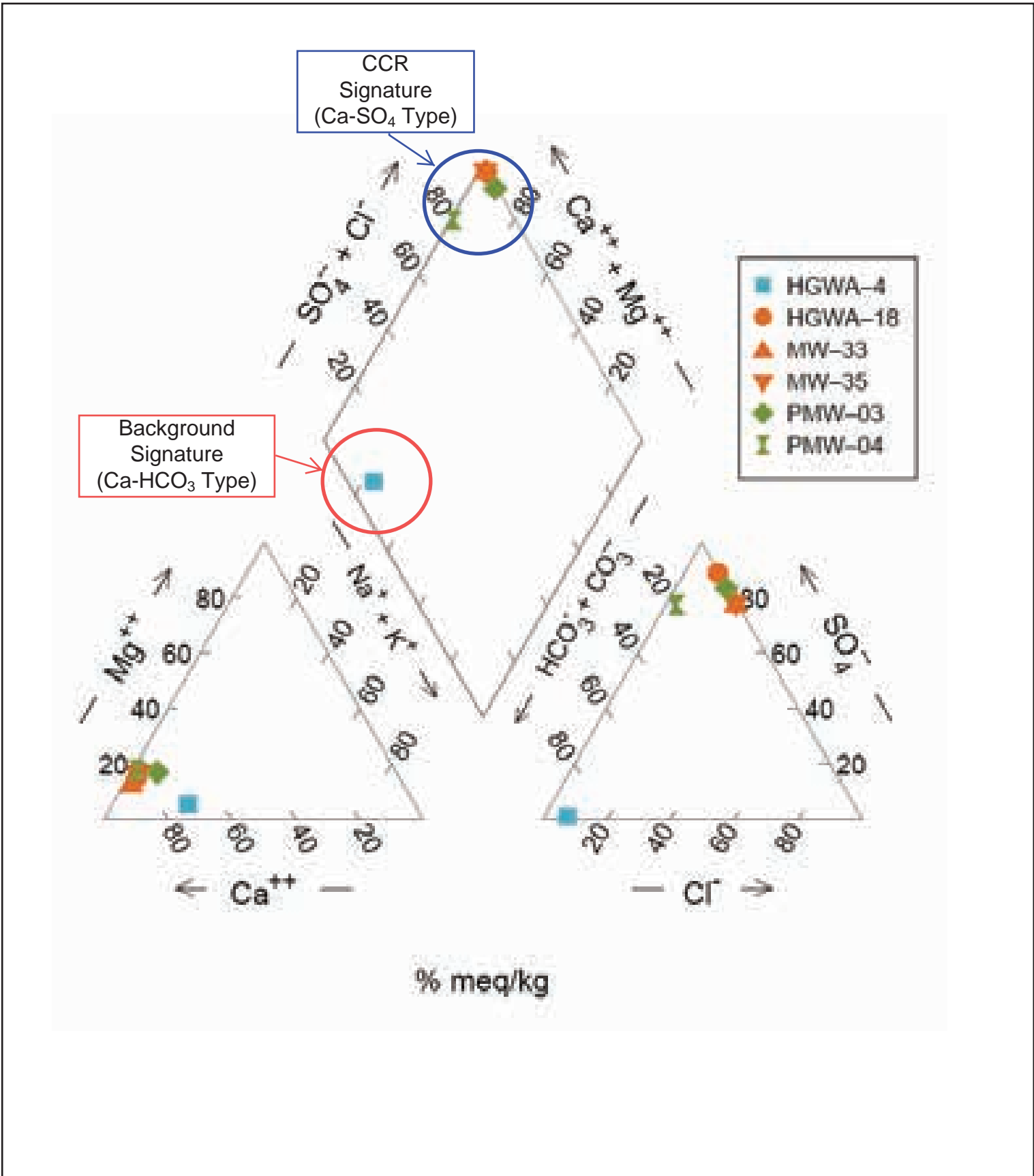


KENNESAW, GA

AUGUST 2022

FIGURE

3



Notes:

1. Results are shown in relative percentage of milliequivalents per kilogram water (meq/kg).
2. Upgradient wells are displayed in blue.
3. Compliance wells are displayed in orange.
4. CCR pore water samples are displayed in green.

PIPER TRILINEAR PLOT

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:



Prepared By:

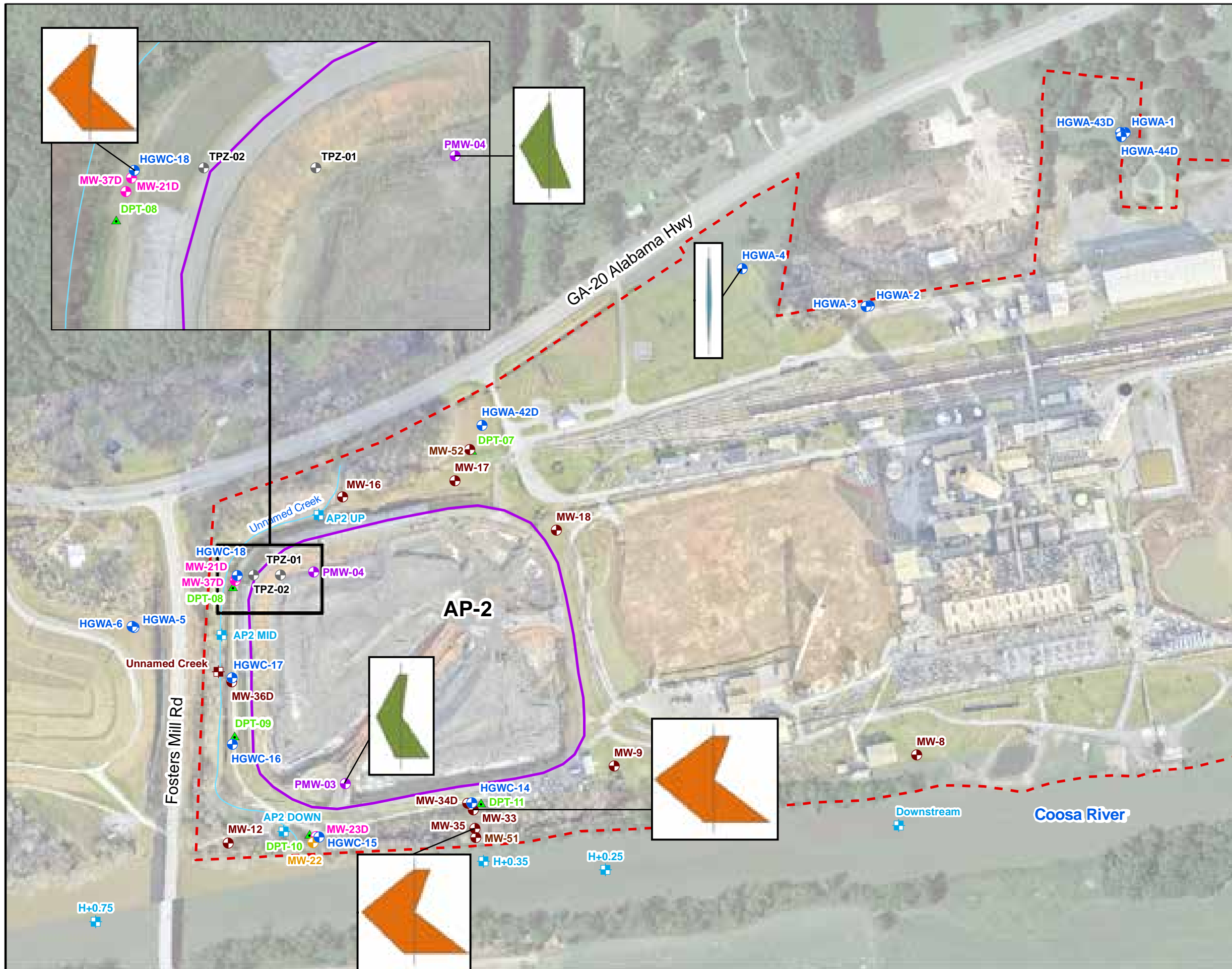


KENNESAW, GA

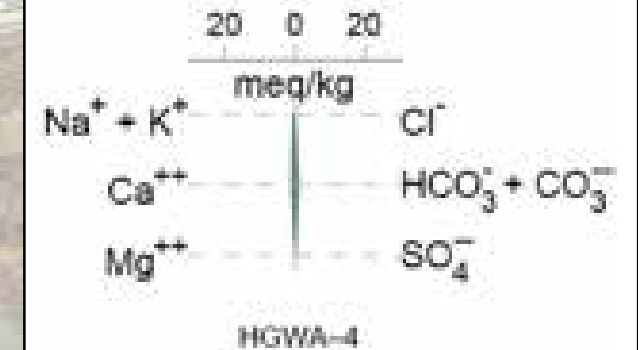
AUGUST 2022

FIGURE

4



- LEGEND**
- Compliance Monitoring Well
 - Horizontal Delineation Well
 - Vertical Delineation Well
 - Piezometer
 - + Surface Water Level Gauge Point
 - ▲ DPT Borehole (unsurveyed location)
 - Temporary Piezometer
 - Pore Water Piezometer
 - + Surface Water Sample Point
 - Plant Hammond Property Boundary
 - Approximate AP-2 Boundary



- Notes:
1. Results are shown in units of milliequivalents per kilogram water (meq/kg).
 2. Upgradient wells are displayed in blue.
 3. Compliance wells are displayed in orange.
 4. CCR Pore water samples are displayed in green.
 5. Three upstream Coosa River surface water sampling locations, Upstream, H-0.5, and H-2, are not shown on the figure and located at (194929.29, 1548194.63), (1942375.24, 1548207.69), and 1943448.96, 1543373.73, respectively.
 6. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.



STIFF DIAGRAMS

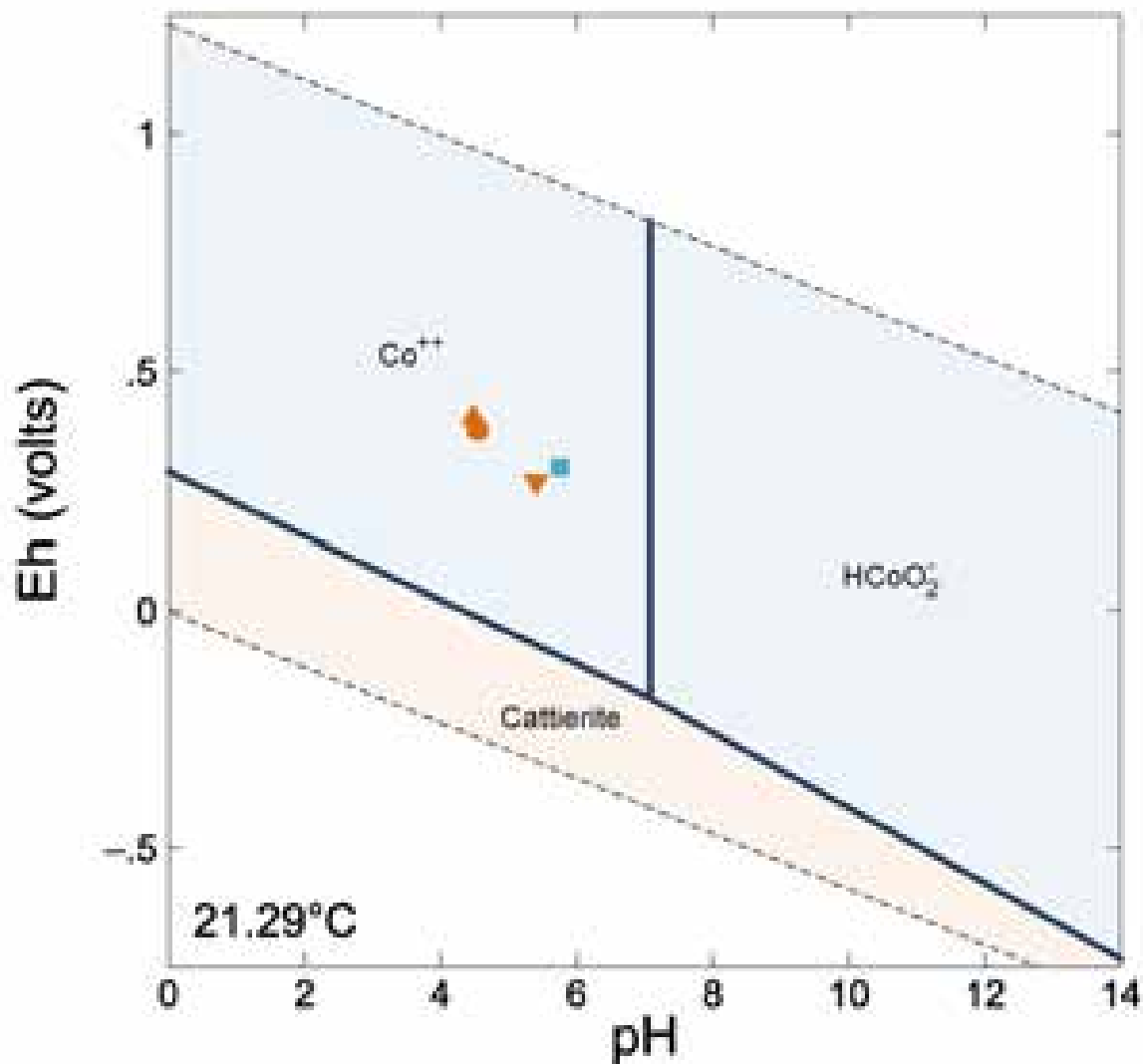
GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA AUGUST 2022

FIGURE
5



Notes:

1. Monitoring well HGWA-4 water quality data were used to establish baseline conditions for the diagram.
2. Formation of $\text{Co}(\text{FeO}_2)_2$ was suppressed as its formation is not thermodynamically favorable.
3. Eh-pH diagrams created using the Act2 module of Geochemist's Workbench software package. Eh was calculated by adding 0.2 volts to oxidative-reductive potential (ORP) field measurements.

Eh-pH DIAGRAM – COBALT SPECIATION

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:



KENNESAW, GA

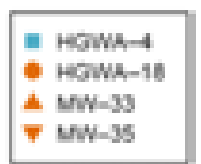
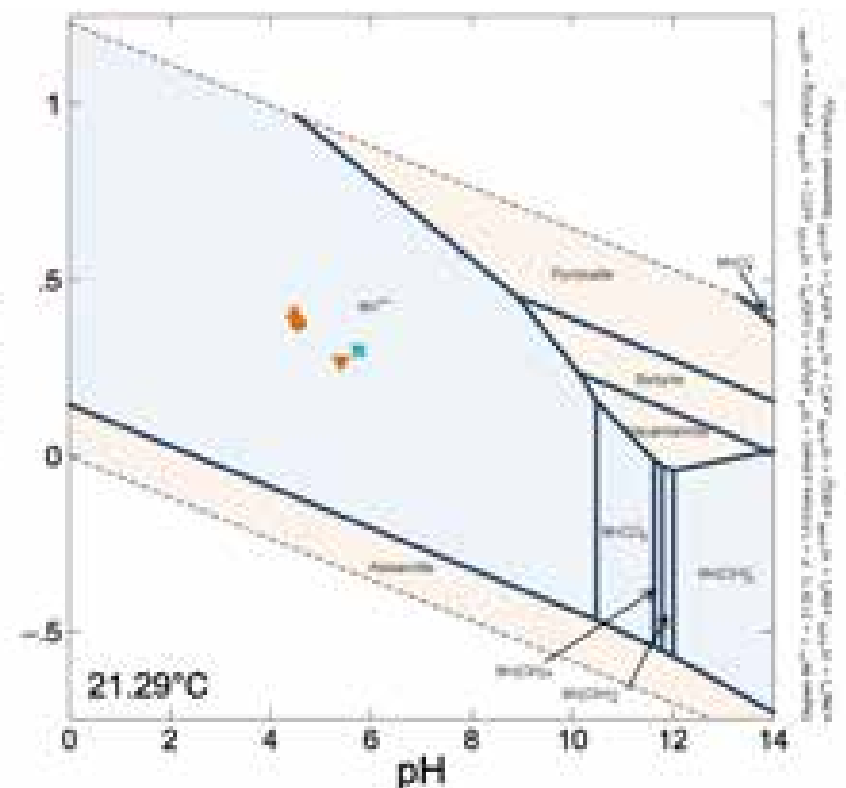
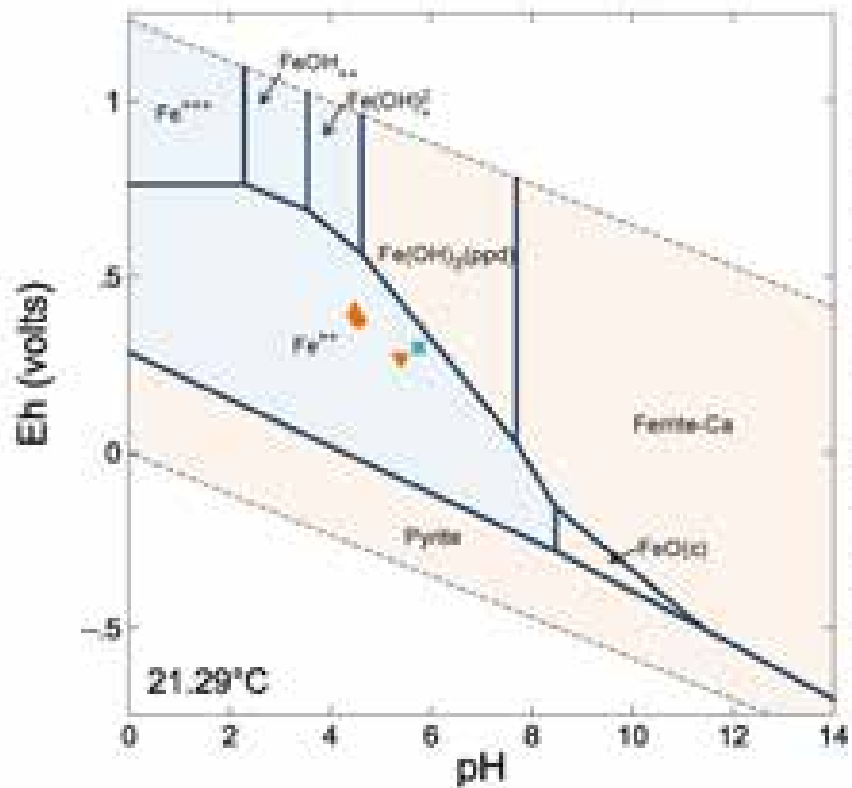
Prepared By:



AUGUST 2022

FIGURE

6

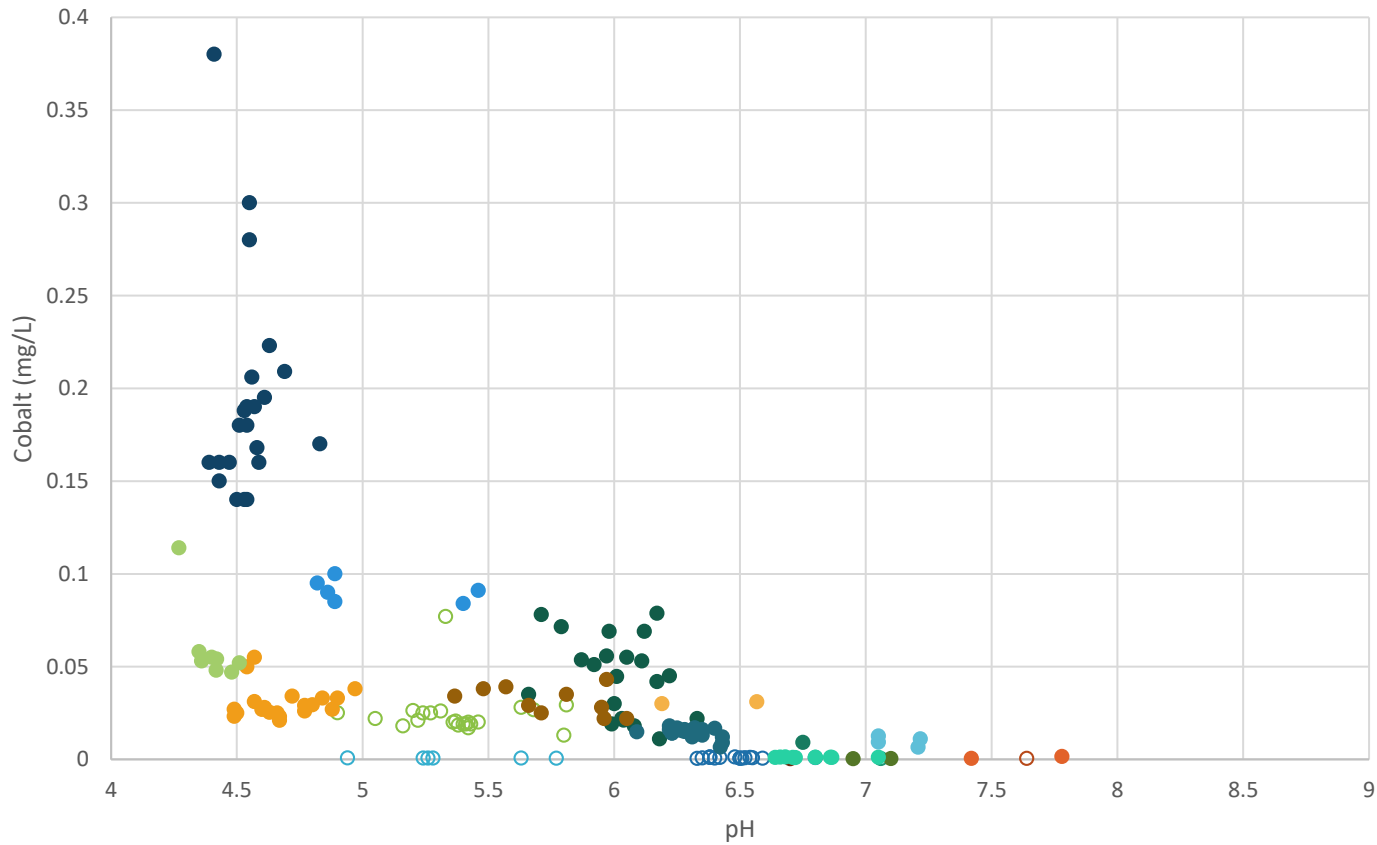


- Notes:
1. Monitoring well HGWA-4 water quality data were used to establish baseline conditions for the diagram.
 2. Formation of hematite, goethite, and magnetite were suppressed for the iron diagram consistent with the solid phase characterization data (Appendix C).
 3. Eh-pH diagrams created using the Act2 module of Geochemist's Workbench software package. Eh was calculated by adding 0.2 volts to oxidative-reductive potential (ORP) field measurements

Eh-pH DIAGRAM – IRON AND MANGANESE SPECIATION

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:	Prepared By:	FIGURE 7
Georgia Power	Geosyntec consultants	
KENNESAW, GA	AUGUST 2022	



○ HGWA-1 ○ HGWA-2 ○ HGWA-4 ○ HGWA-5 ○ HGWA-42D ● HGWC-14 ● HGWC-15
 ● HGWC-16 ● HGWC-17 ● HGWC-18 ● MW-21D ● MW-22 ● MW-23D ● MW-33
 ● MW-34D ● MW-35 ● MW-37D ● MW-51 ● TPZ-02

Notes:

1. Cobalt concentrations shown in milligrams per liter (mg/L).
2. Groundwater monitoring locations without detectable cobalt concentrations were excluded from the figure.

COBALT V. pH GROUNDWATER CORRELATION

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:



Prepared By:



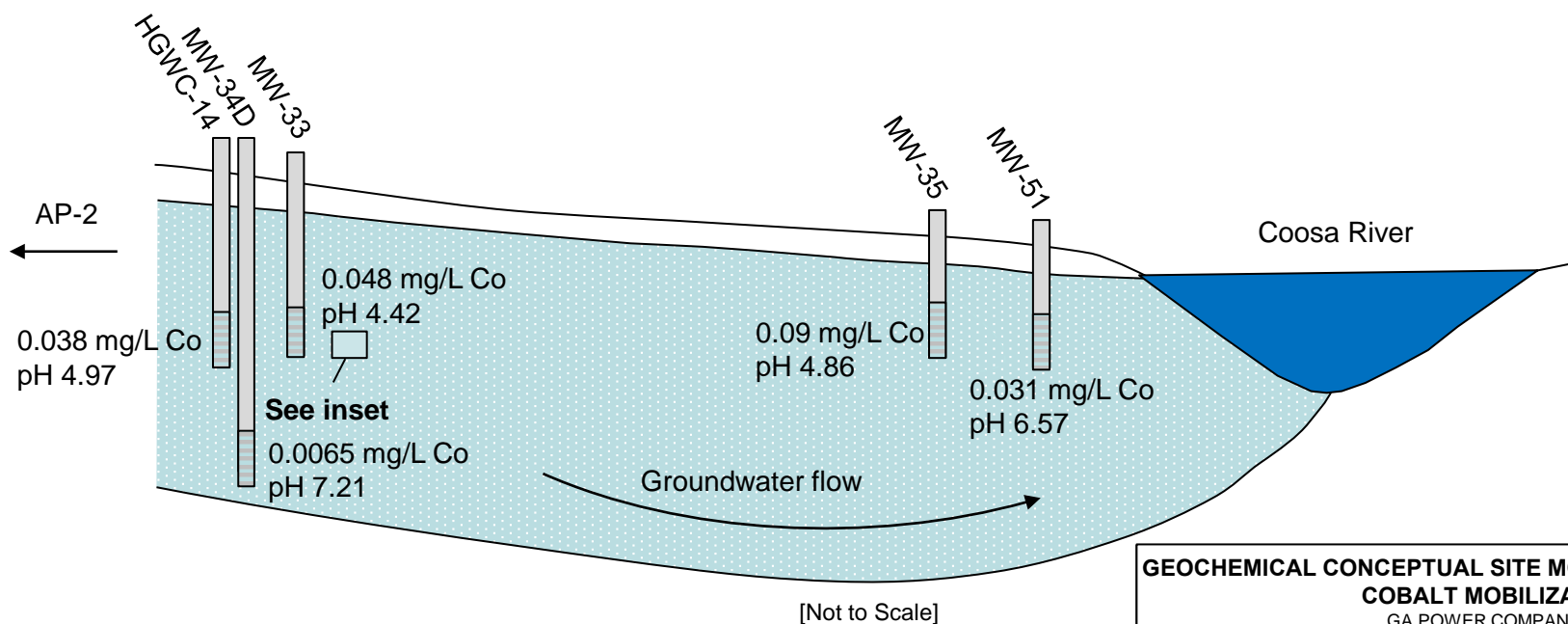
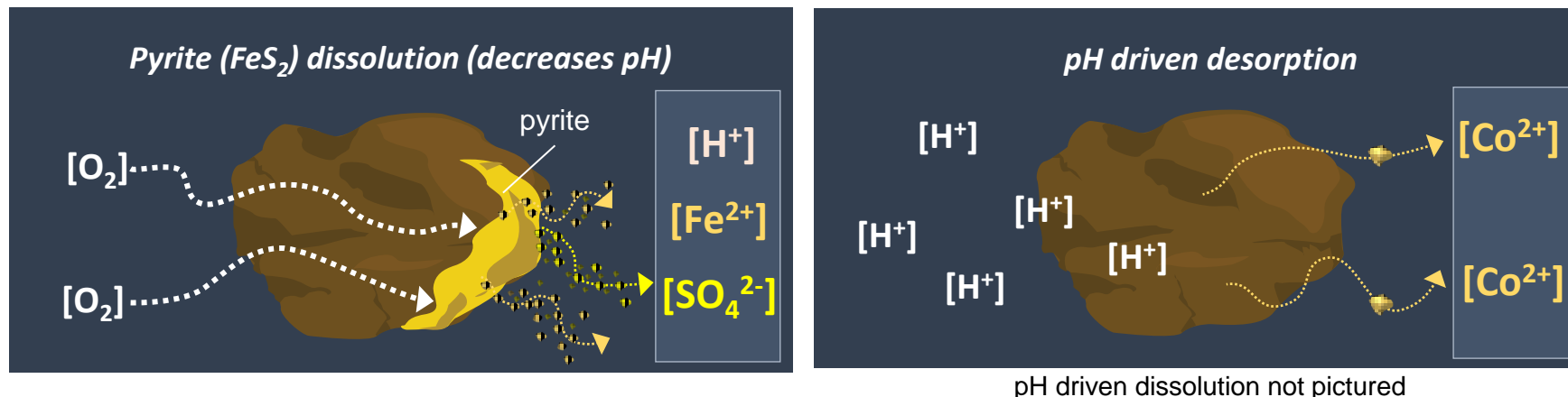
FIGURE

KENNESAW, GA

AUGUST 2022

8

Cobalt Mobilization Mechanisms



**GEOCHEMICAL CONCEPTUAL SITE MODEL ILLUSTRATION—
COBALT MOBILIZATION**
GA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Notes:

1. Cobalt (Co) concentrations in milligrams per liter (mg/L) and pH values in standard units (s.u.) measured in February 2022.



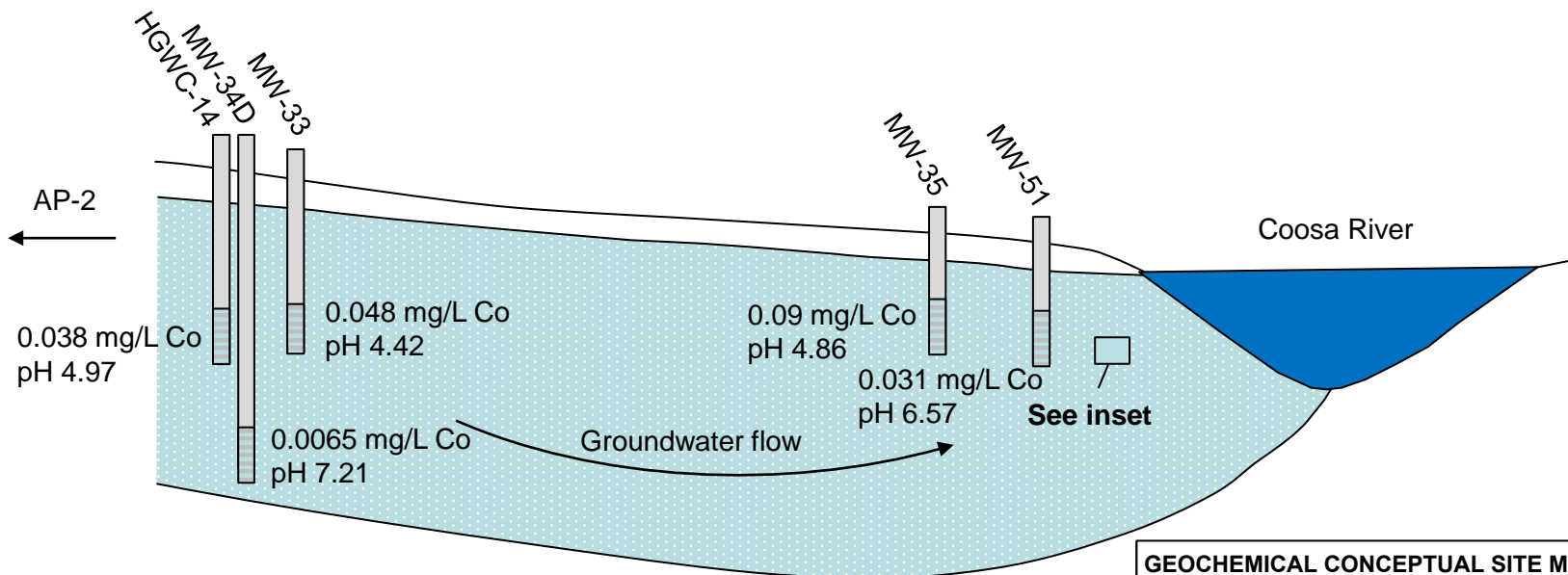
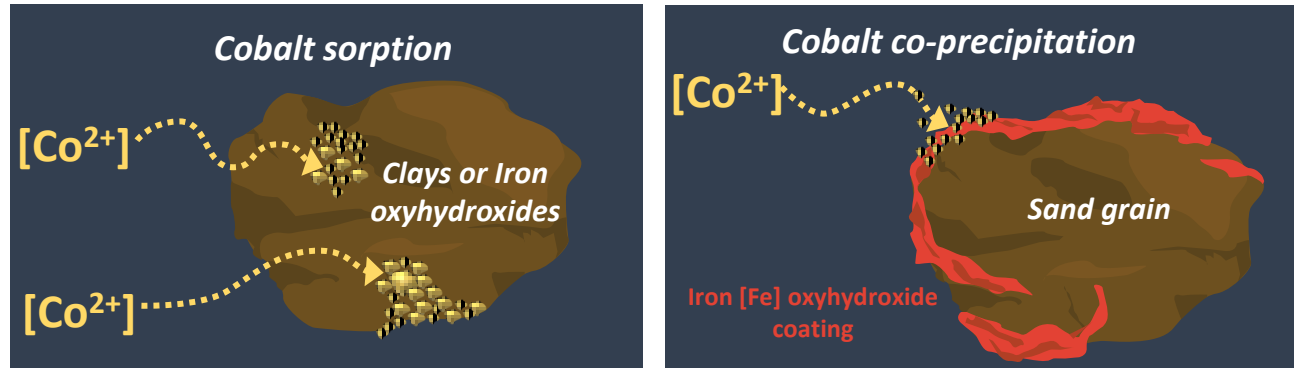
FIGURE

KENNESAW, GA

AUGUST 2022

9

Cobalt Attenuation Mechanisms



[Not to Scale]

Notes:
 1. Cobalt (Co) concentrations in milligrams per liter (mg/L) and pH values in standard units (s.u.) measured in February 2022.

**GEOCHEMICAL CONCEPTUAL SITE MODEL ILLUSTRATION-
 COBAL ATTENUATION**
 GA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

		FIGURE 10
KENNESAW, GA	AUGUST 2022	

APPENDIX A

Analytical Laboratory Reports

December 11, 2019

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

RE: Project: Plant Hammond AP GW6581
Pace Project No.: 2623500

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the report issued on 10/1/2019. The report has been revised to remove mercury data per consultant request. No other changes have been made to this report.

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

Sincerely,



Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Plant Hammond AP GW6581
Pace Project No.: 2623500

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623500001	HGWA-1	Water	09/23/19 16:15	09/24/19 15:23
2623500002	HGWA-2	Water	09/23/19 16:55	09/24/19 15:23
2623500003	HGWA-3	Water	09/23/19 17:10	09/24/19 15:23

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623500001	HGWA-1	EPA 6020B	CSW	14	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623500002	HGWA-2	EPA 6020B	CSW	14	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623500003	HGWA-3	EPA 6020B	CSW	14	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Sample: HGWA-1		Lab ID: 2623500001		Collected: 09/23/19 16:15		Received: 09/24/19 15:23		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	09/27/19 15:26	09/30/19 19:49	7440-36-0		
Arsenic	0.00046J	mg/L	0.0050	0.00035	1	09/27/19 15:26	09/30/19 19:49	7440-38-2	B	
Barium	0.042	mg/L	0.010	0.00049	1	09/27/19 15:26	09/30/19 19:49	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	09/30/19 19:49	7440-41-7		
Boron	0.021J	mg/L	0.040	0.0049	1	09/27/19 15:26	09/30/19 19:49	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	09/30/19 19:49	7440-43-9		
Calcium	118	mg/L	5.0	0.55	50	09/27/19 15:26	09/30/19 19:54	7440-70-2	M6	
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	09/30/19 19:49	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00030	1	09/27/19 15:26	09/30/19 19:49	7440-48-4		
Lead	0.000078J	mg/L	0.0050	0.000046	1	09/27/19 15:26	09/30/19 19:49	7439-92-1		
Lithium	0.0011J	mg/L	0.030	0.00078	1	09/27/19 15:26	09/30/19 19:49	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	09/30/19 19:49	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	09/30/19 19:49	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	09/30/19 19:49	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	442	mg/L	10.0	10.0	1		09/26/19 18:04			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	17.7	mg/L	1.0	0.60	1		09/27/19 21:18	16887-00-6		
Fluoride	0.078J	mg/L	0.30	0.050	1		09/27/19 21:18	16984-48-8		
Sulfate	70.2	mg/L	1.0	0.50	1		09/27/19 21:18	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Sample: HGWA-2		Lab ID: 2623500002		Collected: 09/23/19 16:55		Received: 09/24/19 15:23		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	09/27/19 15:26	09/30/19 20:40	7440-36-0		
Arsenic	0.00067J	mg/L	0.0050	0.00035	1	09/27/19 15:26	09/30/19 20:40	7440-38-2	B	
Barium	0.13	mg/L	0.010	0.00049	1	09/27/19 15:26	09/30/19 20:40	7440-39-3		
Beryllium	0.00011J	mg/L	0.0030	0.000074	1	09/27/19 15:26	09/30/19 20:40	7440-41-7		
Boron	0.040J	mg/L	0.040	0.0049	1	09/27/19 15:26	09/30/19 20:40	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	09/30/19 20:40	7440-43-9		
Calcium	19.5	mg/L	5.0	0.55	50	09/27/19 15:26	09/30/19 20:46	7440-70-2		
Chromium	0.00058J	mg/L	0.010	0.00039	1	09/27/19 15:26	09/30/19 20:40	7440-47-3		
Cobalt	0.038	mg/L	0.0050	0.00030	1	09/27/19 15:26	09/30/19 20:40	7440-48-4		
Lead	0.000092J	mg/L	0.0050	0.000046	1	09/27/19 15:26	09/30/19 20:40	7439-92-1		
Lithium	0.0016J	mg/L	0.030	0.00078	1	09/27/19 15:26	09/30/19 20:40	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	09/30/19 20:40	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	09/30/19 20:40	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	09/30/19 20:40	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	129	mg/L	10.0	10.0	1		09/26/19 18:04			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	5.1	mg/L	1.0	0.60	1		09/27/19 21:33	16887-00-6		
Fluoride	ND	mg/L	0.30	0.050	1		09/27/19 21:33	16984-48-8		
Sulfate	47.2	mg/L	1.0	0.50	1		09/27/19 21:33	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Sample: HGWA-3		Lab ID: 2623500003		Collected: 09/23/19 17:10		Received: 09/24/19 15:23		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	09/27/19 15:26	09/30/19 20:52	7440-36-0		
Arsenic	0.0011J	mg/L	0.0050	0.00035	1	09/27/19 15:26	09/30/19 20:52	7440-38-2	B	
Barium	0.13	mg/L	0.010	0.00049	1	09/27/19 15:26	09/30/19 20:52	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	09/30/19 20:52	7440-41-7		
Boron	0.0081J	mg/L	0.040	0.0049	1	09/27/19 15:26	09/30/19 20:52	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	09/30/19 20:52	7440-43-9		
Calcium	71.0	mg/L	5.0	0.55	50	09/27/19 15:26	09/30/19 20:57	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	09/30/19 20:52	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00030	1	09/27/19 15:26	09/30/19 20:52	7440-48-4		
Lead	ND	mg/L	0.0050	0.000046	1	09/27/19 15:26	09/30/19 20:52	7439-92-1		
Lithium	0.0029J	mg/L	0.030	0.00078	1	09/27/19 15:26	09/30/19 20:52	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	09/30/19 20:52	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	09/30/19 20:52	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	09/30/19 20:52	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	268	mg/L	10.0	10.0	1		09/26/19 18:04			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	5.9	mg/L	1.0	0.60	1		09/27/19 21:47	16887-00-6		
Fluoride	ND	mg/L	0.30	0.050	1		09/27/19 21:47	16984-48-8		
Sulfate	43.9	mg/L	1.0	0.50	1		09/27/19 21:47	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623500

QC Batch: 36079 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623500001, 2623500002, 2623500003

METHOD BLANK: 162814 Matrix: Water
 Associated Lab Samples: 2623500001, 2623500002, 2623500003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	09/30/19 19:37	
Arsenic	mg/L	0.00043J	0.0050	0.00035	09/30/19 19:37	
Barium	mg/L	ND	0.010	0.00049	09/30/19 19:37	
Beryllium	mg/L	ND	0.0030	0.000074	09/30/19 19:37	
Boron	mg/L	ND	0.040	0.0049	09/30/19 19:37	
Cadmium	mg/L	ND	0.0025	0.00011	09/30/19 19:37	
Calcium	mg/L	ND	0.10	0.011	09/30/19 19:37	
Chromium	mg/L	ND	0.010	0.00039	09/30/19 19:37	
Cobalt	mg/L	ND	0.0050	0.00030	09/30/19 19:37	
Lead	mg/L	ND	0.0050	0.000046	09/30/19 19:37	
Lithium	mg/L	ND	0.030	0.00078	09/30/19 19:37	
Molybdenum	mg/L	ND	0.010	0.00095	09/30/19 19:37	
Selenium	mg/L	ND	0.010	0.0013	09/30/19 19:37	
Thallium	mg/L	ND	0.0010	0.000052	09/30/19 19:37	

LABORATORY CONTROL SAMPLE: 162815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	106	80-120	
Arsenic	mg/L	0.1	0.10	100	80-120	
Barium	mg/L	0.1	0.11	106	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	101	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.11	106	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.10	104	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.11	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816 162817

Parameter	Units	2623500001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
			Spike Conc.	Spike Conc.							
Antimony	mg/L	ND	0.1	0.1	0.11	0.10	108	104	75-125	3	20

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816		162817		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623500001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Arsenic	mg/L	0.00046J	0.1	0.1	0.10	0.10	103	100	75-125	3	20		
Barium	mg/L	0.042	0.1	0.1	0.15	0.15	110	106	75-125	3	20		
Beryllium	mg/L	ND	0.1	0.1	0.098	0.094	98	94	75-125	4	20		
Boron	mg/L	0.021J	1	1	1.0	0.99	99	97	75-125	2	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Calcium	mg/L	118	1	1	116	129	-296	1090	75-125	11	20	M6	
Chromium	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	3	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20		
Lead	mg/L	0.000078J	0.1	0.1	0.10	0.10	104	101	75-125	3	20		
Lithium	mg/L	0.0011J	0.1	0.1	0.10	0.098	102	97	75-125	4	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.10	108	102	75-125	6	20		
Selenium	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	1	20		
Thallium	mg/L	ND	0.1	0.1	0.11	0.10	105	101	75-125	4	20		

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

QC Batch: 36029 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2623500001, 2623500002, 2623500003

LABORATORY CONTROL SAMPLE: 162444

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

SAMPLE DUPLICATE: 162445

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

SAMPLE DUPLICATE: 162446

Parameter	Units	2623553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	D6

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

QC Batch: 500244 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623500001, 2623500002, 2623500003

METHOD BLANK: 2691483 Matrix: Water

Associated Lab Samples: 2623500001, 2623500002, 2623500003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/27/19 16:24	
Fluoride	mg/L	ND	0.10	0.050	09/27/19 16:24	
Sulfate	mg/L	ND	1.0	0.50	09/27/19 16:24	

LABORATORY CONTROL SAMPLE: 2691484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	52.1	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2691487 2691488

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92447237002	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	16.9	50	50	69.7	69.4	105	105	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.8	2.7	110	108	90-110	2	10		
Sulfate	mg/L	91.9	50	50	139	139	94	95	90-110	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2691489 2691490

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92447233001	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	7.9	50	50	60.5	60.9	105	106	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	3.0	3.1	120	125	90-110	4	10 M1		
Sulfate	mg/L	36.6	50	50	90.2	90.3	107	107	90-110	0	10		

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QUALIFIERS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-GA Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623500

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623500001	HGWA-1	EPA 3005A	36079	EPA 6020B	36104
2623500002	HGWA-2	EPA 3005A	36079	EPA 6020B	36104
2623500003	HGWA-3	EPA 3005A	36079	EPA 6020B	36104
2623500001	HGWA-1	SM 2540C	36029		
2623500002	HGWA-2	SM 2540C	36029		
2623500003	HGWA-3	SM 2540C	36029		
2623500001	HGWA-1	EPA 300.0 Rev 2.1 1993	500244		
2623500002	HGWA-2	EPA 300.0 Rev 2.1 1993	500244		
2623500003	HGWA-3	EPA 300.0 Rev 2.1 1993	500244		

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Client Name: G. H. Powell Co

PH: 813 898-1111 Fax: 813 898-1112
CLIENT: GSPower-COR

Counter: Fed Lic HPS USPS Client Commercial Other

Tracking #: _____



Custody Seal on Cooler/Box Present: Yes No Seal intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam Other

Thermometer Used: 214

Type of Box: Vent Blue None

Sample on ice cooling process: Yes No

Cooler Temperature: 3.8 °C

Biological Hazard to Person: Yes No

Name and initials of person(s) handling contents: G. H. Powell Co

Items should be above freezing to 4°C

Comments

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Relinquished	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Signature Name & Signature on CDC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Signature Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analysis (if applicable)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6
Rush Turn Around Time Requested	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
- Pesticide Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered volume received for Downstream tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
Sample Labels match CDC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
- Includes date/time/ID/Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers holding precipitation have been inspected	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
All containers holding precipitation are found to be in compliance with EPA recommendations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
- Samples: 100 mL minimum 100 mL 500 mL 1000 mL	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14
- Samples checked for acidification	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
- Headspace in VOCs Vials (if applicable)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15
- Trip Blank Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16
- Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
- Pesticide Trip Blank Lot # (if purchased)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	

Client Notification Resolution

Lead Cells 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 MUST be sent to the North Carolina OCMNH (Operation Office) i.e. out of field, incorrect containers, out of temp, incorrect containers!



October 25, 2019

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

RE: Project: Plant Hammond GW6581
Pace Project No.: 2623499

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 24, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: Plant Hammond GW6581
Pace Project No.: 2623499

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

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SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623499

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

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581
 Pace Project No.: 2623499

Sample: HGWA-1		Lab ID: 2623499001		Collected: 09/23/19 16:15	Received: 09/24/19 15:23	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								
Iron	0.022J	mg/L	0.040	0.015	1	10/22/19 14:30	10/23/19 22:51	7439-89-6		
Magnesium	5.4	mg/L	0.050	0.011	1	10/22/19 14:30	10/23/19 22:51	7439-95-4		
Manganese	0.20	mg/L	0.040	0.0061	1	10/22/19 14:30	10/23/19 22:51	7439-96-5		
Phosphorus	ND	mg/L	0.050	0.023	1	10/22/19 14:30	10/23/19 22:51	7723-14-0		
Potassium	0.33	mg/L	0.20	0.026	1	10/22/19 14:30	10/23/19 22:51	7440-09-7		
Sodium	20.4	mg/L	1.0	0.19	1	10/22/19 14:30	10/23/19 22:51	7440-23-5		
2320B Alkalinity		Analytical Method: SM 2320B								
Alkalinity, Bicarbonate (CaCO ₃)	279	mg/L	20.0	20.0	1		09/25/19 16:36			
Alkalinity, Total as CaCO ₃	279	mg/L	20.0	20.0	1		09/25/19 16:36			
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P								
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 12:26			
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D								
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 09:20	18496-25-8		
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B								
Dissolved Organic Carbon	1.1	mg/L	1.0	0.50	1		10/24/19 23:28		H3	

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Sample: HGWA-2		Lab ID: 2623499002		Collected: 09/23/19 16:55		Received: 09/24/19 15:23		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							
Iron	1.7	mg/L	0.040	0.015	1	10/22/19 14:30	10/23/19 22:56	7439-89-6	
Magnesium	2.4	mg/L	0.050	0.011	1	10/22/19 14:30	10/23/19 22:56	7439-95-4	
Manganese	1.1	mg/L	0.040	0.0061	1	10/22/19 14:30	10/23/19 22:56	7439-96-5	
Phosphorus	ND	mg/L	0.050	0.023	1	10/22/19 14:30	10/23/19 22:56	7723-14-0	
Potassium	0.88	mg/L	0.20	0.026	1	10/22/19 14:30	10/23/19 22:56	7440-09-7	
Sodium	8.7	mg/L	1.0	0.19	1	10/22/19 14:30	10/23/19 22:56	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	29.0	mg/L	20.0	20.0	1		09/25/19 16:58		
Alkalinity, Total as CaCO ₃	29.0	mg/L	20.0	20.0	1		09/25/19 16:58		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 12:27		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 09:23	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	2.1	mg/L	1.0	0.50	1		10/25/19 00:17		H3

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

Sample: HGWA-3		Lab ID: 2623499003		Collected: 09/23/19 17:10		Received: 09/24/19 15:23		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							
Iron	0.53	mg/L	0.040	0.015	1	10/22/19 14:30	10/23/19 23:24	7439-89-6	
Magnesium	4.8	mg/L	0.050	0.011	1	10/22/19 14:30	10/23/19 23:24	7439-95-4	
Manganese	0.21	mg/L	0.040	0.0061	1	10/22/19 14:30	10/23/19 23:24	7439-96-5	
Phosphorus	0.026J	mg/L	0.050	0.023	1	10/22/19 14:30	10/23/19 23:24	7723-14-0	
Potassium	0.42	mg/L	0.20	0.026	1	10/22/19 14:30	10/23/19 23:24	7440-09-7	
Sodium	5.2	mg/L	1.0	0.19	1	10/22/19 14:30	10/23/19 23:24	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	174	mg/L	20.0	20.0	1		09/25/19 17:01		
Alkalinity, Total as CaCO ₃	174	mg/L	20.0	20.0	1		09/25/19 17:01		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 12:28		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 09:25	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/25/19 00:28		H3

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623499

QC Batch: 37339 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D MET
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 168935 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

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

LABORATORY CONTROL SAMPLE: 168936

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 168937 168938

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
 Pace Project No.: 2623499

QC Batch: 35970 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 161956 Matrix: Water
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	20.0	09/25/19 16:26	

LABORATORY CONTROL SAMPLE: 161957

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

SAMPLE DUPLICATE: 161958

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

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
 Pace Project No.: 2623499

QC Batch: 35930 Analysis Method: SM 4500-P
 QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 161749 Matrix: Water
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	0.020	09/25/19 11:51	

LABORATORY CONTROL SAMPLE: 161750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.5	0.52	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 161862 161863

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

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623499

QC Batch: 35996 Analysis Method: SM 4500-S2 D
 QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 162154 Matrix: Water

Associated Lab Samples: 2623499001, 2623499002, 2623499003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	09/26/19 09:18	

LABORATORY CONTROL SAMPLE: 162155

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162156 162157

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

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
 Pace Project No.: 2623499

QC Batch: 581439 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

METHOD BLANK: 3160596 Matrix: Water
 Associated Lab Samples: 2623499001, 2623499002, 2623499003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.50	10/24/19 23:00	

LABORATORY CONTROL SAMPLE: 3160597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	20	19.3	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160598 3160599

Parameter	Units	2624536004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	20	20	20.1	19.8	100	98	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3160600 3160601

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

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QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623499

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-GA Pace Analytical Services - Atlanta, GA

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623499

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

REPORT OF LABORATORY ANALYSIS

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[Handwritten Signature]

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a U.S.A. DOCUMENT. It is not an ADR. It is not a certificate of analysis. It is not a receipt. It is not a report. It is not a document that can be completed on a computer. It is a document that is filled out by hand.

Case No:	<i>2623499</i>
Requester:	<i>St. Louis County Sheriff's Office</i>
Requester Address:	<i>1400 S. Grand Blvd.</i>
Requester Phone:	<i>636.334.1111</i>
Requester Email:	<i>stlouiscounty@missouri.gov</i>
Requester Title:	<i>Assistant Sheriff</i>
Requester Signature:	<i>[Signature]</i>
Requester Date:	<i>11/19/13</i>
Requester Time:	<i>10:00 AM</i>

Sample ID:	<i>A-2349</i>
Sample Description:	<i>Handwritten notes about sample</i>
Sample Weight:	<i>...</i>
Sample Volume:	<i>...</i>
Sample Container:	<i>...</i>
Sample Location:	<i>...</i>

Field No.:	<i>...</i>
Field Name:	<i>...</i>
Field Address:	<i>...</i>
Field Phone:	<i>...</i>
Field Email:	<i>...</i>
Field Title:	<i>...</i>
Field Signature:	<i>[Signature]</i>
Field Date:	<i>...</i>
Field Time:	<i>...</i>

RECEIVED	DATE	TIME	BY	OFFICE	REMARKS
<i>11/19/13</i>	<i>10:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>11:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>12:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>1:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>2:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>3:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>4:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>5:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>6:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>7:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>8:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>9:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>10:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>11:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>12:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>1:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>2:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>3:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>4:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>5:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>6:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>7:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
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<i>11/19/13</i>	<i>2:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
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<i>11/19/13</i>	<i>10:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>11:00 PM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>
<i>11/19/13</i>	<i>12:00 AM</i>		<i>[Signature]</i>	<i>St. Louis County Sheriff's Office</i>	<i>Handwritten notes</i>

MO# : 2623499

St. Louis County Sheriff's Office

11/19/13

10:00 AM

[Signature]

Assistant Sheriff

St. Louis County Sheriff's Office

1400 S. Grand Blvd.

636.334.1111

stlouiscounty@missouri.gov

...



CHAIN-OF-CUSTODY / Analytical Request Document

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Section 1: Request Chain Information

Requester Name: Public Health Dept
 Agency: Public Health Dept
 Date of Birth: 1/1/2000
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Section 2: Requested Program Information

Request No: 1910
 Request Date: 1/1/2000
 Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Section 3: Request Information

Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Sample ID	Sample Description	Quantity	Unit	Container	Material	Preparation	Analysis	Method	Instrument	Operator	Lab	Notes
1	Flow A	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
2	Flow B	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
3	Flow C	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
4	Flow D	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
5	Flow E	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
6	Flow F	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
7	Flow G	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
8	Flow H	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
9	Flow I	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml
10	Flow J	100	ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml	100 ml

Section 4: Chain of Custody

Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Request Date: 1/1/2000
 Request Time: 10:00 AM
 Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

Requester Name: Public Health Dept
 Requester Address: 1000 N. 1st St
 City: Phoenix, AZ
 State: AZ
 Zip: 85004

LAB # 2623499

LAB # 2623499
 Date: 1/1/2000
 Lab: Public Health Dept



Sample Condition Upon Receipt

W0#: 2623499

Client Name: GA Power LLC

PT: SM Due Date: 10/01/10
CLIENT: GP Power-CCB

Carrier: FedEx UPS USPS Other Commercial Other
Tracking # _____

Reference:
Pkg. Date/Time
Pkg. Weight

Custody Seal on Cooler/Box Present Yes No Seal intact, Yes No

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 214 Type of Ice: Perf Blue None Temp on ice cooling around the brown

Cooler Temperature 3.8°C
Temp should be above freezing to 5°C

Biological Material is Frozen Yes No
Contents

Date and Initials of person who identified contents: SP/2/27/10/1 day

Chain of Custody Present	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	1
Chain of Custody Filled Out	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	2
Chain of Custody Reconciled	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	3
Sample Name & Signature on DGC	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	4
Samples Arrived within Hold Time	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	5
Short Hold Time Analysis (if Tier)	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	6
Quick Turn Around Time Requested:	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	7
Sufficient Volume	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	8
Correct Containers Used	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	9
Label Containers Used	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	10
Containers HMO	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	11
Filtered volume received for Duplicates with	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	12
Service Labels match DGC	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	13
Includes date/time of Analysis	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	14
All containers having preservative or have been checked	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	15
All containers needing preservation are found to be in compliance with LHM requirements	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	16
Temperature of ice/water <u>3.8°C</u> in DGC (upper)	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	17
Samples checked for degradation	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	18
Identify each in VOA Vials (if any)	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	19
Eng Blank Present	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	20
Top Blank Custody Seals Present	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	21
Page Top Blank Lot # if purchased	<u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/>	22

10-phos + DGC Field Filtered

Client Representative Resolution: _____ Date/Time _____

Person Contacted _____ Date/Time _____

Comments/Resolution _____

Project Manager/Carrier _____ Date: _____



December 11, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623559

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623559

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2623559

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623559001	HGWA-5	Water	09/24/19 12:20	09/25/19 14:03
2623559002	HGWA-6	Water	09/24/19 11:27	09/25/19 14:03
2623559003	HGWA-4	Water	09/24/19 10:52	09/25/19 14:03
2623559004	HGWC-14	Water	09/24/19 12:30	09/25/19 14:03
2623559005	HGWC-15	Water	09/24/19 14:25	09/25/19 14:03

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623559

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623559001	HGWA-5	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623559002	HGWA-6	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623559003	HGWA-4	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623559004	HGWC-14	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623559005	HGWC-15	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623559

Sample: HGWA-5		Lab ID: 2623559001		Collected: 09/24/19 12:20		Received: 09/25/19 14:03		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.00055J	mg/L	0.0050	0.00035	1	09/27/19 15:26	10/01/19 10:51	7440-38-2	B	
Barium	0.053	mg/L	0.010	0.00049	1	09/27/19 15:26	10/01/19 10:51	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	10/01/19 10:51	7440-41-7		
Boron	0.0088J	mg/L	0.040	0.0049	1	09/27/19 15:26	10/01/19 10:51	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	10/01/19 10:51	7440-43-9		
Calcium	29.3	mg/L	5.0	0.55	50	09/27/19 15:26	10/01/19 10:57	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	10/01/19 10:51	7440-47-3		
Cobalt	0.00063J	mg/L	0.0050	0.00030	1	09/27/19 15:26	10/01/19 10:51	7440-48-4		
Lead	ND	mg/L	0.0050	0.000046	1	09/27/19 15:26	10/01/19 10:51	7439-92-1		
Lithium	0.0035J	mg/L	0.030	0.00078	1	09/27/19 15:26	10/01/19 10:51	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	10/01/19 10:51	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	10/01/19 10:51	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	10/01/19 10:51	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	133	mg/L	10.0	10.0	1		10/01/19 16:32			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	1.7	mg/L	1.0	0.60	1		10/01/19 16:51	16887-00-6		
Fluoride	0.058J	mg/L	0.30	0.050	1		10/01/19 16:51	16984-48-8		
Sulfate	20.7	mg/L	1.0	0.50	1		10/01/19 16:51	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
 Pace Project No.: 2623559

Sample: HGWA-6		Lab ID: 2623559002		Collected: 09/24/19 11:27		Received: 09/25/19 14:03		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	09/27/19 15:26	10/01/19 11:03	7440-38-2		
Barium	0.22	mg/L	0.010	0.00049	1	09/27/19 15:26	10/01/19 11:03	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	10/01/19 11:03	7440-41-7		
Boron	0.016J	mg/L	0.040	0.0049	1	09/27/19 15:26	10/01/19 11:03	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	10/01/19 11:03	7440-43-9		
Calcium	52.5	mg/L	5.0	0.55	50	09/27/19 15:26	10/01/19 11:09	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	10/01/19 11:03	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00030	1	09/27/19 15:26	10/01/19 11:03	7440-48-4		
Lead	0.000071J	mg/L	0.0050	0.000046	1	09/27/19 15:26	10/01/19 11:03	7439-92-1		
Lithium	0.011J	mg/L	0.030	0.00078	1	09/27/19 15:26	10/01/19 11:03	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	10/01/19 11:03	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	10/01/19 11:03	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	10/01/19 11:03	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	222	mg/L	10.0	10.0	1		10/01/19 16:33			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	1.3	mg/L	1.0	0.60	1		10/01/19 17:35	16887-00-6		
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 17:35	16984-48-8		
Sulfate	35.4	mg/L	1.0	0.50	1		10/01/19 17:35	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623559

Sample: HGWA-4 **Lab ID: 2623559003** Collected: 09/24/19 10:52 Received: 09/25/19 14:03 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	ND	mg/L	0.0050	0.00035	1	09/27/19 15:26	10/01/19 11:14	7440-38-2	
Barium	0.030	mg/L	0.010	0.00049	1	09/27/19 15:26	10/01/19 11:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	10/01/19 11:14	7440-41-7	
Boron	0.013J	mg/L	0.040	0.0049	1	09/27/19 15:26	10/01/19 11:14	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	10/01/19 11:14	7440-43-9	
Calcium	36.6	mg/L	5.0	0.55	50	09/27/19 15:26	10/01/19 11:20	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	10/01/19 11:14	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	09/27/19 15:26	10/01/19 11:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	09/27/19 15:26	10/01/19 11:14	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	09/27/19 15:26	10/01/19 11:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	10/01/19 11:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	10/01/19 11:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	10/01/19 11:14	7440-28-0	
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	131	mg/L	10.0	10.0	1		10/01/19 16:33		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0 Rev 2.1 1993									
Chloride	3.6	mg/L	1.0	0.60	1		10/01/19 17:49	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 17:49	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/01/19 17:49	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623559

Sample: HGWC-14 **Lab ID: 2623559004** Collected: 09/24/19 12:30 Received: 09/25/19 14:03 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0039J	mg/L	0.0050	0.00035	1	09/27/19 15:26	10/01/19 11:44	7440-38-2	B
Barium	0.021	mg/L	0.010	0.00049	1	09/27/19 15:26	10/01/19 11:44	7440-39-3	
Beryllium	0.00044J	mg/L	0.0030	0.000074	1	09/27/19 15:26	10/01/19 11:44	7440-41-7	
Boron	14.7	mg/L	2.0	0.25	50	09/27/19 15:26	10/01/19 11:50	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/27/19 15:26	10/01/19 11:44	7440-43-9	
Calcium	507	mg/L	25.0	2.7	250	09/27/19 15:26	10/01/19 17:47	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	09/27/19 15:26	10/01/19 11:44	7440-47-3	
Cobalt	0.026	mg/L	0.0050	0.00030	1	09/27/19 15:26	10/01/19 11:44	7440-48-4	
Lead	0.0013J	mg/L	0.0050	0.000046	1	09/27/19 15:26	10/01/19 11:44	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	09/27/19 15:26	10/01/19 11:44	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	10/01/19 11:44	7439-98-7	
Selenium	0.0064J	mg/L	0.010	0.0013	1	09/27/19 15:26	10/01/19 11:44	7782-49-2	
Thallium	0.00030J	mg/L	0.0010	0.000052	1	09/27/19 15:26	10/01/19 11:44	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	2470	mg/L	10.0	10.0	1		10/01/19 16:33		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	188	mg/L	25.0	15.0	25		10/02/19 07:25	16887-00-6	
Fluoride	0.053J	mg/L	0.30	0.050	1		10/01/19 18:04	16984-48-8	
Sulfate	1110	mg/L	25.0	12.5	25		10/02/19 07:25	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623559

Sample: HGWC-15		Lab ID: 2623559005		Collected: 09/24/19 14:25		Received: 09/25/19 14:03		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.00037J	mg/L	0.0050	0.00035	1	09/27/19 15:26	10/01/19 11:56	7440-38-2	B	
Barium	0.019	mg/L	0.010	0.00049	1	09/27/19 15:26	10/01/19 11:56	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/27/19 15:26	10/01/19 11:56	7440-41-7		
Boron	2.9	mg/L	2.0	0.25	50	09/27/19 15:26	10/01/19 12:02	7440-42-8		
Cadmium	0.0014J	mg/L	0.0025	0.00011	1	09/27/19 15:26	10/01/19 11:56	7440-43-9		
Calcium	202	mg/L	5.0	0.55	50	09/27/19 15:26	10/01/19 12:02	7440-70-2		
Chromium	0.00041J	mg/L	0.010	0.00039	1	09/27/19 15:26	10/01/19 11:56	7440-47-3		
Cobalt	0.022	mg/L	0.0050	0.00030	1	09/27/19 15:26	10/01/19 11:56	7440-48-4		
Lead	0.00020J	mg/L	0.0050	0.000046	1	09/27/19 15:26	10/01/19 11:56	7439-92-1		
Lithium	0.0012J	mg/L	0.030	0.00078	1	09/27/19 15:26	10/01/19 11:56	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/27/19 15:26	10/01/19 11:56	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/27/19 15:26	10/01/19 11:56	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/27/19 15:26	10/01/19 11:56	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1140	mg/L	10.0	10.0	1		10/01/19 16:34			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	120	mg/L	9.0	5.4	9		10/02/19 07:39	16887-00-6		
Fluoride	0.12J	mg/L	0.30	0.050	1		10/01/19 18:18	16984-48-8		
Sulfate	382	mg/L	9.0	4.5	9		10/02/19 07:39	14808-79-8		

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623559

QC Batch: 36079 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

METHOD BLANK: 162814 Matrix: Water
 Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	0.00043J	0.0050	0.00035	09/30/19 19:37	
Barium	mg/L	ND	0.010	0.00049	09/30/19 19:37	
Beryllium	mg/L	ND	0.0030	0.000074	09/30/19 19:37	
Boron	mg/L	ND	0.040	0.0049	09/30/19 19:37	
Cadmium	mg/L	ND	0.0025	0.00011	09/30/19 19:37	
Calcium	mg/L	ND	0.10	0.011	09/30/19 19:37	
Chromium	mg/L	ND	0.010	0.00039	09/30/19 19:37	
Cobalt	mg/L	ND	0.0050	0.00030	09/30/19 19:37	
Lead	mg/L	ND	0.0050	0.000046	09/30/19 19:37	
Lithium	mg/L	ND	0.030	0.00078	09/30/19 19:37	
Molybdenum	mg/L	ND	0.010	0.00095	09/30/19 19:37	
Selenium	mg/L	ND	0.010	0.0013	09/30/19 19:37	
Thallium	mg/L	ND	0.0010	0.000052	09/30/19 19:37	

LABORATORY CONTROL SAMPLE: 162815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.10	100	80-120	
Barium	mg/L	0.1	0.11	106	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	101	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.11	106	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.10	104	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.11	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816 162817

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2623500001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	0.00046J	0.1	0.1	0.10	0.10	103	100	75-125	3	20	
Barium	mg/L	0.042	0.1	0.1	0.15	0.15	110	106	75-125	3	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.094	98	94	75-125	4	20	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623559

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816		162817		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623500001 Result	MS Spike Conc.	MSD Spike Conc.									
Boron	mg/L	0.021J	1	1	1.0	0.99	99	97	75-125	2	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Calcium	mg/L	118	1	1	116	129	-296	1090	75-125	11	20	M6	
Chromium	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	3	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20		
Lead	mg/L	0.000078J	0.1	0.1	0.10	0.10	104	101	75-125	3	20		
Lithium	mg/L	0.0011J	0.1	0.1	0.10	0.098	102	97	75-125	4	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.10	108	102	75-125	6	20		
Selenium	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	1	20		
Thallium	mg/L	ND	0.1	0.1	0.11	0.10	105	101	75-125	4	20		

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623559

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

METHOD BLANK: 2694298 Matrix: Water

Associated Lab Samples: 2623559001, 2623559002, 2623559003, 2623559004, 2623559005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/19 16:22	
Fluoride	mg/L	ND	0.10	0.050	10/01/19 16:22	
Sulfate	mg/L	ND	1.0	0.50	10/01/19 16:22	

LABORATORY CONTROL SAMPLE: 2694299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.2	98	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	50	50.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694300 2694301

Parameter	Units	2623559001		2694301		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.							
Chloride	mg/L	1.7	50	50	53.7	53.7	104	104	90-110	0	10	
Fluoride	mg/L	0.058J	2.5	2.5	2.5	2.5	98	99	90-110	1	10	
Sulfate	mg/L	20.7	50	50	72.4	72.6	103	104	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694302 2694303

Parameter	Units	2623584001		2694303		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MSD Result	MSD Spike Conc.						
Chloride	mg/L	89.4	50	50	132	133	86	87	90-110	1	10 M1
Fluoride	mg/L	0.42	2.5	2.5	4.2	4.3	152	153	90-110	1	10 M1
Sulfate	mg/L	142	50	50	177	180	69	74	90-110	2	10 M1

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2623559

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-GA Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623559

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623559001	HGWA-5	EPA 3005A	36079	EPA 6020B	36104
2623559002	HGWA-6	EPA 3005A	36079	EPA 6020B	36104
2623559003	HGWA-4	EPA 3005A	36079	EPA 6020B	36104
2623559004	HGWC-14	EPA 3005A	36079	EPA 6020B	36104
2623559005	HGWC-15	EPA 3005A	36079	EPA 6020B	36104
2623559001	HGWA-5	SM 2540C	36262		
2623559002	HGWA-6	SM 2540C	36262		
2623559003	HGWA-4	SM 2540C	36262		
2623559004	HGWC-14	SM 2540C	36262		
2623559005	HGWC-15	SM 2540C	36262		
2623559001	HGWA-5	EPA 300.0 Rev 2.1 1993	500861		
2623559002	HGWA-6	EPA 300.0 Rev 2.1 1993	500861		
2623559003	HGWA-4	EPA 300.0 Rev 2.1 1993	500861		
2623559004	HGWC-14	EPA 300.0 Rev 2.1 1993	500861		
2623559005	HGWC-15	EPA 300.0 Rev 2.1 1993	500861		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a 11-Gate DCC-UMC#AT. An individual has been identified (signature) accordingly.

Section 4: Incident Information

Case No: [Blank]
 Date: [Blank]
 Location: [Blank]
 Incident Description: [Blank]

Section 5: Incident Information

Case No: [Blank]
 Date: [Blank]
 Location: [Blank]
 Incident Description: [Blank]

Sample ID	Description	Collection Date	Collection Time	Collection Location	Collector Name	Chain of Custody	
						Signature	Initials
...	[Signature]	[Initials]
...	[Signature]	[Initials]
...	[Signature]	[Initials]

LN0# : 2623559

PM: 09
 Customer: [Blank]

Section 7: Incident Information

Case No: [Blank]
 Date: [Blank]
 Location: [Blank]
 Incident Description: [Blank]



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody or IR (IR) Worksheet and related fields must be completed accurately.

Project Name: [Blank]
Requester: [Blank]
Request Date: [Blank]
Request Time: [Blank]
Request Location: [Blank]
Requester Signature: [Blank]
Requester Title: [Blank]
Requester Phone: [Blank]
Requester Email: [Blank]

SAMPLE ID	ANALYST	DATE	TIME	LOCATION	DESCRIPTION	METHOD	CALIBRATION			REMARKS
							DATE	TIME	BY	
H500A-4	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
H500A-14	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
H500A-15	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

WORK: 2623559

PH: EN Date Data: 10/20/21
CLIENT: DOW CHEMICAL

NO.	NAME	INITIALS	DATE	TIME	LOCATION	REMARKS	STATUS
1	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
2	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
3	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
4	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
5	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
6	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
7	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
8	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
9	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]



Sample Condition Upon Receipt

Client Name: WPA Power Project # _____

WO#: 2623559

Carrier: Fed Ex UPS USPS Client Commercial Other
Tracking #: _____

PR: 01 Due Date: 10/02/19

Custody Seal on Container Present: Yes No Seal intact: Yes No

CLIENT: WPA Power-CCR

Packing Material: Brown Wrap Bubble Bags Foam Other _____

Thermometer Used: 8.5 Type of ice: Dry Blue None

Samples on ice, cooling protocol not done

Cooler Temperature: 3.0 Biological Tissue In Process: Yes No
Type of ice or above freezing water: _____

Date and Initial of person performing checks: 9/25/19

Chain of Custody Present	<u>Yes</u>	Env	Env	Env	1
Chain of Custody Filled Out	<u>Yes</u>	Env	Env	Env	2
Chain of Custody Reintegrated	<u>Yes</u>	Env	Env	Env	3
Sample Name & Signature on COC	<u>Yes</u>	Env	Env	Env	4
Samples Arrived within Hold Time	<u>Yes</u>	Env	Env	Env	5
Short Hold Time Analysis (if applicable)	<u>Yes</u>	Env	Env	Env	6
Brush Turn Around Time Requested	<u>Yes</u>	Env	Env	Env	7
Sufficient Volume	<u>Yes</u>	Env	Env	Env	8
Correct Containers Used	<u>Yes</u>	Env	Env	Env	9
-Face Containers Used	<u>Yes</u>	Env	Env	Env	
Containers Labeled	<u>Yes</u>	Env	Env	Env	10
Filtered volume received for Deployed units	<u>Yes</u>	Env	Env	Env	11
Service Label with COC	<u>Yes</u>	Env	Env	Env	12
Includes (Deployment/Evaluation) Matrix	<u>Yes</u>	Env	Env	Env	
All containers meeting criteria which have been checked	<u>Yes</u>	Env	Env	Env	13
All containers meeting preservation are found to be in compliance with EPA recommendation	<u>Yes</u>	Env	Env	Env	
-Seal on COC container, COC bag, shipping process	<u>Yes</u>	Env	Env	Env	
Samples checked for Radioactivity	<u>Yes</u>	Env	Env	Env	14
Inspections in WQA Note (if any)	<u>Yes</u>	Env	Env	Env	15
Top Blank Present	<u>Yes</u>	Env	Env	Env	16
Top Blank Custody Seal Present	<u>Yes</u>	Env	Env	Env	
More Top Blank LUT R (if you have!)					

Client Notification: None Partial Full Date Rec'd: _____ Y: _____ M: _____

Person Contacted: _____ Date/TIME: _____

Comments/Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance (MDEQ), a copy of this form will be sent to the North Carolina or West Carolina Office (i.e. out of town) in order to obtain a copy of any required comments.



November 11, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623562

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin Herring".

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623562

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2623562

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond
 Pace Project No.: 2623562

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623562001	HGWA-5	EPA 6010	LEC	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623562002	HGWA-6	EPA 6010	LEC	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623562003	HGWA-4	EPA 6010	LEC	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623562004	HGWC-14	EPA 6010	LEC	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623562005	HGWC-15	EPA 6010D	KLH	7	PASI-GA
		EPA 6020B	CSW	2	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 1664B	SJS	1	PASI-GA
		SM 2320B	S1A	2	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		SM 2540D	ALW	1	PASI-GA
		SM 4500-CI G	KN	1	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5210B	KN	1	PASI-GA
		TKN-NH3 Calculation	LPH	1	PASI-GA
		EPA 300.0	MWB	2	PASI-GA
		EPA 350.1	ANB	1	PASI-GA
		EPA 351.2	ANB	1	PASI-GA
SM 5310B	SA1	1	PASI-O		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

Sample: HGWA-5		Lab ID: 2623562001		Collected: 09/24/19 12:20		Received: 09/25/19 14:03		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	1.5	mg/L	0.040	0.0092	1	10/08/19 14:47	10/09/19 21:51	7439-89-6	
Magnesium	5.6	mg/L	0.50	0.084	1	10/08/19 14:47	10/09/19 21:51	7439-95-4	
Manganese	0.077	mg/L	0.0050	0.00042	1	10/08/19 14:47	10/09/19 21:51	7439-96-5	
Phosphorus	0.039J	mg/L	0.045	0.014	1	10/08/19 14:47	10/09/19 21:51	7723-14-0	N2
Potassium	0.65J	mg/L	1.0	0.15	1	10/08/19 14:47	10/09/19 21:51	7440-09-7	
Sodium	6.2	mg/L	2.0	0.27	1	10/08/19 14:47	10/09/19 21:51	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	90.0	mg/L	20.0	20.0	1		09/30/19 16:45		
Alkalinity, Total as CaCO ₃	90.0	mg/L	20.0	20.0	1		09/30/19 16:45		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 21:01		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 10:52	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/01/19 15:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

Sample: HGWA-6 Lab ID: 2623562002 Collected: 09/24/19 11:27 Received: 09/25/19 14:03 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Iron	0.49	mg/L	0.040	0.0092	1	10/08/19 14:47	10/09/19 21:56	7439-89-6	
Magnesium	10	mg/L	0.50	0.084	1	10/08/19 14:47	10/09/19 21:56	7439-95-4	
Manganese	0.071	mg/L	0.0050	0.00042	1	10/08/19 14:47	10/09/19 21:56	7439-96-5	
Phosphorus	0.036J	mg/L	0.045	0.014	1	10/08/19 14:47	10/09/19 21:56	7723-14-0	N2
Potassium	0.56J	mg/L	1.0	0.15	1	10/08/19 14:47	10/09/19 21:56	7440-09-7	
Sodium	7.9	mg/L	2.0	0.27	1	10/08/19 14:47	10/09/19 21:56	7440-23-5	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Bicarbonate (CaCO ₃)	158	mg/L	20.0	20.0	1		09/30/19 16:55		
Alkalinity, Total as CaCO ₃	158	mg/L	20.0	20.0	1		09/30/19 16:55		
4500PE Ortho Phosphorus Analytical Method: SM 4500-P									
Orthophosphate as P	0.038	mg/L	0.020	0.020	1		09/25/19 21:01		
4500S2D Sulfide Water Analytical Method: SM 4500-S2 D									
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 10:53	18496-25-8	
5310B Dissolved Organic Carbon Analytical Method: SM 5310B									
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/01/19 16:02		

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

Sample: HGWA-4		Lab ID: 2623562003		Collected: 09/24/19 10:52		Received: 09/25/19 14:03		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	0.021J	mg/L	0.040	0.0092	1	10/11/19 01:26	10/11/19 15:23	7439-89-6	
Magnesium	1.3	mg/L	0.50	0.084	1	10/11/19 01:26	10/11/19 15:23	7439-95-4	
Manganese	0.035	mg/L	0.0050	0.00042	1	10/11/19 01:26	10/11/19 15:23	7439-96-5	
Phosphorus	ND	mg/L	0.045	0.014	1	10/11/19 01:26	10/11/19 15:23	7723-14-0	N2
Potassium	0.24J	mg/L	1.0	0.15	1	10/11/19 01:26	10/11/19 15:23	7440-09-7	
Sodium	8.3	mg/L	2.0	0.27	1	10/11/19 01:26	10/11/19 15:23	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	109	mg/L	20.0	20.0	1		09/30/19 16:56		
Alkalinity, Total as CaCO ₃	109	mg/L	20.0	20.0	1		09/30/19 16:56		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 21:03		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 10:54	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	0.85J	mg/L	1.0	0.50	1		10/01/19 16:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

Sample: HGWC-14 Lab ID: 2623562004 Collected: 09/24/19 12:30 Received: 09/25/19 14:03 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Iron	0.84	mg/L	0.040	0.0092	1	10/08/19 14:47	10/09/19 22:00	7439-89-6	
Magnesium	53.5	mg/L	0.50	0.084	1	10/08/19 14:47	10/09/19 22:00	7439-95-4	
Manganese	5.5	mg/L	0.10	0.0084	20	10/08/19 14:47	10/10/19 13:29	7439-96-5	
Phosphorus	ND	mg/L	0.045	0.014	1	10/08/19 14:47	10/09/19 22:00	7723-14-0	N2
Potassium	12.1	mg/L	1.0	0.15	1	10/08/19 14:47	10/09/19 22:00	7440-09-7	
Sodium	12.1	mg/L	2.0	0.27	1	10/08/19 14:47	10/09/19 22:00	7440-23-5	
2320B Alkalinity Low Level Analytical Method: SM 2320B									
Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	1.0	1.0	1		10/02/19 13:00		
Alkalinity, Total as CaCO ₃	ND	mg/L	1.0	1.0	1		10/02/19 13:00		
4500PE Ortho Phosphorus Analytical Method: SM 4500-P									
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 21:02		
4500S2D Sulfide Water Analytical Method: SM 4500-S2 D									
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 10:55	18496-25-8	
5310B Dissolved Organic Carbon Analytical Method: SM 5310B									
Dissolved Organic Carbon	0.52J	mg/L	1.0	0.50	1		10/01/19 16:33		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

Sample: HGWC-15		Lab ID: 2623562005		Collected: 09/24/19 14:25		Received: 09/25/19 14:03		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							
Iron	0.053	mg/L	0.040	0.015	1	09/26/19 18:42	10/01/19 22:40	7439-89-6	
Magnesium	37.9	mg/L	0.50	0.11	10	09/26/19 18:42	10/06/19 15:52	7439-95-4	
Manganese	16.3	mg/L	0.040	0.0061	1	09/26/19 18:42	10/01/19 22:40	7439-96-5	
Phosphorus	0.10	mg/L	0.050	0.023	1	09/26/19 18:42	10/03/19 20:38	7723-14-0	
Potassium	0.89	mg/L	0.20	0.026	1	09/26/19 18:42	10/03/19 20:38	7440-09-7	
Sodium	14.7	mg/L	1.0	0.19	1	09/26/19 18:42	10/03/19 20:38	7440-23-5	
Total Hardness by 2340B	681	mg/L	27.0	4.0	10	09/26/19 18:42	10/06/19 15:52		
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Copper	0.00086J	mg/L	0.025	0.00019	1	09/27/19 15:26	10/01/19 11:56	7440-50-8	
Zinc	0.0085J	mg/L	0.010	0.0015	1	09/27/19 15:26	10/01/19 11:56	7440-66-6	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury	0.024	mg/L	0.00050	0.00014	1	09/30/19 10:50	10/01/19 12:47	7439-97-6	
HEM, Oil and Grease		Analytical Method: EPA 1664B							
Oil and Grease	ND	mg/L	4.9	4.9	1		09/30/19 08:00		
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	124	mg/L	20.0	20.0	1		09/30/19 17:10		
Alkalinity, Total as CaCO ₃	124	mg/L	20.0	20.0	1		09/30/19 17:10		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1070	mg/L	10.0	10.0	1		09/26/19 18:05		
2540D Total Suspended Solids		Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	5.0	1		09/27/19 16:28		
4500CL G Chlorine, Residual		Analytical Method: SM 4500-Cl G							
Chlorine, Total Residual	ND	mg/L	0.1	0.1	1		09/27/19 15:37	7782-50-5	H3,H6
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/25/19 21:02		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/26/19 10:56	18496-25-8	
5210B BOD, 5 day		Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	ND	mg/L	2.0	2.0	1	09/26/19 09:30	10/01/19 10:09		1A
Total Organic Nitrogen Calc.		Analytical Method: TKN-NH ₃ Calculation							
Total Organic Nitrogen	ND	mg/L	0.40	0.40	1		10/02/19 12:32		

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623562

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36152 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 2623562005

METHOD BLANK: 163281 Matrix: Water

Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	10/01/19 12:04	

LABORATORY CONTROL SAMPLE: 163282

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163283 163284

Parameter	Units	163283		163284		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623578001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0019	0.0021	77	83	75-125	8	20

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 576632 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 2623562001, 2623562002, 2623562004

METHOD BLANK: 3133743 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562004

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

LABORATORY CONTROL SAMPLE: 3133744

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	2.5	2.6	105	80-120	
Magnesium	mg/L	12.5	13.0	104	80-120	
Manganese	mg/L	0.25	0.26	106	80-120	
Phosphorus	mg/L	0.25	0.25	99	80-120	N2
Potassium	mg/L	12.5	12.8	103	80-120	
Sodium	mg/L	12.5	13.2	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3133745 3133746

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch:	577481	Analysis Method:	EPA 6010
QC Batch Method:	EPA 3010	Analysis Description:	6010 MET
Associated Lab Samples:	2623562003		

METHOD BLANK: 3139682 Matrix: Water

Associated Lab Samples: 2623562003

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

LABORATORY CONTROL SAMPLE: 3139683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	2.5	2.6	106	80-120	
Magnesium	mg/L	12.5	13.1	105	80-120	
Manganese	mg/L	0.25	0.27	109	80-120	
Phosphorus	mg/L	0.25	0.26	103	80-120	N2
Potassium	mg/L	12.5	13.0	104	80-120	
Sodium	mg/L	12.5	13.2	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139684 3139685

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36024 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D MET
 Associated Lab Samples: 2623562005

METHOD BLANK: 162383 Matrix: Water

Associated Lab Samples: 2623562005

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

LABORATORY CONTROL SAMPLE: 162384

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	1	1.0	104	80-120	
Magnesium	mg/L	1	1.1	111	80-120	
Manganese	mg/L	1	1.0	105	80-120	
Phosphorus	mg/L	1	1.0	105	80-120	
Potassium	mg/L	1	1.1	107	80-120	
Sodium	mg/L	1	1.1	107	80-120	
Total Hardness by 2340B	mg/L	6.6	7.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162385 162386

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36079 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623562005

METHOD BLANK: 162814 Matrix: Water

Associated Lab Samples: 2623562005

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

LABORATORY CONTROL SAMPLE: 162815

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162816 162817

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

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623562

QC Batch: 36120 Analysis Method: EPA 1664B
 QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease
 Associated Lab Samples: 2623562005

METHOD BLANK: 163051 Matrix: Water
 Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	5.0	09/30/19 08:00	

LABORATORY CONTROL SAMPLE: 163052

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

MATRIX SPIKE SAMPLE: 163054

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

SAMPLE DUPLICATE: 163053

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36180 Analysis Method: SM 2320B

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

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562005

METHOD BLANK: 163383 Matrix: Water

Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	20.0	09/30/19 14:21	

LABORATORY CONTROL SAMPLE: 163384

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

SAMPLE DUPLICATE: 163385

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36336 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity, Low Level
 Associated Lab Samples: 2623562004

METHOD BLANK: 164031 Matrix: Water

Associated Lab Samples: 2623562004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	1.0	1.0	10/02/19 12:39	

LABORATORY CONTROL SAMPLE: 164032

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

SAMPLE DUPLICATE: 164047

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36029	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2623562005	

LABORATORY CONTROL SAMPLE: 162444

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

SAMPLE DUPLICATE: 162445

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

SAMPLE DUPLICATE: 162446

Parameter	Units	2623553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	D6

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623562

QC Batch: 36092 Analysis Method: SM 2540D
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
 Associated Lab Samples: 2623562005

METHOD BLANK: 162876 Matrix: Water
 Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	5.0	09/27/19 16:27	

LABORATORY CONTROL SAMPLE: 162877

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

SAMPLE DUPLICATE: 162878

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

SAMPLE DUPLICATE: 162879

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36088 Analysis Method: SM 4500-Cl G
 QC Batch Method: SM 4500-Cl G Analysis Description: 4500CL G Chlorine, Total Residual
 Associated Lab Samples: 2623562005

METHOD BLANK: 162851 Matrix: Water

Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.1	0.1	09/27/19 15:35	H6

LABORATORY CONTROL SAMPLE: 162852

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

SAMPLE DUPLICATE: 162870

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 35993 Analysis Method: SM 4500-P
 QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

METHOD BLANK: 162147 Matrix: Water
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	0.020	09/25/19 20:56	

LABORATORY CONTROL SAMPLE: 162148

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162149 162150

Parameter	Units	2623562003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	ND	0.5	0.5	0.53	0.52	106	104	80-120	1	10	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 35996 Analysis Method: SM 4500-S2 D
 QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

METHOD BLANK: 162154 Matrix: Water
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	09/26/19 09:18	

LABORATORY CONTROL SAMPLE: 162155

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162156 162157

Parameter	Units	2623499001 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	0.48	0.47	96	94	30-129	2	10	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 35994

Analysis Method: SM 5210B

QC Batch Method: SM 5210B

Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 2623562005

METHOD BLANK: 162151

Matrix: Water

Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	10/01/19 09:55	1A

LABORATORY CONTROL SAMPLE: 162153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	1A

SAMPLE DUPLICATE: 162313

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 35990 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623562005

METHOD BLANK: 162133 Matrix: Water

Associated Lab Samples: 2623562005

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

LABORATORY CONTROL SAMPLE: 162134

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162135 162136

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623562

QC Batch: 36095 Analysis Method: EPA 350.1
 QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
 Associated Lab Samples: 2623562005

METHOD BLANK: 162900 Matrix: Water

Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	0.10	09/30/19 10:18	

LABORATORY CONTROL SAMPLE: 162901

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

MATRIX SPIKE SAMPLE: 162902

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

MATRIX SPIKE SAMPLE: 162903

Parameter	Units	2623679001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.33	10	12.1	118	90-110	M1

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623562

QC Batch: 36222 Analysis Method: EPA 351.2
 QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
 Associated Lab Samples: 2623562005

METHOD BLANK: 163614 Matrix: Water
 Associated Lab Samples: 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	0.40	0.40	10/01/19 13:03	

LABORATORY CONTROL SAMPLE: 163615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	10	10.7	107	90-110	

MATRIX SPIKE SAMPLE: 163616

Parameter	Units	2623680001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	2.3	10	10.5	82	90-110	M1

MATRIX SPIKE SAMPLE: 163621

Parameter	Units	2623680003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	3.5	10	12.3	88	90-110	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623562

QC Batch: 574634 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

METHOD BLANK: 3122436 Matrix: Water
 Associated Lab Samples: 2623562001, 2623562002, 2623562003, 2623562004, 2623562005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.50	10/01/19 14:32	

LABORATORY CONTROL SAMPLE: 3122437

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122438 3122439

Parameter	Units	3122438		3122439		% Rec	% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		2623556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Dissolved Organic Carbon	mg/L	ND	20	20	19.6	19.5	96	95	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122440 3122441

Parameter	Units	3122440		3122441		% Rec	% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		2623635001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Dissolved Organic Carbon	mg/L	ND	20	20	19.6	19.5	96	95	80-120	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

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QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623562

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

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

SAMPLE QUALIFIERS

Sample: 2623562005
[1] Sample was received outside the recognized method holding time; client notified and approved.

BATCH QUALIFIERS

Batch: 36230
[1] The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria

ANALYTE QUALIFIERS

1A The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria
B Analyte was detected in the associated method blank.
D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
H1 Analysis conducted outside the EPA method holding time.
H3 Sample was received or analysis requested beyond the recognized method holding time.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623562

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
 Pace Project No.: 2623562

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

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a FEDERAL REQUIREMENT for all forensic mass analytical comparisons.

Requester Information	Requester's Information
Requester Name: <u> </u>	Requester Name: <u> </u>
Requester Address: <u> </u>	Requester Address: <u> </u>
Requester Phone: <u> </u>	Requester Phone: <u> </u>
Requester Email: <u> </u>	Requester Email: <u> </u>
Requester Signature: <u> </u>	Requester Signature: <u> </u>
Requester Title: <u> </u>	Requester Title: <u> </u>
Requester Department: <u> </u>	Requester Department: <u> </u>
Requester Date: <u> </u>	Requester Date: <u> </u>
Requester Time: <u> </u>	Requester Time: <u> </u>

Page 2 of 4

SAMPLE ID	Description	Quantity	Unit	Container	Packaging		Date	Time	Initials	Signature	Remarks
					Material	Label					
1	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
2	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
3	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
4	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
5	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
6	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
7	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
8	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
9	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
10	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
11	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
12	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
13	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
14	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000
15	1000	1000	g	1000	1000	1000	1000	1000	1000	1000	1000

WON: 2623562
CN: 01 DUE DATE: 10/02/10
CLIENT: OFF-WAVE-009

Requester Name	Requester Address	Requester Phone	Requester Email
Requester Signature	Requester Title	Requester Department	Requester Date
Requester Time	Requester Initials	Requester Signature	Requester Remarks
Requester Name	Requester Address	Requester Phone	Requester Email
Requester Signature	Requester Title	Requester Department	Requester Date
Requester Time	Requester Initials	Requester Signature	Requester Remarks



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a legal document. All relevant fields must be completed accurately.

Page 3 of 4

Section A: Requester Information

Requester Name: Stacy
 Requester Address: 1000 Main St
 City: Stacy State: CA Zip: 95671
 Phone: 916 231 1117
 Fax: 916 231 1117
 Requester Signature: [Signature]
 Requester Title: Stacy

Section B: Requested Project Information

Project Name: Stacy
 Project Address: 1000 Main St
 City: Stacy State: CA Zip: 95671
 Project Phone: 916 231 1117
 Project Fax: 916 231 1117
 Project Manager: Stacy

Sample ID	Quantity	Location	Material	Phase	Time	Temp	Humidity	Notes
NEGATIVE 4	100	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St
NEGATIVE 11	100	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St

WON: 2623562

PR: 001 Date Date: 18/02/19
CLIENT: GSP

Sample ID	Quantity	Location	Material	Phase	Time	Temp	Humidity	Notes
NEGATIVE 12	100	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St
NEGATIVE 13	100	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St	1000 Main St



CHAIN-OF-CUSTODY / Analytical Request Document

This Chain of Custody is a U.S. EPA 1631(a)(2)(ii) form. All information must be typed in Computer Readable Format.

Section 1: Analytical Request Information

Requester: U of U

Project Name: U of U

Requester Address: U of U

Requester Phone: U of U

Requester Email: U of U

Requester Signature: U of U

Requester Title: U of U

Requester Date: U of U

Requester Agency: U of U

Requester Project: U of U

Requester Contact: U of U

Requester Phone: U of U

Requester Email: U of U

Requester Signature: U of U

Requester Title: U of U

Requester Date: U of U

Requester Agency: U of U

SAMPLE ID	ANALYSIS	DATE	TIME	LOCATION	COLLECTOR	CONTAINER	PRESERVATION	STORAGE	HANDLING	REMARKS	CHAIN OF CUSTODY											
											1	2	3	4	5	6	7	8	9	10	11	12
M001-15	Asbestos	10/15/15	10:00	1000	1000	1000	1000	1000	1000	1000	1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12
											1	2	3	4	5	6	7	8	9	10	11	12

Section 2: Laboratory Information

Lab Name: U of U

Lab Address: U of U

Lab Phone: U of U

Lab Email: U of U

Lab Signature: U of U

Lab Title: U of U

Lab Date: U of U

Lab Agency: U of U

Lab Project: U of U

Lab Contact: U of U

Lab Phone: U of U

Lab Email: U of U

Lab Signature: U of U

Lab Title: U of U

Lab Date: U of U

Lab Agency: U of U



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a FEMA Document. All witness labels must be...

NO# : 2623562

PR: 001 Date Dates: 18/02/19

CLIENT: DAF - 001

Requester Information	Sender's ID	Receiver's ID
Name: [Blank]	Name: [Blank]	Name: [Blank]
Address: [Blank]	Address: [Blank]	Address: [Blank]
City: [Blank]	City: [Blank]	City: [Blank]
State: [Blank]	State: [Blank]	State: [Blank]
Zip: [Blank]	Zip: [Blank]	Zip: [Blank]
Phone: [Blank]	Phone: [Blank]	Phone: [Blank]
Fax: [Blank]	Fax: [Blank]	Fax: [Blank]
Signature: [Blank]	Signature: [Blank]	Signature: [Blank]
Date: [Blank]	Date: [Blank]	Date: [Blank]

SAMPLE ID	ANALYSIS	COLLECTED	PRESERVED		TESTS									
			DATE	TIME	1	2	3	4	5	6	7			
MCWPA-5	[Blank]	[Blank]	[Blank]	[Blank]	1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10
					1	2	3	4	5	6	7	8	9	10

Collected (Date, Time, Location): [Blank]

Preserved (Date, Time, Location): [Blank]

Test Results: [Blank]

Signature: [Blank]

Date: [Blank]

Sample Containment Upon Receipt

Phase Analytical

Client Name: CCA Powder

Project # _____

Courier: Fed Ex UPS USPS Other Commercial Office Other
 Tracking #: _____

WO#: 2623562

Custody Seal on Cooler/Box Present: Yes No Seal Intact: Yes

PT: AM PM Due Date: 10/02/19
 CLIENT: GSP-CCB

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: 8.3 Type of Ice: Yes No

Samples on ice cooling process has begun

Cooler Temperature: 13.0 Biological Threats to Preserve: No Yes
 Temp should be above freezing to IFC

Date and Time of Sample Receipt: 9/15/19

Chain of Custody Printed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.	
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.	
Chain of Custody Reinquered	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.	
Sampler Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.	
Samples Arrived within field Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.	
Upon Hold Time Analytic (CSTW)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.	
Brush Turn Around Time Requested	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.	
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.	
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.	
Proper Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Sealed	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.	
Filled volume received by (add volume)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11.	
Sample Label match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.	See Comment
Includes date/time of Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
All containers receiving preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13.	
All containers receiving preservation are found to be in compliance with IFA recommendation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Signature of person receiving samples	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Initial when completed			
Date of sample preservation			
Samples checked for decontamination	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14.	
Headspace in VOA Vials (40ml)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15.	
Top Blank Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16.	
Top Blank Custody Seals Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Para Top Blank 1 in 8 (if purchased)			

Client Notification: Resolved

Field Date Received

Y / M / D

Person Contacted: _____ Date/Time: _____

Comments/Resolution: The client submitted exactly same containers with same analytes for HGLWA-5 and HGLWA-6 instead of what listed on COC for HGLWA-5. The container labels were used for logins prepared for HGLWA-5. The updated COC for HGLWA-5 was received 09/27/19 @ 1:30.

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 Compliance Office (14 out of field received preservation, out of temp, income, 40ml/8ml)



October 29, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623560

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2623560

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623560

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623560001	HGWA-5	Water	09/24/19 12:20	09/25/19 14:03
2623560002	HGWA-6	Water	09/24/19 11:27	09/25/19 14:03
2623560003	HGWA-4	Water	09/24/19 10:52	09/25/19 14:03
2623560004	HGWC-14	Water	09/24/19 12:30	09/25/19 14:03
2623560005	HGWC-15	Water	09/24/19 14:25	09/25/19 14:03

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623560001	HGWA-5	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623560002	HGWA-6	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623560003	HGWA-4	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623560004	HGWC-14	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623560005	HGWC-15	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

Sample: **HGWA-5** Lab ID: **2623560001** Collected: 09/24/19 12:20 Received: 09/25/19 14:03 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.119 ± 0.137 (0.271) C:90% T:NA	pCi/L	10/15/19 17:39	13982-63-3	
Radium-228	EPA 9320	0.0823 ± 0.361 (0.822) C:75% T:82%	pCi/L	10/18/19 14:13	15262-20-1	
Total Radium	Total Radium Calculation	0.201 ± 0.498 (1.09)	pCi/L	10/21/19 11:42	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

Sample: HGWA-6 **Lab ID: 2623560002** Collected: 09/24/19 11:27 Received: 09/25/19 14:03 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.412 ± 0.215 (0.356) C:90% T:NA	pCi/L	10/15/19 17:40	13982-63-3	
Radium-228	EPA 9320	0.462 ± 0.511 (1.07) C:75% T:78%	pCi/L	10/18/19 14:13	15262-20-1	
Total Radium	Total Radium Calculation	0.874 ± 0.726 (1.43)	pCi/L	10/21/19 11:42	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

Sample: HGWA-4 **Lab ID: 2623560003** Collected: 09/24/19 10:52 Received: 09/25/19 14:03 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.422 ± 0.182 (0.243) C:90% T:NA	pCi/L	10/15/19 17:40	13982-63-3	
Radium-228	EPA 9320	0.0327 ± 0.386 (0.889) C:76% T:80%	pCi/L	10/18/19 14:13	15262-20-1	
Total Radium	Total Radium Calculation	0.455 ± 0.568 (1.13)	pCi/L	10/21/19 11:42	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.609 ± 0.200 (0.207) C:99% T:NA	pCi/L	10/15/19 17:40	13982-63-3	
Radium-228	EPA 9320	0.559 ± 0.428 (0.856) C:78% T:93%	pCi/L	10/18/19 14:13	15262-20-1	
Total Radium	Total Radium Calculation	1.17 ± 0.628 (1.06)	pCi/L	10/21/19 11:42	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

Sample: HGWC-15 **Lab ID: 2623560005** Collected: 09/24/19 14:25 Received: 09/25/19 14:03 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.464 ± 0.286 (0.408) C:90% T:NA	pCi/L	10/16/19 08:20	13982-63-3	
Radium-228	EPA 9320	0.118 ± 0.383 (0.858) C:76% T:94%	pCi/L	10/18/19 14:13	15262-20-1	
Total Radium	Total Radium Calculation	0.582 ± 0.669 (1.27)	pCi/L	10/21/19 11:42	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

QC Batch: 365381 Analysis Method: EPA 9320

QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

METHOD BLANK: 1772186 Matrix: Water

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0377 ± 0.401 (0.924) C:77% T:72%	pCi/L	10/18/19 14:14	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623560

QC Batch: 365377 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

METHOD BLANK: 1772182 Matrix: Water

Associated Lab Samples: 2623560001, 2623560002, 2623560003, 2623560004, 2623560005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.373 ± 0.153 (0.180) C:94% T:NA	pCi/L	10/15/19 19:08	

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

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2623560

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623560

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623560001	HGWA-5	EPA 9315	365377		
2623560002	HGWA-6	EPA 9315	365377		
2623560003	HGWA-4	EPA 9315	365377		
2623560004	HGWC-14	EPA 9315	365377		
2623560005	HGWC-15	EPA 9315	365377		
2623560001	HGWA-5	EPA 9320	365381		
2623560002	HGWA-6	EPA 9320	365381		
2623560003	HGWA-4	EPA 9320	365381		
2623560004	HGWC-14	EPA 9320	365381		
2623560005	HGWC-15	EPA 9320	365381		
2623560001	HGWA-5	Total Radium Calculation	367110		
2623560002	HGWA-6	Total Radium Calculation	367110		
2623560003	HGWA-4	Total Radium Calculation	367110		
2623560004	HGWC-14	Total Radium Calculation	367110		
2623560005	HGWC-15	Total Radium Calculation	367110		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1: Requested Product Information

Sample Name: 26235560
 Sample ID: 26235560
 Sample Matrix: Water
 Sample Volume: 100 mL
 Sample Date: 09/25/19
 Sample Time: 10:10
 Sample Location: Water
 Sample Description: Water

Section 2: Requester Information

Requester Name: 26235560
 Requester Title: 26235560
 Requester Phone: 26235560
 Requester Email: 26235560

ITEM	DESCRIPTION	DATE	TIME	INITIALS	SIGNATURE		REMARKS
					DATE	TIME	
1	WATER	09/25/19	10:10	[Signature]	[Signature]		
2	WATER	09/25/19	10:10	[Signature]	[Signature]		
3	WATER	09/25/19	10:10	[Signature]	[Signature]		
4	WATER	09/25/19	10:10	[Signature]	[Signature]		
5	WATER	09/25/19	10:10	[Signature]	[Signature]		
6	WATER	09/25/19	10:10	[Signature]	[Signature]		
7	WATER	09/25/19	10:10	[Signature]	[Signature]		
8	WATER	09/25/19	10:10	[Signature]	[Signature]		
9	WATER	09/25/19	10:10	[Signature]	[Signature]		
10	WATER	09/25/19	10:10	[Signature]	[Signature]		
11	WATER	09/25/19	10:10	[Signature]	[Signature]		
12	WATER	09/25/19	10:10	[Signature]	[Signature]		
13	WATER	09/25/19	10:10	[Signature]	[Signature]		
14	WATER	09/25/19	10:10	[Signature]	[Signature]		
15	WATER	09/25/19	10:10	[Signature]	[Signature]		
16	WATER	09/25/19	10:10	[Signature]	[Signature]		
17	WATER	09/25/19	10:10	[Signature]	[Signature]		
18	WATER	09/25/19	10:10	[Signature]	[Signature]		
19	WATER	09/25/19	10:10	[Signature]	[Signature]		
20	WATER	09/25/19	10:10	[Signature]	[Signature]		
21	WATER	09/25/19	10:10	[Signature]	[Signature]		
22	WATER	09/25/19	10:10	[Signature]	[Signature]		
23	WATER	09/25/19	10:10	[Signature]	[Signature]		
24	WATER	09/25/19	10:10	[Signature]	[Signature]		
25	WATER	09/25/19	10:10	[Signature]	[Signature]		
26	WATER	09/25/19	10:10	[Signature]	[Signature]		
27	WATER	09/25/19	10:10	[Signature]	[Signature]		
28	WATER	09/25/19	10:10	[Signature]	[Signature]		
29	WATER	09/25/19	10:10	[Signature]	[Signature]		
30	WATER	09/25/19	10:10	[Signature]	[Signature]		

WO#: 26235560

Section 3: Laboratory Information

Lab Name: 26235560
 Lab Address: 26235560
 Lab Phone: 26235560
 Lab Email: 26235560

Section 4: Signatures

Requester Signature: [Signature]
 Analyst Signature: [Signature]
 Date: 09/25/19
 Time: 10:10



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a CRITICAL DOCUMENT. All relevant fields must be completed in entirety.

Page: 3 of 3

Section 4:	Section 5:
Requested Project Information:	Customer Information:
Client Name: <u>City of San Diego</u>	Client Name: <u>City of San Diego</u>
Project Name: <u>San Diego</u>	Company Name: <u>City of San Diego</u>
Project Address: <u>San Diego</u>	Address: <u>San Diego</u>
Project Phone: <u>619-441-2311</u>	Project Manager: <u>John M. [unclear]</u>
Project Email: <u>[unclear]</u>	Project Start Date: <u>2/24/19</u>

SAMPLE ID	COLLECTOR	NO. OF COPIES	ANALYSIS	METHOD	DATE	ANALYSIS								
						1	2	3	4	5	6	7		
ALGWA-11	ALGWA-11	3	ALGWA-11	ALGWA-11	2/24/19	Y	Y	Y	Y	Y	Y	Y	Y	Y
ALGWA-14	ALGWA-14	3	ALGWA-14	ALGWA-14	2/24/19	Y	Y	Y	Y	Y	Y	Y	Y	Y
ALGWA-15	ALGWA-15	1	ALGWA-15	ALGWA-15	2/24/19	Y	Y	Y	Y	Y	Y	Y	Y	Y

WQ# : 2623560

PH: 619 Date: 18/25/19
CLIENT: DEPWA-COR

Sample Location: <u>San Diego</u>	Sample ID: <u>ALGWA-11</u>	Sample Type: <u>Water</u>	Sample Date: <u>2/24/19</u>	Sample Time: <u>10:00 AM</u>	Sample Location: <u>San Diego</u>	Sample ID: <u>ALGWA-14</u>	Sample Type: <u>Water</u>	Sample Date: <u>2/24/19</u>	Sample Time: <u>10:00 AM</u>	Sample Location: <u>San Diego</u>	Sample ID: <u>ALGWA-15</u>	Sample Type: <u>Water</u>	Sample Date: <u>2/24/19</u>	Sample Time: <u>10:00 AM</u>
<p><i>Handwritten notes:</i> ALGWA-11, ALGWA-14, ALGWA-15, San Diego, 2/24/19, 10:00 AM, Water.</p>														

Sample Condition Upon Receipt

Pass Analytical

Client Name: GEA POWER Project # _____

WO#: 2623560

Courier: Fed Ex UPS USPS Other Commercial *Delta One*

PH: 88 Run Date: 10/23/19

Tracking #: _____

CLIENT: GEA Power-GCR

Custody Seal on Cooler/Box Present: Yes No Seal intact: Yes

Packing Material: Bubble Wrap Bubble Bags *None* Other _____

Thermometer Used: R3 Type of Ice: dry Blue None Samples on ice cooling process not begun

Cooler Temperature: 3.0 Biological Tissue is Frozen: Yes No

Use this space for sample handling comments: 9/25/19 AM

Item	Time	Date	Initials	Comments
Chain of Custody Begins	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Chain of Custody Filled Out	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Chain of Custody Reinforced	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Sample Name & Signature on DOC	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Samples Arrived with Hold Time	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Short Hold Time Analysis (17hr)	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Chain Form Around Time Requested:	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Substrate Volume	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Cooled Containers Used	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Pack Containers Used	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Containers Intact	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Filled volume received for Destroyed Tests	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Samples above reach DOC	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
- Includes destination analysis Matrix				
All destination testing green card have been checked	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
All containers meeting preservation are found to be in compliance with EPA recommendation	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Acceptance: VOA, Volatile, TOC, Cd, Hg, PCB, Lead	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Samples checked for deformation	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Recondition in VOA Vials (4 items)	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Trg Blank Present	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Trg Blank Custody Seal Present	<u>8:00</u>	<u>10/23</u>	<u>DL</u>	
Plus Trg Blank 1 of 2 (purchased)				

Client Identification/Resolution: _____ Field Test 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 DHEM Certification Office, out of field, incorrect, preservative, out of time, incorrect containers.



December 13, 2019

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

RE: Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



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CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623636001	HGWC-16	Water	09/25/19 11:00	09/26/19 15:22
2623636002	HGWC-17	Water	09/25/19 12:35	09/26/19 15:22
2623636003	HGWC-18	Water	09/25/19 14:38	09/26/19 15:22
2623636004	MW-21d	Water	09/25/19 16:12	09/26/19 15:22

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623636001	HGWC-16	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636002	HGWC-17	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636003	HGWC-18	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636004	MW-21d	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: **HGWC-16** Lab ID: **2623636001** Collected: 09/25/19 11:00 Received: 09/26/19 15:22 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 21:33	7440-38-2	
Barium	0.11	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 21:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 21:33	7440-41-7	
Boron	2.7	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 21:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 21:33	7440-43-9	
Calcium	185	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 21:39	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 21:33	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 21:33	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 21:33	7439-92-1	
Lithium	0.0038J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 21:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 21:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 21:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 21:33	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	813	mg/L	10.0	10.0	1		10/02/19 12:05		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	84.4	mg/L	1.0	0.60	1		10/01/19 20:57	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 20:57	16984-48-8	
Sulfate	223	mg/L	5.0	2.5	5		10/02/19 09:55	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: HGWC-17		Lab ID: 2623636002		Collected: 09/25/19 12:35		Received: 09/26/19 15:22		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 21:44	7440-38-2		
Barium	0.025	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 21:44	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 21:44	7440-41-7		
Boron	8.1	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 21:50	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 21:44	7440-43-9		
Calcium	305	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 21:50	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 21:44	7440-47-3		
Cobalt	0.015	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 21:44	7440-48-4		
Lead	0.000089J	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 21:44	7439-92-1		
Lithium	0.0011J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 21:44	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 21:44	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 21:44	7782-49-2		
Thallium	0.00012J	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 21:44	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1280	mg/L	10.0	10.0	1		10/02/19 12:05			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	139	mg/L	10.0	6.0	10		10/02/19 10:09	16887-00-6		
Fluoride	0.081J	mg/L	0.30	0.050	1		10/01/19 21:12	16984-48-8		
Sulfate	434	mg/L	10.0	5.0	10		10/02/19 10:09	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: HGWC-18		Lab ID: 2623636003		Collected: 09/25/19 14:38		Received: 09/26/19 15:22		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0044J	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 22:07	7440-38-2		
Barium	0.030	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 22:07	7440-39-3		
Beryllium	0.0031	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 22:07	7440-41-7		
Boron	11.7	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 22:13	7440-42-8		
Cadmium	0.0023J	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 22:07	7440-43-9		
Calcium	437	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 22:13	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 22:07	7440-47-3		
Cobalt	0.18	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 22:07	7440-48-4		
Lead	0.0015J	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 22:07	7439-92-1		
Lithium	0.015J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 22:07	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 22:07	7439-98-7		
Selenium	0.020	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 22:07	7782-49-2		
Thallium	0.00019J	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 22:07	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1960	mg/L	10.0	10.0	1		10/02/19 12:05			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	181	mg/L	15.0	9.0	15		10/02/19 10:23	16887-00-6		
Fluoride	0.73	mg/L	0.30	0.050	1		10/01/19 21:26	16984-48-8		
Sulfate	920	mg/L	15.0	7.5	15		10/02/19 10:23	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: MW-21d **Lab ID: 2623636004** Collected: 09/25/19 16:12 Received: 09/26/19 15:22 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 22:19	7440-38-2	
Barium	0.066	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 22:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 22:19	7440-41-7	
Boron	6.4	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 22:24	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 22:19	7440-43-9	
Calcium	420	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 22:24	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 22:19	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 22:19	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 22:19	7439-92-1	
Lithium	0.024J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 22:19	7439-93-2	
Molybdenum	0.038	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 22:19	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 22:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 22:19	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1970	mg/L	10.0	10.0	1		10/02/19 12:05		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	245	mg/L	17.0	10.2	17		10/02/19 10:37	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 22:10	16984-48-8	
Sulfate	767	mg/L	17.0	8.5	17		10/02/19 10:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

QC Batch: 36170 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 163336 Matrix: Water
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	10/01/19 18:14	
Barium	mg/L	ND	0.010	0.00049	10/01/19 18:14	
Beryllium	mg/L	ND	0.0030	0.000074	10/01/19 18:14	
Boron	mg/L	ND	0.040	0.0049	10/01/19 18:14	
Cadmium	mg/L	ND	0.0025	0.00011	10/01/19 18:14	
Calcium	mg/L	ND	0.10	0.011	10/01/19 18:14	
Chromium	mg/L	ND	0.010	0.00039	10/01/19 18:14	
Cobalt	mg/L	ND	0.0050	0.00030	10/01/19 18:14	
Lead	mg/L	ND	0.0050	0.000046	10/01/19 18:14	
Lithium	mg/L	ND	0.030	0.00078	10/01/19 18:14	
Molybdenum	mg/L	ND	0.010	0.00095	10/01/19 18:14	
Selenium	mg/L	ND	0.010	0.0013	10/01/19 18:14	
Thallium	mg/L	ND	0.0010	0.000052	10/01/19 18:14	

LABORATORY CONTROL SAMPLE: 163337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Calcium	mg/L	1	0.98	98	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163338 163339

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623623007	Spike Conc.	Spike Conc.	Result								
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20		
Barium	mg/L	0.017	0.1	0.1	0.13	0.12	109	106	75-125	3	20		
Beryllium	mg/L	0.000084J	0.1	0.1	0.10	0.093	102	93	75-125	9	20		

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163338		163339		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623623007 Result	MS Spike Conc.	MSD Spike Conc.									
Boron	mg/L	0.0072J	1	1	1.0	0.95	100	94	75-125	6	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	2	20		
Calcium	mg/L	1.1	1	1	2.1	2.1	97	94	75-125	1	20		
Chromium	mg/L	0.00076J	0.1	0.1	0.10	0.10	101	101	75-125	1	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20		
Lead	mg/L	ND	0.1	0.1	0.10	0.098	99	98	75-125	2	20		
Lithium	mg/L	0.0029J	0.1	0.1	0.10	0.097	102	94	75-125	7	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.10	108	104	75-125	4	20		
Selenium	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	3	20		
Thallium	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20		

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

QC Batch: 36325 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

LABORATORY CONTROL SAMPLE: 164004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	421	105	84-108	

SAMPLE DUPLICATE: 164005

Parameter	Units	2623620005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	159	152	5	10	

SAMPLE DUPLICATE: 164006

Parameter	Units	2623623005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	81.0	83.0	2	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623636

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 2694298 Matrix: Water
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/19 16:22	
Fluoride	mg/L	ND	0.10	0.050	10/01/19 16:22	
Sulfate	mg/L	ND	1.0	0.50	10/01/19 16:22	

LABORATORY CONTROL SAMPLE: 2694299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.2	98	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	50	50.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694300 2694301

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623559001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	1.7	50	50	53.7	53.7	104	104	90-110	0	10		
Fluoride	mg/L	0.058J	2.5	2.5	2.5	2.5	98	99	90-110	1	10		
Sulfate	mg/L	20.7	50	50	72.4	72.6	103	104	90-110	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694302 2694303

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623584001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	89.4	50	50	132	133	86	87	90-110	1	10	M1	
Fluoride	mg/L	0.42	2.5	2.5	4.2	4.3	152	153	90-110	1	10	M1	
Sulfate	mg/L	142	50	50	177	180	69	74	90-110	2	10	M1	

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QUALIFIERS

Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-GA Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623636001	HGWC-16	EPA 3005A	36170	EPA 6020B	36202
2623636002	HGWC-17	EPA 3005A	36170	EPA 6020B	36202
2623636003	HGWC-18	EPA 3005A	36170	EPA 6020B	36202
2623636004	MW-21d	EPA 3005A	36170	EPA 6020B	36202
2623636001	HGWC-16	SM 2540C	36325		
2623636002	HGWC-17	SM 2540C	36325		
2623636003	HGWC-18	SM 2540C	36325		
2623636004	MW-21d	SM 2540C	36325		
2623636001	HGWC-16	EPA 300.0 Rev 2.1 1993	500861		
2623636002	HGWC-17	EPA 300.0 Rev 2.1 1993	500861		
2623636003	HGWC-18	EPA 300.0 Rev 2.1 1993	500861		
2623636004	MW-21d	EPA 300.0 Rev 2.1 1993	500861		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a critical document and all handling steps must be completed accurately.

Section A - Requester Information:
 Agency: Alameda County Sheriff's Office
 Requester Name: John J. [redacted]
 Requester Title: Assistant Sheriff
 Requester Address: 2000 [redacted]
 Requester Phone: 925-763-4400

Section B - Requester Information:
 Name: [redacted]
 Title: [redacted]
 Agency: [redacted]
 Address: [redacted]
 Phone: [redacted]

Section C - Sample Information:
 Sample ID: [redacted]
 Description: [redacted]
 Quantity: [redacted]
 Date Collected: [redacted]
 Location: [redacted]

SAMPLE ID	DESCRIPTION	QUANTITY	CHAIN OF CUSTODY					DATE/TIME	INITIALS
			COLLECTOR	TRANSPORTER	RECEIVER	ANALYST	LABORATORY		
HGN16	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN17	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN18	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN19	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN20	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN21	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN22	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN23	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN24	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN25	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN26	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN27	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN28	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN29	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN30	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN31	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN32	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN33	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN34	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN35	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN36	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN37	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN38	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN39	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN40	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN41	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN42	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN43	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN44	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN45	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN46	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN47	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN48	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN49	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
HGN50	1000 mg	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

Section D - Laboratory Information:
 Laboratory Name: Alameda County Sheriff's Office
 Laboratory Address: 2000 [redacted]
 Laboratory Phone: 925-763-4400

Section E - Sample Information:
 Sample ID: [redacted]
 Description: [redacted]
 Quantity: [redacted]
 Date/TIME: [redacted]
 Initials: [redacted]

Section F - Signature:
 Signature: [redacted]
 Title: [redacted]
 Date: [redacted]

NO# : 2623636





Sample Condition Upon Receipt

WON: 2623636

Client Name: G.A. Power

PR: 88 Due Date: 11/23/16

CLIENT: GSPower-GOR

Container: Fed Ex UPS USPS Other Commercial Field Office

Tracking #: _____

Proj. Bud/Dat: _____
Proj. Name: _____

Customs Seal on Container Present: Yes No Seal's Value: _____

Packing Material: Bubble Wrap Styrofoam Bags Foam Other _____

Thermometer Used: 214 Type of Ice: Wet Dry None Samples on ice cooling process not begun

Container Temperature: 4.0 Biological Threats or Process: _____
Temp should be 2-8°C (freezing to 0°C) Comments: Check and validity of program identifying contents. 4/15/16

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2
Chain of Custody Requisitioned	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3
Signature Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5
Short Hold Time Analyzed (4-7 hrs)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6
Wash Turn Around Time Requested	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9
- PACE Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Marked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10
Filtered volume returned for Observed Leaks	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12
- Includes date/time of Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
- All containers need to be inventoried	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13
- All containers needing preservation are found to be in compliance with EPA recommendation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
- Samples with water 100 Gallons or more	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
- Includes date/time of Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for decontamination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14
MetCode(s) in MTA Vials (MTRM)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15
Trip Blank Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	16
Trip Blank Chain of Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Peace Trip Blank Lot # (if purchased): _____		

Client Notification/Resolution Time Data Required? Y N

Person Contacted: _____ Date/Time: _____

Comments- Resolution: _____

Project Manager Review: _____ Date: _____



October 29, 2019

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

RE: Project: Plant Hammond AP GW6581
Pace Project No.: 2623637

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP GW6581
Pace Project No.: 2623637

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Hammond AP GW6581
Pace Project No.: 2623637

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623637001	HGWC-16	Water	09/25/19 11:00	09/26/19 15:22
2623637002	HGWC-17	Water	09/25/19 12:35	09/26/19 15:22
2623637003	HGWC-18	Water	09/25/19 14:38	09/26/19 15:22
2623637004	MW-21d	Water	09/25/19 16:12	09/26/19 15:22

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623637001	HGWC-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623637002	HGWC-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623637003	HGWC-18	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623637004	MW-21d	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: HGWC-16 **Lab ID: 2623637001** Collected: 09/25/19 11:00 Received: 09/26/19 15:22 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.550 ± 0.350 (0.586) C:85% T:NA	pCi/L	10/16/19 08:23	13982-63-3	
Radium-228	EPA 9320	0.0933 ± 0.368 (0.831) C:74% T:84%	pCi/L	10/22/19 15:57	15262-20-1	
Total Radium	Total Radium Calculation	0.643 ± 0.718 (1.42)	pCi/L	10/24/19 12:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: HGWC-17 **Lab ID: 2623637002** Collected: 09/25/19 12:35 Received: 09/26/19 15:22 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.865 ± 0.394 (0.526) C:89% T:NA	pCi/L	10/16/19 08:23	13982-63-3	
Radium-228	EPA 9320	0.678 ± 0.438 (0.831) C:69% T:84%	pCi/L	10/22/19 15:58	15262-20-1	
Total Radium	Total Radium Calculation	1.54 ± 0.832 (1.36)	pCi/L	10/24/19 12:46	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	1.09 ± 0.410 (0.418) C:93% T:NA	pCi/L	10/16/19 08:23	13982-63-3	
Radium-228	EPA 9320	1.68 ± 0.583 (0.803) C:75% T:72%	pCi/L	10/22/19 15:58	15262-20-1	
Total Radium	Total Radium Calculation	2.77 ± 0.993 (1.22)	pCi/L	10/24/19 12:46	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Sample: MW-21d **Lab ID: 2623637004** Collected: 09/25/19 16:12 Received: 09/26/19 15:22 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.477 ± 0.280 (0.393) C:94% T:NA	pCi/L	10/16/19 08:23	13982-63-3	
Radium-228	EPA 9320	0.274 ± 0.414 (0.893) C:59% T:83%	pCi/L	10/22/19 15:59	15262-20-1	
Total Radium	Total Radium Calculation	0.751 ± 0.694 (1.29)	pCi/L	10/24/19 12:46	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

QC Batch: 365382 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

METHOD BLANK: 1772187 Matrix: Water
Associated Lab Samples: 2623637001, 2623637002, 2623637003, 2623637004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.573 ± 0.379 (0.723) C:78% T:84%	pCi/L	10/22/19 15:57	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

QC Batch:	365379	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
Associated Lab Samples:	2623637001, 2623637002, 2623637003, 2623637004		

METHOD BLANK:	1772184	Matrix:	Water
Associated Lab Samples:	2623637001, 2623637002, 2623637003, 2623637004		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.298 ± 0.261 (0.477) C:93% T:NA	pCi/L	10/16/19 08:22	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Hammond AP GW6581
Pace Project No.: 2623637

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623637

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623637001	HGWC-16	EPA 9315	365379		
2623637002	HGWC-17	EPA 9315	365379		
2623637003	HGWC-18	EPA 9315	365379		
2623637004	MW-21d	EPA 9315	365379		
2623637001	HGWC-16	EPA 9320	365382		
2623637002	HGWC-17	EPA 9320	365382		
2623637003	HGWC-18	EPA 9320	365382		
2623637004	MW-21d	EPA 9320	365382		
2623637001	HGWC-16	Total Radium Calculation	367752		
2623637002	HGWC-17	Total Radium Calculation	367752		
2623637003	HGWC-18	Total Radium Calculation	367752		
2623637004	MW-21d	Total Radium Calculation	367752		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All related tasks must be completed accurately.

Section A: Requester Information	Section B: Request Information	Section C: Sample Information
Case No. _____	Request No. _____	Sample No. _____
Requester Name _____	Requester Name _____	Requester Name _____
Requester Address _____	Requester Address _____	Requester Address _____
Requester Phone _____	Requester Phone _____	Requester Phone _____
Requester Email _____	Requester Email _____	Requester Email _____
Requester Title _____	Requester Title _____	Requester Title _____
Requester Organization _____	Requester Organization _____	Requester Organization _____
Requester Department _____	Requester Department _____	Requester Department _____
Requester Job Title _____	Requester Job Title _____	Requester Job Title _____
Requester Signature _____	Requester Signature _____	Requester Signature _____
Requester Date _____	Requester Date _____	Requester Date _____
Requester Location _____	Requester Location _____	Requester Location _____
Requester Contact Person _____	Requester Contact Person _____	Requester Contact Person _____
Requester Contact Phone _____	Requester Contact Phone _____	Requester Contact Phone _____
Requester Contact Email _____	Requester Contact Email _____	Requester Contact Email _____
Requester Contact Address _____	Requester Contact Address _____	Requester Contact Address _____
Requester Contact City _____	Requester Contact City _____	Requester Contact City _____
Requester Contact State _____	Requester Contact State _____	Requester Contact State _____
Requester Contact Zip _____	Requester Contact Zip _____	Requester Contact Zip _____
Requester Contact Country _____	Requester Contact Country _____	Requester Contact Country _____
Requester Contact Fax _____	Requester Contact Fax _____	Requester Contact Fax _____
Requester Contact FPO _____	Requester Contact FPO _____	Requester Contact FPO _____

Sample ID	COLLECTOR		DATE/TIME		LOCATION	METHOD	ANALYSIS	RESULTS	REMARKS
	NAME	NO.	DATE	TIME					
EXAMPLE ID									
HGMC-16			11/18/16	11:00					
HGMC-17			11/18/16	11:00					
HGMC-18			11/18/16	11:00					
HLA-21d			11/18/16	11:00					

Section D: Requester Information	Section E: Request Information	Section F: Sample Information
Case No. _____	Request No. _____	Sample No. _____
Requester Name _____	Requester Name _____	Requester Name _____
Requester Address _____	Requester Address _____	Requester Address _____
Requester Phone _____	Requester Phone _____	Requester Phone _____
Requester Email _____	Requester Email _____	Requester Email _____
Requester Title _____	Requester Title _____	Requester Title _____
Requester Organization _____	Requester Organization _____	Requester Organization _____
Requester Department _____	Requester Department _____	Requester Department _____
Requester Job Title _____	Requester Job Title _____	Requester Job Title _____
Requester Signature _____	Requester Signature _____	Requester Signature _____
Requester Date _____	Requester Date _____	Requester Date _____
Requester Location _____	Requester Location _____	Requester Location _____
Requester Contact Person _____	Requester Contact Person _____	Requester Contact Person _____
Requester Contact Phone _____	Requester Contact Phone _____	Requester Contact Phone _____
Requester Contact Email _____	Requester Contact Email _____	Requester Contact Email _____
Requester Contact Address _____	Requester Contact Address _____	Requester Contact Address _____
Requester Contact City _____	Requester Contact City _____	Requester Contact City _____
Requester Contact State _____	Requester Contact State _____	Requester Contact State _____
Requester Contact Zip _____	Requester Contact Zip _____	Requester Contact Zip _____
Requester Contact Country _____	Requester Contact Country _____	Requester Contact Country _____
Requester Contact Fax _____	Requester Contact Fax _____	Requester Contact Fax _____
Requester Contact FPO _____	Requester Contact FPO _____	Requester Contact FPO _____

NO# : 2623637





Sample Condition Upon Receipt

WQH: 2623637

Client Name: GA Power

Att: EM Due Date: 10/20/10

CLIENT: GA Power - COP

Owner: Fed Ex UPS USPS Other: Commercial Airline

Tracking #: _____

Received
Proj. Date: _____
Proj. Name: _____

Quality Seal on Cooler Box Present: Yes No Seal intact: Yes No

Packing Material: Bubble Wrap Bubble Bag Foam Other: _____

Thermometer Used: 2/4 Type of Ice: 1/4 (Dry None) Samples on ice cooling process has begun

Cooler Temperature: 5/10 Biological Tissue & Frozen: Yes No

Note: should be either less than 5°C

Date and Initials of person receiving contents: 10/20/10

Chain of Custody Feature	Yes	No	NA	Comments
Chain of Custody Filed Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Requisitioned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sampler Name & Signature on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Short Hold Time Analysis (if 2hrs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rush Turn Around Time Requested	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sufficient Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Correct Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
- Icing Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Sealed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
- Labels include: INCORPORATED FOR DISTRICT USE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sample Labels match COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
- Includes duplicate of Analysis Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All containers meeting preservation have label attached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All containers meeting preservation are found to be in compliance with EPA recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
- Includes: PCB, TOC, TOC, TOC, TOC, TOC, TOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Subtotal Checked for identification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Handpiece in UGA Virus (if any)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Trig Blank Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Trig Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
- Note Trig Blank Lot # (if purchased)				

Client Notification/Resolution: _____ Field Data Returned? Yes No

Person Contacted: _____ Date/Time: _____

Summarized Resolution: _____

Project Manager Review: _____ Date: _____

NOTE: If a laboratory is a laboratory affecting North Carolina compliance reports, a copy of this form will be sent to the North Carolina DHEM Compliance Office (11100 Old Forest Road, Raleigh, NC 27617) (919) 733-1111



November 12, 2019

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

RE: Project: Plant Hammond AP GW6581
Pace Project No.: 2623638

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092
 Florida DOH Certification #: E87315
 Georgia DW Inorganics Certification #: 812
 Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381
 South Carolina Certification #: 98011001
 Virginia Certification #: 460204

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
 Alaska DEC- CS/UST/LUST
 Alabama Certification #: 41320
 Arizona Certification# AZ0819
 Colorado Certification: FL NELAC Reciprocity
 Connecticut Certification #: PH-0216
 Delaware Certification: FL NELAC Reciprocity
 Florida Certification #: E83079
 Georgia Certification #: 955
 Guam Certification: FL NELAC Reciprocity
 Hawaii Certification: FL NELAC Reciprocity
 Illinois Certification #: 200068
 Indiana Certification: FL NELAC Reciprocity
 Kansas Certification #: E-10383
 Kentucky Certification #: 90050
 Louisiana Certification #: FL NELAC Reciprocity
 Louisiana Environmental Certificate #: 05007
 Maryland Certification: #346
 Michigan Certification #: 9911
 Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236
 Montana Certification #: Cert 0074
 Nebraska Certification: NE-OS-28-14
 New Hampshire Certification #: 2958
 New Jersey Certification #: FL022
 New York Certification #: 11608
 North Carolina Environmental Certificate #: 667
 North Carolina Certification #: 12710
 North Dakota Certification #: R-216
 Oklahoma Certification #: D9947
 Pennsylvania Certification #: 68-00547
 Puerto Rico Certification #: FL01264
 South Carolina Certification: #96042001
 Tennessee Certification #: TN02974
 Texas Certification: FL NELAC Reciprocity
 US Virgin Islands Certification: FL NELAC Reciprocity
 Virginia Environmental Certification #: 460165
 West Virginia Certification #: 9962C
 Wisconsin Certification #: 399079670
 Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

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

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623638001	HGWC-16	EPA 6010	CS2	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	JAD	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623638002	HGWC-17	EPA 6010	CS2	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	JAD	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623638003	MW-21d	EPA 6010	CS2	6	PASI-O
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	JAD	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O
2623638004	HGWC-18	EPA 6010	CS2	7	PASI-O
		EPA 6020B	CSW	2	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 1664B	SJS	1	PASI-GA
		SM 2320B	S1A	2	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		SM 2540D	ALW	1	PASI-GA
		SM 4500-CI G	KN	1	PASI-GA
		SM 4500-P	JAD	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5210B	KN	1	PASI-GA
		TKN-NH3 Calculation	LPH	1	PASI-GA
		EPA 300.0	MWB	2	PASI-GA
		EPA 350.1	ANB	1	PASI-GA
		EPA 351.2	ANB	1	PASI-GA
SM 5310B	SA1	1	PASI-O		

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Sample: HGWC-16		Lab ID: 2623638001		Collected: 09/25/19 11:00		Received: 09/26/19 15:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	1.5	mg/L	0.040	0.0092	1	10/08/19 16:13	10/09/19 13:10	7439-89-6	
Magnesium	15.5	mg/L	0.50	0.084	1	10/08/19 16:13	10/09/19 13:10	7439-95-4	
Manganese	0.036	mg/L	0.0050	0.00042	1	10/08/19 16:13	10/09/19 13:10	7439-96-5	
Phosphorus	0.069	mg/L	0.045	0.014	1	10/08/19 16:13	10/09/19 13:10	7723-14-0	N2
Potassium	0.76J	mg/L	1.0	0.15	1	10/08/19 16:13	10/09/19 13:10	7440-09-7	
Sodium	9.9	mg/L	2.0	0.27	1	10/08/19 16:13	10/09/19 13:10	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	192	mg/L	20.0	20.0	1		10/01/19 17:52		
Alkalinity, Total as CaCO ₃	192	mg/L	20.0	20.0	1		10/01/19 17:52		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	0.021	mg/L	0.020	0.020	1		09/27/19 10:42		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/30/19 15:49	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/01/19 19:44		

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Sample: HGWC-17		Lab ID: 2623638002		Collected: 09/25/19 12:35		Received: 09/26/19 15:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Iron	0.18	mg/L	0.040	0.0092	1	10/08/19 16:13	10/09/19 13:13	7439-89-6	
Magnesium	31.2	mg/L	0.50	0.084	1	10/08/19 16:13	10/09/19 13:13	7439-95-4	
Manganese	4.4	mg/L	0.10	0.0084	20	10/08/19 16:13	10/10/19 14:58	7439-96-5	
Phosphorus	ND	mg/L	0.045	0.014	1	10/08/19 16:13	10/09/19 13:13	7723-14-0	N2
Potassium	2.7	mg/L	1.0	0.15	1	10/08/19 16:13	10/09/19 13:13	7440-09-7	
Sodium	15.3	mg/L	2.0	0.27	1	10/08/19 16:13	10/09/19 13:13	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	182	mg/L	20.0	20.0	1		10/01/19 18:01		
Alkalinity, Total as CaCO ₃	182	mg/L	20.0	20.0	1		10/01/19 18:01		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/27/19 11:12		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/30/19 15:50	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	0.72J	mg/L	1.0	0.50	1		10/01/19 20:41		

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

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

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

Sample: HGWC-18 Lab ID: 2623638004 Collected: 09/25/19 14:38 Received: 09/26/19 15:22 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Iron	0.11	mg/L	0.040	0.0092	1	10/08/19 16:13	10/09/19 13:20	7439-89-6	
Magnesium	36.0	mg/L	0.50	0.084	1	10/08/19 16:13	10/09/19 13:20	7439-95-4	
Manganese	3.7	mg/L	0.025	0.0021	5	10/08/19 16:13	10/09/19 17:59	7439-96-5	
Phosphorus	ND	mg/L	0.045	0.014	1	10/08/19 16:13	10/09/19 13:20	7723-14-0	N2
Potassium	8.9	mg/L	1.0	0.15	1	10/08/19 16:13	10/09/19 13:20	7440-09-7	
Sodium	10.4	mg/L	2.0	0.27	1	10/08/19 16:13	10/09/19 13:20	7440-23-5	
Tot Hardness asCaCO3 (SM 2340B)	1060000	ug/L	6420	1010	2	10/08/19 16:13	10/09/19 17:55		
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Copper	0.0028J	mg/L	0.025	0.00019	1	09/30/19 12:43	10/01/19 22:07	7440-50-8	
Zinc	0.16	mg/L	0.010	0.0015	1	09/30/19 12:43	10/01/19 22:07	7440-66-6	
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	ND	mg/L	0.00050	0.00014	1	10/03/19 09:37	10/03/19 15:38	7439-97-6	
HEM, Oil and Grease Analytical Method: EPA 1664B									
Oil and Grease	ND	mg/L	4.8	4.8	1		10/01/19 07:30		
2320B Alkalinity Low Level Analytical Method: SM 2320B									
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	1.0	1.0	1		10/03/19 17:39		
Alkalinity, Total as CaCO3	ND	mg/L	1.0	1.0	1		10/03/19 17:39		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	1950	mg/L	10.0	10.0	1		10/02/19 12:05		
2540D Total Suspended Solids Analytical Method: SM 2540D									
Total Suspended Solids	6.0	mg/L	5.0	5.0	1		09/27/19 18:18		
4500CL G Chlorine, Residual Analytical Method: SM 4500-Cl G									
Chlorine, Total Residual	ND	mg/L	0.1	0.1	1		09/27/19 15:40	7782-50-5	H3,H6
4500PE Ortho Phosphorus Analytical Method: SM 4500-P									
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/27/19 11:13		
4500S2D Sulfide Water Analytical Method: SM 4500-S2 D									
Sulfide	ND	mg/L	0.20	0.20	1		09/30/19 15:52	18496-25-8	
5210B BOD, 5 day Analytical Method: SM 5210B Preparation Method: SM 5210B									
BOD, 5 day	ND	mg/L	2.0	2.0	1	09/27/19 10:01	10/02/19 12:23		1A
Total Organic Nitrogen Calc. Analytical Method: TKN-NH3 Calculation									
Total Organic Nitrogen	ND	mg/L	0.40	0.40	1		10/03/19 00:55		

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

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

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch:	36410	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
Associated Lab Samples:	2623638004		

METHOD BLANK: 164385 Matrix: Water

Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	10/03/19 14:32	

LABORATORY CONTROL SAMPLE: 164386

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0024	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164387 164388

Parameter	Units	MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		2623623008 Result	Spike Conc.	Spike Conc.	Result						
Mercury	mg/L				0.0024	0.0024			3	20	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 576681 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 3134011 Matrix: Water
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.040	0.0092	10/09/19 12:43	
Magnesium	mg/L	ND	0.50	0.084	10/09/19 12:43	
Manganese	mg/L	ND	0.0050	0.00042	10/09/19 12:43	
Phosphorus	mg/L	ND	0.045	0.014	10/09/19 12:43	N2
Potassium	mg/L	ND	1.0	0.15	10/09/19 12:43	
Sodium	mg/L	ND	2.0	0.27	10/09/19 12:43	
Tot Hardness asCaCO3 (SM 2340B)	ug/L	ND	3210	506	10/09/19 12:43	

LABORATORY CONTROL SAMPLE: 3134012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	2.5	2.5	98	80-120	
Magnesium	mg/L	12.5	12.2	98	80-120	
Manganese	mg/L	0.25	0.25	98	80-120	
Phosphorus	mg/L	0.25	0.23	92	80-120	N2
Potassium	mg/L	12.5	12.1	97	80-120	
Sodium	mg/L	12.5	12.3	98	80-120	
Tot Hardness asCaCO3 (SM 2340B)	ug/L	82700	81100	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3134013 3134014

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623635003 Result	Spike Conc.	Spike Conc.	Result						
Iron	mg/L	3.1	2.5	2.5	5.6	5.6	98	100	75-125	1	20
Magnesium	mg/L	8.6	12.5	12.5	21.1	21.2	99	101	75-125	1	20
Manganese	mg/L	0.17	0.25	0.25	0.42	0.42	98	99	75-125	1	20
Phosphorus	mg/L	0.083	0.25	0.25	0.33	0.33	98	99	75-125	1	20 N2
Potassium	mg/L	0.31J	12.5	12.5	13.1	13.1	102	103	75-125	0	20
Sodium	mg/L	11.0	12.5	12.5	23.7	23.8	101	103	75-125	1	20
Tot Hardness asCaCO3 (SM 2340B)	ug/L	337000	82700	82700	418000	421000	99	102	75-125	1	20

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36170 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623638004

METHOD BLANK: 163336 Matrix: Water

Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Copper	mg/L	ND	0.025	0.00019	10/01/19 18:14	
Zinc	mg/L	ND	0.010	0.0015	10/01/19 18:14	

LABORATORY CONTROL SAMPLE: 163337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	0.1	0.10	100	80-120	
Zinc	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163338 163339

Parameter	Units	2623623007 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Copper	mg/L	ND	0.1	0.1	0.10	0.10	105	102	75-125	2	20	
Zinc	mg/L	0.0017J	0.1	0.1	0.10	0.10	103	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36214 Analysis Method: EPA 1664B
 QC Batch Method: EPA 1664B Analysis Description: 1664 HEM, Oil and Grease
 Associated Lab Samples: 2623638004

METHOD BLANK: 163592 Matrix: Water
 Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	5.0	10/01/19 07:30	

LABORATORY CONTROL SAMPLE: 163593

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

MATRIX SPIKE SAMPLE: 163595

Parameter	Units	2623546004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	50	24.6	44	78-114	M3

MATRIX SPIKE SAMPLE: 163596

Parameter	Units	2623680002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	50	27.5	50	78-114	M3

SAMPLE DUPLICATE: 163594

Parameter	Units	2623546002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		75	

SAMPLE DUPLICATE: 163597

Parameter	Units	2623680004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		75	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36284 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 2623638001, 2623638002, 2623638003

METHOD BLANK: 163853 Matrix: Water

Associated Lab Samples: 2623638001, 2623638002, 2623638003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	20.0	10/01/19 17:35	

LABORATORY CONTROL SAMPLE: 163854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	98.0	98	85-115	

SAMPLE DUPLICATE: 163855

Parameter	Units	2623635002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	165	164	1	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36448 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity, Low Level
 Associated Lab Samples: 2623638004

METHOD BLANK: 164641 Matrix: Water
 Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	1.0	1.0	10/03/19 17:36	

LABORATORY CONTROL SAMPLE: 164642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.0	94	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36325	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2623638004	

LABORATORY CONTROL SAMPLE: 164004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	421	105	84-108	

SAMPLE DUPLICATE: 164005

Parameter	Units	2623620005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	159	152	5	10	

SAMPLE DUPLICATE: 164006

Parameter	Units	2623623005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	81.0	83.0	2	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36106 Analysis Method: SM 2540D
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
 Associated Lab Samples: 2623638004

METHOD BLANK: 162939 Matrix: Water

Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	5.0	09/27/19 18:18	

LABORATORY CONTROL SAMPLE: 162940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	103	103	90-110	

SAMPLE DUPLICATE: 162941

Parameter	Units	2623617001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	48.0	51.0	6	10	

SAMPLE DUPLICATE: 162942

Parameter	Units	2623593001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	82.5	80.0	3	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36088

Analysis Method: SM 4500-Cl G

QC Batch Method: SM 4500-Cl G

Analysis Description: 4500CL G Chlorine, Total Residual

Associated Lab Samples: 2623638004

METHOD BLANK: 162851

Matrix: Water

Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorine, Total Residual	mg/L	ND	0.1	0.1	09/27/19 15:35	H6

LABORATORY CONTROL SAMPLE: 162852

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

SAMPLE DUPLICATE: 162870

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

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36055 Analysis Method: SM 4500-P
 QC Batch Method: SM 4500-P Analysis Description: 4500PE Ortho Phosphorus
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 162666 Matrix: Water
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	0.020	09/27/19 10:41	

LABORATORY CONTROL SAMPLE: 162667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.5	0.52	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162668 162669

Parameter	Units	2623638001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.021	0.5	0.5	0.53	0.53	101	102	80-120	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36186 Analysis Method: SM 4500-S2 D
 QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 163399 Matrix: Water
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	09/30/19 14:59	

LABORATORY CONTROL SAMPLE: 163400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163401 163402

Parameter	Units	163401		163402		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623644003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfide	mg/L	ND	0.5	0.5	0.49	0.50	98	100	30-129	2	10

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36054 Analysis Method: SM 5210B
 QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
 Associated Lab Samples: 2623638004

METHOD BLANK: 162663 Matrix: Water
 Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	10/02/19 12:17	1A

LABORATORY CONTROL SAMPLE: 162665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	196	99	85-115	1A

SAMPLE DUPLICATE: 162714

Parameter	Units	2623603001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	364	396	8	20	1A

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

QC Batch: 36045 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623638004

METHOD BLANK: 162623 Matrix: Water

Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrate as N	mg/L	0.013J	0.050	0.0050	09/27/19 01:45	
Nitrite as N	mg/L	0.020J	0.050	0.011	09/27/19 01:45	

LABORATORY CONTROL SAMPLE: 162624

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	10	10.6	106	90-110	
Nitrite as N	mg/L	10	10.9	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 162625 162626

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623614003 Result	Spike Conc.	Spike Conc.	Result						
Nitrate as N	mg/L	0.66	10	10	11.2	11.2	105	105	90-110	0	15
Nitrite as N	mg/L	0.020J	10	10	10.9	10.9	109	108	90-110	1	15

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36095 Analysis Method: EPA 350.1
 QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
 Associated Lab Samples: 2623638004

METHOD BLANK: 162900 Matrix: Water
 Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	0.10	09/30/19 10:18	

LABORATORY CONTROL SAMPLE: 162901

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

MATRIX SPIKE SAMPLE: 162902

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

MATRIX SPIKE SAMPLE: 162903

Parameter	Units	2623679001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.33	10	12.1	118	90-110	M1

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 36141 Analysis Method: EPA 351.2
 QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
 Associated Lab Samples: 2623638004

METHOD BLANK: 163259 Matrix: Water
 Associated Lab Samples: 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	0.40	0.40	10/01/19 11:44	

LABORATORY CONTROL SAMPLE: 163260

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

MATRIX SPIKE SAMPLE: 163261

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

MATRIX SPIKE SAMPLE: 163262

Parameter	Units	2623649002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	25.8	10	35.3	95	90-110	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623638

QC Batch: 574634 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

METHOD BLANK: 3122436 Matrix: Water
 Associated Lab Samples: 2623638001, 2623638002, 2623638003, 2623638004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.50	10/01/19 14:32	

LABORATORY CONTROL SAMPLE: 3122437

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122438 3122439

Parameter	Units	2623556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	20	20	19.6	19.5	96	95	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3122440 3122441

Parameter	Units	2623635001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	20	20	19.6	19.5	96	95	80-120	1	20	

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QUALIFIERS

Project: Plant Hammond AP GW6581
Pace Project No.: 2623638

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

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

BATCH QUALIFIERS

Batch: 36328

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

ANALYTE QUALIFIERS

1A The calculated SCF was below the desired range of 0.6 to 1.0 mg/L. All other QC indicators, including the LCS, were within acceptance criteria
B Analyte was detected in the associated method blank.
H3 Sample was received or analysis requested beyond the recognized method holding time.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.
N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623638

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623638001	HGWC-16	EPA 3010	576681	EPA 6010	576722
2623638002	HGWC-17	EPA 3010	576681	EPA 6010	576722
2623638003	MW-21d	EPA 3010	576681	EPA 6010	576722
2623638004	HGWC-18	EPA 3010	576681	EPA 6010	576722
2623638004	HGWC-18	EPA 3005A	36170	EPA 6020B	36202
2623638004	HGWC-18	EPA 7470A	36410	EPA 7470A	36427
2623638004	HGWC-18	EPA 1664B	36214		
2623638001	HGWC-16	SM 2320B	36284		
2623638002	HGWC-17	SM 2320B	36284		
2623638003	MW-21d	SM 2320B	36284		
2623638004	HGWC-18	SM 2320B	36448		
2623638004	HGWC-18	SM 2540C	36325		
2623638004	HGWC-18	SM 2540D	36106		
2623638004	HGWC-18	SM 4500-CI G	36088		
2623638001	HGWC-16	SM 4500-P	36055		
2623638002	HGWC-17	SM 4500-P	36055		
2623638003	MW-21d	SM 4500-P	36055		
2623638004	HGWC-18	SM 4500-P	36055		
2623638001	HGWC-16	SM 4500-S2 D	36186		
2623638002	HGWC-17	SM 4500-S2 D	36186		
2623638003	MW-21d	SM 4500-S2 D	36186		
2623638004	HGWC-18	SM 4500-S2 D	36186		
2623638004	HGWC-18	SM 5210B	36054	SM 5210B	36328
2623638004	HGWC-18	TKN-NH3 Calculation	36406		
2623638004	HGWC-18	EPA 300.0	36045		
2623638004	HGWC-18	EPA 350.1	36095		
2623638004	HGWC-18	EPA 351.2	36141	EPA 351.2	36143
2623638001	HGWC-16	SM 5310B	574634		
2623638002	HGWC-17	SM 5310B	574634		
2623638003	MW-21d	SM 5310B	574634		
2623638004	HGWC-18	SM 5310B	574634		

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CHAIN-OF-CUSTODY / Analytical Request Document

This Chain of Custody is a legal document. All relevant dates must be completed in blue.

Section 1
Requester: _____
Requesting Program: _____
Requester's Name: _____
Requester's Title: _____
Requester's Department: _____
Requester's Phone: _____
Requester's Email: _____
Requester's Signature: _____

Section 2
Sample ID: _____
Sample Description: _____
Sample Quantity: _____
Sample Container: _____
Sample Location: _____
Sample Date/Time: _____

Section 3
Sample ID: _____
Sample Description: _____
Sample Quantity: _____
Sample Container: _____
Sample Location: _____
Sample Date/Time: _____

SAMPLE ID		Requesting Agency	Requesting Officer	Requesting Date/Time	Requesting Location	Requesting Department	Requesting Division	Requesting Unit	Requesting Project	Requesting Case #	Requesting Agency Name	Requesting Agency Address	Requesting Agency City	Requesting Agency State	Requesting Agency Zip	Requesting Agency Phone	Requesting Agency Fax	Requesting Agency Email	Requesting Agency Website	
16600																				
16601																				
16602																				
16603																				
16604																				
16605																				
16606																				
16607																				
16608																				
16609																				
16610																				

Section 4
Requesting Agency: _____
Requesting Officer: _____
Requesting Date/Time: _____
Requesting Location: _____
Requesting Department: _____
Requesting Division: _____
Requesting Unit: _____
Requesting Project: _____
Requesting Case #: _____
Requesting Agency Name: _____
Requesting Agency Address: _____
Requesting Agency City: _____
Requesting Agency State: _____
Requesting Agency Zip: _____
Requesting Agency Phone: _____
Requesting Agency Fax: _____
Requesting Agency Email: _____
Requesting Agency Website: _____

Section 5
Requesting Agency: _____
Requesting Officer: _____
Requesting Date/Time: _____
Requesting Location: _____
Requesting Department: _____
Requesting Division: _____
Requesting Unit: _____
Requesting Project: _____
Requesting Case #: _____
Requesting Agency Name: _____
Requesting Agency Address: _____
Requesting Agency City: _____
Requesting Agency State: _____
Requesting Agency Zip: _____
Requesting Agency Phone: _____
Requesting Agency Fax: _____
Requesting Agency Email: _____
Requesting Agency Website: _____

NO# : 2623638



[Handwritten signature]

CHAIN-OF-CUSTODY / Analytical Request Document

This Chain of Custody is a LEGAL DOCUMENT. All required fields must be completed accurately.

Page: 2 of 2

Section 1: Requester Information

Requester Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____
 Email: _____

Section 2: Requester Information

Requester Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____ Fax: _____
 Email: _____

Section 3: Sample Information

Sample ID: AGMC-18
 Description: AGMC-18
 Quantity: 1
 Date Collected: 11/15/18
 Location: AGMC-18

Item #	Sample ID	Description	Quantity	Date Collected	Location	Collector	Analyst	Method	Instrument	Lab Name	Lab Address	Lab City	Lab State	Lab Zip	Lab Phone	Lab Fax	Lab Email
1	AGMC-18	AGMC-18	1	11/15/18	AGMC-18	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]

Section 4: Laboratory Information

Lab Name: AGMC-18
 Address: AGMC-18
 City: AGMC-18 State: AGMC-18 Zip: AGMC-18
 Phone: AGMC-18 Fax: AGMC-18
 Email: AGMC-18

Section 5: Chain of Custody

Signature: _____ Date: 11/15/18
 Signature: _____ Date: 11/15/18
 Signature: _____ Date: 11/15/18
 Signature: _____ Date: 11/15/18



Sample Condition Upon Receipt

WO#: 2623638

Client Name: LA Power

PR: Client Commercial Public Other

CLIENT: GRF Power - COG

Counter: Fed Ex UPS USPS Other Commercial Public Other

Tracking #: _____

Print Out Date: _____
Print Header: _____

Custody Seal on Cooler/Box Present: Yes No Seal intact Yes No

Packing Material: Bubble Wrap Bubble Bags Norell Other _____

Thermometer Used: 2/4 Type of Ice: Dry Wet None Samples on ice cooling process has begun

Cooler Temperature: 4/10 Biological Hazard in Frozen: Yes No

Temp should be above freezing +5°C

Case and holding all persons responsible for contents: 9/7/04/GR

Item	Yes	No	Other	Comments
Chain of Custody Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Filled Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Reinstated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sampler Name & Signature on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Send Hold Time Analysis (if any)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Run Time Around Time Requested	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sufficient Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Correct Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pace Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Excess volume received for Described Tests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Labeled Match COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes date/time of analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All containers holding preservation have been checked	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All containers holding preservation are found to be in compliance with EPA recommendation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples with sufficient COC tags included	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when compared
Samples checked for decontamination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Level of added preservative
Initial pour in WDA Multi (if any)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tri-Bank Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tri-Bank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Place Tri-Bank Inc if purchased	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Client Notification/Resolution: _____ Date/Time: _____

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 DEHPM Certification Office for a copy of this information please send out of time received, if available.



December 13, 2019

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

RE: Project: Plant Hammond GW6581
Pace Project No.: 2623710

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623710001	MW-23d	Water	09/26/19 10:25	09/27/19 13:15
2623710002	FD-02	Water	09/26/19 00:00	09/27/19 13:15

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SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581
Pace Project No.: 2623710

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2623710001	MW-23d	EPA 6020B	CSW	13
		SM 2540C	ALW	1
		EPA 300.0	MWB	3
2623710002	FD-02	EPA 6020B	CSW	13
		SM 2540C	ALW	1
		EPA 300.0	MWB	3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Sample: MW-23d		Lab ID: 2623710001		Collected: 09/26/19 10:25		Received: 09/27/19 13:15		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 13:30	10/03/19 20:36	7440-38-2		
Barium	0.064	mg/L	0.010	0.00049	1	09/30/19 13:30	10/03/19 20:36	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 13:30	10/03/19 20:36	7440-41-7		
Boron	3.8	mg/L	2.0	0.25	50	09/30/19 13:30	10/03/19 20:42	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 13:30	10/03/19 20:36	7440-43-9		
Calcium	306	mg/L	25.0	2.7	250	09/30/19 13:30	10/04/19 16:07	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 13:30	10/03/19 20:36	7440-47-3		
Cobalt	0.00098J	mg/L	0.0050	0.00030	1	09/30/19 13:30	10/03/19 20:36	7440-48-4		
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 13:30	10/03/19 20:36	7439-92-1		
Lithium	0.0023J	mg/L	0.030	0.00078	1	09/30/19 13:30	10/03/19 20:36	7439-93-2		
Molybdenum	0.0025J	mg/L	0.010	0.00095	1	09/30/19 13:30	10/03/19 20:36	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 13:30	10/03/19 20:36	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 13:30	10/03/19 20:36	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1400	mg/L	10.0	10.0	1		10/03/19 16:46			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	204	mg/L	25.0	0.60	25		10/02/19 21:25	16887-00-6		
Fluoride	0.16J	mg/L	0.30	0.029	1		10/02/19 11:14	16984-48-8		
Sulfate	556	mg/L	25.0	0.42	25		10/02/19 21:25	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Sample: FD-02 **Lab ID: 2623710002** Collected: 09/26/19 00:00 Received: 09/27/19 13:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 13:30	10/03/19 20:47	7440-38-2	
Barium	0.067	mg/L	0.010	0.00049	1	09/30/19 13:30	10/03/19 20:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 13:30	10/03/19 20:47	7440-41-7	
Boron	4.0	mg/L	2.0	0.25	50	09/30/19 13:30	10/03/19 20:53	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 13:30	10/03/19 20:47	7440-43-9	
Calcium	320	mg/L	25.0	2.7	250	09/30/19 13:30	10/04/19 16:13	7440-70-2	
Chromium	0.0012J	mg/L	0.010	0.00039	1	09/30/19 13:30	10/03/19 20:47	7440-47-3	
Cobalt	0.0010J	mg/L	0.0050	0.00030	1	09/30/19 13:30	10/03/19 20:47	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 13:30	10/03/19 20:47	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00078	1	09/30/19 13:30	10/03/19 20:47	7439-93-2	
Molybdenum	0.0027J	mg/L	0.010	0.00095	1	09/30/19 13:30	10/03/19 20:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 13:30	10/03/19 20:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 13:30	10/03/19 20:47	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1450	mg/L	10.0	10.0	1		10/03/19 16:46		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	201	mg/L	25.0	0.60	25		10/02/19 21:48	16887-00-6	
Fluoride	0.17J	mg/L	0.30	0.029	1		10/02/19 11:36	16984-48-8	
Sulfate	556	mg/L	25.0	0.42	25		10/02/19 21:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623710

QC Batch: 36173 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623710001, 2623710002

METHOD BLANK: 163347 Matrix: Water

Associated Lab Samples: 2623710001, 2623710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	10/03/19 16:32	
Barium	mg/L	ND	0.010	0.00049	10/03/19 16:32	
Beryllium	mg/L	ND	0.0030	0.000074	10/03/19 16:32	
Boron	mg/L	ND	0.040	0.0049	10/03/19 16:32	
Cadmium	mg/L	ND	0.0025	0.00011	10/03/19 16:32	
Calcium	mg/L	ND	0.10	0.011	10/03/19 16:32	
Chromium	mg/L	ND	0.010	0.00039	10/03/19 16:32	
Cobalt	mg/L	ND	0.0050	0.00030	10/03/19 16:32	
Lead	mg/L	ND	0.0050	0.000046	10/03/19 16:32	
Lithium	mg/L	ND	0.030	0.00078	10/03/19 16:32	
Molybdenum	mg/L	ND	0.010	0.00095	10/03/19 16:32	
Selenium	mg/L	ND	0.010	0.0013	10/03/19 16:32	
Thallium	mg/L	ND	0.0010	0.000052	10/03/19 16:32	

LABORATORY CONTROL SAMPLE: 163348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.10	100	80-120	
Boron	mg/L	1	1.0	102	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Calcium	mg/L	1	0.99	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	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163349 163350

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2623696001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	0.0013J	0.1	0.1	0.099	0.10	98	103	75-125	5	20	
Barium	mg/L	0.095	0.1	0.1	0.22	0.22	122	127	75-125	2	20	M1
Beryllium	mg/L	0.000099J	0.1	0.1	0.086	0.091	86	91	75-125	5	20	

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

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623710

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163349		163350		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623696001 Result	MS Spike Conc.	MSD Spike Conc.									
Boron	mg/L	16.4	1	1	20.1	20.1	373	367	75-125	0	20	M6	
Cadmium	mg/L	ND	0.1	0.1	0.090	0.093	90	93	75-125	3	20		
Calcium	mg/L	658	1	1	644	642	-1420	-1570	75-125	0	20	M6	
Chromium	mg/L	ND	0.1	0.1	0.091	0.094	91	94	75-125	3	20		
Cobalt	mg/L	0.027	0.1	0.1	0.12	0.12	89	92	75-125	3	20		
Lead	mg/L	0.000054J	0.1	0.1	0.089	0.094	89	94	75-125	5	20		
Lithium	mg/L	0.039	0.1	0.1	0.13	0.13	90	94	75-125	3	20		
Molybdenum	mg/L	0.045	0.1	0.1	0.14	0.15	96	102	75-125	4	20		
Selenium	mg/L	ND	0.1	0.1	0.098	0.11	97	105	75-125	8	20		
Thallium	mg/L	0.00088J	0.1	0.1	0.091	0.097	90	96	75-125	6	20		

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623710

QC Batch: 36437 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2623710001, 2623710002

LABORATORY CONTROL SAMPLE: 164569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	412	103	84-108	

SAMPLE DUPLICATE: 164570

Parameter	Units	2623700006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	225	219	3	10	

SAMPLE DUPLICATE: 164571

Parameter	Units	2623710002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1450	1330	9	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623710

QC Batch: 36286 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623710001, 2623710002

METHOD BLANK: 163856 Matrix: Water

Associated Lab Samples: 2623710001, 2623710002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.031J	1.0	0.024	10/02/19 07:36	
Fluoride	mg/L	ND	0.30	0.029	10/02/19 07:36	
Sulfate	mg/L	0.053J	1.0	0.017	10/02/19 07:36	

LABORATORY CONTROL SAMPLE: 163857

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.7	107	90-110	
Fluoride	mg/L	10	10.9	109	90-110	
Sulfate	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163858 163859

Parameter	Units	2623702001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	10	10	11.0	11.7	93	100	90-110	6	15	
Fluoride	mg/L	0.12J	10	10	9.5	10.3	94	102	90-110	8	15	
Sulfate	mg/L	30.3	10	10	36.7	37.2	64	69	90-110	1	15	M1

MATRIX SPIKE SAMPLE: 163860

Parameter	Units	2623702002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	6.5	10	16.5	100	90-110	
Fluoride	mg/L	0.098J	10	10.7	106	90-110	
Sulfate	mg/L	0.23J	10	10.7	104	90-110	

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QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623710

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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: Plant Hammond GW6581

Pace Project No.: 2623710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623710001	MW-23d	EPA 3005A	36173	EPA 6020B	36203
2623710002	FD-02	EPA 3005A	36173	EPA 6020B	36203
2623710001	MW-23d	SM 2540C	36437		
2623710002	FD-02	SM 2540C	36437		
2623710001	MW-23d	EPA 300.0	36286		
2623710002	FD-02	EPA 300.0	36286		

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CHAIN-OF-CUSTODY (Analytical) Request Document

The Chain of Custody of U-GAC (COC) must be read for complete details.

Page | 01 |

Requester: Samuel P. ...

Requester Title: ...

Requester Address: ...

Requester Phone: ...

Requester Email: ...

Requester Name: ...

Requester Title: ...

Requester Address: ...

Requester Phone: ...

Requester Email: ...

Sample ID	Quantity	Location	Collection Date	Collector	Witness	Remarks
2011-235	1	...	...	...	...	...
2011-236	1	...	...	...	...	...
2011-237	1	...	...	...	...	...
2011-238	1	...	...	...	...	...
2011-239	1	...	...	...	...	...
2011-240	1	...	...	...	...	...
2011-241	1	...	...	...	...	...
2011-242	1	...	...	...	...	...
2011-243	1	...	...	...	...	...
2011-244	1	...	...	...	...	...
2011-245	1	...	...	...	...	...
2011-246	1	...	...	...	...	...
2011-247	1	...	...	...	...	...
2011-248	1	...	...	...	...	...
2011-249	1	...	...	...	...	...
2011-250	1	...	...	...	...	...

Signature of Requester: [Signature]

Signature of Collector: [Signature]

Signature of Witness: [Signature]

Date: ...

Time: ...

Location: ...

MON: 2623710

2011-07-10



Client Name: C. H. Power

PH: 811 Date Date: 10/14/19

CLIENT: GRPower-DCR

Carrier FedEx UPS USPS Other Commercial Other

Tracking #: _____

Field Identification # _____
Spec. Priority _____

Cooler Seal or Cooler Box Present: Yes No Sealed Yes No

Packing Material Bubble Wrap Bubble Bags None Other _____

Thermometer Used 214 Type of Inv. Bio None

Samples on ice cooling process not complete

Cooler Temperature 5.0° Biological Temperature From: Ice No

Date and Initials of person completing comments 9/17/19

Temp should be above freezing at 5°C

Comments: _____

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Requiring Info	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Sampler Name & Signature on CDC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Short Hold Time Analysis (< 4 hrs)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6	
Run Time Around Time Requested	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7	
Subtotal Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Control Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9	
- Pairs Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
Filtered volume received for duplicate tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11	
Samples labeled upon CDC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
- Includes duplicate/analysis label	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
All containers labeled (initials/initials have been checked)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	
All containers needing observation are found to be in compliance with EPA recommendations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Insulation, vol. correct, ICE, OAG, no OAG, correct	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		Insulation completed <input type="checkbox"/> No <input type="checkbox"/> Yes # of # of added padding blank
Samples checked for decontamination	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Headspace in VOA Vials (< 5 mm)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15	
Trip Blank Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16	
Trip Blank Empty Seal Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Make Trip Blank Lot # (if applicable)			

Client Notification/Resolution:

Field Data Requirements

Person Contacted _____

Date/Time _____

Comments: Resolution _____

Project Manager Review: _____

Date: _____



November 02, 2019

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

RE: Project: Plant Hammond GW6581
Pace Project No.: 2623705

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond GW6581
Pace Project No.: 2623705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623705001	MW-23d	Water	09/26/19 10:25	09/27/19 13:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581
Pace Project No.: 2623705

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623705001	MW-23d	EPA 6010D	KLH	6	PASI-GA
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	MWB	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

Sample: MW-23d		Lab ID: 2623705001		Collected: 09/26/19 10:25		Received: 09/27/19 13:15		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							
Iron	0.17	mg/L	0.040	0.015	1	10/31/19 16:05	11/01/19 01:03	7439-89-6	
Magnesium	35.4	mg/L	0.050	0.011	1	10/31/19 16:05	11/01/19 01:03	7439-95-4	M1
Manganese	9.0	mg/L	0.040	0.0061	1	10/31/19 16:05	11/01/19 01:03	7439-96-5	M1
Phosphorus	0.025J	mg/L	0.050	0.023	1	10/31/19 16:05	11/01/19 01:03	7723-14-0	
Potassium	2.1	mg/L	0.20	0.026	1	10/31/19 16:05	11/01/19 01:03	7440-09-7	
Sodium	13.1	mg/L	1.0	0.19	1	10/31/19 16:05	11/01/19 01:03	7440-23-5	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	216	mg/L	20.0	20.0	1		10/01/19 18:59		
Alkalinity, Total as CaCO ₃	216	mg/L	20.0	20.0	1		10/01/19 18:59		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		09/27/19 20:41		
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		09/30/19 17:44	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/19 16:31		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623705

QC Batch: 37765 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D MET
 Associated Lab Samples: 2623705001

METHOD BLANK: 171372 Matrix: Water

Associated Lab Samples: 2623705001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.040	0.015	11/01/19 00:53	
Magnesium	mg/L	ND	0.050	0.011	11/01/19 00:53	
Manganese	mg/L	ND	0.040	0.0061	11/01/19 00:53	
Phosphorus	mg/L	ND	0.050	0.023	11/01/19 00:53	
Potassium	mg/L	ND	0.20	0.026	11/01/19 00:53	
Sodium	mg/L	ND	1.0	0.19	11/01/19 00:53	

LABORATORY CONTROL SAMPLE: 171373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	1	1.0	103	80-120	
Magnesium	mg/L	1	1.0	104	80-120	
Manganese	mg/L	1	1.0	104	80-120	
Phosphorus	mg/L	1	1.0	104	80-120	
Potassium	mg/L	1	0.99	99	80-120	
Sodium	mg/L	1	1.0	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 171374 171375

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623705001 Result	Spike Conc.	Spike Conc.	Result						
Iron	mg/L	0.17	1	1	1.2	1.2	104	102	75-125	2	20
Magnesium	mg/L	35.4	1	1	36.7	36.1	130	75	75-125	2	20 M1
Manganese	mg/L	9.0	1	1	10.3	10.1	126	110	75-125	2	20 M1
Phosphorus	mg/L	0.025J	1	1	1.1	1.1	107	107	75-125	0	20
Potassium	mg/L	2.1	1	1	3.3	3.3	119	119	75-125	0	20
Sodium	mg/L	13.1	1	1	14.3	14.1	125	100	75-125	2	20

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623705

QC Batch: 36284

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 2623705001

METHOD BLANK: 163853

Matrix: Water

Associated Lab Samples: 2623705001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	20.0	10/01/19 17:35	

LABORATORY CONTROL SAMPLE: 163854

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	98.0	98	85-115	

SAMPLE DUPLICATE: 163855

Parameter	Units	2623635002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	165	164	1	10	

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581

Pace Project No.: 2623705

QC Batch: 36119	Analysis Method: SM 4500-P
QC Batch Method: SM 4500-P	Analysis Description: 4500PE Ortho Phosphorus
Associated Lab Samples: 2623705001	

METHOD BLANK: 163046 Matrix: Water

Associated Lab Samples: 2623705001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	0.020	09/27/19 20:37	

LABORATORY CONTROL SAMPLE: 163047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.5	0.52	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163048 163049

Parameter	Units	163048		163049		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623707001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Orthophosphate as P	mg/L	ND	0.5	0.5	0.50	0.51	100	102	80-120	2	10

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
 Pace Project No.: 2623705

QC Batch: 36187 Analysis Method: SM 4500-S2 D
 QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 2623705001

METHOD BLANK: 163403 Matrix: Water
 Associated Lab Samples: 2623705001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	09/30/19 17:04	

LABORATORY CONTROL SAMPLE: 163404

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163405 163406

Parameter	Units	163405		163406		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623614004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfide	mg/L	ND	0.5	0.5	0.40	0.40	81	80	30-129	1	10

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
 Pace Project No.: 2623705

QC Batch: 575017 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B Dissolved Organic Carbon
 Associated Lab Samples: 2623705001

METHOD BLANK: 3124986 Matrix: Water
 Associated Lab Samples: 2623705001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.50	10/02/19 15:06	

LABORATORY CONTROL SAMPLE: 3124987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	20	19.0	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124988 3124989

Parameter	Units	2623704001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	0.65J	20	20	19.6	19.8	95	96	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3124990 3124991

Parameter	Units	2623708004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	ND	20	20	19.6	19.4	96	96	80-120	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

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QUALIFIERS

Project: Plant Hammond GW6581

Pace Project No.: 2623705

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-GA Pace Analytical Services - Atlanta, GA

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623705001	MW-23d	EPA 3010A	37765	EPA 6010D	37960
2623705001	MW-23d	SM 2320B	36284		
2623705001	MW-23d	SM 4500-P	36119		
2623705001	MW-23d	SM 4500-S2 D	36187		
2623705001	MW-23d	SM 5310B	575017		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

This Chain of Custody is to be used ONLY when it is all info and labels must be completed accurately

Requester Name	Requester Title	Requester Phone	Requester Email
Requester Address	Requester City	Requester State	Requester Zip
Requester Fax	Requester Filing	Requester County	Requester District
Requester Case No.	Requester Case Name	Requester Case Description	Requester Case Status
Requester Case Date	Requester Case Time	Requester Case Location	Requester Case Remarks

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Location	Sample Date	Sample Time	Sample Location	Sample Date	Sample Time
2623705

W0# : 2623705

DATE RECEIVED: 11/19/15

ANALYST: Charles Hart

LABORATORY: ...

DATE SHIPPED: 11/19/15

SHIP TO: ...



Sample Condition Upon Receipt

MO# : 2623705

Client Name: G.A. Powell LLC

PM: [] Due Date: 10/04/10

Client: GSPower-COR

Container: 5 6 15PS 15PS Other Commercial Bio Other
Tracking # _____

Proj. Lab. Name: _____
Proj. Name: _____

Container Seal on Cooler Box Present: Yes No Seal Intact No No

Packing Material: Bubble Wrap Bubble Bags Foam Other _____

Thermometer Used: 214 Type of Spill: None Bio. Name: _____ Samples in the cooling process (not open)

Cooler Temperature: 5.0C Biological Tissues Present: Yes No

Code and initials of person accepting samples: SP-214

Time should be spent allowing to ST: _____ Comments: _____

Chain of Custody Preserved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	1		
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	2		
Chain of Custody Markings Made	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	3		
Sample Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4		
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	5		
Short Hold Time Analyzed (if 2hrs)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	6		
Rush Turn Around Time Requested	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	7		
Sample Volume	<input checked="" type="checkbox"/> 1.0L <input type="checkbox"/> 1.5L <input type="checkbox"/> 2.0L	8		
Cooled Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	9		
Phase Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	10		
Container Intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	11		
Frozen volume received for Delivered Load	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	12		
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	13		
Includes duplicate NDA number	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	14		
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	15		
All containers needing preservation are found to be in compliance with IMA requirements	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	16		
Includes IMA letters, FCC 646, A-0401-1001	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	17	Issues when completed	Lot # of added preservation
Samples checked for decomposition	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA	18		
Historical at NDA noted (if any)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19		
Trip Blank Process	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20		
Trip Blank Quality Survey Process	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	21		
Phase Trip Blank Lot # (if applicable)				

Client Modification/Resolution _____ (Add Time Required) _____

Person Contacted _____ Date/Time _____
Comments/Response _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina (only), a penalty of 100% of the fees will be paid to the North Carolina Department of Environment and Natural Resources, out of sample, without container.



October 22, 2019

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

RE: Project: Plant Hammond GW6581
Pace Project No.: 2623711

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond GW6581
Pace Project No.: 2623711

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623711001	MW-23d	Water	09/26/19 10:25	09/27/19 13:15
2623711002	FD-02	Water	09/26/19 00:00	09/27/19 13:15

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SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623711001	MW-23d	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2623711002	FD-02	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Sample: MW-23d **Lab ID: 2623711001** Collected: 09/26/19 10:25 Received: 09/27/19 13:15 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • Sample collection time on containers does not match COC; client was notified.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.512 ± 0.198 (0.263) C:95% T:NA	pCi/L	10/14/19 19:10	13982-63-3	
Radium-228	EPA 9320	0.741 ± 0.461 (0.881) C:77% T:85%	pCi/L	10/16/19 11:10	15262-20-1	
Total Radium	Total Radium Calculation	1.25 ± 0.659 (1.14)	pCi/L	10/18/19 11:04	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.331 ± 0.157 (0.216) C:87% T:NA	pCi/L	10/14/19 19:10	13982-63-3	
Radium-228	EPA 9320	0.214 ± 0.353 (0.767) C:76% T:93%	pCi/L	10/16/19 11:10	15262-20-1	
Total Radium	Total Radium Calculation	0.545 ± 0.510 (0.983)	pCi/L	10/18/19 11:04	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

QC Batch: 365001 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Associated Lab Samples: 2623711001, 2623711002

METHOD BLANK: 1770530 Matrix: Water

Associated Lab Samples: 2623711001, 2623711002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.564 ± 0.187 (0.181) C:94% T:NA	pCi/L	10/14/19 19:10	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond GW6581

Pace Project No.: 2623711

QC Batch:	365002	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
Associated Lab Samples:	2623711001, 2623711002		

METHOD BLANK: 1770531 Matrix: Water

Associated Lab Samples: 2623711001, 2623711002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.538 ± 0.357 (0.676) C:80% T:85%	pCi/L	10/16/19 11:11	

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

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QUALIFIERS

Project: Plant Hammond GW6581
Pace Project No.: 2623711

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581

Pace Project No.: 2623711

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623711001	MW-23d	EPA 9315	365001		
2623711002	FD-02	EPA 9315	365001		
2623711001	MW-23d	EPA 9320	365002		
2623711002	FD-02	EPA 9320	365002		
2623711001	MW-23d	Total Radium Calculation	366903		
2623711002	FD-02	Total Radium Calculation	366903		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All pertinent labels must be clearly marked and legible.

Section 4
Individual Client Information

Company: [Redacted]
Account No.: [Redacted]
Address: [Redacted]
City/State/Zip: [Redacted]

Section 5
Request/Request Description

Request No.: [Redacted]
Request Description: [Redacted]

Section 6
Sample Information

Sample ID: [Redacted]
Sample Description: [Redacted]

Section 7
Sample Collection/Preparation

Collector: [Redacted]
Date/Time: [Redacted]
Location: [Redacted]

Section 8
Packaging/Storage

Container: [Redacted]
Quantity: [Redacted]

Section 9
Transportation

Method: [Redacted]
Temperature: [Redacted]

Section 10
Delivery/Receipt

Date/Time: [Redacted]
Signature: [Redacted]

Section 11
Analytical Results Summary

Parameter	Results	
	Method	Value
Lead	mg/l	[Redacted]
Copper	mg/l	[Redacted]
Cadmium	mg/l	[Redacted]
Mercury	mg/l	[Redacted]
Chromium	mg/l	[Redacted]
Iron	mg/l	[Redacted]
Manganese	mg/l	[Redacted]
Nickel	mg/l	[Redacted]
Silver	mg/l	[Redacted]
Zinc	mg/l	[Redacted]
Vanadium	mg/l	[Redacted]
Selenium	mg/l	[Redacted]
Cobalt	mg/l	[Redacted]
Barium	mg/l	[Redacted]
Strontium	mg/l	[Redacted]
Molybdenum	mg/l	[Redacted]
Fluoride	mg/l	[Redacted]
Bromine	mg/l	[Redacted]
Iodine	mg/l	[Redacted]
Sulfate	mg/l	[Redacted]
Chloride	mg/l	[Redacted]
Total Solids	mg/l	[Redacted]
Dissolved Solids	mg/l	[Redacted]
Total Hardness	mg/l	[Redacted]
Calcium Hardness	mg/l	[Redacted]
Magnesium Hardness	mg/l	[Redacted]

LAB#: 2623711

Page 1 of 2



Client Name: C. A. Power

PN: 88

Due Date: 10/25/10

CLIENT: GP Power-COR

Counter: FedEx UPS USPS Other Commercial Private

Tracking #: _____

Print Due Date: _____
Print Name: _____

Custody Seal on Container Present: High No Seal Seal Not Intact No

Packing Material: Bubble Wrap Bubble Bags Foam Other _____

Freezer/Insulation Used: 214 Type of Ice: Dry None

Samples in all cooling packs fully frozen

Cooler Temperature: 5.0°C

Biological Threats as Fraction: _____

Date and initials of person receiving samples: 9/27/10

Temp should be above freezing & C

Comments

Chain of Custody Present	<u>Yes</u>	<u>10/25/10</u>	1	
Chain of Custody Filled Out	<u>Yes</u>	<u>10/25/10</u>	2	
Chain of Custody Rebalanced	<u>Yes</u>	<u>10/25/10</u>	3	
Sampler Name & Signature on COC	<u>Yes</u>	<u>10/25/10</u>	4	
Samples Arrived within Hold Time	<u>Yes</u>	<u>10/25/10</u>	5	
Short Hold Time Analysis (if any)	<u>Yes</u>	<u>10/25/10</u>	6	
Warm Up Arrived Time Requested	<u>Yes</u>	<u>10/25/10</u>	7	
Sufficient Volume	<u>Yes</u>	<u>10/25/10</u>	8	
Correct Containers Used	<u>Yes</u>	<u>10/25/10</u>	9	
Place Containers Used	<u>Yes</u>	<u>10/25/10</u>		
Containers Intact	<u>Yes</u>	<u>10/25/10</u>	10	
Filled volume received for Analysis	<u>Yes</u>	<u>10/25/10</u>	11	
Sample Labels match COC	<u>Yes</u>	<u>10/25/10</u>	12	
Includes (duration of) Analysis	<u>None</u>			
All containers used (if present) volume is being checked	<u>Yes</u>	<u>10/25/10</u>	13	
All containers requiring preservation are found to be in compliance with IATA recommendations	<u>Yes</u>	<u>10/25/10</u>		
Accession, vol. info - 100, 0.5, 10, 0.5, 100	<u>Yes</u>	<u>10/25/10</u>		
Samples checked for identification	<u>Yes</u>	<u>10/25/10</u>	14	
Inspected in vials (if present)	<u>Yes</u>	<u>10/25/10</u>	15	
Top Back Present	<u>Yes</u>	<u>10/25/10</u>	16	
Top Blank Custody Seals Present	<u>Yes</u>	<u>10/25/10</u>		
Page Top Blank Lot # (if purchased)				

Clear Notification Resolution

Fast Data Return

Person Contacted: _____ Date/Time: _____

Comments Resolution

Project Manager Review

Date: _____



December 13, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623746

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623746

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2623746

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623746001	MW-22	Water	09/27/19 10:55	09/30/19 12:39

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2623746

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2623746001	MW-22	EPA 6020B	CSW	13
		SM 2540C	ALW	1
		EPA 300.0	MWB	3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623746

Sample: MW-22		Lab ID: 2623746001		Collected: 09/27/19 10:55		Received: 09/30/19 12:39		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.00045J	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 15:19	7440-38-2		
Barium	0.028	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 15:19	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 15:19	7440-41-7		
Boron	2.9	mg/L	2.0	0.25	50	10/03/19 17:28	10/05/19 15:25	7440-42-8		
Cadmium	0.0014J	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 15:19	7440-43-9		
Calcium	202	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 15:25	7440-70-2		
Chromium	0.00040J	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 15:19	7440-47-3		
Cobalt	0.035	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 15:19	7440-48-4		
Lead	0.00010J	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 15:19	7439-92-1		
Lithium	0.0013J	mg/L	0.030	0.00078	1	10/03/19 17:28	10/05/19 15:19	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	10/03/19 17:28	10/05/19 15:19	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 15:19	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 15:19	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1110	mg/L	10.0	10.0	1		10/03/19 20:31			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	176	mg/L	25.0	0.60	25		10/07/19 19:58	16887-00-6		
Fluoride	0.28J	mg/L	0.30	0.029	1		10/07/19 15:22	16984-48-8		
Sulfate	520	mg/L	25.0	0.42	25		10/07/19 19:58	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623746

QC Batch: 36434 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2623746001

METHOD BLANK: 164547 Matrix: Water

Associated Lab Samples: 2623746001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	10/05/19 14:53	
Barium	mg/L	ND	0.010	0.00049	10/05/19 14:53	
Beryllium	mg/L	ND	0.0030	0.000074	10/05/19 14:53	
Boron	mg/L	ND	0.040	0.0049	10/05/19 14:53	
Cadmium	mg/L	ND	0.0025	0.00011	10/05/19 14:53	
Calcium	mg/L	ND	0.10	0.011	10/05/19 14:53	
Chromium	mg/L	ND	0.010	0.00039	10/05/19 14:53	
Cobalt	mg/L	ND	0.0050	0.00030	10/05/19 14:53	
Lead	mg/L	ND	0.0050	0.000046	10/05/19 14:53	
Lithium	mg/L	ND	0.030	0.00078	10/05/19 14:53	
Molybdenum	mg/L	ND	0.010	0.00095	10/05/19 14:53	
Selenium	mg/L	ND	0.010	0.0013	10/05/19 14:53	
Thallium	mg/L	ND	0.0010	0.000052	10/05/19 14:53	

LABORATORY CONTROL SAMPLE: 164548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.10	100	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.10	101	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Calcium	mg/L	1	0.99	99	80-120	
Chromium	mg/L	0.1	0.10	101	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.10	101	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164549 164550

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623793002	Spike Conc.	Spike Conc.	Result								
Arsenic	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	4	20		
Barium	mg/L	0.042	0.1	0.1	0.14	0.14	103	99	75-125	3	20		
Beryllium	mg/L	ND	0.1	0.1	0.10	0.099	103	99	75-125	4	20		

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

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623746

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164549		164550		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623793002 Result	MS Spike Conc.	MSD Spike Conc.									
Boron	mg/L	0.025J	1	1	1.1	1.0	103	100	75-125	4	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	104	101	75-125	3	20		
Calcium	mg/L	17.6	1	1	19.5	20.2	188	260	75-125	4	20	M6	
Chromium	mg/L	ND	0.1	0.1	0.11	0.10	106	101	75-125	5	20		
Cobalt	mg/L	0.00042J	0.1	0.1	0.10	0.097	102	96	75-125	6	20		
Lead	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20		
Lithium	mg/L	0.011	0.1	0.1	0.12	0.11	108	102	75-125	5	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.10	106	103	75-125	3	20		
Selenium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	4	20		
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20		

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

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623746

QC Batch: 36464 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2623746001

LABORATORY CONTROL SAMPLE: 164734

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 164735

Parameter	Units	2623714002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13.0	ND		10	

SAMPLE DUPLICATE: 164763

Parameter	Units	2623696005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	275	262	5	10	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623746

QC Batch: 36548 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623746001

METHOD BLANK: 165133 Matrix: Water

Associated Lab Samples: 2623746001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.033J	1.0	0.024	10/07/19 12:57	
Fluoride	mg/L	ND	0.30	0.029	10/07/19 12:57	
Sulfate	mg/L	ND	1.0	0.017	10/07/19 12:57	

LABORATORY CONTROL SAMPLE: 165134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.6	106	90-110	
Fluoride	mg/L	10	10.5	105	90-110	
Sulfate	mg/L	10	10.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165135 165136

Parameter	Units	2623738001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	138	200	200	338	335	100	98	90-110	1	15	
Fluoride	mg/L	2.0	200	200	207	205	102	101	90-110	1	15	
Sulfate	mg/L	ND	200	200	250	248	102	101	90-110	1	15	

MATRIX SPIKE SAMPLE: 165137

Parameter	Units	2623745001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	110	200	316	103	90-110	
Fluoride	mg/L	2.0J	200	211	104	90-110	
Sulfate	mg/L	557	200	717	80	90-110 M6	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2623746

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2623746

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623746001	MW-22	EPA 3005A	36434	EPA 6020B	36455
2623746001	MW-22	SM 2540C	36464		
2623746001	MW-22	EPA 300.0	36548		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a PDF document that is returned with you if all items are completed accurately

Section 1: Personal and Sample Information

Case No: _____
 Sample ID: _____
 Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Phone: _____
 Fax: _____

Section 2: Sample Information

Sample Description: _____
 Quantity: _____
 Container: _____
 Material: _____
 Date Collected: _____
 Collector: _____
 Location: _____

Section 3: Testing Information

Requested Test(s): _____
 Reference Method: _____
 Laboratory: _____
 Analyst: _____

CHAIN OF CUSTODY

No.	Date	Name	Signature	Title	Organization	Use of Sample	Disposition

WC# : 2623746

2623746

Section 4: Additional Information

Notes: _____
 Date: _____
 Signature: _____
 Title: _____
 Organization: _____



Sample Condition Upon Receipt

Client Name GEA Power

Project # _____

WOR: 2623746

Carrier: Fed Ex UPS USPS Client Commercial Face Other
Tracking #: _____

PI: 88 Due Date: 10/07/19
CLIENT: GE Power - COE

Custody Seal on Cooler/Box Present: Yes No Seal intact: Yes

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: 2-3 Type of Ice: dry Blue Ice: Samples or ice cooling process has begun

Cooler Temperature: 2-9 Biological Threat: H Protein: M A

Temp should be above freezing to B/C Comments:

Date and initials of person receiving contents: <u>9/20/19</u> <u>AK</u>
--

Chain of Custody Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	1
Chain of Custody Filled Out	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	2
Chain of Custody Maintained	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	3
Sample Name & Signature of COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	4
Samples Arrived within Hold Time	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	5
Short Hold Time Analysis (<72hrs)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	6
Rough Turn Around Time Requested	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	7
Sufficient Volume	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	8
Correct Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	9
Face Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	
Containers Intact	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	10
Filled volume received for described seal	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	11
Sample Labels match COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	12
Includes appropriate analysis Matrix	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	
All containers meeting protocol on hand upon receipt	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	13
All containers meeting preservation are found to be in compliance with EPA recommendation	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	
Excursion VOA below TDC OGC H-0000000000	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	
Samples checked for decontamination	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	14
Handspace in VOA Vials (L-0000)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	15
Tri Blank Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	16
Tri Blank Custody Seals Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	
Place Tri Blank Lot # (if purchased)				

Client Notification/Resolution _____ Field Date Received: _____ Y | M | D

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 DCE/HR Certification Office (i.e. out of hold, account, preservative, out of temp, unsealed containers)



October 29, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623747

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2623747

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2623747

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623747001	MW-22	Water	09/27/19 10:55	09/30/19 12:39

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2623747

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623747001	MW-22	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623747

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.493 ± 0.278 (0.328) C:96% T:NA	pCi/L	10/16/19 08:26	13982-63-3	
Radium-228	EPA 9320	0.942 ± 0.648 (1.26) C:70% T:83%	pCi/L	10/22/19 14:24	15262-20-1	
Total Radium	Total Radium Calculation	1.44 ± 0.926 (1.59)	pCi/L	10/23/19 10:22	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623747

QC Batch: 365558

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Associated Lab Samples: 2623747001

METHOD BLANK: 1773085

Matrix: Water

Associated Lab Samples: 2623747001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.522 ± 0.298 (0.379) C:86% T:NA	pCi/L	10/16/19 07:53	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond

Pace Project No.: 2623747

QC Batch: 365559

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Associated Lab Samples: 2623747001

METHOD BLANK: 1773086

Matrix: Water

Associated Lab Samples: 2623747001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0794 ± 0.355 (0.809) C:69% T:86%	pCi/L	10/22/19 14:24	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2623747

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2623747

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623747001	MW-22	EPA 9315	365558		
2623747001	MW-22	EPA 9320	365559		
2623747001	MW-22	Total Radium Calculation	367488		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a U.S. Lab. Document. All witness fields must be completed for validity.

Section A: Requester Information
 Requester Name: [Redacted]
 Requester Title: [Redacted]
 Requester Address: [Redacted]
 Requester Phone: [Redacted]
 Requester Email: [Redacted]

Section B: Requested Product Information
 Product Name: [Redacted]
 Product Description: [Redacted]
 Product Quantity: [Redacted]

Section C: Laboratory Information
 Lab Name: [Redacted]
 Lab Address: [Redacted]
 Lab Phone: [Redacted]
 Lab Email: [Redacted]

Section D: Sample Information
 Sample ID: [Redacted]
 Sample Description: [Redacted]
 Sample Quantity: [Redacted]

Section	Field	Value
Section E: Chain of Custody	Initials	[Redacted]
	Date	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
	Signature	[Redacted]
Section F: Analytical Request	Requester Name	[Redacted]
	Requester Title	[Redacted]
	Requester Address	[Redacted]
	Requester Phone	[Redacted]
	Requester Email	[Redacted]
	Product Name	[Redacted]
	Product Description	[Redacted]
	Product Quantity	[Redacted]
	Product Source	[Redacted]
	Product Date	[Redacted]

WON: 2623747



Handwritten notes: [Redacted]

Section G: Laboratory Information
 Lab Name: [Redacted]
 Lab Address: [Redacted]
 Lab Phone: [Redacted]
 Lab Email: [Redacted]

Section H: Sample Information
 Sample ID: [Redacted]
 Sample Description: [Redacted]
 Sample Quantity: [Redacted]

Section I: Chain of Custody
 Initials: [Redacted]
 Date: [Redacted]
 Signature: [Redacted]

Sample Condition Upon Receipt

Face Analytical

Client Name: W.A. Power

Project # _____

WO# : 2623747

Container Fed Ex UPS USPS Other Commercial Face Other _____

Tracking #: _____

PI: 01

Due Date: 10/20/10

Custody Seal on Container/Seal Present Yes No Seal Mark Yes

CLIENT: GSP/Power-COR

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 2.9 Type of Ice: dry Dry None Samples on ice cooling process not begun

Cooler Temperature 2.9
Temp should be above freezing at 0°C

Biological Threat is Frozen Yes No
Comments: _____

Date and initials of person examining contents: 9/30/10 MK

Chain of Custody Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	1		
Chain of Custody Filled Out	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	2		
Chain of Custody Requisitioned	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	3		
Sampler Name & Signature on COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	4		
Sample Arrives within Hold Time	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	5		
Short Hold Time Analysis (12hr)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	6		
Rush Turn Around Time Requested	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	7		
Sufficient Volume	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	8		
Contact Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	9		
Face Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>			
Containers Intact	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	10		
Filled volume received for Delivered units	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	11		
Sample Labels match COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	12		
- Includes date/time of Analysis	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>			
All containers, sealing, preservation have been checked	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	13		
All containers, sealing, preservation are found to be in compliance with EPA recommendation	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>			
Sealing: Yes (within 100, 0.01, 0.010, 0.010)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>		Initials when completed	Date of added preservation
Samples checked for dechlorination	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	14		
Transmittance in WGA Vials (< 50mm)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	15		
Trip Blank Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	16		
Trip Blank Custody Seal Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>			
Face Trip Blank 1 of 3 (if purchased)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>			

Client Notification Resolution: _____ Field Delivered? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy after 14g Home Care compliance sampling, a copy of this form will be sent to the North Carolina OLHHS Certification Office (i.e. out of field, in) and preserved out of temp. in sealed container.



October 07, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2623750

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2623750

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174

Alaska DEC- CS/UST/LUST

Alabama Certification #: 41320

Arizona Certification# AZ0819

Colorado Certification: FL NELAC Reciprocity

Connecticut Certification #: PH-0216

Delaware Certification: FL NELAC Reciprocity

Florida Certification #: E83079

Georgia Certification #: 955

Guam Certification: FL NELAC Reciprocity

Hawaii Certification: FL NELAC Reciprocity

Illinois Certification #: 200068

Indiana Certification: FL NELAC Reciprocity

Kansas Certification #: E-10383

Kentucky Certification #: 90050

Louisiana Certification #: FL NELAC Reciprocity

Louisiana Environmental Certificate #: 05007

Maryland Certification: #346

Michigan Certification #: 9911

Mississippi Certification: FL NELAC Reciprocity

Missouri Certification #: 236

Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14

New Hampshire Certification #: 2958

New Jersey Certification #: FL022

New York Certification #: 11608

North Carolina Environmental Certificate #: 667

North Carolina Certification #: 12710

North Dakota Certification #: R-216

Oklahoma Certification #: D9947

Pennsylvania Certification #: 68-00547

Puerto Rico Certification #: FL01264

South Carolina Certification: #96042001

Tennessee Certification #: TN02974

Texas Certification: FL NELAC Reciprocity

US Virgin Islands Certification: FL NELAC Reciprocity

Virginia Environmental Certification #: 460165

West Virginia Certification #: 9962C

Wisconsin Certification #: 399079670

Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2623750

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623750001	MW-22	Water	09/27/19 10:55	09/30/19 12:39

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2623750

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623750001	MW-22	EPA 6010D	KLH	6	PASI-GA
		SM 2320B	S1A	2	PASI-GA
		SM 4500-P	JAD	1	PASI-GA
		SM 4500-S2 D	KN	1	PASI-GA
		SM 5310B	SA1	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2623750

Sample: MW-22		Lab ID: 2623750001		Collected: 09/27/19 10:55		Received: 09/30/19 12:39		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							
Iron	0.66	mg/L	0.040	0.015	1	10/02/19 13:49	10/06/19 16:25	7439-89-6	
Magnesium	46.3	mg/L	0.050	0.011	1	10/02/19 13:49	10/06/19 16:25	7439-95-4	M1
Manganese	16.7	mg/L	0.040	0.0061	1	10/02/19 13:49	10/06/19 16:25	7439-96-5	M1
Phosphorus	0.054	mg/L	0.050	0.023	1	10/02/19 13:49	10/06/19 16:25	7723-14-0	
Potassium	1.0	mg/L	0.20	0.026	1	10/02/19 13:49	10/06/19 16:25	7440-09-7	
Sodium	15.0	mg/L	1.0	0.19	1	10/02/19 13:49	10/06/19 16:25	7440-23-5	M1
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Bicarbonate (CaCO ₃)	93.0	mg/L	20.0	20.0	1		10/03/19 14:24		
Alkalinity, Total as CaCO ₃	93.0	mg/L	20.0	20.0	1		10/03/19 14:24		
4500PE Ortho Phosphorus		Analytical Method: SM 4500-P							
Orthophosphate as P	ND	mg/L	0.020	0.020	1		10/01/19 15:37		H3
4500S2D Sulfide Water		Analytical Method: SM 4500-S2 D							
Sulfide	ND	mg/L	0.20	0.20	1		10/03/19 13:49	18496-25-8	
5310B Dissolved Organic Carbon		Analytical Method: SM 5310B							
Dissolved Organic Carbon	ND	mg/L	1.0	0.50	1		10/04/19 09:43		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623750

QC Batch: 36332 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D MET
 Associated Lab Samples: 2623750001

METHOD BLANK: 164020 Matrix: Water

Associated Lab Samples: 2623750001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.040	0.015	10/06/19 16:06	
Magnesium	mg/L	ND	0.050	0.011	10/06/19 16:06	
Manganese	mg/L	ND	0.040	0.0061	10/06/19 16:06	
Phosphorus	mg/L	ND	0.050	0.023	10/06/19 16:06	
Potassium	mg/L	ND	0.20	0.026	10/06/19 16:06	
Sodium	mg/L	ND	1.0	0.19	10/06/19 16:06	

LABORATORY CONTROL SAMPLE: 164021

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	1	0.96	96	80-120	
Magnesium	mg/L	1	0.98	98	80-120	
Manganese	mg/L	1	0.96	96	80-120	
Phosphorus	mg/L	1	1.0	102	80-120	
Potassium	mg/L	1	1.0	103	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164022 164023

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623750001 Result	Spike Conc.	Spike Conc.	Result						
Iron	mg/L	0.66	1	1	1.7	1.7	105	100	75-125	3	20
Magnesium	mg/L	46.3	1	1	50.2	48.4	389	209	75-125	4	20 M1
Manganese	mg/L	16.7	1	1	18.6	17.7	189	101	75-125	5	20 M1
Phosphorus	mg/L	0.054	1	1	1.1	1.1	109	109	75-125	0	20
Potassium	mg/L	1.0	1	1	2.3	2.2	122	113	75-125	4	20
Sodium	mg/L	15.0	1	1	16.8	16.3	184	131	75-125	3	20 M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623750

QC Batch: 36366 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 2623750001

METHOD BLANK: 164227 Matrix: Water

Associated Lab Samples: 2623750001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	20.0	20.0	10/03/19 11:56	

LABORATORY CONTROL SAMPLE: 164228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	100	96.0	96	85-115	

SAMPLE DUPLICATE: 164468

Parameter	Units	2623706006 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	173	172	1	10	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623750

QC Batch: 36245	Analysis Method: SM 4500-P
QC Batch Method: SM 4500-P	Analysis Description: 4500PE Ortho Phosphorus
Associated Lab Samples: 2623750001	

METHOD BLANK: 163688 Matrix: Water

Associated Lab Samples: 2623750001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.020	0.020	10/01/19 15:34	

LABORATORY CONTROL SAMPLE: 163689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.5	0.52	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163690 163691

Parameter	Units	163690		163691		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623750001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Orthophosphate as P	mg/L	ND	0.5	0.5	0.50	0.51	100	101	80-120	2	10 H3

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2623750

QC Batch: 36416 Analysis Method: SM 4500-S2 D
 QC Batch Method: SM 4500-S2 D Analysis Description: 4500S2D Sulfide Water
 Associated Lab Samples: 2623750001

METHOD BLANK: 164448 Matrix: Water
 Associated Lab Samples: 2623750001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.20	0.20	10/03/19 13:40	

LABORATORY CONTROL SAMPLE: 164449

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.43	87	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164450 164451

Parameter	Units	2623698001 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	ND	ND	17	15	30-129		10	M1

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2623750

QC Batch: 575346

Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Analysis Description: 5310B Dissolved Organic Carbon

Associated Lab Samples: 2623750001

METHOD BLANK: 3126906

Matrix: Water

Associated Lab Samples: 2623750001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dissolved Organic Carbon	mg/L	ND	1.0	0.50	10/04/19 06:33	

LABORATORY CONTROL SAMPLE: 3126907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dissolved Organic Carbon	mg/L	20	18.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3126908 3126909

Parameter	Units	2623752004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dissolved Organic Carbon	mg/L	1.8	20	20	21.1	20.9	97	96	80-120	1	20	

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2623750

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-GA Pace Analytical Services - Atlanta, GA

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

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

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2623750

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623750001	MW-22	EPA 3010A	36332	EPA 6010D	36376
2623750001	MW-22	SM 2320B	36366		
2623750001	MW-22	SM 4500-P	36245		
2623750001	MW-22	SM 4500-S2 D	36416		
2623750001	MW-22	SM 5310B	575346		

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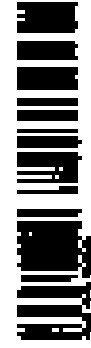
CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody at a US EPA, USEPA, and/or MDEQ site. All relevant fields must be completed accurately.

Section A Requested Client Information Agency: <u>US EPA</u> Project Name: <u>...</u> Requested For Use: <u>...</u>		Section B Requested Project Information Project No.: <u>...</u> Location: <u>...</u> Date: <u>...</u>		Section C Analytical Information Analytical Method: <u>...</u> Matrix: <u>...</u> Date: <u>...</u>	
Section D Requested For Use Requested For Use: <u>...</u> Date: <u>...</u>		Section E Chain of Custody Name: <u>...</u> Title: <u>...</u> Date: <u>...</u>		Section F Laboratory Information Laboratory Name: <u>...</u> Address: <u>...</u> Phone: <u>...</u>	

SAMPLE ID	DESCRIPTION	DATE	TIME	LOCATION	ANALYST	METHOD	COLLECTOR		PRESERVATION	STORAGE	HANDLING	REMARKS
							INITIALS	SIGNATURE				
MWD-22
<p>NO SAMPLES COLLECTED</p> <p>Reason: <u>...</u></p>												

WON: 2623750



Laboratory: ...
 Date: ...
 Analyst: ...
 Signature: ...
 Date: ...



Sample Collection Upon Receipt

Client Name: GCA Power

Project # _____

WO# : 2623750

Carrier: Fed Ex UPS USPS Other Commercial Pace Other
Tracking # _____

PR. # _____ Due Date: 10/07/19

Custody Seal on Coolbox Present: Yes No Seal Intact: Yes

CLIENT: GCA Power-DC

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: 2.9 Type of Ice: Blue None Samples on ice cooling process not begun

Cooler Temperature: 2.9 Biological Threats Frozen: Yes No
Temp should be above freezing to I/C

Date and initials of person receiving contents: 9/30/19 [Signature]

Chain of Custody Present	<u>YES</u>	Chk	1
Chain of Custody Filled Out	<u>YES</u>	Chk	2
Chain of Custody Rekeyed/checked	<u>YES</u>	Chk	3
Sample Matrix & Signature on COC	<u>YES</u>	Chk	4
Samples Arrived within Hold Time	<u>YES</u>	Chk	5
Short Hold Time Analysis (<2hrs)	<u>YES</u>	Chk	6
Rush Turn Around Time Requested	<u>NO</u>	Chk	7
Sufficient Volume	<u>YES</u>	Chk	8
Correct Containers Used	<u>YES</u>	Chk	9
-Pace Containers Used	<u>YES</u>	Chk	9
Containers Inspected	<u>YES</u>	Chk	10
Filtered volume received for O&G loved cells	<u>YES</u>	Chk	11
Sample labels match COC	<u>YES</u>	Chk	12
-includes instrument ID/analysis type	<u>YES</u>	Chk	12
All containers needing preservation have been checked	<u>YES</u>	Chk	13
All containers needing preservation are found to be in compliance with EPA recommendation	<u>YES</u>	Chk	13
Inspections: VOA, radon, TOC, O&G, radon, radon	<u>NO</u>	Chk	14
Samples checked for decontamination	<u>YES</u>	Chk	14
Headspace in VOA Vials (< 50mm)	<u>YES</u>	Chk	15
Trip Blank Present	<u>YES</u>	Chk	16
Trip Blank Custody Seals Present	<u>YES</u>	Chk	16
Pace Trip Blank Lot # (if purchased)			

Client Notification/Resolution: _____ Field Copy Returned? Yes No

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 DEQ/HEP Compliance Office (1118 - out of hold - incensed preservatives, out of temp, no/incorrect containers)



April 21, 2020

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

RE: Project: HAMMOND AP-2 PMW NON-ROUTINE
Pace Project No.: 2630862

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between April 09, 2020 and April 13, 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.



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CERTIFICATIONS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

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

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SAMPLE SUMMARY

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630862001	PMW-03	Water	04/08/20 12:01	04/09/20 10:33
2630862002	PMW-04 FILTERED	Water	04/10/20 15:50	04/13/20 10:11
2630862003	PMW-04	Water	04/10/20 15:22	04/13/20 10:11

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630862001	PMW-03	EPA 6010D	DRB	5	PASI-GA
		EPA 6020B	CSW	14	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C	KN	1	PASI-GA
		SM 4500-S2D-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630862002	PMW-04 FILTERED	EPA 6010D	DRB	5	PASI-GA
		EPA 6020B	KLH	14	PASI-GA
		EPA 7470A	VHB	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C	TC1	1	PASI-GA
		SM 4500-S2D-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630862003	PMW-04	EPA 6010D	DRB	5	PASI-GA
		EPA 6020B	KLH	14	PASI-GA
		EPA 7470A	VHB	1	PASI-GA
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C	TC1	1	PASI-GA
		SM 4500-S2D-2011	MJP	1	PASI-A
		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-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2630862001	PMW-03					
	Field pH	5.59	Std. Units		04/09/20 14:58	
EPA 6010D	Calcium	230	mg/L	1.0	04/16/20 17:25	
EPA 6010D	Magnesium	30.8	mg/L	0.050	04/16/20 17:25	
EPA 6010D	Manganese	1.5	mg/L	0.040	04/16/20 17:25	
EPA 6010D	Potassium	27.8	mg/L	0.20	04/16/20 17:25	
EPA 6010D	Sodium	12.1	mg/L	1.0	04/16/20 17:25	
EPA 6020B	Antimony	0.00043J	mg/L	0.0030	04/13/20 16:54	
EPA 6020B	Arsenic	0.24	mg/L	0.0050	04/13/20 16:54	
EPA 6020B	Barium	0.045	mg/L	0.010	04/13/20 16:54	
EPA 6020B	Beryllium	0.00048J	mg/L	0.0030	04/13/20 16:54	
EPA 6020B	Boron	2.4	mg/L	0.10	04/13/20 16:54	
EPA 6020B	Cadmium	0.00029J	mg/L	0.0025	04/13/20 16:54	
EPA 6020B	Cobalt	0.12	mg/L	0.0050	04/13/20 16:54	
EPA 6020B	Iron	108	mg/L	2.0	04/14/20 15:50	
EPA 6020B	Lead	0.00023J	mg/L	0.0050	04/13/20 16:54	
EPA 6020B	Lithium	0.094	mg/L	0.030	04/13/20 16:54	
EPA 6020B	Molybdenum	0.028	mg/L	0.010	04/13/20 16:54	
EPA 6020B	Thallium	0.0037	mg/L	0.0010	04/13/20 16:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	32.5	mg/L	5.0	04/15/20 15:30	
SM 2320B-2011	Alkalinity, Total as CaCO3	32.5	mg/L	5.0	04/15/20 15:30	M1
SM 2540C	Total Dissolved Solids	1300	mg/L	10.0	04/14/20 17:50	
EPA 300.0 Rev 2.1 1993	Chloride	39.0	mg/L	1.0	04/15/20 00:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.34	mg/L	0.30	04/15/20 00:15	M1
EPA 300.0 Rev 2.1 1993	Sulfate	920	mg/L	15.0	04/15/20 10:33	M6
2630862002	PMW-04 FILTERED					
	Field pH	7.99	Std. Units		04/13/20 13:34	
EPA 6010D	Calcium	351	mg/L	10.0	04/16/20 10:48	
EPA 6010D	Magnesium	32.0	mg/L	0.050	04/15/20 17:00	
EPA 6010D	Manganese	0.22	mg/L	0.040	04/15/20 17:00	
EPA 6010D	Potassium	11.8	mg/L	0.20	04/15/20 17:00	
EPA 6010D	Sodium	21.0	mg/L	1.0	04/15/20 17:00	
EPA 6020B	Antimony	0.0040	mg/L	0.0030	04/15/20 16:16	
EPA 6020B	Arsenic	0.88	mg/L	0.0050	04/15/20 16:16	
EPA 6020B	Barium	0.10	mg/L	0.010	04/15/20 16:16	
EPA 6020B	Boron	14.9	mg/L	1.0	04/16/20 13:21	
EPA 6020B	Cadmium	0.0026	mg/L	0.0025	04/15/20 16:16	
EPA 6020B	Cobalt	0.00074J	mg/L	0.0050	04/15/20 16:16	
EPA 6020B	Iron	0.93	mg/L	0.040	04/15/20 16:16	
EPA 6020B	Lithium	0.077	mg/L	0.030	04/15/20 16:16	
EPA 6020B	Molybdenum	6.4	mg/L	0.10	04/16/20 13:21	
EPA 6020B	Thallium	0.00015J	mg/L	0.0010	04/15/20 16:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	04/15/20 15:46	
SM 2320B-2011	Alkalinity, Total as CaCO3	112	mg/L	5.0	04/15/20 15:46	
SM 2540C	Total Dissolved Solids	1580	mg/L	10.0	04/16/20 11:57	
EPA 300.0 Rev 2.1 1993	Chloride	34.1	mg/L	1.0	04/15/20 00:57	
EPA 300.0 Rev 2.1 1993	Fluoride	1.6	mg/L	0.30	04/15/20 00:57	
EPA 300.0 Rev 2.1 1993	Sulfate	894	mg/L	16.0	04/15/20 11:56	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 PMW NON-ROUTINE
 Pace Project No.: 2630862

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630862003	PMW-04					
	Field pH	7.99	Std. Units		04/13/20 13:34	
EPA 6010D	Calcium	362	mg/L	10.0	04/16/20 10:52	M6
EPA 6010D	Magnesium	33.0	mg/L	0.050	04/15/20 17:10	M1
EPA 6010D	Manganese	0.25	mg/L	0.040	04/15/20 17:10	
EPA 6010D	Potassium	15.4	mg/L	0.20	04/15/20 17:10	M1
EPA 6010D	Sodium	22.8	mg/L	1.0	04/15/20 17:10	
EPA 6020B	Antimony	0.0056	mg/L	0.0030	04/15/20 16:21	
EPA 6020B	Arsenic	0.88	mg/L	0.0050	04/15/20 16:21	
EPA 6020B	Barium	0.40	mg/L	0.010	04/15/20 16:21	
EPA 6020B	Beryllium	0.0029J	mg/L	0.0030	04/15/20 16:21	
EPA 6020B	Boron	15.4	mg/L	1.0	04/16/20 13:27	
EPA 6020B	Cadmium	0.0027	mg/L	0.0025	04/15/20 16:21	
EPA 6020B	Chromium	0.016	mg/L	0.010	04/15/20 16:21	
EPA 6020B	Cobalt	0.0096	mg/L	0.0050	04/15/20 16:21	
EPA 6020B	Iron	5.4	mg/L	0.040	04/15/20 16:21	
EPA 6020B	Lead	0.017	mg/L	0.0050	04/15/20 16:21	
EPA 6020B	Lithium	0.083	mg/L	0.030	04/15/20 16:21	
EPA 6020B	Molybdenum	6.6	mg/L	0.10	04/16/20 13:27	
EPA 6020B	Selenium	0.0045J	mg/L	0.010	04/15/20 16:21	
EPA 6020B	Thallium	0.00097J	mg/L	0.0010	04/15/20 16:21	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	04/15/20 15:55	
SM 2320B-2011	Alkalinity, Total as CaCO3	109	mg/L	5.0	04/15/20 15:55	
SM 2540C	Total Dissolved Solids	1420	mg/L	10.0	04/16/20 11:58	
EPA 300.0 Rev 2.1 1993	Chloride	34.9	mg/L	1.0	04/15/20 01:11	
EPA 300.0 Rev 2.1 1993	Fluoride	1.3	mg/L	0.30	04/15/20 01:11	
EPA 300.0 Rev 2.1 1993	Sulfate	854	mg/L	16.0	04/15/20 12:10	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE
 Pace Project No.: 2630862

Sample: PMW-03	Lab ID: 2630862001	Collected: 04/08/20 12:01	Received: 04/09/20 10:33	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	5.59	Std. Units			1		04/09/20 14:58		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA									
Calcium	230	mg/L	1.0	0.14	1	04/16/20 13:14	04/16/20 17:25	7440-70-2	
Magnesium	30.8	mg/L	0.050	0.011	1	04/16/20 13:14	04/16/20 17:25	7439-95-4	
Manganese	1.5	mg/L	0.040	0.0061	1	04/16/20 13:14	04/16/20 17:25	7439-96-5	
Potassium	27.8	mg/L	0.20	0.026	1	04/16/20 13:14	04/16/20 17:25	7440-09-7	
Sodium	12.1	mg/L	1.0	0.19	1	04/16/20 13:14	04/16/20 17:25	7440-23-5	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA									
Antimony	0.00043J	mg/L	0.0030	0.00027	1	04/13/20 13:00	04/13/20 16:54	7440-36-0	
Arsenic	0.24	mg/L	0.0050	0.00035	1	04/13/20 13:00	04/13/20 16:54	7440-38-2	
Barium	0.045	mg/L	0.010	0.00049	1	04/13/20 13:00	04/13/20 16:54	7440-39-3	
Beryllium	0.00048J	mg/L	0.0030	0.000074	1	04/13/20 13:00	04/13/20 16:54	7440-41-7	
Boron	2.4	mg/L	0.10	0.0049	1	04/13/20 13:00	04/13/20 16:54	7440-42-8	
Cadmium	0.00029J	mg/L	0.0025	0.00011	1	04/13/20 13:00	04/13/20 16:54	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/13/20 13:00	04/13/20 16:54	7440-47-3	
Cobalt	0.12	mg/L	0.0050	0.00030	1	04/13/20 13:00	04/13/20 16:54	7440-48-4	
Iron	108	mg/L	2.0	0.49	50	04/13/20 13:00	04/14/20 15:50	7439-89-6	
Lead	0.00023J	mg/L	0.0050	0.000046	1	04/13/20 13:00	04/13/20 16:54	7439-92-1	
Lithium	0.094	mg/L	0.030	0.00078	1	04/13/20 13:00	04/13/20 16:54	7439-93-2	
Molybdenum	0.028	mg/L	0.010	0.00095	1	04/13/20 13:00	04/13/20 16:54	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/13/20 13:00	04/13/20 16:54	7782-49-2	
Thallium	0.0037	mg/L	0.0010	0.000052	1	04/13/20 13:00	04/13/20 16:54	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Atlanta, GA									
Mercury	ND	mg/L	0.00050	0.00014	1	04/10/20 08:33	04/10/20 15:17	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	32.5	mg/L	5.0	5.0	1		04/15/20 15:30		
Alkalinity, Total as CaCO ₃	32.5	mg/L	5.0	5.0	1		04/15/20 15:30		M1
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1300	mg/L	10.0	10.0	1		04/14/20 17:50		
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 12:03	18496-25-8	M1

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Sample: PMW-03		Lab ID: 2630862001		Collected: 04/08/20 12:01		Received: 04/09/20 10:33		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	39.0	mg/L	1.0	0.60	1		04/15/20 00:15	16887-00-6	
Fluoride	0.34	mg/L	0.30	0.050	1		04/15/20 00:15	16984-48-8	M1
Sulfate	920	mg/L	15.0	7.5	15		04/15/20 10:33	14808-79-8	M6

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Sample: PMW-04 FILTERED **Lab ID: 2630862002** Collected: 04/10/20 15:50 Received: 04/13/20 10:11 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Atlanta, GA

Field pH	7.99	Std. Units			1		04/13/20 13:34		
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6010D MET ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Atlanta, GA

Calcium	351	mg/L	10.0	1.4	10	04/14/20 18:37	04/16/20 10:48	7440-70-2
Magnesium	32.0	mg/L	0.050	0.011	1	04/14/20 18:37	04/15/20 17:00	7439-95-4
Manganese	0.22	mg/L	0.040	0.0061	1	04/14/20 18:37	04/15/20 17:00	7439-96-5
Potassium	11.8	mg/L	0.20	0.026	1	04/14/20 18:37	04/15/20 17:00	7440-09-7
Sodium	21.0	mg/L	1.0	0.19	1	04/14/20 18:37	04/15/20 17:00	7440-23-5

6020B MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Atlanta, GA

Antimony	0.0040	mg/L	0.0030	0.00027	1	04/14/20 18:32	04/15/20 16:16	7440-36-0
Arsenic	0.88	mg/L	0.0050	0.00035	1	04/14/20 18:32	04/15/20 16:16	7440-38-2
Barium	0.10	mg/L	0.010	0.00049	1	04/14/20 18:32	04/15/20 16:16	7440-39-3
Beryllium	ND	mg/L	0.0030	0.000074	1	04/14/20 18:32	04/15/20 16:16	7440-41-7
Boron	14.9	mg/L	1.0	0.049	10	04/14/20 18:32	04/16/20 13:21	7440-42-8
Cadmium	0.0026	mg/L	0.0025	0.00011	1	04/14/20 18:32	04/15/20 16:16	7440-43-9
Chromium	ND	mg/L	0.010	0.00039	1	04/14/20 18:32	04/15/20 16:16	7440-47-3
Cobalt	0.00074J	mg/L	0.0050	0.00030	1	04/14/20 18:32	04/15/20 16:16	7440-48-4
Iron	0.93	mg/L	0.040	0.0097	1	04/14/20 18:32	04/15/20 16:16	7439-89-6
Lead	ND	mg/L	0.0050	0.000046	1	04/14/20 18:32	04/15/20 16:16	7439-92-1
Lithium	0.077	mg/L	0.030	0.00078	1	04/14/20 18:32	04/15/20 16:16	7439-93-2
Molybdenum	6.4	mg/L	0.10	0.0095	10	04/14/20 18:32	04/16/20 13:21	7439-98-7
Selenium	ND	mg/L	0.010	0.0013	1	04/14/20 18:32	04/15/20 16:16	7782-49-2
Thallium	0.00015J	mg/L	0.0010	0.000052	1	04/14/20 18:32	04/15/20 16:16	7440-28-0

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Atlanta, GA

Mercury	ND	mg/L	0.00050	0.00014	1	04/14/20 07:45	04/14/20 13:45	7439-97-6
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	112	mg/L	5.0	5.0	1		04/15/20 15:46
Alkalinity, Total as CaCO ₃	112	mg/L	5.0	5.0	1		04/15/20 15:46

2540C Total Dissolved Solids

Analytical Method: SM 2540C
Pace Analytical Services - Atlanta, GA

Total Dissolved Solids	1580	mg/L	10.0	10.0	1		04/16/20 11:57
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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 12:05	18496-25-8
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Sample: PMW-04 FILTERED **Lab ID: 2630862002** Collected: 04/10/20 15:50 Received: 04/13/20 10:11 Matrix: Water

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

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

Chloride	34.1	mg/L	1.0	0.60	1		04/15/20 00:57	16887-00-6	
Fluoride	1.6	mg/L	0.30	0.050	1		04/15/20 00:57	16984-48-8	
Sulfate	894	mg/L	16.0	8.0	16		04/15/20 11:56	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Sample: PMW-04	Lab ID: 2630862003	Collected: 04/10/20 15:22	Received: 04/13/20 10:11	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	7.99	Std. Units			1		04/13/20 13:34		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	362	mg/L	10.0	1.4	10	04/14/20 18:37	04/16/20 10:52	7440-70-2	M6
Magnesium	33.0	mg/L	0.050	0.011	1	04/14/20 18:37	04/15/20 17:10	7439-95-4	M1
Manganese	0.25	mg/L	0.040	0.0061	1	04/14/20 18:37	04/15/20 17:10	7439-96-5	
Potassium	15.4	mg/L	0.20	0.026	1	04/14/20 18:37	04/15/20 17:10	7440-09-7	M1
Sodium	22.8	mg/L	1.0	0.19	1	04/14/20 18:37	04/15/20 17:10	7440-23-5	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Antimony	0.0056	mg/L	0.0030	0.00027	1	04/14/20 18:32	04/15/20 16:21	7440-36-0	
Arsenic	0.88	mg/L	0.0050	0.00035	1	04/14/20 18:32	04/15/20 16:21	7440-38-2	
Barium	0.40	mg/L	0.010	0.00049	1	04/14/20 18:32	04/15/20 16:21	7440-39-3	
Beryllium	0.0029J	mg/L	0.0030	0.000074	1	04/14/20 18:32	04/15/20 16:21	7440-41-7	
Boron	15.4	mg/L	1.0	0.049	10	04/14/20 18:32	04/16/20 13:27	7440-42-8	
Cadmium	0.0027	mg/L	0.0025	0.00011	1	04/14/20 18:32	04/15/20 16:21	7440-43-9	
Chromium	0.016	mg/L	0.010	0.00039	1	04/14/20 18:32	04/15/20 16:21	7440-47-3	
Cobalt	0.0096	mg/L	0.0050	0.00030	1	04/14/20 18:32	04/15/20 16:21	7440-48-4	
Iron	5.4	mg/L	0.040	0.0097	1	04/14/20 18:32	04/15/20 16:21	7439-89-6	
Lead	0.017	mg/L	0.0050	0.000046	1	04/14/20 18:32	04/15/20 16:21	7439-92-1	
Lithium	0.083	mg/L	0.030	0.00078	1	04/14/20 18:32	04/15/20 16:21	7439-93-2	
Molybdenum	6.6	mg/L	0.10	0.0095	10	04/14/20 18:32	04/16/20 13:27	7439-98-7	
Selenium	0.0045J	mg/L	0.010	0.0013	1	04/14/20 18:32	04/15/20 16:21	7782-49-2	
Thallium	0.00097J	mg/L	0.0010	0.000052	1	04/14/20 18:32	04/15/20 16:21	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Atlanta, GA									
Mercury	ND	mg/L	0.00050	0.00014	1	04/14/20 07:45	04/14/20 13:54	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	109	mg/L	5.0	5.0	1		04/15/20 15:55		
Alkalinity, Total as CaCO ₃	109	mg/L	5.0	5.0	1		04/15/20 15:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1420	mg/L	10.0	10.0	1		04/16/20 11:58		
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 12:07	18496-25-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Sample: PMW-04		Lab ID: 2630862003		Collected: 04/10/20 15:22		Received: 04/13/20 10:11		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	34.9	mg/L	1.0	0.60	1		04/15/20 01:11	16887-00-6	
Fluoride	1.3	mg/L	0.30	0.050	1		04/15/20 01:11	16984-48-8	
Sulfate	854	mg/L	16.0	8.0	16		04/15/20 12:10	14808-79-8	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45400	Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A	Analysis Description: 7470 Mercury
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862001

METHOD BLANK: 209488 Matrix: Water

Associated Lab Samples: 2630862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	04/10/20 14:56	

LABORATORY CONTROL SAMPLE: 209489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0025	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 209490 209491

Parameter	Units	209490		209491		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92471969031 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0024	98	94	75-125	4	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45491	Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A	Analysis Description: 7470 Mercury
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862002, 2630862003

METHOD BLANK: 209927 Matrix: Water

Associated Lab Samples: 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	04/14/20 13:40	

LABORATORY CONTROL SAMPLE: 209928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0021	85	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 209929 209930

Parameter	Units	209929		209930		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0023	0.0021	90	84	75-125	7	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45533	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862002, 2630862003

METHOD BLANK: 210181 Matrix: Water

Associated Lab Samples: 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	04/15/20 16:53	
Magnesium	mg/L	ND	0.050	0.011	04/15/20 16:53	
Manganese	mg/L	ND	0.040	0.0061	04/15/20 16:53	
Potassium	mg/L	0.099J	0.20	0.026	04/15/20 16:53	
Sodium	mg/L	ND	1.0	0.19	04/15/20 16:53	

LABORATORY CONTROL SAMPLE: 210182

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	
Magnesium	mg/L	1	1.0	105	80-120	
Manganese	mg/L	1	1.0	100	80-120	
Potassium	mg/L	1	1.1	108	80-120	
Sodium	mg/L	1	1.1	112	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 210190 210191

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2630862003 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Calcium	mg/L	362	1	1	368	365	604	379	75-125	1	20	M6	
Magnesium	mg/L	33.0	1	1	34.3	34.2	130	119	75-125	0	20	M1	
Manganese	mg/L	0.25	1	1	1.2	1.2	95	96	75-125	1	20		
Potassium	mg/L	15.4	1	1	16.9	16.9	152	159	75-125	0	20	M1	
Sodium	mg/L	22.8	1	1	24.1	23.9	125	110	75-125	1	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45592	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862001

METHOD BLANK: 210512 Matrix: Water

Associated Lab Samples: 2630862001

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	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2630908002	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45464

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

Analysis Description: 6020B MET

Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862001

METHOD BLANK: 209861

Matrix: Water

Associated Lab Samples: 2630862001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/13/20 16:42	
Arsenic	mg/L	ND	0.0050	0.00035	04/13/20 16:42	
Barium	mg/L	ND	0.010	0.00049	04/13/20 16:42	
Beryllium	mg/L	ND	0.0030	0.000074	04/13/20 16:42	
Boron	mg/L	ND	0.10	0.0049	04/13/20 16:42	
Cadmium	mg/L	ND	0.0025	0.00011	04/13/20 16:42	
Chromium	mg/L	ND	0.010	0.00039	04/13/20 16:42	
Cobalt	mg/L	ND	0.0050	0.00030	04/13/20 16:42	
Iron	mg/L	ND	0.040	0.0097	04/13/20 16:42	
Lead	mg/L	ND	0.0050	0.000046	04/13/20 16:42	
Lithium	mg/L	ND	0.030	0.00078	04/13/20 16:42	
Molybdenum	mg/L	ND	0.010	0.00095	04/13/20 16:42	
Selenium	mg/L	ND	0.010	0.0013	04/13/20 16:42	
Thallium	mg/L	ND	0.0010	0.000052	04/13/20 16:42	

LABORATORY CONTROL SAMPLE: 209862

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	0.11	106	80-120	
Barium	mg/L	0.1	0.10	105	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	0.11	107	80-120	
Chromium	mg/L	0.1	0.11	107	80-120	
Cobalt	mg/L	0.1	0.11	105	80-120	
Iron	mg/L	1	1.0	105	80-120	
Lead	mg/L	0.1	0.11	105	80-120	
Lithium	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.11	107	80-120	
Selenium	mg/L	0.1	0.10	105	80-120	
Thallium	mg/L	0.1	0.11	107	80-120	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Parameter	Units	209904		209905		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
Antimony	mg/L	ND	0.1	0.1	0.11	0.11	113	109	75-125	4	20		
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	105	101	75-125	3	20		
Barium	mg/L	0.18	0.1	0.1	0.28	0.28	99	98	75-125	1	20		
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	102	101	75-125	1	20		
Boron	mg/L	0.74	1	1	1.8	1.9	109	111	75-125	1	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	105	101	75-125	4	20		
Chromium	mg/L	ND	0.1	0.1	0.11	0.10	105	101	75-125	4	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	3	20		
Iron	mg/L	0.10J	1	1	1.1	1.1	103	99	75-125	4	20		
Lead	mg/L	0.00026J	0.1	0.1	0.10	0.097	100	97	75-125	4	20		
Lithium	mg/L	0.20	0.1	0.1	0.30	0.31	102	108	75-125	2	20		
Molybdenum	mg/L	0.014	0.1	0.1	0.13	0.12	113	107	75-125	5	20		
Selenium	mg/L	ND	0.1	0.1	0.097	0.098	96	98	75-125	2	20		
Thallium	mg/L	ND	0.1	0.1	0.098	0.095	98	95	75-125	3	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE
 Pace Project No.: 2630862

QC Batch: 45531 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862002, 2630862003

METHOD BLANK: 210136 Matrix: Water
 Associated Lab Samples: 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	04/15/20 16:04	
Arsenic	mg/L	ND	0.0050	0.00035	04/15/20 16:04	
Barium	mg/L	ND	0.010	0.00049	04/15/20 16:04	
Beryllium	mg/L	ND	0.0030	0.000074	04/15/20 16:04	
Boron	mg/L	ND	0.10	0.0049	04/15/20 16:04	
Cadmium	mg/L	ND	0.0025	0.00011	04/15/20 16:04	
Chromium	mg/L	ND	0.010	0.00039	04/15/20 16:04	
Cobalt	mg/L	ND	0.0050	0.00030	04/15/20 16:04	
Iron	mg/L	ND	0.040	0.0097	04/15/20 16:04	
Lead	mg/L	ND	0.0050	0.000046	04/15/20 16:04	
Lithium	mg/L	ND	0.030	0.00078	04/15/20 16:04	
Molybdenum	mg/L	ND	0.010	0.00095	04/15/20 16:04	
Selenium	mg/L	ND	0.010	0.0013	04/15/20 16:04	
Thallium	mg/L	ND	0.0010	0.000052	04/15/20 16:04	

LABORATORY CONTROL SAMPLE: 210137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	107	80-120	
Arsenic	mg/L	0.1	0.10	101	80-120	
Barium	mg/L	0.1	0.10	104	80-120	
Beryllium	mg/L	0.1	0.10	103	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	0.10	100	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Iron	mg/L	1	1.0	102	80-120	
Lead	mg/L	0.1	0.10	102	80-120	
Lithium	mg/L	0.1	0.10	104	80-120	
Molybdenum	mg/L	0.1	0.10	104	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Parameter	Units	210192		210193		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		2630818017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
Antimony	mg/L	ND	0.1	0.1	0.11	0.10	105	104	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	99	99	75-125	1	20	
Barium	mg/L	0.027	0.1	0.1	0.13	0.13	100	99	75-125	1	20	
Beryllium	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	1	20	
Boron	mg/L	0.28	1	1	1.2	1.2	92	91	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.098	0.096	98	96	75-125	3	20	
Chromium	mg/L	0.00058J	0.1	0.1	0.10	0.10	102	101	75-125	2	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	104	101	75-125	3	20	
Iron	mg/L	0.49	1	1	1.6	1.5	106	101	75-125	3	20	
Lead	mg/L	0.00017J	0.1	0.1	0.10	0.099	101	99	75-125	2	20	
Lithium	mg/L	ND	0.1	0.1	0.10	0.098	99	98	75-125	1	20	
Molybdenum	mg/L	0.0056J	0.1	0.1	0.10	0.10	97	95	75-125	2	20	
Selenium	mg/L	ND	0.1	0.1	0.093	0.095	93	95	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 536298

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 2630862001, 2630862002, 2630862003

METHOD BLANK: 2860774

Matrix: Water

Associated Lab Samples: 2630862001, 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	04/15/20 15:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	04/15/20 15:22	

LABORATORY CONTROL SAMPLE: 2860775

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860776 2860777

Parameter	Units	2630862001 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	32.5	50	50	52.0	52.4	39	40	80-120	1	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860778 2860779

Parameter	Units	92472992067 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	12.9	50	50	67.1	67.3	108	109	80-120	0	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 45512	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862001

LABORATORY CONTROL SAMPLE: 209985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	379	95	84-108	

SAMPLE DUPLICATE: 209986

Parameter	Units	2630821024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	244	9	10	

SAMPLE DUPLICATE: 209987

Parameter	Units	92473254002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	17.0	18.0	6	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch:	45568	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630862002, 2630862003

LABORATORY CONTROL SAMPLE: 210421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	385	96	84-108	

SAMPLE DUPLICATE: 210422

Parameter	Units	2630909002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	55.0	61.0	10	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 536291 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 2630862001, 2630862002, 2630862003

METHOD BLANK: 2860729 Matrix: Water
 Associated Lab Samples: 2630862001, 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	04/15/20 11:58	

LABORATORY CONTROL SAMPLE: 2860730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860731 2860732

Parameter	Units	92473428001		2860731		2860732		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec	MSD % Rec
Sulfide	mg/L	ND	ND	0.5	0.5	0.59	0.59	116	116	80-120	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860733 2860734

Parameter	Units	2630862001		2860733		2860734		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Sulfide	mg/L	ND	ND	0.5	0.5	0.66	0.66	129	129	80-120	0	10 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

QC Batch: 536191 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 2630862001, 2630862002, 2630862003

METHOD BLANK: 2860515 Matrix: Water
 Associated Lab Samples: 2630862001, 2630862002, 2630862003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/14/20 23:47	
Fluoride	mg/L	ND	0.10	0.050	04/14/20 23:47	
Sulfate	mg/L	ND	1.0	0.50	04/14/20 23:47	

LABORATORY CONTROL SAMPLE: 2860516

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	2.3	93	90-110	
Sulfate	mg/L	50	52.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860517 2860518

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630862001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	39.0	50	50	50	89.5	89.4	101	101	90-110	0	10	
Fluoride	mg/L	0.34	2.5	2.5	2.5	3.8	3.9	137	141	90-110	2	10	M1
Sulfate	mg/L	920	50	50	50	828	886	-184	-68	90-110	7	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2860519 2860520

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92472992074 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	5.9	50	50	50	57.2	57.1	103	102	90-110	0	10	
Fluoride	mg/L	0.36	2.5	2.5	2.5	3.0	3.0	104	104	90-110	0	10	
Sulfate	mg/L	14.4	50	50	50	65.4	65.1	102	101	90-110	0	10	

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QUALIFIERS

Project: HAMMOND AP-2 PMW NON-ROUTINE

Pace Project No.: 2630862

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-2 PMW NON-ROUTINE

Pace Project No.: 2630862

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630862001	PMW-03				
2630862002	PMW-04 FILTERED				
2630862003	PMW-04				
2630862001	PMW-03	EPA 3010A	45592	EPA 6010D	45599
2630862002	PMW-04 FILTERED	EPA 3010A	45533	EPA 6010D	45546
2630862003	PMW-04	EPA 3010A	45533	EPA 6010D	45546
2630862001	PMW-03	EPA 3005A	45464	EPA 6020B	45489
2630862002	PMW-04 FILTERED	EPA 3005A	45531	EPA 6020B	45544
2630862003	PMW-04	EPA 3005A	45531	EPA 6020B	45544
2630862001	PMW-03	EPA 7470A	45400	EPA 7470A	45413
2630862002	PMW-04 FILTERED	EPA 7470A	45491	EPA 7470A	45510
2630862003	PMW-04	EPA 7470A	45491	EPA 7470A	45510
2630862001	PMW-03	SM 2320B-2011	536298		
2630862002	PMW-04 FILTERED	SM 2320B-2011	536298		
2630862003	PMW-04	SM 2320B-2011	536298		
2630862001	PMW-03	SM 2540C	45512		
2630862002	PMW-04 FILTERED	SM 2540C	45568		
2630862003	PMW-04	SM 2540C	45568		
2630862001	PMW-03	SM 4500-S2D-2011	536291		
2630862002	PMW-04 FILTERED	SM 4500-S2D-2011	536291		
2630862003	PMW-04	SM 4500-S2D-2011	536291		
2630862001	PMW-03	EPA 300.0 Rev 2.1 1993	536191		
2630862002	PMW-04 FILTERED	EPA 300.0 Rev 2.1 1993	536191		
2630862003	PMW-04	EPA 300.0 Rev 2.1 1993	536191		

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CHAIN OF CUSTODY / Analytical Request Form

MO#: 2630862



Section I
 Requester's and reference information
 Requester Name: LA
 Address: LA
 City: LA
 State: LA
 Zip: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Section II
 Requester's contact information
 Name: LA
 Title: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Section III
 Requester's description of sample
 Sample Description: LA
 Sample ID: LA
 Sample Quantity: LA
 Sample Date: LA
 Sample Location: LA
 Sample Use: LA

Section IV
 Requester's analysis requirements
 Analysis Test: LA
 Analysis Method: LA
 Analysis Frequency: LA
 Analysis Location: LA
 Analysis Date: LA
 Analysis Time: LA
 Analysis Cost: LA

Section V
 Requester's signature and date
 Signature: LA
 Date: LA

Section VI
 Requester's contact information
 Name: LA
 Title: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Sample ID	Sample Description	Sample Quantity	Sample Date	Sample Location	Sample Use	Analysis Test		Analysis Method	Analysis Frequency	Analysis Location	Analysis Date	Analysis Time	Analysis Cost
						LA	LA						
1	SAMPLE ID												
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Section VII
 Laboratory name and location
 Name: LA
 Address: LA
 City: LA
 State: LA
 Zip: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Section VIII
 Laboratory contact information
 Name: LA
 Title: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Section IX
 Laboratory signature and date
 Signature: LA
 Date: LA

Section X
 Laboratory contact information
 Name: LA
 Title: LA
 Phone: LA
 Fax: LA
 E-mail: LA

Sample Collection Upon Receipt



Client Name: GA Power Project # _____

WO# : 2630862

Container: Fed Ex UPS USPS Other Commercial Pass Out
 Tracking # _____ PH: 800 _____ Date Rec'd: 04/18/20

Quantity Seal on Collection Present Yes No Seal intact Yes No
 CLIENT: 26-08 Power

Packing Material Bubble Wrap Bubble Bags None Other _____
 Thermometer Used FH 6235 Type of Ice Wet Blue None Samples at ice cooling process has begun

Cooler Temperature 1.6 Biological Threats in Freezer: Yes No
 Tests should be above freezing to GC Equipment: _____
 (Only use methods of sample handling consistent with _____)

Order of Custody System	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	1	
Order of Custody Field Out	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	2	
Order of Custody Requisition	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	3	
Sampler Name & Signature on DOC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	4	
Samplers Arrived within Hold Time	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	5	
Hold Time Analysis (N737)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	6	
Rush Time Arrived Time Requested	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	7	
Sufficient Volume	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	8	
Correct Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	9	
- Pass Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>		
Containers Marked	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	10	
Filtered volume received for On-Site GC MS	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	11	
Sample Labels Match DOC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	12	
- Includes date/time of analysis Mass	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>		
By containers meeting preservation time limit checked	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	13	
All containers meeting identification are found to be in compliance with EPA recommendation	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>		
completing NCA, confirm DOC, OLS, ALSD, mass	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	Final step completed	Lot # of added preservative
Samples checked for degradation	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	14	
Headspace in vials Vials (norm)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	15	
Ring Blank Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	16	
Ring Blank Custody Seal Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>		
Pass Trip Blank Lot # (if purchased)					

Client Notification/Resolution: _____ Field Date Required? Y / N
 Person Contacted _____ Date/Time _____
 Comments/Resolution _____

Project Manager Review _____ Date: _____

Note: Whenever there is a discrepancy affecting storm Emissions compliance sampling, a copy of this form will be sent to the Storm Emissions (SE) Chief Certification Office (i.e. out of town, incorrect observations, out of temp, incorrect containers)



CHAIN OF CUSTODY / Analytical Request Document

Request # _____

Page 1 of 1

Requester Name	Requester Title	Requester Department	Requester Phone
Requester Email	Requester Address	Requester City	Requester State
Requester Zip	Requester Fax	Requester Country	Requester Contact
Requester Signature	Requester Date	Requester Time	Requester Initials

Requester Agency	Requester Case #	Requester Project #	Requester Priority
Requester Contact	Requester Date	Requester Time	Requester Initials

Item ID	Description	Quantity	Unit	Performance Analysis Based (PAB)											Requester Initials				
				1	2	3	4	5	6	7	8	9	10	11		12			
1	EXAMPLE ID	1	UNIT																
2	EXAMPLE ID	1	UNIT																

LABORATORY USE ONLY

Sample ID	Sample Description	Sample Date	Sample Time	Sample Initials	Sample Status
Sample ID	Sample Description	Sample Date	Sample Time	Sample Initials	Sample Status

St. Mike Education Update Receipt

Project # _____

Grant Name: St. Mike Project # _____

Computer: for e- UPS uses other other other other

Printing: for e- uses other other other

Control: for e- uses other other other

Project # _____

Comments: _____

Comments: _____

Comments: _____

Line Item #	Description	Unit	Quantity	Unit Price	Total Price
1	Class of Supply, Project	hr	100	\$100	\$10,000
2	Class of Supply, Project	hr	100	\$100	\$10,000
3	Class of Supply, Project	hr	100	\$100	\$10,000
4	Class of Supply, Project	hr	100	\$100	\$10,000
5	Class of Supply, Project	hr	100	\$100	\$10,000
6	Class of Supply, Project	hr	100	\$100	\$10,000
7	Class of Supply, Project	hr	100	\$100	\$10,000
8	Class of Supply, Project	hr	100	\$100	\$10,000
9	Class of Supply, Project	hr	100	\$100	\$10,000
10	Class of Supply, Project	hr	100	\$100	\$10,000
11	Class of Supply, Project	hr	100	\$100	\$10,000
12	Class of Supply, Project	hr	100	\$100	\$10,000
13	Class of Supply, Project	hr	100	\$100	\$10,000
14	Class of Supply, Project	hr	100	\$100	\$10,000
15	Class of Supply, Project	hr	100	\$100	\$10,000
16	Class of Supply, Project	hr	100	\$100	\$10,000
17	Class of Supply, Project	hr	100	\$100	\$10,000
18	Class of Supply, Project	hr	100	\$100	\$10,000
19	Class of Supply, Project	hr	100	\$100	\$10,000
20	Class of Supply, Project	hr	100	\$100	\$10,000

Project # _____

Date: _____

Project Manager: _____

Department: _____

Project Description: _____

St. Mike Education Update Receipt

Sample ID	Type of Residue	Test Method	Time to Analyze	Amount of Residue

pH Adjustment Log for Preserved Samples

Sample	1	2	3	4	5	6	7	8	9	10	11	12
0101												
0102												
0103												
0104												
0105												
0106												
0107												
0108												
0109												
0110												
0111												
0112												
0113												
0114												
0115												
0116												
0117												
0118												
0119												
0120												
0121												
0122												
0123												
0124												
0125												
0126												
0127												
0128												
0129												
0130												

Check points top half of box if not after decontamination & washout and within the tolerance range for preservation

Important: FOR GASES, THE DECONTAMINATION PROCESS MUST BE REPEATED TO REMOVE THE RESIDUAL GASES

Document No. 1
 Page 3 of 1
 Date: 12/19/09
 Project #

Document No.
 Project #

APR 20 2010



May 06, 2020

Mr. Joju Abraham
Georgia Power
2480 Maner Road
Atlanta, GA 30339

RE: Project: 2630862 HAMMOND AP-2 PMW
Pace Project No.: 30359736

Dear Mr. Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 14, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 2630862 HAMMOND AP-2 PMW

Pace Project No.: 30359736

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 2630862 HAMMOND AP-2 PMW

Pace Project No.: 30359736

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630862001	PMW-03	Water	04/08/20 12:01	04/14/20 09:30
2630862002	PMW-04 FILTERED	Water	04/10/20 15:50	04/14/20 09:30
2630862003	PMW-04	Water	04/10/20 15:22	04/14/20 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 2630862 HAMMOND AP-2 PMW

Pace Project No.: 30359736

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630862001	PMW-03	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630862002	PMW-04 FILTERED	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2630862003	PMW-04	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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 2630862 HAMMOND AP-2 PMW
 Pace Project No.: 30359736

Sample: PMW-03		Lab ID: 2630862001	Collected: 04/08/20 12:01	Received: 04/14/20 09:30	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	0.743 ± 0.356 (0.439) C:97% T:NA	pCi/L	04/24/20 07:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.507 ± 0.495 (1.02) C:72% T:75%	pCi/L	05/05/20 17:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.25 ± 0.851 (1.46)	pCi/L	05/06/20 13:45	7440-14-4	

Sample: PMW-04 FILTERED		Lab ID: 2630862002	Collected: 04/10/20 15:50	Received: 04/14/20 09:30	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	0.398 ± 0.261 (0.371) C:97% T:NA	pCi/L	04/24/20 07:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.0460 ± 0.364 (0.859) C:79% T:79%	pCi/L	05/05/20 17:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.398 ± 0.625 (1.23)	pCi/L	05/06/20 13:45	7440-14-4	

Sample: PMW-04		Lab ID: 2630862003	Collected: 04/10/20 15:22	Received: 04/14/20 09:30	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	1.32 ± 0.468 (0.437) C:96% T:NA	pCi/L	04/24/20 07:14	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.577 ± 0.426 (0.829) C:76% T:78%	pCi/L	05/05/20 17:12	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.90 ± 0.894 (1.27)	pCi/L	05/06/20 13:45	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630862 HAMMOND AP-2 PMW

Pace Project No.: 30359736

QC Batch:	393298	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 2630862001, 2630862002, 2630862003

METHOD BLANK: 1905191 Matrix: Water

Associated Lab Samples: 2630862001, 2630862002, 2630862003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.255 ± 0.396 (0.856) C:72% T:86%	pCi/L	05/05/20 17:12	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 2630862 HAMMOND AP-2 PMW

Pace Project No.: 30359736

QC Batch: 393241	Analysis Method: EPA 9315
QC Batch Method: EPA 9315	Analysis Description: 9315 Total Radium
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 2630862001, 2630862002, 2630862003

METHOD BLANK: 1904981 Matrix: Water

Associated Lab Samples: 2630862001, 2630862002, 2630862003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0237 ± 0.143 (0.432) C:96% T:NA	pCi/L	04/24/20 07:29	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 2630862 HAMMOND AP-2 PMW
Pace Project No.: 30359736

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.

REPORT OF LABORATORY ANALYSIS

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Chain of Custody

Sample will be sent directly to the Subcontracting Laboratory

Workorder: 2023-080
 Requestor: MONTANA STATE POLICE
 Case No: 2023-080
 Subcase No: 2023-080-001
 Date Received: 08/15/2023

Molecular Name: 200M N.P.2 PUMP MON-PCOU IHC

Case Analyst: J. [Name]
 1505 [Address]
 Helena, MT 59601
 Phone: (406) 552-3000

State Of Origin: MT

Case Needed: Yes

Ordered Receipt Date: 08/15/2023

Health Requirements: [Blank]



WO#: 30359736



Transfers	Received By	Date/Time	Signature	Subcontracting Lab
1	[Signature]	08/15/2023	[Signature]	Y
2				
3				

Transfers	Received By	Date/Time	Signature	Subcontracting Lab
1				
2				
3				

Copies To: [Blank] Original: [Blank] Custody Seal: [Blank] Y or N: [Blank] Recipient Sign: [Blank] Y or N: [Blank] Samples Intact: [Blank] Y or N: [Blank]

This chain of custody is required for all samples sent to the laboratory. All information is available in the case file. This document is not to be used for any other purpose.

30359736

Trace Analytical
 2160 S
 2160 S
 2160 S

Chain of Custody

Samples were sent directly to the Subcontracting Laboratory

State of Oregon, SA

Cert. Needed Yes No

Results Requested By: [Signature]

Work Order: 26-20552 Work Order Name: TENDON A-2 FORM MONITORING Date: 08/26/2016

Kevin Norm
 Trace Analytical Computer
 1900 Kerkira Ave
 Suite 100
 Huntington, NC 28520
 Phone: 704/952-6000

Trace Analytical (McBough)
 1616 Rosegarden Road
 Suite 111, B-4
 Greenville, PA 15901
 Phone: 724/852-0500

Transfer	Submitted By	Date/Time	Received By	Date/Time	Requested on	Y	or	N	Sample Intact	Y	or	N
1												
2												
3												
Cooler Temperature on Receipt: 5°C Coolingly Stored: Y Y Y Y Y Y Y Y Y Y Y Y												
In order to maintain proper confidentiality procedures of the sampling site, analyzer's name and signature material for provided on this CDC document.												
This chain of custody is considered complete as it meets the information available in the owner's custody.												

MAK 6 points

Pittsburgh Lab Sample Conditionation Receipt

Client Name: Pace LLC GMA Project # 30359736

Material: 100# PVC Lot: 100# PVC
Tracking #: 163745074468
Quantity: 100#
Thermometer Used: 100
Cooler Temperature: 100
Temperature of Sample: 100

Label: 100# PVC
INS Log: 100# PVC

Prep Log: 100# PVC
Date and Initials of Preparer: 10/15/2016

Table with 3 columns: Comments, Initials, Date. Contains various entries related to sample conditioning, including 'Received sample 100#', 'pH = 2', and '100# PVC'.

Client Acknowledgment Received on: 10/15/2016
Name of Contact: [Signature]
Signature: [Signature]

A check in this box indicates that additional information has been stored in reports.
Note: Additional information is available in the report. Contact the report preparer or the report reviewer for more information.
All reports are provided as a service of the Laboratory. The Laboratory is not responsible for any errors or omissions in the reports or for any damage or loss of data resulting from the use of the reports.

Quality Control Sample Performance Assessment

Page Number: 12 of 13

Date: _____
 Sample ID: _____
 Operator: _____
 Station: _____

Analysis Method: _____

Sample Matrix / Sample Description	Sample ID
<p>Sample Matrix / Sample Description</p> <p>Sample ID</p>	<p>Sample ID</p>

Sample Matrix / Sample Description	Sample ID
<p>Sample Matrix / Sample Description</p> <p>Sample ID</p>	<p>Sample ID</p>

Sample Matrix / Sample Description	Sample ID
<p>Sample Matrix / Sample Description</p> <p>Sample ID</p>	<p>Sample ID</p>

Sample Matrix / Sample Description	Sample ID
<p>Sample Matrix / Sample Description</p> <p>Sample ID</p>	<p>Sample ID</p>

Sample Matrix / Sample Description	Sample ID
<p>Sample Matrix / Sample Description</p> <p>Sample ID</p>	<p>Sample ID</p>

All samples are analyzed for the following parameters: _____

Page 12 of 13

Date: _____
 Operator: _____

Quality Control Sample Performance Assessment

Project: Northwest Community College

Year: 2025
 Month: 11/2025
 Day: 15

Item	Quantity	Unit	Value
1. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
2. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
3. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
4. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
5. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
6. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
7. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
8. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
9. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
10. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>

Item	Quantity	Unit	Value
1. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
2. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
3. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
4. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
5. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
6. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
7. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
8. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
9. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
10. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>

Item	Quantity	Unit	Value
1. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
2. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
3. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
4. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
5. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
6. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
7. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
8. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
9. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
10. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>

Item	Quantity	Unit	Value
1. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
2. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
3. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
4. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
5. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
6. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
7. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
8. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
9. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>
10. <u>1000</u>	<u>1000</u>	<u>1000</u>	<u>1000</u>

As a result of this assessment, the following items were identified as needing attention:

Comments:

[Handwritten signature]
 Date: 11/15/2025

Northwest Community College
 11/15/2025

Northwest Community College
 11/15/2025



August 10, 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

This report was revised 8/5/20 to remove extra metals reported on sample MW-30D due to a lab error.

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
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

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CERTIFICATIONS

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

Pace Analytical Services Charlotte

9800 Kinsey 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

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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	FB-01	Water	06/17/20 17:05	06/18/20 10:37
92482346007	MW-30D	Water	06/17/20 13:44	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

REPORT OF LABORATORY ANALYSIS

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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	FB-01	EPA 6010D	DRB	5
		EPA 6020B	CW1	3
		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	MW-30D	EPA 6010D	DRB	5

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-1 NON ROUTINE
 Pace Project No.: 92482346

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	3
		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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
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	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
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	
92482346007	MW-30D					
	pH	8.33	Std. Units		08/10/20 09:13	
EPA 6010D	Calcium	8.3	mg/L	1.0	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	Boron	0.77	mg/L	0.10	06/19/20 20:07	
EPA 6020B	Molybdenum	0.0062J	mg/L	0.010	06/19/20 20:07	
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	

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
92482346008	MW-30D FILTERED					
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	

REPORT OF LABORATORY ANALYSIS

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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			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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 (CaCO ₃)	126	mg/L	5.0	5.0	1		06/29/20 16:48		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/29/20 16:48		
Alkalinity, Total as CaCO ₃	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	

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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	

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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	

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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	

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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 (CaCO ₃)	171	mg/L	5.0	5.0	1		06/29/20 18:03		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/29/20 18:03		
Alkalinity, Total as CaCO ₃	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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

Sample: FB-01 **Lab ID: 92482346006** Collected: 06/17/20 17:05 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	ND	mg/L	1.0	0.14	1	06/19/20 14:00	06/22/20 15:49	7440-70-2	
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	
Iron	ND	mg/L	0.040	0.0097	1	06/19/20 12:30	06/19/20 19:50	7439-89-6	
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	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		
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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-1 NON ROUTINE
 Pace Project No.: 92482346

Sample: MW-30D		Lab ID: 92482346007		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		08/10/20 09:13		
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	
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									
Boron	0.77	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 20:07	7440-42-8	
Iron	ND	mg/L	0.040	0.0097	1	06/19/20 12:30	06/19/20 19:50	7439-89-6	
Molybdenum	0.0062J	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:07	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 (CaCO ₃)	654	mg/L	5.0	5.0	1		06/30/20 12:45		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 12:45		
Alkalinity, Total as CaCO ₃	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	

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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	

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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 (CaCO ₃)	955	mg/L	5.0	5.0	1		06/30/20 16:50		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 16:50		
Alkalinity, Total as CaCO ₃	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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch:	548325	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	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	2917358		2917359		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	174	1	174	182	-20	757	75-125	4	20	M1
Iron	mg/L	0.20	1	1.2	1.3	103	108	75-125	4	20	
Magnesium	mg/L	23.4	1	24.3	25.4	94	206	75-125	5	20	M1
Manganese	mg/L	0.88	1	1.9	1.9	98	104	75-125	3	20	
Potassium	mg/L	6.5	1	7.5	7.8	101	134	75-125	4	20	M1
Sodium	mg/L	9.6	1	10.6	11.0	100	140	75-125	4	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch:	548539	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482346005 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch: 550184

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
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 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A 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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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch: 548509

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

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
Boron	mg/L	ND	0.10	0.0049	06/19/20 17:32	
Iron	mg/L	ND	0.040	0.0097	06/19/20 17:32	
Molybdenum	mg/L	ND	0.010	0.00095	06/19/20 17:32	

LABORATORY CONTROL SAMPLE: 2918044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.0	102	80-120	
Iron	mg/L	1	1.0	100	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918045 2918046

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482427001 Result	Spike Conc.	Spike Conc.	MS Result						
Boron	mg/L	54.3 ug/L	1	1	1.0	1.0	96	96	75-125	0	20
Iron	mg/L	639 ug/L	1	1	1.6	1.6	95	95	75-125	0	20
Molybdenum	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch: 549351

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

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		2921566		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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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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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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

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: 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	Analysis Method:	SM 2320B-2011
QC Batch 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
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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
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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
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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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QUALITY CONTROL DATA

Project: HAMMOND AP-1 NON ROUTINE

Pace Project No.: 92482346

QC Batch: 550396	Analysis Method: SM 2320B-2011
QC Batch 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		2926276		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		2926278		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	ND	50	50	57.1	57.5	104	105	80-120	1	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: 548296 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 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		2917149		2917150		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Sulfide	mg/L	ND	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		2918737		2918738		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	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 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 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		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
Sulfide	mg/L	<0.050	0.5	0.5	0.5	0.54	0.54	107	107	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2921733 2921734

Parameter	Units	92482441002		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
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

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
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 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482711001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	8.2	8.2	50	50	56.6	56.6	97	97	90-110	0	10	
Fluoride	mg/L	0.57	0.57	2.5	2.5	2.7	2.8	86	88	90-110	1	10	M1
Sulfate	mg/L	13.6	13.6	50	50	62.3	62.3	98	97	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919914 2919915

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482268001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	14.5	14.5	50	50	62.7	63.0	96	97	90-110	1	10	
Fluoride	mg/L	ND	ND	2.5	2.5	2.6	2.7	104	107	90-110	3	10	
Sulfate	mg/L	ND	ND	50	50	48.8	49.1	98	98	90-110	1	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.: 92482346

QC Batch: 549186 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482762001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	1.2	50	50	50	49.9	49.9	97	97	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.4	2.5	97	97	90-110	1	10	
Sulfate	mg/L	ND	50	50	50	48.9	48.9	97	97	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2920989 2920990

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483147008 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	2.7	50	50	50	55.2	57.4	105	110	90-110	4	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	2.6	97	102	90-110	5	10	
Sulfate	mg/L	0.74J	50	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	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483177002 Result	Spike Conc.	Spike Conc.	Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483187001 Result	Spike Conc.	Spike Conc.	Conc.								
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.

WORKORDER QUALIFIERS

WO: 92482346
[2] This report was revised 8/7/20 to correct a sample mix up between samples MW-30D and the Field Blank.

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.

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
92482346001	HGWC-8				
92482346002	MW-1				
92482346003	HGWA-1				
92482346004	HGWA-3				
92482346005	HGWC-7				
92482346007	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	FB-01	EPA 3010A	548539	EPA 6010D	548601
92482346007	MW-30D	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	FB-01	EPA 3005A	548509	EPA 6020B	548546
92482346007	MW-30D	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	FB-01	SM 2450C-2011	548606		
92482346007	MW-30D	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	FB-01	SM 2320B-2011	549851		
92482346007	MW-30D	SM 2320B-2011	549851		
92482346008	MW-30D FILTERED	SM 2320B-2011	549851		

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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	FB-01	SM 4500-S2D-2011	549379		
92482346007	MW-30D	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	FB-01	EPA 300.0 Rev 2.1 1993	549186		
92482346007	MW-30D	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		

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CHAIN-OF-CUSTODY / Analytical Request Doc#
 The Chain-Custody is a legal document. All required fields must be completed.

W0#: 92482346
 92482346

Page 1 of 2

Section A Requester (Print Name) City/State Address City/State	Section B Requester's Unit/Department Request to: SCS Controls City/State Department/Company	Section C Requester's Title Requester's Name Requester's Phone Requester's Email	THE DONOR'S AGENCY Agency Name City/State Address City/State
Requester (Print Name) City/State Address City/State	Requester's Unit/Department Request to: SCS Controls City/State Department/Company	Requester's Title Requester's Name Requester's Phone Requester's Email	Agency Name City/State Address City/State

Section A Sample ID Date Collected Matrix Description	Section B Matrix Code Sample Type	Section C Date/Time Temp	Section D Shipment Temp at Collection	Section E # of Containers	Section F Proprietary				Section G Proprietary Analysis Filtered (Y/N)				Section H Residual Chain (Y/N)	Section I Date/Time/Location	
					1	2	3	4	1	2	3	4			
SAMPLE ID 202-281-2 Matrix Description: Lead	001	001	001	001											
	002	002	002	002											
	003	003	003	003											
	004	004	004	004											
	005	005	005	005											
	006	006	006	006											
	007	007	007	007											
	008	008	008	008											
	009	009	009	009											
	010	010	010	010											
	011	011	011	011											

Section J Additional Comments	Section K Witnessed by (Print Name)	Section L Date	Section M Time	Section N Signature	Section O Date	Section P Time	Section Q Signature	Section R Date	Section S Time	Section T Signature	Section U Date	Section V Time	Section W Signature	Section X Date	Section Y Time	Section Z Signature
Additional Comments	Witnessed by (Print Name)	Date	Time	Signature	Date	Time	Signature	Date	Time	Signature	Date	Time	Signature	Date	Time	Signature



CHAIN-OF-CUSTODY / Analytical Request Doc
 The Chain of Custody is a legal document. All request forms must be complete.

MO# : 92482346

PH: KLHJ Due Date: 07/01/20
CLIENT: CR-CR Power

Page 2 of 2

Section A Requested Analytical Services: Requested by: QA Power Requested for: QA		Section B Requested Analytical Services: Requested by: QA Power Requested for: QA		Section C Requested Analytical Services: Requested by: QA Power Requested for: QA	
Section D Requested Analytical Services: Requested by: QA Power Requested for: QA		Section E Requested Analytical Services: Requested by: QA Power Requested for: QA		Section F Requested Analytical Services: Requested by: QA Power Requested for: QA	

Section A Requested Analytical Services	Section B Requested Analytical Services	Section C Requested Analytical Services	Section D Requested Analytical Services	Section E Requested Analytical Services	Section F Requested Analytical Services	Requester Information		Requester Signature		Requester Title		Requester Date		Requester Location	
						Name	Signature	Title	Date	Location					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Standardization for testing procedures is required for all testing procedures and equipment. All test results must be reported to the client.



CHAIN-OF-CUSTODY / Analytical Request DR
 The Purpose of this is to ensure that the evidence is properly collected, stored, and transported to the laboratory.

W0# : 92482346
 PM KLMT Due Date: 07/01/20
 CLIENT : GR-08 Power

Section A Requester Name: <u>GR Power</u> Requester Title: <u>GR Power</u> Requester Phone: <u>602-442-1100</u>	Section B Requester Agency: <u>GR Power</u> Requester Address: <u>GR Power</u> Requester City: <u>GR Power</u> Requester State: <u>GR Power</u> Requester Zip: <u>GR Power</u>	Section C Requester Contact: <u>GR Power</u> Requester Phone: <u>GR Power</u> Requester Email: <u>GR Power</u>	REGULATOR'S AGENCY Agency Name: <u>GR Power</u> Agency Address: <u>GR Power</u> Agency City: <u>GR Power</u> Agency State: <u>GR Power</u> Agency Zip: <u>GR Power</u>
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ITEM #	Description of Sample	MILITARY CODE	SAMPLE TYPE	COLLECTED	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Analysis Test		Residual Criteria (Y/N)	Remarks
							Y/N	Y/N		
1	Lighter					1	Unpreserved			
2	Lighter					1	Unpreserved			
3	Lighter					1	Unpreserved			
4	Lighter					1	Unpreserved			
5	Lighter					1	Unpreserved			
6	Lighter					1	Unpreserved			
7	Lighter					1	Unpreserved			
8	Lighter					1	Unpreserved			
9	Lighter					1	Unpreserved			
10	Lighter					1	Unpreserved			
11	Lighter					1	Unpreserved			
12	Lighter					1	Unpreserved			

ADDITIONAL COMMENTS Additional comments for this sample, including any chain of custody and other information that may be relevant to the sample's history.	REMOVED BY / DATE GR Power / 6/19/15	DATE 6/19/15	TIME 10:52	ACCEPTED BY / SIGNATURE GR Power	DATE 6/19/15	TIME 10:52	REMARKS GR Power	Y/N Y	Y/N N	Y/N Y
---	--	------------------------	----------------------	--	------------------------	----------------------	----------------------------	-----------------	-----------------	-----------------



CHAIN-OF-CUSTODY / Analytical Request Docur
 The Chain-Custody is a legal document. All record kept must be signed to

NO# : 92482346

PM: KLMJ Due Date: 07/01/20
 CLIENT: CA-CA Power

Section A Requester Name City Address City State Zip	Section B Requester Project Information Report To City State Zip	Section C Nucleo Information Project Name City State Zip	Section D Requester Analytical Request (RMS) Requester Name City State Zip
Section E Requester Contact Information Name Phone Email	Section F Requester Project Information Project Name City State Zip	Section G Requester Project Information Project Name City State Zip	Section H Requester Project Information Project Name City State Zip

Section I Sample ID Sample Description	Section J Sample Type	Section K Sample Weight	Section L Sample Temp at Collection	Section M # of Containers	Section N Preservation										Section O Analysis Test	Section P Requester Analytical Request (RMS)	Section Q Requester Name/Title
					Unpreserved	Refrigerated	Freeze	Freeze	Freeze	Freeze	Freeze	Freeze	Freeze	Freeze			
1
2
3
4
5
6
7
8
9
10
11
12

Approved Date: By signing this document, you are accepting the responsibility of the Chain-Custody and Requester's responsibility of a Chain-Custody. All records must be signed to...

Form 10-2008-01-10



July 01, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 NON ROUTINE
Pace Project No.: 92482649

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between June 18, 2020 and June 19, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Pace Analytical Services Charlotte

9800 Kinsey 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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92482649001	MW-21D	Water	06/17/20 09:30	06/18/20 10:37
92482649002	MW-33	Water	06/17/20 16:34	06/18/20 10:37
92482649003	MW-35	Water	06/18/20 11:52	06/19/20 13:10
92482649004	FB-02	Water	06/18/20 17:50	06/19/20 13:10
92482649005	MW-34D	Water	06/18/20 18:05	06/19/20 13:10
92482649006	MW-36D	Water	06/18/20 10:05	06/19/20 13:10
92482649007	MW-37D	Water	06/18/20 13:15	06/19/20 13:10
92482649008	MW-37D, FILTERED	Water	06/18/20 13:30	06/19/20 13:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92482649001	MW-21D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649002	MW-33	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649003	MW-35	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649004	FB-02	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649005	MW-34D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649006	MW-36D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649007	MW-37D	EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	12
		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
92482649008	MW-37D, FILTERED	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649001	MW-21D					
	pH	6.47	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	434	mg/L	10.0	06/23/20 12:37	
EPA 6010D	Iron	22.3	mg/L	0.040	06/22/20 16:02	
EPA 6010D	Magnesium	71.7	mg/L	0.050	06/22/20 16:02	
EPA 6010D	Manganese	1.3	mg/L	0.040	06/22/20 16:02	
EPA 6010D	Potassium	1.1	mg/L	0.20	06/22/20 16:02	
EPA 6010D	Sodium	15.8	mg/L	1.0	06/22/20 16:02	
EPA 6020B	Barium	0.054	mg/L	0.010	06/19/20 20:18	
EPA 6020B	Boron	5.8	mg/L	0.10	06/19/20 20:18	
EPA 6020B	Chromium	0.00057J	mg/L	0.010	06/19/20 20:18	
EPA 6020B	Lithium	0.023J	mg/L	0.030	06/19/20 20:18	
EPA 6020B	Molybdenum	0.019	mg/L	0.010	06/19/20 20:18	
SM 2450C-2011	Total Dissolved Solids	2100	mg/L	10.0	06/19/20 18:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	41.2	mg/L	5.0	06/29/20 18:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	41.2	mg/L	5.0	06/29/20 18:41	
EPA 300.0 Rev 2.1 1993	Chloride	223	mg/L	18.0	06/25/20 10:16	
EPA 300.0 Rev 2.1 1993	Sulfate	901	mg/L	18.0	06/25/20 10:16	
92482649002	MW-33					
	pH	4.36	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	561	mg/L	10.0	06/23/20 12:41	
EPA 6010D	Iron	1.2	mg/L	0.040	06/22/20 16:06	
EPA 6010D	Magnesium	55.9	mg/L	0.050	06/22/20 16:06	
EPA 6010D	Manganese	4.5	mg/L	0.040	06/22/20 16:06	
EPA 6010D	Potassium	11.1	mg/L	0.20	06/22/20 16:06	
EPA 6010D	Sodium	10.8	mg/L	1.0	06/22/20 16:06	
EPA 6020B	Arsenic	0.0031J	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Barium	0.024	mg/L	0.010	06/19/20 20:24	
EPA 6020B	Beryllium	0.00099J	mg/L	0.0030	06/19/20 20:24	
EPA 6020B	Boron	10.3	mg/L	1.0	06/23/20 12:44	
EPA 6020B	Cadmium	0.00021J	mg/L	0.0025	06/19/20 20:24	
EPA 6020B	Cobalt	0.053	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Lithium	0.00097J	mg/L	0.030	06/19/20 20:24	
EPA 6020B	Selenium	0.014	mg/L	0.010	06/19/20 20:24	
EPA 6020B	Thallium	0.00028J	mg/L	0.0010	06/19/20 20:24	
SM 2450C-2011	Total Dissolved Solids	2540	mg/L	10.0	06/19/20 18:09	
EPA 300.0 Rev 2.1 1993	Chloride	250	mg/L	24.0	06/25/20 10:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.25	mg/L	0.10	06/25/20 06:25	
EPA 300.0 Rev 2.1 1993	Sulfate	1210	mg/L	24.0	06/25/20 10:31	
92482649003	MW-35					
	pH	5.46	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	517	mg/L	10.0	06/23/20 12:46	M6
EPA 6010D	Iron	2.4	mg/L	0.040	06/22/20 17:10	
EPA 6010D	Magnesium	71.5	mg/L	0.050	06/22/20 17:10	M1
EPA 6010D	Manganese	10.6	mg/L	0.040	06/22/20 17:10	M1
EPA 6010D	Potassium	8.3	mg/L	0.20	06/22/20 17:10	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649003	MW-35					
EPA 6010D	Sodium	11.5	mg/L	1.0	06/22/20 17:10	
EPA 6020B	Arsenic	0.0050J	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Barium	0.029	mg/L	0.010	06/23/20 13:50	
EPA 6020B	Beryllium	0.00032J	mg/L	0.0030	06/23/20 13:50	
EPA 6020B	Boron	11.9	mg/L	1.0	06/23/20 16:53	
EPA 6020B	Cadmium	0.00053J	mg/L	0.0025	06/23/20 13:50	
EPA 6020B	Cobalt	0.091	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Lead	0.00016J	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Lithium	0.0046J	mg/L	0.030	06/23/20 13:50	
EPA 6020B	Selenium	0.014	mg/L	0.010	06/23/20 13:50	
EPA 6020B	Thallium	0.00013J	mg/L	0.0010	06/23/20 13:50	
SM 2450C-2011	Total Dissolved Solids	2310	mg/L	10.0	06/22/20 17:35	
EPA 300.0 Rev 2.1 1993	Chloride	229	mg/L	23.0	06/25/20 10:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	06/25/20 06:39	
EPA 300.0 Rev 2.1 1993	Sulfate	1160	mg/L	23.0	06/25/20 10:45	
92482649004	FB-02					
EPA 6010D	Calcium	0.16J	mg/L	1.0	06/22/20 17:26	
EPA 6010D	Magnesium	0.026J	mg/L	0.050	06/22/20 17:26	B
EPA 6020B	Boron	0.041J	mg/L	0.10	06/23/20 13:55	
92482649005	MW-34D					
	pH	7.35	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	584	mg/L	10.0	06/23/20 12:58	
EPA 6010D	Iron	1.8	mg/L	0.040	06/22/20 17:31	
EPA 6010D	Magnesium	59.3	mg/L	0.050	06/22/20 17:31	
EPA 6010D	Manganese	4.7	mg/L	0.040	06/22/20 17:31	
EPA 6010D	Potassium	10.8	mg/L	0.20	06/22/20 17:31	
EPA 6010D	Sodium	16.0	mg/L	1.0	06/22/20 17:31	
EPA 6020B	Arsenic	0.0032J	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Barium	0.044	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Beryllium	0.00015J	mg/L	0.0030	06/23/20 14:22	
EPA 6020B	Boron	9.4	mg/L	0.10	06/23/20 14:22	
EPA 6020B	Chromium	0.0059J	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Cobalt	0.011	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Lead	0.00087J	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	06/23/20 14:22	
EPA 6020B	Selenium	0.0025J	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Thallium	0.00015J	mg/L	0.0010	06/23/20 14:22	
SM 2450C-2011	Total Dissolved Solids	2320	mg/L	10.0	06/22/20 17:36	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	96.5	mg/L	5.0	06/30/20 15:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	96.5	mg/L	5.0	06/30/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	259	mg/L	22.0	06/26/20 08:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.10	06/25/20 22:36	
EPA 300.0 Rev 2.1 1993	Sulfate	1100	mg/L	22.0	06/26/20 08:16	
92482649006	MW-36D					
	pH	6.45	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	65.2	mg/L	1.0	06/22/20 17:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649006	MW-36D					
EPA 6010D	Iron	0.58	mg/L	0.040	06/22/20 17:43	
EPA 6010D	Magnesium	7.7	mg/L	0.050	06/22/20 17:43	
EPA 6010D	Manganese	0.055	mg/L	0.040	06/22/20 17:43	
EPA 6010D	Potassium	0.47	mg/L	0.20	06/22/20 17:43	
EPA 6010D	Sodium	7.2	mg/L	1.0	06/22/20 17:43	
EPA 6020B	Arsenic	0.00046J	mg/L	0.0050	06/23/20 14:28	
EPA 6020B	Barium	0.15	mg/L	0.010	06/23/20 14:28	
EPA 6020B	Boron	0.067J	mg/L	0.10	06/23/20 14:28	
EPA 6020B	Chromium	0.00045J	mg/L	0.010	06/23/20 14:28	
EPA 6020B	Lithium	0.0087J	mg/L	0.030	06/23/20 14:28	
SM 2450C-2011	Total Dissolved Solids	237	mg/L	10.0	06/22/20 17:37	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	164	mg/L	5.0	06/30/20 16:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	164	mg/L	5.0	06/30/20 16:02	
EPA 300.0 Rev 2.1 1993	Chloride	2.3	mg/L	1.0	06/25/20 22:50	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	06/25/20 22:50	
EPA 300.0 Rev 2.1 1993	Sulfate	50.5	mg/L	1.0	06/25/20 22:50	
92482649007	MW-37D					
	pH	7.78	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	165	mg/L	1.0	06/22/20 17:48	
EPA 6010D	Iron	3.4	mg/L	0.040	06/22/20 17:48	
EPA 6010D	Magnesium	30.5	mg/L	0.050	06/22/20 17:48	
EPA 6010D	Manganese	0.15	mg/L	0.040	06/22/20 17:48	
EPA 6010D	Potassium	2.9	mg/L	0.20	06/22/20 17:48	
EPA 6010D	Sodium	59.6	mg/L	1.0	06/22/20 17:48	
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Barium	0.19	mg/L	0.010	06/23/20 14:33	
EPA 6020B	Beryllium	0.00012J	mg/L	0.0030	06/23/20 14:33	
EPA 6020B	Boron	0.14	mg/L	0.10	06/23/20 14:33	
EPA 6020B	Chromium	0.0048J	mg/L	0.010	06/23/20 14:33	
EPA 6020B	Cobalt	0.0015J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Lithium	0.038J	mg/L	0.030	06/23/20 14:33	
EPA 6020B	Molybdenum	0.023	mg/L	0.010	06/23/20 14:33	
SM 2450C-2011	Total Dissolved Solids	888	mg/L	10.0	06/22/20 17:37	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	06/30/20 16:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	06/30/20 16:22	
EPA 300.0 Rev 2.1 1993	Chloride	151	mg/L	6.0	06/26/20 08:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	06/25/20 23:05	
EPA 300.0 Rev 2.1 1993	Sulfate	286	mg/L	6.0	06/26/20 08:31	
92482649008	MW-37D, FILTERED					
	pH	7.78	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	168	mg/L	1.0	06/22/20 17:52	
EPA 6010D	Iron	0.087	mg/L	0.040	06/22/20 17:52	
EPA 6010D	Magnesium	30.6	mg/L	0.050	06/22/20 17:52	
EPA 6010D	Manganese	0.12	mg/L	0.040	06/22/20 17:52	
EPA 6010D	Potassium	2.0	mg/L	0.20	06/22/20 17:52	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482649008	MW-37D, FILTERED					
EPA 6010D	Sodium	60.9	mg/L	1.0	06/22/20 17:52	
EPA 6020B	Arsenic	0.0016J	mg/L	0.0050	06/23/20 14:39	
EPA 6020B	Barium	0.17	mg/L	0.010	06/23/20 14:39	
EPA 6020B	Boron	0.14	mg/L	0.10	06/23/20 14:39	
EPA 6020B	Chromium	0.00040J	mg/L	0.010	06/23/20 14:39	
EPA 6020B	Lead	0.000051J	mg/L	0.0050	06/23/20 14:39	
EPA 6020B	Lithium	0.036J	mg/L	0.030	06/23/20 14:39	
EPA 6020B	Molybdenum	0.022	mg/L	0.010	06/23/20 14:39	
SM 2450C-2011	Total Dissolved Solids	879	mg/L	10.0	06/22/20 17:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	06/30/20 16:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	06/30/20 16:32	
EPA 300.0 Rev 2.1 1993	Chloride	160	mg/L	6.0	06/29/20 12:12	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	06/27/20 15:38	
EPA 300.0 Rev 2.1 1993	Sulfate	292	mg/L	6.0	06/29/20 12:12	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: MW-21D **Lab ID: 92482649001** Collected: 06/17/20 09:30 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.47	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	434	mg/L	10.0	1.4	10	06/19/20 14:00	06/23/20 12:37	7440-70-2	
Iron	22.3	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 16:02	7439-89-6	
Magnesium	71.7	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 16:02	7439-95-4	
Manganese	1.3	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 16:02	7439-96-5	
Potassium	1.1	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 16:02	7440-09-7	
Sodium	15.8	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 16:02	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00035	1	06/19/20 12:30	06/19/20 20:18	7440-38-2	
Barium	0.054	mg/L	0.010	0.00049	1	06/19/20 12:30	06/19/20 20:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/19/20 12:30	06/19/20 20:18	7440-41-7	
Boron	5.8	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 20:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/19/20 12:30	06/19/20 20:18	7440-43-9	
Chromium	0.00057J	mg/L	0.010	0.00039	1	06/19/20 12:30	06/19/20 20:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/19/20 12:30	06/19/20 20:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/19/20 12:30	06/19/20 20:18	7439-92-1	
Lithium	0.023J	mg/L	0.030	0.00078	1	06/19/20 12:30	06/19/20 20:18	7439-93-2	
Molybdenum	0.019	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/19/20 12:30	06/19/20 20:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/19/20 12:30	06/19/20 20:18	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2100	mg/L	10.0	10.0	1		06/19/20 18:08		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	41.2	mg/L	5.0	5.0	1		06/29/20 18:41		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/29/20 18:41		
Alkalinity, Total as CaCO ₃	41.2	mg/L	5.0	5.0	1		06/29/20 18:41		

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 18:54	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	223	mg/L	18.0	10.8	18		06/25/20 10:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/25/20 05:41	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-21D		Lab ID: 92482649001		Collected: 06/17/20 09:30	Received: 06/18/20 10:37	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							
Sulfate	901	mg/L	18.0	9.0	18		06/25/20 10:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE
 Pace Project No.: 92482649

Sample: MW-33 **Lab ID: 92482649002** Collected: 06/17/20 16:34 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.36	Std. Units			1		06/30/20 17:11		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	561	mg/L	10.0	1.4	10	06/19/20 14:00	06/23/20 12:41	7440-70-2	
Iron	1.2	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 16:06	7439-89-6	
Magnesium	55.9	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 16:06	7439-95-4	
Manganese	4.5	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 16:06	7439-96-5	
Potassium	11.1	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 16:06	7440-09-7	
Sodium	10.8	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 16:06	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	0.0031J	mg/L	0.0050	0.00035	1	06/19/20 12:30	06/19/20 20:24	7440-38-2	
Barium	0.024	mg/L	0.010	0.00049	1	06/19/20 12:30	06/19/20 20:24	7440-39-3	
Beryllium	0.00099J	mg/L	0.0030	0.000074	1	06/19/20 12:30	06/19/20 20:24	7440-41-7	
Boron	10.3	mg/L	1.0	0.049	10	06/19/20 12:30	06/23/20 12:44	7440-42-8	
Cadmium	0.00021J	mg/L	0.0025	0.00011	1	06/19/20 12:30	06/19/20 20:24	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/19/20 12:30	06/19/20 20:24	7440-47-3	
Cobalt	0.053	mg/L	0.0050	0.00030	1	06/19/20 12:30	06/19/20 20:24	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000046	1	06/19/20 12:30	06/19/20 20:24	7439-92-1	
Lithium	0.00097J	mg/L	0.030	0.00078	1	06/19/20 12:30	06/19/20 20:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:24	7439-98-7	
Selenium	0.014	mg/L	0.010	0.0013	1	06/19/20 12:30	06/19/20 20:24	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.000052	1	06/19/20 12:30	06/19/20 20:24	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2540	mg/L	10.0	10.0	1		06/19/20 18:09		
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 18:47		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 18:47		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		06/29/20 18:47		
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 18:57	18496-25-8	M1
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	250	mg/L	24.0	14.4	24		06/25/20 10:31	16887-00-6	
Fluoride	0.25	mg/L	0.10	0.050	1		06/25/20 06:25	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-33 Lab ID: 92482649002 Collected: 06/17/20 16:34 Received: 06/18/20 10:37 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									
Sulfate	1210	mg/L	24.0	12.0	24		06/25/20 10:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-35 **Lab ID: 92482649003** Collected: 06/18/20 11:52 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.46	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	517	mg/L	10.0	1.4	10	06/22/20 14:08	06/23/20 12:46	7440-70-2	M6
Iron	2.4	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:10	7439-89-6	
Magnesium	71.5	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:10	7439-95-4	M1
Manganese	10.6	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:10	7439-96-5	M1
Potassium	8.3	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:10	7440-09-7	
Sodium	11.5	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:10	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0050J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 13:50	7440-38-2	
Barium	0.029	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 13:50	7440-39-3	
Beryllium	0.00032J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 13:50	7440-41-7	
Boron	11.9	mg/L	1.0	0.049	10	06/22/20 17:17	06/23/20 16:53	7440-42-8	
Cadmium	0.00053J	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 13:50	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 13:50	7440-47-3	
Cobalt	0.091	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 13:50	7440-48-4	
Lead	0.00016J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 13:50	7439-92-1	
Lithium	0.0046J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 13:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 13:50	7439-98-7	
Selenium	0.014	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 13:50	7782-49-2	
Thallium	0.00013J	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 13:50	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2310	mg/L	10.0	10.0	1		06/22/20 17:35		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 15:33		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 15:33		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		06/30/20 15:33		

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 18:58	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	229	mg/L	23.0	13.8	23		06/25/20 10:45	16887-00-6	
Fluoride	0.053J	mg/L	0.10	0.050	1		06/25/20 06:39	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-35 Lab ID: 92482649003 Collected: 06/18/20 11:52 Received: 06/19/20 13:10 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									
Sulfate	1160	mg/L	23.0	11.5	23		06/25/20 10:45	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: FB-02 **Lab ID: 92482649004** Collected: 06/18/20 17:50 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	0.16J	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:26	7440-70-2	
Iron	ND	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:26	7439-89-6	
Magnesium	0.026J	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:26	7439-95-4	B
Manganese	ND	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:26	7439-96-5	
Potassium	ND	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:26	7440-09-7	
Sodium	ND	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:26	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 13:55	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 13:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 13:55	7440-41-7	
Boron	0.041J	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 13:55	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 13:55	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 13:55	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 13:55	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 13:55	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 13:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 13:55	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 13:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 13:55	7440-28-0	
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		06/22/20 17:35		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
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 18:59	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 22:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/25/20 22:21	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		06/25/20 22:21	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-34D **Lab ID: 92482649005** Collected: 06/18/20 18:05 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.35	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	584	mg/L	10.0	1.4	10	06/22/20 14:08	06/23/20 12:58	7440-70-2	
Iron	1.8	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:31	7439-89-6	
Magnesium	59.3	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:31	7439-95-4	
Manganese	4.7	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:31	7439-96-5	
Potassium	10.8	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:31	7440-09-7	
Sodium	16.0	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:31	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0032J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:22	7440-38-2	
Barium	0.044	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:22	7440-39-3	
Beryllium	0.00015J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:22	7440-41-7	
Boron	9.4	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:22	7440-43-9	
Chromium	0.0059J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:22	7440-47-3	
Cobalt	0.011	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:22	7440-48-4	
Lead	0.00087J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:22	7439-92-1	
Lithium	0.0021J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:22	7439-98-7	
Selenium	0.0025J	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:22	7782-49-2	
Thallium	0.00015J	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:22	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2320	mg/L	10.0	10.0	1		06/22/20 17:36		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	96.5	mg/L	5.0	5.0	1		06/30/20 15:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:52		
Alkalinity, Total as CaCO3	96.5	mg/L	5.0	5.0	1		06/30/20 15:52		

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 18:59	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	259	mg/L	22.0	13.2	22		06/26/20 08:16	16887-00-6	
Fluoride	0.082J	mg/L	0.10	0.050	1		06/25/20 22:36	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-34D **Lab ID: 92482649005** Collected: 06/18/20 18:05 Received: 06/19/20 13:10 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									
Sulfate	1100	mg/L	22.0	11.0	22		06/26/20 08:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-36D **Lab ID: 92482649006** Collected: 06/18/20 10:05 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.45	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	65.2	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:43	7440-70-2	
Iron	0.58	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:43	7439-89-6	
Magnesium	7.7	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:43	7439-95-4	
Manganese	0.055	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:43	7439-96-5	
Potassium	0.47	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:43	7440-09-7	
Sodium	7.2	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:43	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.00046J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:28	7440-38-2	
Barium	0.15	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:28	7440-41-7	
Boron	0.067J	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:28	7440-43-9	
Chromium	0.00045J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:28	7439-92-1	
Lithium	0.0087J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:28	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	237	mg/L	10.0	10.0	1		06/22/20 17:37		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	164	mg/L	5.0	5.0	1		06/30/20 16:02		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 16:02		
Alkalinity, Total as CaCO ₃	164	mg/L	5.0	5.0	1		06/30/20 16:02		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	ND	mg/L	0.10	0.050	1		06/24/20 19:00	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	2.3	mg/L	1.0	0.60	1		06/25/20 22:50	16887-00-6	
Fluoride	0.053J	mg/L	0.10	0.050	1		06/25/20 22:50	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-36D Lab ID: 92482649006 Collected: 06/18/20 10:05 Received: 06/19/20 13:10 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									
Sulfate	50.5	mg/L	1.0	0.50	1		06/25/20 22:50	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D **Lab ID: 92482649007** Collected: 06/18/20 13:15 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.78	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	165	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:48	7440-70-2
Iron	3.4	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:48	7439-89-6
Magnesium	30.5	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:48	7439-95-4
Manganese	0.15	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:48	7439-96-5
Potassium	2.9	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:48	7440-09-7
Sodium	59.6	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:48	7440-23-5

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0021J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:33	7440-38-2
Barium	0.19	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:33	7440-39-3
Beryllium	0.00012J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:33	7440-41-7
Boron	0.14	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:33	7440-42-8
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:33	7440-43-9
Chromium	0.0048J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:33	7440-47-3
Cobalt	0.0015J	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:33	7440-48-4
Lead	0.0017J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:33	7439-92-1
Lithium	0.038J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:33	7439-93-2
Molybdenum	0.023	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:33	7439-98-7
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:33	7782-49-2
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:33	7440-28-0

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	888	mg/L	10.0	10.0	1		06/22/20 17:37	
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	5.0	1		06/30/20 16:22	
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 16:22	
Alkalinity, Total as CaCO3	116	mg/L	5.0	5.0	1		06/30/20 16:22	

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 19:00	18496-25-8
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300.0 IC Anions 28 Days

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

Chloride	151	mg/L	6.0	3.6	6		06/26/20 08:31	16887-00-6
Fluoride	0.10	mg/L	0.10	0.050	1		06/25/20 23:05	16984-48-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D Lab ID: 92482649007 Collected: 06/18/20 13:15 Received: 06/19/20 13:10 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									
Sulfate	286	mg/L	6.0	3.0	6		06/26/20 08:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: MW-37D, FILTERED **Lab ID: 92482649008** Collected: 06/18/20 13:30 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	7.78	Std. Units			1		06/30/20 17:11		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	168	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:52	7440-70-2	
Iron	0.087	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:52	7439-89-6	
Magnesium	30.6	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:52	7439-95-4	
Manganese	0.12	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:52	7439-96-5	
Potassium	2.0	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:52	7440-09-7	
Sodium	60.9	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:52	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	0.0016J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:39	7440-38-2	
Barium	0.17	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:39	7440-41-7	
Boron	0.14	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:39	7440-43-9	
Chromium	0.00040J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:39	7440-48-4	
Lead	0.000051J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:39	7439-92-1	
Lithium	0.036J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:39	7439-93-2	
Molybdenum	0.022	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:39	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	879	mg/L	10.0	10.0	1		06/22/20 17:38		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	5.0	1		06/30/20 16:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 16:32		
Alkalinity, Total as CaCO3	116	mg/L	5.0	5.0	1		06/30/20 16:32		
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 19:00	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	160	mg/L	6.0	3.6	6		06/29/20 12:12	16887-00-6	
Fluoride	0.10	mg/L	0.10	0.050	1		06/27/20 15:38	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D, FILTERED Lab ID: 92482649008 Collected: 06/18/20 13:30 Received: 06/19/20 13:10 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									
Sulfate	292	mg/L	6.0	3.0	6		06/29/20 12:12	14808-79-8	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE
 Pace Project No.: 92482649

QC Batch: 548539 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2918225 Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482346005 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
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

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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548844 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919468 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	06/22/20 16:52	
Iron	mg/L	ND	0.040	0.015	06/22/20 16:52	
Magnesium	mg/L	0.011J	0.050	0.011	06/22/20 16:52	
Manganese	mg/L	ND	0.040	0.0061	06/22/20 16:52	
Potassium	mg/L	ND	0.20	0.026	06/22/20 16:52	
Sodium	mg/L	ND	1.0	0.19	06/22/20 16:52	

LABORATORY CONTROL SAMPLE: 2919473

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	100	80-120	
Magnesium	mg/L	1	1.0	102	80-120	
Manganese	mg/L	1	0.96	96	80-120	
Potassium	mg/L	1	0.86	86	80-120	
Sodium	mg/L	1	1.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919474 2919475

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92482649003	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Calcium	mg/L	517	1	1	511	511	-681	-642	75-125	0	20	M6	
Iron	mg/L	2.4	1	1	3.3	3.3	92	93	75-125	0	20		
Magnesium	mg/L	71.5	1	1	71.4	71.6	-16	5	75-125	0	20	M1	
Manganese	mg/L	10.6	1	1	11.3	11.2	67	58	75-125	1	20	M1	
Potassium	mg/L	8.3	1	1	9.2	9.2	89	91	75-125	0	20		
Sodium	mg/L	11.5	1	1	12.3	12.3	79	81	75-125	0	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548509	Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A	Analysis Description: 6020 MET
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2918043 Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
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	
Selenium	mg/L	ND	0.010	0.0013	06/19/20 17:32	
Thallium	mg/L	ND	0.0010	0.000052	06/19/20 17:32	

LABORATORY CONTROL SAMPLE: 2918044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	
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	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918045 2918046

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92482427001	Result	Spike Conc.	Spike Conc.							Result	Result
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Parameter	Units	2918045			2918046			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		92482427001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								MSD % Rec
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			
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			
Selenium	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20			
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20			

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548895 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919709 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	06/23/20 13:04	
Barium	mg/L	ND	0.010	0.00049	06/23/20 13:04	
Beryllium	mg/L	ND	0.0030	0.000074	06/23/20 13:04	
Boron	mg/L	ND	0.10	0.0049	06/23/20 13:04	
Cadmium	mg/L	ND	0.0025	0.00011	06/23/20 13:04	
Chromium	mg/L	ND	0.010	0.00039	06/23/20 13:04	
Cobalt	mg/L	ND	0.0050	0.00030	06/23/20 13:04	
Lead	mg/L	ND	0.0050	0.000046	06/23/20 13:04	
Lithium	mg/L	ND	0.030	0.00078	06/23/20 13:04	
Molybdenum	mg/L	ND	0.010	0.00095	06/23/20 13:04	
Selenium	mg/L	ND	0.010	0.0013	06/23/20 13:04	
Thallium	mg/L	ND	0.0010	0.000052	06/23/20 13:04	

LABORATORY CONTROL SAMPLE: 2919710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	0.10	101	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	100	80-120	
Cobalt	mg/L	0.1	0.096	96	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	0.099	99	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919711 2919712

Parameter	Units	2919711		2919712		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	99	102	75-125	3	20	
Barium	mg/L	0.17	0.1	0.1	0.26	0.28	92	109	75-125	6	20	
Beryllium	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Boron	mg/L	0.045J	1	1	1.0	0.98	95	94	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Parameter	Units	2919711			2919712			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		9248280001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								MSD % Rec
Cadmium	mg/L	ND	0.1	0.1	0.099	0.10	99	100	75-125	1	20			
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	1	20			
Cobalt	mg/L	ND	0.1	0.1	0.096	0.10	96	101	75-125	5	20			
Lead	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	1	20			
Lithium	mg/L	0.019J	0.1	0.1	0.12	0.12	99	98	75-125	0	20			
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	2	20			
Selenium	mg/L	ND	0.1	0.1	0.097	0.099	97	99	75-125	2	20			
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20			

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE
 Pace Project No.: 92482649

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: 92482649001, 92482649002

METHOD BLANK: 2918729 Matrix: Water
 Associated Lab Samples: 92482649001, 92482649002

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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548907 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: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919762 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

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-2 NON ROUTINE
 Pace Project No.: 92482649

QC Batch: 549851 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2923886 Matrix: Water
 Associated Lab Samples: 92482649001, 92482649002

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		2923889		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		2923891		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	8.3	50	50	63.0	63.9	109	111	80-120	2	25

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 550396 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2926273 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

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		2926276		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		2926278		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch:	549382	Analysis Method:	SM 4500-S2D-2011
QC Batch Method:	SM 4500-S2D-2011	Analysis Description:	4500S2D Sulfide Water
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92482649001, 92482649002, 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008		

METHOD BLANK:	2921743	Matrix:	Water
Associated Lab Samples:	92482649001, 92482649002, 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008		

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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch:	549186	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92482649001, 92482649002, 92482649003		

METHOD BLANK: 2920985 Matrix: Water

Associated Lab Samples: 92482649001, 92482649002, 92482649003

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482762001	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483147008	Result	Spike Conc.	Spike Conc.								
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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 549584 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649004, 92482649005, 92482649006, 92482649007

METHOD BLANK: 2922593 Matrix: Water
 Associated Lab Samples: 92482649004, 92482649005, 92482649006, 92482649007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/25/20 15:50	
Fluoride	mg/L	ND	0.10	0.050	06/25/20 15:50	
Sulfate	mg/L	ND	1.0	0.50	06/25/20 15:50	

LABORATORY CONTROL SAMPLE: 2922594

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922595 2922596

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483318001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	6.6	50	50	55.6	55.0	98	97	90-110	1	10		
Fluoride	mg/L	0.090J	2.5	2.5	2.7	2.6	103	102	90-110	1	10		
Sulfate	mg/L	5.5	50	50	55.0	54.4	99	98	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922597 2922598

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482981002 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	21.7	50	50	70.6	71.0	98	99	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	98	90-110	0	10		
Sulfate	mg/L	8.0	50	50	58.0	58.1	100	100	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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 550052	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92482649008

METHOD BLANK: 2925000 Matrix: Water

Associated Lab Samples: 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/27/20 15:08	
Fluoride	mg/L	ND	0.10	0.050	06/27/20 15:08	
Sulfate	mg/L	ND	1.0	0.50	06/27/20 15:08	

LABORATORY CONTROL SAMPLE: 2925001

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.5	103	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	50.9	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2925002 2925003

Parameter	Units	92482649008		2925002		2925003		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	160	160	50	50	206	206	91	92	90-110	0	10	
Fluoride	mg/L	0.10	0.10	2.5	2.5	2.5	2.5	95	97	90-110	2	10	
Sulfate	mg/L	292	292	50	50	337	339	91	94	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2925004 2925005

Parameter	Units	92483686007		2925004		2925005		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	33.3	33.3	50	50	84.9	86.5	103	106	90-110	2	10	
Fluoride	mg/L	0.28	0.28	2.5	2.5	2.7	2.9	97	103	90-110	5	10	
Sulfate	mg/L	1960	1960	50	50	2020	2020	119	118	90-110	0	10 M6	

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

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QUALIFIERS

Project: HAMMOND AP-2 NON ROUTINE
Pace Project No.: 92482649

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.
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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 NON ROUTINE
 Pace Project No.: 92482649

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482649001	MW-21D				
92482649002	MW-33				
92482649003	MW-35				
92482649005	MW-34D				
92482649006	MW-36D				
92482649007	MW-37D				
92482649008	MW-37D, FILTERED				
92482649001	MW-21D	EPA 3010A	548539	EPA 6010D	548601
92482649002	MW-33	EPA 3010A	548539	EPA 6010D	548601
92482649003	MW-35	EPA 3010A	548844	EPA 6010D	548861
92482649004	FB-02	EPA 3010A	548844	EPA 6010D	548861
92482649005	MW-34D	EPA 3010A	548844	EPA 6010D	548861
92482649006	MW-36D	EPA 3010A	548844	EPA 6010D	548861
92482649007	MW-37D	EPA 3010A	548844	EPA 6010D	548861
92482649008	MW-37D, FILTERED	EPA 3010A	548844	EPA 6010D	548861
92482649001	MW-21D	EPA 3005A	548509	EPA 6020B	548546
92482649002	MW-33	EPA 3005A	548509	EPA 6020B	548546
92482649003	MW-35	EPA 3005A	548895	EPA 6020B	548915
92482649004	FB-02	EPA 3005A	548895	EPA 6020B	548915
92482649005	MW-34D	EPA 3005A	548895	EPA 6020B	548915
92482649006	MW-36D	EPA 3005A	548895	EPA 6020B	548915
92482649007	MW-37D	EPA 3005A	548895	EPA 6020B	548915
92482649008	MW-37D, FILTERED	EPA 3005A	548895	EPA 6020B	548915
92482649001	MW-21D	SM 2450C-2011	548606		
92482649002	MW-33	SM 2450C-2011	548606		
92482649003	MW-35	SM 2450C-2011	548907		
92482649004	FB-02	SM 2450C-2011	548907		
92482649005	MW-34D	SM 2450C-2011	548907		
92482649006	MW-36D	SM 2450C-2011	548907		
92482649007	MW-37D	SM 2450C-2011	548907		
92482649008	MW-37D, FILTERED	SM 2450C-2011	548907		
92482649001	MW-21D	SM 2320B-2011	549851		
92482649002	MW-33	SM 2320B-2011	549851		
92482649003	MW-35	SM 2320B-2011	550396		
92482649004	FB-02	SM 2320B-2011	550396		
92482649005	MW-34D	SM 2320B-2011	550396		
92482649006	MW-36D	SM 2320B-2011	550396		
92482649007	MW-37D	SM 2320B-2011	550396		
92482649008	MW-37D, FILTERED	SM 2320B-2011	550396		
92482649001	MW-21D	SM 4500-S2D-2011	549382		
92482649002	MW-33	SM 4500-S2D-2011	549382		
92482649003	MW-35	SM 4500-S2D-2011	549382		
92482649004	FB-02	SM 4500-S2D-2011	549382		
92482649005	MW-34D	SM 4500-S2D-2011	549382		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482649006	MW-36D	SM 4500-S2D-2011	549382		
92482649007	MW-37D	SM 4500-S2D-2011	549382		
92482649008	MW-37D, FILTERED	SM 4500-S2D-2011	549382		
92482649001	MW-21D	EPA 300.0 Rev 2.1 1993	549186		
92482649002	MW-33	EPA 300.0 Rev 2.1 1993	549186		
92482649003	MW-35	EPA 300.0 Rev 2.1 1993	549186		
92482649004	FB-02	EPA 300.0 Rev 2.1 1993	549584		
92482649005	MW-34D	EPA 300.0 Rev 2.1 1993	549584		
92482649006	MW-36D	EPA 300.0 Rev 2.1 1993	549584		
92482649007	MW-37D	EPA 300.0 Rev 2.1 1993	549584		
92482649008	MW-37D, FILTERED	EPA 300.0 Rev 2.1 1993	550052		

REPORT OF LABORATORY ANALYSIS

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W0#: 92482649



Section I Requester Name: <u>On Point</u>		Section II Requester Contact Information Requester Name: <u>On Point</u>		Section III Requester Address Address: <u>Atlanta, GA</u>	
Section IV Requester Phone: <u>770 777 7777</u>		Section V Requester Email: <u>onpoint@onpoint.com</u>		Section VI Requester Title: <u>Project Manager</u>	
Section VII Requester Organization: <u>On Point</u>		Section VIII Requester Project Name: <u>On Point</u>		Section IX Requester Project Number: <u>00000018</u>	
Section X Requester Location: <u>Atlanta, GA</u>		Section XI Requester State: <u>GA</u>		Section XII Requester Country: <u>USA</u>	

Item #	Description of Sample	Matrix Code	Sample Type	Date Collected	Time Collected	# of Containers	Preservation				Analysis Test				Residual Volume (ml)			
							Temperature	Light	Humidity	Other	Trace Metals	Trace Organics	Trace Inorganics	Trace Volatiles				
1	Water 2-10	W1	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
2	Water 2-10	W2	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
3	Water 2-10	W3	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
4	Water 2-10	W4	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
5	Water 2-10	W5	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
6	Water 2-10	W6	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
7	Water 2-10	W7	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
8	Water 2-10	W8	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
9	Water 2-10	W9	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1
10	Water 2-10	W10	Water 2-10	2/10/20	10:00	1	4	1	1	1	1	1	1	1	1	1	1	1

Additional Comments: Sample ID of 2-10-20

Requested by: On Point

Date: 2/10/20

Time: 10:00

Location: Atlanta, GA

Project Name: On Point

Project Number: 00000018

Requester Name: On Point

Requester Title: Project Manager

Requester Phone: 770 777 7777

Requester Email: onpoint@onpoint.com

Requester Address: Atlanta, GA

Requester State: GA

Requester Country: USA

Requester Project Name: On Point

Requester Project Number: 00000018

Requester Location: Atlanta, GA

Requester State: GA

Requester Country: USA

Requester Name: On Point

Requester Title: Project Manager

Requester Phone: 770 777 7777

Requester Email: onpoint@onpoint.com

Requester Address: Atlanta, GA

Requester State: GA

Requester Country: USA

Requester Project Name: On Point

Requester Project Number: 00000018

Requester Location: Atlanta, GA

Requester State: GA

Requester Country: USA



CHAIN-OF-CUSTODY / Analytical Request ID
The Chain-of-Custody is a record, 000000001, of retained funds used for analysis.

W0#: 92482649
PFI: ALH1 Date Date: 87/82/20
CLIENT: CR-CR Power

Section A: Requestor Information
 Requestor: CR Power
 Address: Atlanta, GA

Section B: Requested Project Information
 Request for: CR-CR Power
 Requested by: [Signature]

Section C: Requested Analysis Information
 Analysis: CR-CR Power
 Date of Collection: 6/18/20

REGULATORY AGENCY: CR-CR Power

STATUS: [] OPEN [] CLOSED

ITEM #	ANALYSIS ID	ANALYSIS NAME	ANALYSIS TYPE	ANALYSIS UNIT	ANALYSIS DATE	# OF CONTAINERS	ANALYSIS METHOD	ANALYSIS TESTS												RESIDUAL CHARGE (%)	TEST COMMENTS
								ANALYSIS TEST 1	ANALYSIS TEST 2	ANALYSIS TEST 3	ANALYSIS TEST 4	ANALYSIS TEST 5	ANALYSIS TEST 6	ANALYSIS TEST 7	ANALYSIS TEST 8	ANALYSIS TEST 9	ANALYSIS TEST 10	ANALYSIS TEST 11	ANALYSIS TEST 12		
1	ANALYSIS ID	ANALYSIS NAME	ANALYSIS TYPE	ANALYSIS UNIT	ANALYSIS DATE	# OF CONTAINERS	ANALYSIS METHOD	ANALYSIS TEST 1	ANALYSIS TEST 2	ANALYSIS TEST 3	ANALYSIS TEST 4	ANALYSIS TEST 5	ANALYSIS TEST 6	ANALYSIS TEST 7	ANALYSIS TEST 8	ANALYSIS TEST 9	ANALYSIS TEST 10	ANALYSIS TEST 11	ANALYSIS TEST 12	RESIDUAL CHARGE (%)	TEST COMMENTS
2	ANALYSIS ID	ANALYSIS NAME	ANALYSIS TYPE	ANALYSIS UNIT	ANALYSIS DATE	# OF CONTAINERS	ANALYSIS METHOD	ANALYSIS TEST 1	ANALYSIS TEST 2	ANALYSIS TEST 3	ANALYSIS TEST 4	ANALYSIS TEST 5	ANALYSIS TEST 6	ANALYSIS TEST 7	ANALYSIS TEST 8	ANALYSIS TEST 9	ANALYSIS TEST 10	ANALYSIS TEST 11	ANALYSIS TEST 12	RESIDUAL CHARGE (%)	TEST COMMENTS

ADDITIONAL COMMENTS:

ANALYST: [Signature]

DATE: 6/18/20

TIME: 10:37

LOCATION: CR-CR Power

ANALYSIS ID: 92482649

ANALYSIS NAME: CR-CR Power

ANALYSIS TYPE: CR-CR Power

ANALYSIS UNIT: CR-CR Power

ANALYSIS DATE: 6/18/20

OF CONTAINERS: 1

ANALYSIS METHOD: CR-CR Power

ANALYSIS TEST 1: CR-CR Power

ANALYSIS TEST 2: CR-CR Power

ANALYSIS TEST 3: CR-CR Power

ANALYSIS TEST 4: CR-CR Power

ANALYSIS TEST 5: CR-CR Power

ANALYSIS TEST 6: CR-CR Power

ANALYSIS TEST 7: CR-CR Power

ANALYSIS TEST 8: CR-CR Power

ANALYSIS TEST 9: CR-CR Power

ANALYSIS TEST 10: CR-CR Power

ANALYSIS TEST 11: CR-CR Power

ANALYSIS TEST 12: CR-CR Power

RESIDUAL CHARGE (%):

TEST COMMENTS:



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Page 2 of 2

Section A Requester's Information Company: <u>QA People</u> Address: <u>QA</u> Phone: <u>800-855-5339</u> Requester's Email: <u>tim</u>	Section B Requester's Contact Name: <u>John E. Gendron</u> Title: <u>Compliance Contact</u> Phone: <u>800-855-5339</u> Fax: <u>800-855-5339</u> Requester's Email: <u>John.E.Gendron@QAPEOPLE.COM</u>	Section C Requester's Location City: <u>Atlanta</u> State: <u>GA</u> Zip: <u>30308</u> Country: <u>USA</u>
Section D Requester's Product Product Name: <u>QA People</u> Product Code: <u>QA</u> Product Description: <u>QA People</u>		REGULATORY AGENCY Agency: <u>OSHA</u> Agency Address: <u>OSHA</u> Agency Phone: <u>OSHA</u> Agency Email: <u>OSHA</u>

SAMPLE ID	DATE	TIME	LOCATION	ANALYST	LABORATORY	ANALYSIS		REMARKS
						TEST	RESULT	
42452649	6/19/12	1340	QA People	John E. Gendron	QA People	OSHA	OSHA	OSHA

LABORATORY NAME AND SIGNATURE Name of Laboratory: <u>QA People</u> Address of Laboratory: <u>QA People</u> City: <u>Atlanta</u> State: <u>GA</u> Zip: <u>30308</u>	LABORATORY SIGNATURE Name: <u>John E. Gendron</u> Title: <u>Compliance Contact</u> Signature: <i>[Signature]</i>
--	--

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Page 2 of 2

Section A Requestor Information Agency: <u>CA Power</u> Contact: <u>Allyssa CA</u>		Section B Requested Analyte Information Request To: <u>ICS Controls</u> Request From: <u>Associated Companies</u>		Section C Request Location Location: <u>Southwest CA</u> Property Name: _____ Address: _____ City/State: <u>San Diego</u> <u>CA</u> Zip: _____ Request Date: _____ Request Time: _____ Requested By: _____ Requested By Title: _____ Requested By Phone: _____ Requested By Email: _____	
REGULATORY AGENCY Agency: _____ State: _____ City: _____ Zip: _____ Requested By: _____ Requested By Title: _____ Requested By Phone: _____ Requested By Email: _____		REGULATORY AGENCY Agency: _____ State: _____ City: _____ Zip: _____ Requested By: _____ Requested By Title: _____ Requested By Phone: _____ Requested By Email: _____		REGULATORY AGENCY Agency: _____ State: _____ City: _____ Zip: _____ Requested By: _____ Requested By Title: _____ Requested By Phone: _____ Requested By Email: _____	

Item #	Requestor Chain of Custody	Date/Time/Location	Sample ID	Sample Description	Sample Type	Sample Temp at Collection	# of Containers	Collected		Analysis Test	Requester Analyte Request (Y/N)	Result Chain of Custody
								Container	Volume			
1	Allyssa CA	6/18/2020	101-1	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
2	Allyssa CA	6/18/2020	101-2	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
3	Allyssa CA	6/18/2020	101-3	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
4	Allyssa CA	6/18/2020	101-4	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
5	Allyssa CA	6/18/2020	101-5	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
6	Allyssa CA	6/18/2020	101-6	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
7	Allyssa CA	6/18/2020	101-7	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
8	Allyssa CA	6/18/2020	101-8	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
9	Allyssa CA	6/18/2020	101-9	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
10	Allyssa CA	6/18/2020	101-10	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
11	Allyssa CA	6/18/2020	101-11	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020
12	Allyssa CA	6/18/2020	101-12	Water	Water	70°F	1	1	1	ICS Controls	Y	6/24/2020

Item #	Requestor Chain of Custody	Date/Time/Location	Sample ID	Sample Description	Sample Type	Sample Temp at Collection	# of Containers	Collected	Analysis Test	Requester Analyte Request (Y/N)	Result Chain of Custody
1	Allyssa CA	6/18/2020	101-1	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
2	Allyssa CA	6/18/2020	101-2	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
3	Allyssa CA	6/18/2020	101-3	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
4	Allyssa CA	6/18/2020	101-4	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
5	Allyssa CA	6/18/2020	101-5	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
6	Allyssa CA	6/18/2020	101-6	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
7	Allyssa CA	6/18/2020	101-7	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
8	Allyssa CA	6/18/2020	101-8	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
9	Allyssa CA	6/18/2020	101-9	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
10	Allyssa CA	6/18/2020	101-10	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
11	Allyssa CA	6/18/2020	101-11	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020
12	Allyssa CA	6/18/2020	101-12	Water	Water	70°F	1	1	ICS Controls	Y	6/24/2020

Additional Comments: _____
 Signature of Requestor: _____
 Date: _____
 Title: _____



July 14, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 NON ROUTINE RADS
Pace Project No.: 92482645

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between June 18, 2020 and June 19, 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: Kristen Jurinko
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Co. Services



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 NON ROUTINE RAD5

Pace Project No.: 92482645

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

Guam Certification

Florida: Cert E871149 SEKS WET

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92482645001	MW-21D	Water	06/17/20 09:30	06/18/20 10:37
92482645002	MW-33	Water	06/17/20 16:34	06/18/20 10:37
92482645003	MW-35	Water	06/18/20 11:52	06/19/20 13:10
92482645004	FB-02	Water	06/18/20 17:50	06/19/20 13:10
92482645005	MW-34D	Water	06/18/20 18:05	06/19/20 13:10
92482645006	MW-36D	Water	06/18/20 10:05	06/19/20 13:10
92482645007	MW-37D	Water	06/18/20 13:15	06/19/20 13:10
92482645008	MW-37D, FILTERED	Water	06/18/20 13:30	06/19/20 13:10

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92482645001	MW-21D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645002	MW-33	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645003	MW-35	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645004	FB-02	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645005	MW-34D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645006	MW-36D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645007	MW-37D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92482645008	MW-37D, FILTERED	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482645001	MW-21D					
EPA 9315	Radium-226	0.157 ± 0.303 (0.697) C:91% T:NA	pCi/L		07/08/20 08:42	
EPA 9320	Radium-228	0.534 ± 0.534 (1.11) C:57% T:81%	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	0.691 ± 0.837 (1.81)	pCi/L		07/09/20 09:57	
92482645002	MW-33					
EPA 9315	Radium-226	0.881 ± 0.385 (0.425) C:96% T:NA	pCi/L		07/08/20 08:42	
EPA 9320	Radium-228	0.544 ± 0.590 (1.23) C:58% T:74%	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	1.43 ± 0.975 (1.66)	pCi/L		07/09/20 09:57	
92482645003	MW-35					
EPA 9315	Radium-226	0.386 ± 0.283 (0.478) C:96% T:NA	pCi/L		07/08/20 08:42	
EPA 9320	Radium-228	1.63 ± 0.621 (0.957) C:69% T:75%	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	2.02 ± 0.904 (1.44)	pCi/L		07/09/20 09:57	
92482645004	FB-02					
EPA 9315	Radium-226	0.221 ± 0.237 (0.462) C:89% T:NA	pCi/L		07/08/20 07:10	
EPA 9320	Radium-228	0.250 ± 0.450 (0.984) C:65% T:76%	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	0.471 ± 0.687 (1.45)	pCi/L		07/09/20 09:57	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482645005	MW-34D					
EPA 9315	Radium-226	0.401 ± 0.261 (0.367)	pCi/L		07/08/20 07:11	
EPA 9320	Radium-228	C:98% T:NA 0.963 ± 0.538 (0.984)	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	C:65% T:78% 1.36 ± 0.799 (1.35)	pCi/L		07/09/20 09:57	
92482645006	MW-36D					
EPA 9315	Radium-226	0.177 ± 0.258 (0.565)	pCi/L		07/08/20 07:12	
EPA 9320	Radium-228	C:93% T:NA 1.67 ± 0.647 (1.02)	pCi/L		07/06/20 16:02	
Total Radium Calculation	Total Radium	C:64% T:81% 1.85 ± 0.905 (1.59)	pCi/L		07/09/20 09:57	
92482645007	MW-37D					
EPA 9315	Radium-226	0.709 ± 0.350 (0.425)	pCi/L		07/08/20 07:13	
EPA 9320	Radium-228	C:84% T:NA 1.08 ± 0.548 (0.962)	pCi/L		07/06/20 16:03	
Total Radium Calculation	Total Radium	C:63% T:79% 1.79 ± 0.898 (1.39)	pCi/L		07/09/20 09:57	
92482645008	MW-37D, FILTERED					
EPA 9315	Radium-226	0.246 ± 0.244 (0.467)	pCi/L		07/08/20 07:12	
EPA 9320	Radium-228	C:90% T:NA 0.437 ± 0.448 (0.929)	pCi/L		07/06/20 16:03	
Total Radium Calculation	Total Radium	C:64% T:79% 0.683 ± 0.692 (1.40)	pCi/L		07/09/20 09:57	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Sample: MW-21D **Lab ID: 92482645001** Collected: 06/17/20 09:30 Received: 06/18/20 10:37 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 ± 0.303 (0.697) C:91% T:NA	pCi/L	07/08/20 08:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.534 ± 0.534 (1.11) C:57% T:81%	pCi/L	07/06/20 16:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.691 ± 0.837 (1.81)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Sample: MW-33 **Lab ID: 92482645002** Collected: 06/17/20 16:34 Received: 06/18/20 10:37 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	0.881 ± 0.385 (0.425) C:96% T:NA	pCi/L	07/08/20 08:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.544 ± 0.590 (1.23) C:58% T:74%	pCi/L	07/06/20 16:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.43 ± 0.975 (1.66)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.386 ± 0.283 (0.478) C:96% T:NA	pCi/L	07/08/20 08:42	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.63 ± 0.621 (0.957) C:69% T:75%	pCi/L	07/06/20 16:02	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	2.02 ± 0.904 (1.44)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.221 ± 0.237 (0.462) C:89% T:NA	pCi/L	07/08/20 07:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.250 ± 0.450 (0.984) C:65% T:76%	pCi/L	07/06/20 16:02	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.471 ± 0.687 (1.45)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.401 ± 0.261 (0.367) C:98% T:NA	pCi/L	07/08/20 07:11	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.963 ± 0.538 (0.984) C:65% T:78%	pCi/L	07/06/20 16:02	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.36 ± 0.799 (1.35)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Sample: MW-36D **Lab ID: 92482645006** Collected: 06/18/20 10:05 Received: 06/19/20 13:10 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	0.177 ± 0.258 (0.565) C:93% T:NA	pCi/L	07/08/20 07:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.67 ± 0.647 (1.02) C:64% T:81%	pCi/L	07/06/20 16:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.85 ± 0.905 (1.59)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Sample: MW-37D **Lab ID: 92482645007** Collected: 06/18/20 13:15 Received: 06/19/20 13:10 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	0.709 ± 0.350 (0.425) C:84% T:NA	pCi/L	07/08/20 07:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.08 ± 0.548 (0.962) C:63% T:79%	pCi/L	07/06/20 16:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.79 ± 0.898 (1.39)	pCi/L	07/09/20 09:57	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-37D, FILTERED Lab ID: 92482645008 Collected: 06/18/20 13:30 Received: 06/19/20 13:10 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.246 ± 0.244 (0.467) C:90% T:NA	pCi/L	07/08/20 07:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.437 ± 0.448 (0.929) C:64% T:79%	pCi/L	07/06/20 16:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.683 ± 0.692 (1.40)	pCi/L	07/09/20 09:57	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

QC Batch:	403006	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92482645001, 92482645002, 92482645003, 92482645004, 92482645005, 92482645006, 92482645007, 92482645008

METHOD BLANK: 1950655 Matrix: Water

Associated Lab Samples: 92482645001, 92482645002, 92482645003, 92482645004, 92482645005, 92482645006, 92482645007, 92482645008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0758 ± 0.123 (0.256) C:97% T:NA	pCi/L	07/07/20 19:54	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

QC Batch:	402596	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92482645001, 92482645002, 92482645003, 92482645004, 92482645005, 92482645006, 92482645007, 92482645008

METHOD BLANK: 1948602 Matrix: Water

Associated Lab Samples: 92482645001, 92482645002, 92482645003, 92482645004, 92482645005, 92482645006, 92482645007, 92482645008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.856 ± 0.506 (0.940) C:63% T:80%	pCi/L	07/06/20 16:00	

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

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QUALIFIERS

Project: HAMMOND AP-2 NON ROUTINE RADS

Pace Project No.: 92482645

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 NON ROUTINE RAD5

Pace Project No.: 92482645

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482645001	MW-21D	EPA 9315	403006		
92482645002	MW-33	EPA 9315	403006		
92482645003	MW-35	EPA 9315	403006		
92482645004	FB-02	EPA 9315	403006		
92482645005	MW-34D	EPA 9315	403006		
92482645006	MW-36D	EPA 9315	403006		
92482645007	MW-37D	EPA 9315	403006		
92482645008	MW-37D, FILTERED	EPA 9315	403006		
92482645001	MW-21D	EPA 9320	402596		
92482645002	MW-33	EPA 9320	402596		
92482645003	MW-35	EPA 9320	402596		
92482645004	FB-02	EPA 9320	402596		
92482645005	MW-34D	EPA 9320	402596		
92482645006	MW-36D	EPA 9320	402596		
92482645007	MW-37D	EPA 9320	402596		
92482645008	MW-37D, FILTERED	EPA 9320	402596		
92482645001	MW-21D	Total Radium Calculation	404343		
92482645002	MW-33	Total Radium Calculation	404343		
92482645003	MW-35	Total Radium Calculation	404343		
92482645004	FB-02	Total Radium Calculation	404343		
92482645005	MW-34D	Total Radium Calculation	404343		
92482645006	MW-36D	Total Radium Calculation	404343		
92482645007	MW-37D	Total Radium Calculation	404343		
92482645008	MW-37D, FILTERED	Total Radium Calculation	404343		

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CHAIN-OF-CUSTODY / Analytical Request Doc
 The Chain of Custody is a critical document. All samples taken must be complete.

W0# : 92482645

92482645

Page: 1 of 2

Section A Requester: <u>DA Federal</u> Requester Title: <u>ASST DA</u>	Section B Requester: <u>SOB Controls</u> Requester Title: <u>Operations Control</u>	Section C Event: <u>Sample</u> Sample ID: <u>DA</u>
Section D Requester: <u>SOB Controls</u> Requester Title: <u>Operations Control</u>	Section E Event: <u>Sample</u> Sample ID: <u>DA</u>	Section F Requester: <u>DA</u> Requester Title: <u>ASST DA</u>
Section G Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section H Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section I Requester: <u>DA</u> Requester Title: <u>ASST DA</u>

Section A Sample ID	Section B Requester Name	Section C Requester Title	Section D Event	Section E Sample ID	Section F Requester	Section G Requester Title	Section H Date	Section I Time	Section J Location	Section K Quantity	Section L Container	Section M Analysis Test	Section N Requester	Section O Requester Title	Section P Date	Section Q Time	Section R Signature	Section S Initials
1	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
2	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
3	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
4	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
5	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
6	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
7	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
8	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
9	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210
10	W0-210	W0-210	W0-210	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	1	1	W0-210	W0-210	W0-210	1/15/20	10:30	W0-210	W0-210

Section A Requester: <u>DA Federal</u> Requester Title: <u>ASST DA</u>	Section B Requester: <u>SOB Controls</u> Requester Title: <u>Operations Control</u>	Section C Event: <u>Sample</u> Sample ID: <u>DA</u>	Section D Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section E Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section F Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section G Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section H Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section I Requester: <u>DA</u> Requester Title: <u>ASST DA</u>	Section J Requester: <u>DA</u> Requester Title: <u>ASST DA</u>
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CHAIN-OF-CUSTODY / Analytical Request D
 The Client's name shall be indicated in boldface letters on all labels and forms used for samples.

W0#: 92482645
 PM: KLH1
 CLIENT: OR-OR Power
 Due Date: 07/10/20

Section A Requester Information		Section B Requester Information		Section C Requester Information	
Company: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power
Address: Atlanta, GA	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power
City: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power
State: CA	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power
Requester Contact: 714	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power	Requester: CA Power

ITEM #	Requester's Description	Total Gross Weight	Sample Code	Sample Type	Sample Type at Collection	# of Containers	Analysis Test	Requested Analysis (Standard Tests)																		
								1	2	3	4	5	6	7	8	9	10	11	12							
1	Sample 1	10.00	10-01	SOIL	10-01	1	Asbestos																			
2	Sample 2	10.00	10-02	SOIL	10-02	1	Asbestos																			
3	Sample 3	10.00	10-03	SOIL	10-03	1	Asbestos																			
4	Sample 4	10.00	10-04	SOIL	10-04	1	Asbestos																			
5	Sample 5	10.00	10-05	SOIL	10-05	1	Asbestos																			
6	Sample 6	10.00	10-06	SOIL	10-06	1	Asbestos																			
7	Sample 7	10.00	10-07	SOIL	10-07	1	Asbestos																			
8	Sample 8	10.00	10-08	SOIL	10-08	1	Asbestos																			
9	Sample 9	10.00	10-09	SOIL	10-09	1	Asbestos																			
10	Sample 10	10.00	10-10	SOIL	10-10	1	Asbestos																			
11	Sample 11	10.00	10-11	SOIL	10-11	1	Asbestos																			
12	Sample 12	10.00	10-12	SOIL	10-12	1	Asbestos																			

SAMPLE LABEL AND IDENTIFICATION	
Requester Name: CA Power	Requester Address: CA Power
Requester Contact: 714	Requester Phone: 714
Requester Email: CA Power	Requester Fax: 714

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Quality Control Sample Performance Assessment



Report generated by the Laboratory Information System (LIS) on 04/11/2011 at 10:00 AM.

Lab ID: 10000
 Sample ID: 10000
 Date: 04/11/2011
 Time: 10:00 AM

Parameter	Method	Result	Units	Notes
Lead (Pb)	ICP-MS	0.05	mg/L	
Cadmium (Cd)	ICP-MS	0.01	mg/L	
Chromium (Cr)	ICP-MS	0.10	mg/L	
Copper (Cu)	ICP-MS	0.20	mg/L	
Iron (Fe)	ICP-MS	1.00	mg/L	
Manganese (Mn)	ICP-MS	0.50	mg/L	
Nickel (Ni)	ICP-MS	0.05	mg/L	
Silver (Ag)	ICP-MS	0.01	mg/L	
Zinc (Zn)	ICP-MS	0.50	mg/L	
Aluminum (Al)	ICP-MS	1.00	mg/L	
Boron (B)	ICP-MS	0.10	mg/L	
Barium (Ba)	ICP-MS	0.05	mg/L	
Bismuth (Bi)	ICP-MS	0.01	mg/L	
Calcium (Ca)	ICP-MS	10.00	mg/L	
Chlorine (Cl)	ICP-MS	1.00	mg/L	
Cobalt (Co)	ICP-MS	0.01	mg/L	
Fluorine (F)	ICP-MS	0.10	mg/L	
Gallium (Ga)	ICP-MS	0.01	mg/L	
Germanium (Ge)	ICP-MS	0.01	mg/L	
Gold (Au)	ICP-MS	0.01	mg/L	
Indium (In)	ICP-MS	0.01	mg/L	
Krypton (Kr)	ICP-MS	0.01	mg/L	
Lithium (Li)	ICP-MS	0.01	mg/L	
Mercury (Hg)	ICP-MS	0.01	mg/L	
Molybdenum (Mo)	ICP-MS	0.01	mg/L	
Neon (Ne)	ICP-MS	0.01	mg/L	
Niobium (Nb)	ICP-MS	0.01	mg/L	
Oxygen (O)	ICP-MS	1.00	mg/L	
Phosphorus (P)	ICP-MS	0.10	mg/L	
Platinum (Pt)	ICP-MS	0.01	mg/L	
Protactinium (Pa)	ICP-MS	0.01	mg/L	
Rubidium (Rb)	ICP-MS	0.01	mg/L	
Selenium (Se)	ICP-MS	0.01	mg/L	
Strontium (Sr)	ICP-MS	0.01	mg/L	
Tantalum (Ta)	ICP-MS	0.01	mg/L	
Tellurium (Te)	ICP-MS	0.01	mg/L	
Thallium (Tl)	ICP-MS	0.01	mg/L	
Thorium (Th)	ICP-MS	0.01	mg/L	
Tin (Sn)	ICP-MS	0.01	mg/L	
Tungsten (W)	ICP-MS	0.01	mg/L	
Vanadium (V)	ICP-MS	0.01	mg/L	
Xenon (Xe)	ICP-MS	0.01	mg/L	
Yttrium (Y)	ICP-MS	0.01	mg/L	
Zirconium (Zr)	ICP-MS	0.01	mg/L	

Parameter	Method	Result	Units	Notes
Lead (Pb)	ICP-MS	0.05	mg/L	
Cadmium (Cd)	ICP-MS	0.01	mg/L	
Chromium (Cr)	ICP-MS	0.10	mg/L	
Copper (Cu)	ICP-MS	0.20	mg/L	
Iron (Fe)	ICP-MS	1.00	mg/L	
Manganese (Mn)	ICP-MS	0.50	mg/L	
Nickel (Ni)	ICP-MS	0.05	mg/L	
Silver (Ag)	ICP-MS	0.01	mg/L	
Zinc (Zn)	ICP-MS	0.50	mg/L	
Aluminum (Al)	ICP-MS	1.00	mg/L	
Boron (B)	ICP-MS	0.10	mg/L	
Barium (Ba)	ICP-MS	0.05	mg/L	
Bismuth (Bi)	ICP-MS	0.01	mg/L	
Calcium (Ca)	ICP-MS	10.00	mg/L	
Chlorine (Cl)	ICP-MS	1.00	mg/L	
Cobalt (Co)	ICP-MS	0.01	mg/L	
Fluorine (F)	ICP-MS	0.10	mg/L	
Gallium (Ga)	ICP-MS	0.01	mg/L	
Germanium (Ge)	ICP-MS	0.01	mg/L	
Gold (Au)	ICP-MS	0.01	mg/L	
Indium (In)	ICP-MS	0.01	mg/L	
Krypton (Kr)	ICP-MS	0.01	mg/L	
Lithium (Li)	ICP-MS	0.01	mg/L	
Mercury (Hg)	ICP-MS	0.01	mg/L	
Molybdenum (Mo)	ICP-MS	0.01	mg/L	
Neon (Ne)	ICP-MS	0.01	mg/L	
Niobium (Nb)	ICP-MS	0.01	mg/L	
Oxygen (O)	ICP-MS	1.00	mg/L	
Phosphorus (P)	ICP-MS	0.10	mg/L	
Platinum (Pt)	ICP-MS	0.01	mg/L	
Protactinium (Pa)	ICP-MS	0.01	mg/L	
Rubidium (Rb)	ICP-MS	0.01	mg/L	
Selenium (Se)	ICP-MS	0.01	mg/L	
Strontium (Sr)	ICP-MS	0.01	mg/L	
Tantalum (Ta)	ICP-MS	0.01	mg/L	
Tellurium (Te)	ICP-MS	0.01	mg/L	
Thallium (Tl)	ICP-MS	0.01	mg/L	
Thorium (Th)	ICP-MS	0.01	mg/L	
Tin (Sn)	ICP-MS	0.01	mg/L	
Tungsten (W)	ICP-MS	0.01	mg/L	
Vanadium (V)	ICP-MS	0.01	mg/L	
Xenon (Xe)	ICP-MS	0.01	mg/L	
Yttrium (Y)	ICP-MS	0.01	mg/L	
Zirconium (Zr)	ICP-MS	0.01	mg/L	

Parameter	Method	Result	Units	Notes
Lead (Pb)	ICP-MS	0.05	mg/L	
Cadmium (Cd)	ICP-MS	0.01	mg/L	
Chromium (Cr)	ICP-MS	0.10	mg/L	
Copper (Cu)	ICP-MS	0.20	mg/L	
Iron (Fe)	ICP-MS	1.00	mg/L	
Manganese (Mn)	ICP-MS	0.50	mg/L	
Nickel (Ni)	ICP-MS	0.05	mg/L	
Silver (Ag)	ICP-MS	0.01	mg/L	
Zinc (Zn)	ICP-MS	0.50	mg/L	
Aluminum (Al)	ICP-MS	1.00	mg/L	
Boron (B)	ICP-MS	0.10	mg/L	
Barium (Ba)	ICP-MS	0.05	mg/L	
Bismuth (Bi)	ICP-MS	0.01	mg/L	
Calcium (Ca)	ICP-MS	10.00	mg/L	
Chlorine (Cl)	ICP-MS	1.00	mg/L	
Cobalt (Co)	ICP-MS	0.01	mg/L	
Fluorine (F)	ICP-MS	0.10	mg/L	
Gallium (Ga)	ICP-MS	0.01	mg/L	
Germanium (Ge)	ICP-MS	0.01	mg/L	
Gold (Au)	ICP-MS	0.01	mg/L	
Indium (In)	ICP-MS	0.01	mg/L	
Krypton (Kr)	ICP-MS	0.01	mg/L	
Lithium (Li)	ICP-MS	0.01	mg/L	
Mercury (Hg)	ICP-MS	0.01	mg/L	
Molybdenum (Mo)	ICP-MS	0.01	mg/L	
Neon (Ne)	ICP-MS	0.01	mg/L	
Niobium (Nb)	ICP-MS	0.01	mg/L	
Oxygen (O)	ICP-MS	1.00	mg/L	
Phosphorus (P)	ICP-MS	0.10	mg/L	
Platinum (Pt)	ICP-MS	0.01	mg/L	
Protactinium (Pa)	ICP-MS	0.01	mg/L	
Rubidium (Rb)	ICP-MS	0.01	mg/L	
Selenium (Se)	ICP-MS	0.01	mg/L	
Strontium (Sr)	ICP-MS	0.01	mg/L	
Tantalum (Ta)	ICP-MS	0.01	mg/L	
Tellurium (Te)	ICP-MS	0.01	mg/L	
Thallium (Tl)	ICP-MS	0.01	mg/L	
Thorium (Th)	ICP-MS	0.01	mg/L	
Tin (Sn)	ICP-MS	0.01	mg/L	
Tungsten (W)	ICP-MS	0.01	mg/L	
Vanadium (V)	ICP-MS	0.01	mg/L	
Xenon (Xe)	ICP-MS	0.01	mg/L	
Yttrium (Y)	ICP-MS	0.01	mg/L	
Zirconium (Zr)	ICP-MS	0.01	mg/L	

Parameter	Method	Result	Units	Notes
Lead (Pb)	ICP-MS	0.05	mg/L	
Cadmium (Cd)	ICP-MS	0.01	mg/L	
Chromium (Cr)	ICP-MS	0.10	mg/L	
Copper (Cu)	ICP-MS	0.20	mg/L	
Iron (Fe)	ICP-MS	1.00	mg/L	
Manganese (Mn)	ICP-MS	0.50	mg/L	
Nickel (Ni)	ICP-MS	0.05	mg/L	
Silver (Ag)	ICP-MS	0.01	mg/L	
Zinc (Zn)	ICP-MS	0.50	mg/L	
Aluminum (Al)	ICP-MS	1.00	mg/L	
Boron (B)	ICP-MS	0.10	mg/L	
Barium (Ba)	ICP-MS	0.05	mg/L	
Bismuth (Bi)	ICP-MS	0.01	mg/L	
Calcium (Ca)	ICP-MS	10.00	mg/L	
Chlorine (Cl)	ICP-MS	1.00	mg/L	
Cobalt (Co)	ICP-MS	0.01	mg/L	
Fluorine (F)	ICP-MS	0.10	mg/L	
Gallium (Ga)	ICP-MS	0.01	mg/L	
Germanium (Ge)	ICP-MS	0.01	mg/L	
Gold (Au)	ICP-MS	0.01	mg/L	
Indium (In)	ICP-MS	0.01	mg/L	
Krypton (Kr)	ICP-MS	0.01	mg/L	
Lithium (Li)	ICP-MS	0.01	mg/L	
Mercury (Hg)	ICP-MS	0.01	mg/L	
Molybdenum (Mo)	ICP-MS	0.01	mg/L	
Neon (Ne)	ICP-MS	0.01	mg/L	
Niobium (Nb)	ICP-MS	0.01	mg/L	
Oxygen (O)	ICP-MS	1.00	mg/L	
Phosphorus (P)	ICP-MS	0.10	mg/L	
Platinum (Pt)	ICP-MS	0.01	mg/L	
Protactinium (Pa)	ICP-MS	0.01	mg/L	
Rubidium (Rb)	ICP-MS	0.01	mg/L	
Selenium (Se)	ICP-MS	0.01	mg/L	
Strontium (Sr)	ICP-MS	0.01	mg/L	
Tantalum (Ta)	ICP-MS	0.01	mg/L	
Tellurium (Te)	ICP-MS	0.01	mg/L	
Thallium (Tl)	ICP-MS	0.01	mg/L	
Thorium (Th)	ICP-MS	0.01	mg/L	
Tin (Sn)	ICP-MS	0.01	mg/L	
Tungsten (W)	ICP-MS	0.01	mg/L	
Vanadium (V)	ICP-MS	0.01	mg/L	
Xenon (Xe)	ICP-MS	0.01	mg/L	
Yttrium (Y)	ICP-MS	0.01	mg/L	
Zirconium (Zr)	ICP-MS	0.01	mg/L	

Quality Control Sample Performance Assessment Summary

Method: ICP-MS

Sample ID: 10000

Date: 04/11/2011

Time: 10:00 AM

Lab ID: 10000

Operator: [Signature]

04/11/2011

[Signature]

04/11/2011

Quality Control Sample Performance Assessment



Sample ID: 10/17/2018 10:00 AM

Date: 10/17/2018
 Time: 10:00 AM
 Location: 10/17/2018

Sample ID	Sample Name	Sample Type
10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018 10:00 AM

Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status
10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018	10:00 AM	10/17/2018	10/17/2018

Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status
10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018	10:00 AM	10/17/2018	10/17/2018

Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status
10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018	10:00 AM	10/17/2018	10/17/2018

Sample ID	Sample Name	Sample Type	Sample Date	Sample Time	Sample Location	Sample Status
10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018 10:00 AM	10/17/2018	10:00 AM	10/17/2018	10/17/2018

10/17/2018 10:00 AM

10/17/2018 10:00 AM

10/17/2018 10:00 AM



October 19, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92495900

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 24, 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

This report was revised 10/19/20 to correct a field pH typo.

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

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CERTIFICATIONS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Pace Analytical Services Charlotte

9800 Kinsey 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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92495900

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495900001	HGWA-1	Water	09/15/20 14:01	09/16/20 11:14
92495900002	HGWA-2	Water	09/15/20 10:58	09/16/20 11:14
92495900003	HGWA-3	Water	09/15/20 11:45	09/16/20 11:14
92495900004	HGWA-4	Water	09/15/20 14:35	09/16/20 11:14
92495900005	HGWA-5	Water	09/15/20 10:54	09/16/20 11:14
92495900006	HGWA-6	Water	09/15/20 12:40	09/16/20 11:14
92495900007	HGWC-18	Water	09/15/20 16:17	09/16/20 11:14
92495900008	HGWC-17	Water	09/16/20 17:30	09/17/20 09:45
92495900009	HGWA-43D	Water	09/16/20 11:58	09/17/20 09:45
92495900010	HGWA-44D	Water	09/16/20 15:18	09/17/20 09:45
92495900011	HGWC-15	Water	09/17/20 14:25	09/18/20 10:20
92495900012	HGWC-16	Water	09/17/20 11:52	09/18/20 10:20
92495900013	MW-22	Water	09/17/20 17:00	09/18/20 10:20
92495900014	MW-23D	Water	09/17/20 17:18	09/18/20 10:20
92495900015	HGWA-42D	Water	09/17/20 13:45	09/18/20 10:20
92495900016	FB-02	Water	09/17/20 18:46	09/18/20 10:20
92495900017	FD-02	Water	09/17/20 00:00	09/18/20 10:20
92495900018	HGWC-14	Water	09/18/20 09:20	09/21/20 09:25
92495900019	MW-21D	Water	09/21/20 10:30	09/22/20 09:25
92495900020	MW-33	Water	09/21/20 13:00	09/22/20 09:25
92495900021	MW-35	Water	09/21/20 12:55	09/22/20 09:25
92495900022	MW-34D	Water	09/23/20 16:30	09/24/20 10:25
92495900023	MW-36D	Water	09/23/20 11:15	09/24/20 10:25
92495900024	MW-37D	Water	09/23/20 08:50	09/24/20 10:25
92495900025	MW-34D FILTERED	Water	09/23/20 17:00	09/24/20 10:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900001	HGWA-1	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900002	HGWA-2	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900003	HGWA-3	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900004	HGWA-4	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900005	HGWA-5	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900006	HGWA-6	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900007	HGWC-18	EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900008	HGWC-17	EPA 6020B	CW1	12
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900009	HGWA-43D	EPA 300.0 Rev 2.1 1993	BRJ	3
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
92495900010	HGWA-44D	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
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900011	HGWC-15	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
92495900012	HGWC-16	SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
		EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900013	MW-22	EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
92495900014	MW-23D	EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
92495900015	HGWA-42D	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
92495900016	FB-02	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
92495900017	FD-02	SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
92495900018	HGWC-14	SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900019	MW-21D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900020	MW-33	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900021	MW-35	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900022	MW-34D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900023	MW-36D	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	KH	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900024	MW-37D	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	KH	12
		SM 2450C-2011	JRS	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-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900025	MW-34D FILTERED	EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	JRS	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

PASI-C = Pace Analytical Services - Charlotte

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900001	HGWA-1					
	pH	7.15	Std. Units		09/25/20 09:56	
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	
92495900002	HGWA-2					
	pH	5.22	Std. Units		09/25/20 09:56	
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	
92495900003	HGWA-3					
	pH	7.29	Std. Units		09/25/20 09:56	
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-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900003	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	
92495900004	HGWA-4					
	pH	5.75	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	20.4	mg/L	1.0	09/23/20 18:02	M1
EPA 6010D	Iron	0.028J	mg/L	0.040	09/23/20 18:02	
EPA 6010D	Magnesium	0.88	mg/L	0.050	09/23/20 18:02	
EPA 6010D	Manganese	0.0083J	mg/L	0.040	09/23/20 18:02	
EPA 6010D	Potassium	0.28	mg/L	0.20	09/23/20 18:02	B
EPA 6010D	Sodium	7.7	mg/L	1.0	09/23/20 18:02	
EPA 6020B	Barium	0.024	mg/L	0.010	09/23/20 17:51	
EPA 6020B	Boron	0.013J	mg/L	0.10	09/23/20 17:51	
EPA 6020B	Lead	0.000049J	mg/L	0.0050	09/23/20 17:51	
SM 2450C-2011	Total Dissolved Solids	93.0	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	70.2	mg/L	5.0	09/24/20 13:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	70.2	mg/L	5.0	09/24/20 13:54	
EPA 300.0 Rev 2.1 1993	Chloride	3.3	mg/L	1.0	09/18/20 22:46	
92495900005	HGWA-5					
	pH	6.33	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	27.9	mg/L	1.0	09/23/20 18:27	
EPA 6010D	Iron	1.6	mg/L	0.040	09/23/20 18:27	
EPA 6010D	Magnesium	5.3	mg/L	0.050	09/23/20 18:27	
EPA 6010D	Manganese	0.071	mg/L	0.040	09/23/20 18:27	
EPA 6010D	Potassium	0.72	mg/L	0.20	09/23/20 18:27	B
EPA 6010D	Sodium	5.7	mg/L	1.0	09/23/20 18:27	
EPA 6020B	Barium	0.045	mg/L	0.010	09/23/20 18:14	
EPA 6020B	Boron	0.012J	mg/L	0.10	09/23/20 18:14	
EPA 6020B	Cobalt	0.00047J	mg/L	0.0050	09/23/20 18:14	
EPA 6020B	Lithium	0.0030J	mg/L	0.030	09/23/20 18:14	
SM 2450C-2011	Total Dissolved Solids	116	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	94.0	mg/L	5.0	09/24/20 14:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	94.0	mg/L	5.0	09/24/20 14:02	
EPA 300.0 Rev 2.1 1993	Chloride	1.7	mg/L	1.0	09/18/20 23:01	
EPA 300.0 Rev 2.1 1993	Fluoride	0.061J	mg/L	0.10	09/18/20 23:01	
EPA 300.0 Rev 2.1 1993	Sulfate	21.2	mg/L	1.0	09/18/20 23:01	
92495900006	HGWA-6					
	pH	7.37	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	49.9	mg/L	1.0	09/23/20 18:32	
EPA 6010D	Iron	0.32	mg/L	0.040	09/23/20 18:32	
EPA 6010D	Magnesium	9.0	mg/L	0.050	09/23/20 18:32	
EPA 6010D	Manganese	0.071	mg/L	0.040	09/23/20 18:32	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900006	HGWA-6					
EPA 6010D	Potassium	0.61	mg/L	0.20	09/23/20 18:32	B
EPA 6010D	Sodium	6.8	mg/L	1.0	09/23/20 18:32	
EPA 6020B	Barium	0.19	mg/L	0.010	09/23/20 18:31	
EPA 6020B	Boron	0.016J	mg/L	0.10	09/23/20 18:31	
EPA 6020B	Lithium	0.0095J	mg/L	0.030	09/23/20 18:31	
SM 2450C-2011	Total Dissolved Solids	217	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	09/24/20 14:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	166	mg/L	5.0	09/24/20 14:10	
EPA 300.0 Rev 2.1 1993	Chloride	1.2	mg/L	1.0	09/18/20 23:16	
EPA 300.0 Rev 2.1 1993	Sulfate	35.3	mg/L	1.0	09/18/20 23:16	
92495900007	HGWC-18					
	pH	4.47	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	430	mg/L	10.0	09/30/20 13:56	
EPA 6010D	Iron	0.82	mg/L	0.040	09/23/20 18:36	
EPA 6010D	Magnesium	47.0	mg/L	0.050	09/23/20 18:36	
EPA 6010D	Manganese	3.4	mg/L	0.040	09/23/20 18:36	
EPA 6010D	Potassium	10.3	mg/L	0.20	09/23/20 18:36	
EPA 6010D	Sodium	12.2	mg/L	1.0	09/23/20 18:36	
EPA 6020B	Arsenic	0.0074	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Barium	0.030	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Beryllium	0.0033	mg/L	0.0030	09/23/20 18:37	
EPA 6020B	Boron	9.4	mg/L	1.0	09/24/20 12:24	
EPA 6020B	Cadmium	0.0019J	mg/L	0.0025	09/23/20 18:37	
EPA 6020B	Chromium	0.00063J	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Cobalt	0.16	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Lead	0.0014J	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Lithium	0.014J	mg/L	0.030	09/23/20 18:37	
EPA 6020B	Selenium	0.059	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Thallium	0.00016J	mg/L	0.0010	09/23/20 18:37	
SM 2450C-2011	Total Dissolved Solids	1890	mg/L	10.0	09/17/20 15:19	
EPA 300.0 Rev 2.1 1993	Chloride	150	mg/L	15.0	09/19/20 09:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.31	mg/L	0.10	09/18/20 23:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1080	mg/L	15.0	09/19/20 09:40	
92495900008	HGWC-17					
	pH	6.35	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	277	mg/L	1.0	09/23/20 18:40	
EPA 6010D	Iron	0.11	mg/L	0.040	09/23/20 18:40	
EPA 6010D	Magnesium	30.0	mg/L	0.050	09/23/20 18:40	
EPA 6010D	Manganese	3.3	mg/L	0.040	09/23/20 18:40	
EPA 6010D	Potassium	2.6	mg/L	0.20	09/23/20 18:40	
EPA 6010D	Sodium	13.8	mg/L	1.0	09/23/20 18:40	
EPA 6020B	Barium	0.025	mg/L	0.010	09/23/20 18:43	
EPA 6020B	Boron	6.7	mg/L	1.0	09/24/20 12:29	
EPA 6020B	Cobalt	0.013	mg/L	0.0050	09/23/20 18:43	
EPA 6020B	Lead	0.000065J	mg/L	0.0050	09/23/20 18:43	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	09/23/20 18:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900008	HGWC-17					
SM 2450C-2011	Total Dissolved Solids	1220	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	205	mg/L	5.0	09/24/20 15:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	205	mg/L	5.0	09/24/20 15:05	
EPA 300.0 Rev 2.1 1993	Chloride	156	mg/L	10.0	09/20/20 07:13	
EPA 300.0 Rev 2.1 1993	Fluoride	0.058J	mg/L	0.10	09/19/20 21:21	
EPA 300.0 Rev 2.1 1993	Sulfate	467	mg/L	10.0	09/20/20 07:13	
92495900009	HGWA-43D					
	pH	7.52	Std. Units		09/25/20 09:56	
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	09/18/20 10:00	
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	
92495900010	HGWA-44D					
	pH	7.83	Std. Units		09/25/20 09:56	
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	
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	09/18/20 10:00	
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	M1
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	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900010	HGWA-44D					
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	
92495900011	HGWC-15					
	pH	6.11	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	188	mg/L	1.0	09/25/20 19:30	
EPA 6010D	Iron	0.017J	mg/L	0.040	09/25/20 19:30	
EPA 6010D	Magnesium	30.3	mg/L	0.050	09/25/20 19:30	
EPA 6010D	Manganese	18.2	mg/L	0.40	09/28/20 21:58	
EPA 6010D	Potassium	1.0	mg/L	0.20	09/25/20 19:30	
EPA 6010D	Sodium	12.1	mg/L	1.0	09/25/20 19:30	
EPA 6020B	Barium	0.017	mg/L	0.010	09/28/20 17:34	
EPA 6020B	Boron	2.2	mg/L	1.0	09/30/20 10:38	
EPA 6020B	Cadmium	0.0016J	mg/L	0.0025	09/28/20 17:34	
EPA 6020B	Cobalt	0.026	mg/L	0.0050	09/28/20 17:34	
EPA 6020B	Lithium	0.0094J	mg/L	0.030	09/28/20 17:34	
SM 2450C-2011	Total Dissolved Solids	956	mg/L	20.0	09/22/20 14:21	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	5.0	09/24/20 18:03	
SM 2320B-2011	Alkalinity, Total as CaCO3	92.0	mg/L	5.0	09/24/20 18:03	
EPA 300.0 Rev 2.1 1993	Chloride	108	mg/L	9.0	09/22/20 17:41	
EPA 300.0 Rev 2.1 1993	Sulfate	416	mg/L	9.0	09/22/20 17:41	
92495900012	HGWC-16					
	pH	7.11	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	190	mg/L	1.0	09/25/20 19:35	
EPA 6010D	Iron	1.0	mg/L	0.040	09/25/20 19:35	
EPA 6010D	Magnesium	15.4	mg/L	0.050	09/25/20 19:35	
EPA 6010D	Manganese	0.036J	mg/L	0.040	09/25/20 19:35	
EPA 6010D	Potassium	0.92	mg/L	0.20	09/25/20 19:35	
EPA 6010D	Sodium	9.9	mg/L	1.0	09/25/20 19:35	
EPA 6020B	Barium	0.11	mg/L	0.010	09/28/20 17:40	
EPA 6020B	Boron	2.4	mg/L	1.0	09/30/20 10:44	
EPA 6020B	Lead	0.000078J	mg/L	0.0050	09/28/20 17:40	
EPA 6020B	Lithium	0.0043J	mg/L	0.030	09/28/20 17:40	
SM 2450C-2011	Total Dissolved Solids	804	mg/L	20.0	09/22/20 14:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	213	mg/L	5.0	09/24/20 18:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	213	mg/L	5.0	09/24/20 18:12	
EPA 300.0 Rev 2.1 1993	Chloride	99.3	mg/L	1.0	09/22/20 10:02	
EPA 300.0 Rev 2.1 1993	Sulfate	254	mg/L	5.0	09/22/20 17:56	
92495900013	MW-22					
	pH	5.66	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	203	mg/L	1.0	09/25/20 19:39	
EPA 6010D	Iron	0.026J	mg/L	0.040	09/25/20 19:39	
EPA 6010D	Magnesium	42.6	mg/L	0.050	09/25/20 19:39	
EPA 6010D	Manganese	17.6	mg/L	0.40	09/28/20 22:02	
EPA 6010D	Potassium	0.87	mg/L	0.20	09/25/20 19:39	
EPA 6010D	Sodium	13.9	mg/L	1.0	09/25/20 19:39	
EPA 6020B	Barium	0.020	mg/L	0.010	09/28/20 17:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900013	MW-22					
EPA 6020B	Beryllium	0.000047J	mg/L	0.0030	09/28/20 17:45	
EPA 6020B	Boron	2.3	mg/L	1.0	09/30/20 10:50	
EPA 6020B	Cadmium	0.0021J	mg/L	0.0025	09/28/20 17:45	
EPA 6020B	Cobalt	0.029	mg/L	0.0050	09/28/20 17:45	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	09/28/20 17:45	
EPA 6020B	Selenium	0.0020J	mg/L	0.010	09/28/20 17:45	
SM 2450C-2011	Total Dissolved Solids	1090	mg/L	20.0	09/22/20 14:22	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	61.4	mg/L	5.0	09/24/20 18:24	
SM 2320B-2011	Alkalinity, Total as CaCO3	61.4	mg/L	5.0	09/24/20 18:24	
EPA 300.0 Rev 2.1 1993	Chloride	153	mg/L	10.0	09/22/20 18:10	
EPA 300.0 Rev 2.1 1993	Sulfate	468	mg/L	10.0	09/22/20 18:10	
92495900014	MW-23D					
	pH	6.71	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	361	mg/L	10.0	09/28/20 22:07	
EPA 6010D	Iron	0.34	mg/L	0.040	09/25/20 19:44	
EPA 6010D	Magnesium	31.6	mg/L	0.050	09/25/20 19:44	
EPA 6010D	Manganese	7.9	mg/L	0.040	09/25/20 19:44	
EPA 6010D	Potassium	2.3	mg/L	0.20	09/25/20 19:44	
EPA 6010D	Sodium	13.5	mg/L	1.0	09/25/20 19:44	
EPA 6020B	Barium	0.057	mg/L	0.010	09/28/20 17:51	
EPA 6020B	Boron	2.7	mg/L	1.0	09/30/20 10:56	
EPA 6020B	Cadmium	0.00060J	mg/L	0.0025	09/28/20 17:51	
EPA 6020B	Cobalt	0.00096J	mg/L	0.0050	09/28/20 17:51	
EPA 6020B	Lead	0.00016J	mg/L	0.0050	09/28/20 17:51	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	09/28/20 17:51	
EPA 6020B	Molybdenum	0.0026J	mg/L	0.010	09/28/20 17:51	
SM 2450C-2011	Total Dissolved Solids	1360	mg/L	40.0	09/22/20 14:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	249	mg/L	5.0	09/28/20 15:58	
SM 2320B-2011	Alkalinity, Total as CaCO3	249	mg/L	5.0	09/28/20 15:58	
EPA 300.0 Rev 2.1 1993	Chloride	171	mg/L	10.0	09/22/20 18:25	
EPA 300.0 Rev 2.1 1993	Sulfate	490	mg/L	10.0	09/22/20 18:25	
92495900015	HGWA-42D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	43.8	mg/L	1.0	09/25/20 19:48	
EPA 6010D	Iron	0.21	mg/L	0.040	09/25/20 19:48	
EPA 6010D	Magnesium	5.9	mg/L	0.050	09/25/20 19:48	
EPA 6010D	Manganese	0.062	mg/L	0.040	09/25/20 19:48	
EPA 6010D	Potassium	1.4	mg/L	0.20	09/25/20 19:48	
EPA 6010D	Sodium	7.9	mg/L	1.0	09/25/20 19:48	
EPA 6020B	Antimony	0.00055J	mg/L	0.0030	09/28/20 17:57	
EPA 6020B	Barium	0.13	mg/L	0.010	09/28/20 17:57	
EPA 6020B	Boron	0.098J	mg/L	0.10	09/28/20 17:57	
EPA 6020B	Lead	0.000062J	mg/L	0.0050	09/28/20 17:57	
EPA 6020B	Lithium	0.0039J	mg/L	0.030	09/28/20 17:57	
EPA 6020B	Molybdenum	0.0037J	mg/L	0.010	09/28/20 17:57	
SM 2450C-2011	Total Dissolved Solids	188	mg/L	10.0	09/22/20 14:22	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900015	HGWA-42D					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	158	mg/L	5.0	09/24/20 18:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	158	mg/L	5.0	09/24/20 18:51	
SM 4500-S2D-2011	Sulfide	0.082J	mg/L	0.10	09/22/20 14:36	
EPA 300.0 Rev 2.1 1993	Chloride	5.8	mg/L	1.0	09/22/20 11:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.20	mg/L	0.10	09/22/20 11:16	
EPA 300.0 Rev 2.1 1993	Sulfate	10.9	mg/L	1.0	09/22/20 11:16	
92495900016	FB-02					
EPA 6010D	Potassium	0.062J	mg/L	0.20	09/25/20 19:52	
EPA 6020B	Boron	0.0078J	mg/L	0.10	09/28/20 18:03	
92495900017	FD-02					
EPA 6010D	Calcium	185	mg/L	1.0	09/25/20 20:05	
EPA 6010D	Magnesium	29.8	mg/L	0.050	09/25/20 20:05	
EPA 6010D	Manganese	18.5	mg/L	0.40	09/28/20 22:11	
EPA 6010D	Potassium	1.1	mg/L	0.20	09/25/20 20:05	
EPA 6010D	Sodium	11.9	mg/L	1.0	09/25/20 20:05	
EPA 6020B	Barium	0.017	mg/L	0.010	09/28/20 18:21	
EPA 6020B	Boron	2.0	mg/L	1.0	09/30/20 11:01	
EPA 6020B	Cadmium	0.0015J	mg/L	0.0025	09/28/20 18:21	
EPA 6020B	Cobalt	0.027	mg/L	0.0050	09/28/20 18:21	
EPA 6020B	Lithium	0.0080J	mg/L	0.030	09/28/20 18:21	
SM 2450C-2011	Total Dissolved Solids	956	mg/L	20.0	09/22/20 14:22	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	89.8	mg/L	5.0	09/24/20 19:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	89.8	mg/L	5.0	09/24/20 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	107	mg/L	9.0	09/22/20 18:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.050J	mg/L	0.10	09/22/20 12:16	
EPA 300.0 Rev 2.1 1993	Sulfate	416	mg/L	9.0	09/22/20 18:40	
92495900018	HGWC-14					
	pH	4.88	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	623	mg/L	10.0	09/28/20 22:15	
EPA 6010D	Iron	0.90	mg/L	0.040	09/25/20 20:14	
EPA 6010D	Magnesium	49.2	mg/L	0.050	09/25/20 20:14	
EPA 6010D	Manganese	5.0	mg/L	0.040	09/25/20 20:14	
EPA 6010D	Potassium	12.6	mg/L	0.20	09/25/20 20:14	
EPA 6010D	Sodium	10.9	mg/L	1.0	09/25/20 20:14	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Barium	0.019	mg/L	0.010	09/25/20 19:39	
EPA 6020B	Beryllium	0.00043J	mg/L	0.0030	09/25/20 19:39	
EPA 6020B	Boron	11.0	mg/L	1.0	09/29/20 17:08	
EPA 6020B	Cobalt	0.027	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Lead	0.0012J	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Selenium	0.0045J	mg/L	0.010	09/25/20 19:39	
EPA 6020B	Thallium	0.00028J	mg/L	0.0010	09/25/20 19:39	
SM 2450C-2011	Total Dissolved Solids	2440	mg/L	50.0	09/23/20 13:16	
EPA 300.0 Rev 2.1 1993	Chloride	288	mg/L	17.0	09/25/20 10:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1260	mg/L	17.0	09/25/20 10:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900019	MW-21D					
	pH	6.92	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	428	mg/L	10.0	09/29/20 13:39	
EPA 6010D	Iron	23.0	mg/L	0.040	09/25/20 21:37	
EPA 6010D	Magnesium	63.3	mg/L	0.050	09/25/20 21:37	
EPA 6010D	Manganese	1.4	mg/L	0.040	09/25/20 21:37	
EPA 6010D	Potassium	1.2	mg/L	0.20	09/25/20 21:37	
EPA 6010D	Sodium	15.1	mg/L	1.0	09/25/20 21:37	
EPA 6020B	Barium	0.049	mg/L	0.010	09/30/20 18:40	
EPA 6020B	Boron	5.6	mg/L	0.10	09/30/20 18:40	
EPA 6020B	Lithium	0.022J	mg/L	0.030	09/30/20 18:40	
EPA 6020B	Molybdenum	0.017	mg/L	0.010	09/30/20 18:40	
SM 2450C-2011	Total Dissolved Solids	2060	mg/L	50.0	09/24/20 10:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	32.8	mg/L	5.0	09/30/20 18:31	
SM 2320B-2011	Alkalinity, Total as CaCO3	32.8	mg/L	5.0	09/30/20 18:31	
EPA 300.0 Rev 2.1 1993	Chloride	236	mg/L	14.0	09/25/20 11:57	
EPA 300.0 Rev 2.1 1993	Sulfate	1010	mg/L	14.0	09/25/20 11:57	M6
92495900020	MW-33					
	pH	4.48	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	562	mg/L	10.0	09/29/20 13:43	
EPA 6010D	Iron	1.3	mg/L	0.040	09/25/20 21:41	
EPA 6010D	Magnesium	50.2	mg/L	0.050	09/25/20 21:41	
EPA 6010D	Manganese	4.5	mg/L	0.040	09/25/20 21:41	
EPA 6010D	Potassium	12.4	mg/L	0.20	09/25/20 21:41	
EPA 6010D	Sodium	10.8	mg/L	1.0	09/25/20 21:41	
EPA 6020B	Arsenic	0.0083	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Barium	0.024	mg/L	0.010	09/30/20 18:46	
EPA 6020B	Beryllium	0.00090J	mg/L	0.0030	09/30/20 18:46	
EPA 6020B	Boron	9.0	mg/L	0.10	09/30/20 18:46	
EPA 6020B	Cadmium	0.00016J	mg/L	0.0025	09/30/20 18:46	
EPA 6020B	Cobalt	0.047	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Lithium	0.00086J	mg/L	0.030	09/30/20 18:46	
EPA 6020B	Selenium	0.041	mg/L	0.010	09/30/20 18:46	
EPA 6020B	Thallium	0.00029J	mg/L	0.0010	09/30/20 18:46	
SM 2450C-2011	Total Dissolved Solids	2340	mg/L	50.0	09/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	273	mg/L	18.0	09/25/20 13:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.14	mg/L	0.10	09/24/20 19:15	
EPA 300.0 Rev 2.1 1993	Sulfate	1290	mg/L	18.0	09/25/20 13:08	
92495900021	MW-35					
	pH	5.40	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	503	mg/L	10.0	09/29/20 13:47	
EPA 6010D	Iron	2.3	mg/L	0.040	09/25/20 21:46	
EPA 6010D	Magnesium	61.6	mg/L	0.050	09/25/20 21:46	
EPA 6010D	Manganese	10.8	mg/L	0.040	09/25/20 21:46	
EPA 6010D	Potassium	9.2	mg/L	0.20	09/25/20 21:46	
EPA 6010D	Sodium	11.7	mg/L	1.0	09/25/20 21:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900021	MW-35					
EPA 6020B	Arsenic	0.0059	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Barium	0.028	mg/L	0.010	09/30/20 18:52	
EPA 6020B	Beryllium	0.00040J	mg/L	0.0030	09/30/20 18:52	
EPA 6020B	Boron	12.3	mg/L	1.0	10/02/20 15:43	
EPA 6020B	Cadmium	0.0010J	mg/L	0.0025	09/30/20 18:52	
EPA 6020B	Chromium	0.00079J	mg/L	0.010	09/30/20 18:52	
EPA 6020B	Cobalt	0.084	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Lead	0.00099J	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	09/30/20 18:52	
EPA 6020B	Selenium	0.037	mg/L	0.010	09/30/20 18:52	
SM 2450C-2011	Total Dissolved Solids	2210	mg/L	50.0	09/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	257	mg/L	17.0	09/25/20 13:23	
EPA 300.0 Rev 2.1 1993	Sulfate	1220	mg/L	17.0	09/25/20 13:23	
92495900022	MW-34D					
	pH	7.05	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	556	mg/L	10.0	10/01/20 13:15	
EPA 6010D	Iron	0.023J	mg/L	0.040	09/30/20 21:54	
EPA 6010D	Magnesium	49.7	mg/L	0.050	09/30/20 21:54	
EPA 6010D	Manganese	3.7	mg/L	0.040	09/30/20 21:54	
EPA 6010D	Potassium	9.6	mg/L	0.20	09/30/20 21:54	
EPA 6010D	Sodium	15.4	mg/L	1.0	09/30/20 21:54	
EPA 6020B	Arsenic	0.0010J	mg/L	0.0050	10/01/20 16:04	
EPA 6020B	Barium	0.038	mg/L	0.010	10/01/20 16:04	
EPA 6020B	Boron	10.2	mg/L	1.0	10/07/20 12:17	
EPA 6020B	Cobalt	0.0056	mg/L	0.0050	10/01/20 16:04	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	10/01/20 16:04	
SM 2450C-2011	Total Dissolved Solids	2430	mg/L	100	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	94.5	mg/L	5.0	10/02/20 19:08	
SM 2320B-2011	Alkalinity, Total as CaCO3	94.5	mg/L	5.0	10/02/20 19:08	
EPA 300.0 Rev 2.1 1993	Chloride	294	mg/L	23.0	09/29/20 23:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1080	mg/L	23.0	09/29/20 23:30	
92495900023	MW-36D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	62.1	mg/L	1.0	09/30/20 21:59	
EPA 6010D	Iron	0.62	mg/L	0.040	09/30/20 21:59	
EPA 6010D	Magnesium	7.1	mg/L	0.050	09/30/20 21:59	
EPA 6010D	Manganese	0.045	mg/L	0.040	09/30/20 21:59	
EPA 6010D	Potassium	0.44	mg/L	0.20	09/30/20 21:59	
EPA 6010D	Sodium	6.8	mg/L	1.0	09/30/20 21:59	
EPA 6020B	Barium	0.17	mg/L	0.010	10/01/20 16:10	
EPA 6020B	Boron	0.055J	mg/L	0.10	10/01/20 16:10	
EPA 6020B	Lead	0.000088J	mg/L	0.0050	10/01/20 16:10	
EPA 6020B	Lithium	0.0084J	mg/L	0.030	10/01/20 16:10	
SM 2450C-2011	Total Dissolved Solids	256	mg/L	10.0	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	159	mg/L	5.0	10/02/20 19:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	159	mg/L	5.0	10/02/20 19:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900023	MW-36D					
SM 4500-S2D-2011	Sulfide	0.055J	mg/L	0.10	09/29/20 13:25	
EPA 300.0 Rev 2.1 1993	Chloride	2.2	mg/L	1.0	09/29/20 18:12	
EPA 300.0 Rev 2.1 1993	Sulfate	56.0	mg/L	1.0	09/29/20 18:12	
92495900024	MW-37D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	158	mg/L	1.0	09/30/20 22:03	
EPA 6010D	Iron	0.74	mg/L	0.040	09/30/20 22:03	
EPA 6010D	Magnesium	28.1	mg/L	0.050	09/30/20 22:03	
EPA 6010D	Manganese	0.12	mg/L	0.040	09/30/20 22:03	
EPA 6010D	Potassium	1.4	mg/L	0.20	09/30/20 22:03	
EPA 6010D	Sodium	53.6	mg/L	1.0	09/30/20 22:03	
EPA 6020B	Arsenic	0.00095J	mg/L	0.0050	10/01/20 16:15	
EPA 6020B	Barium	0.14	mg/L	0.010	10/01/20 16:15	
EPA 6020B	Boron	0.12	mg/L	0.10	10/01/20 16:15	
EPA 6020B	Lead	0.000082J	mg/L	0.0050	10/01/20 16:15	
EPA 6020B	Lithium	0.031	mg/L	0.030	10/01/20 16:15	
EPA 6020B	Molybdenum	0.015	mg/L	0.010	10/01/20 16:15	
SM 2450C-2011	Total Dissolved Solids	894	mg/L	20.0	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	133	mg/L	5.0	10/02/20 19:26	
SM 2320B-2011	Alkalinity, Total as CaCO3	133	mg/L	5.0	10/02/20 19:26	
SM 4500-S2D-2011	Sulfide	0.26	mg/L	0.10	09/29/20 13:25	
EPA 300.0 Rev 2.1 1993	Chloride	166	mg/L	6.0	09/29/20 23:44	
EPA 300.0 Rev 2.1 1993	Fluoride	0.065J	mg/L	0.10	09/29/20 18:26	
EPA 300.0 Rev 2.1 1993	Sulfate	256	mg/L	6.0	09/29/20 23:44	
92495900025	MW-34D FILTERED					
	pH	7.05	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	616	mg/L	10.0	10/01/20 13:19	
EPA 6010D	Iron	2.0	mg/L	0.040	09/30/20 22:08	
EPA 6010D	Magnesium	53.6	mg/L	0.050	09/30/20 22:08	
EPA 6010D	Manganese	4.1	mg/L	0.040	09/30/20 22:08	
EPA 6010D	Potassium	10.6	mg/L	0.20	09/30/20 22:08	
EPA 6010D	Sodium	16.8	mg/L	1.0	09/30/20 22:08	
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Barium	0.044	mg/L	0.010	10/01/20 16:21	
EPA 6020B	Beryllium	0.00018J	mg/L	0.0030	10/01/20 16:21	
EPA 6020B	Boron	9.8	mg/L	1.0	10/05/20 13:54	
EPA 6020B	Cadmium	0.00019J	mg/L	0.0025	10/01/20 16:21	
EPA 6020B	Chromium	0.0027J	mg/L	0.010	10/01/20 16:21	
EPA 6020B	Cobalt	0.0070	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Lead	0.0010J	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	10/01/20 16:21	
SM 2450C-2011	Total Dissolved Solids	2550	mg/L	100	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	119	mg/L	5.0	10/02/20 19:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	119	mg/L	5.0	10/02/20 19:36	
SM 4500-S2D-2011	Sulfide	0.086J	mg/L	0.10	09/29/20 13:27	
EPA 300.0 Rev 2.1 1993	Chloride	295	mg/L	22.0	09/29/20 16:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900025	MW-34D FILTERED					
EPA 300.0 Rev 2.1 1993	Fluoride	0.086J	mg/L	0.10	09/29/20 02:08	
EPA 300.0 Rev 2.1 1993	Sulfate	1100	mg/L	22.0	09/29/20 16:35	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-1 **Lab ID: 92495900001** 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
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.15	Std. Units			1		09/25/20 09:56		
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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

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		
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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	
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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	
Fluoride	0.082J	mg/L	0.10	0.050	1		09/18/20 21:31	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-1		Lab ID: 92495900001		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							
Sulfate	47.3	mg/L	1.0	0.50	1		09/18/20 21:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-2 **Lab ID: 92495900002** Collected: 09/15/20 10:58 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.22	Std. Units			1		09/25/20 09:56		
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									
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	M1
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	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 21:46	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWA-2** Lab ID: **92495900002** 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									
Sulfate	51.5	mg/L	1.0	0.50	1		09/18/20 21:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-3 **Lab ID: 92495900003** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.29	Std. Units			1		09/25/20 09:56		
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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

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		
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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	
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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	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 22:01	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-3		Lab ID: 92495900003		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							
Sulfate	44.7	mg/L	1.0	0.50	1		09/18/20 22:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-4 **Lab ID: 92495900004** Collected: 09/15/20 14:35 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.75	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	20.4	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:02	7440-70-2	M1
Iron	0.028J	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:02	7439-89-6	
Magnesium	0.88	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:02	7439-95-4	
Manganese	0.0083J	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:02	7439-96-5	
Potassium	0.28	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:02	7440-09-7	B
Sodium	7.7	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:02	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 17:51	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 17:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 17:51	7440-41-7	
Boron	0.013J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 17:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 17:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 17:51	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 17:51	7440-48-4	
Lead	0.000049J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 17:51	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 17:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 17:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 17:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 17:51	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	93.0	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	70.2	mg/L	5.0	5.0	1		09/24/20 13:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 13:54		
Alkalinity, Total as CaCO3	70.2	mg/L	5.0	5.0	1		09/24/20 13:54		

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 14:14	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	3.3	mg/L	1.0	0.60	1		09/18/20 22:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 22:46	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-4		Lab ID: 92495900004		Collected: 09/15/20 14:35	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							
Sulfate	ND	mg/L	1.0	0.50	1		09/18/20 22:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-5 **Lab ID: 92495900005** Collected: 09/15/20 10:54 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.33	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	27.9	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:27	7440-70-2	
Iron	1.6	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:27	7439-89-6	
Magnesium	5.3	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:27	7439-95-4	
Manganese	0.071	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:27	7439-96-5	
Potassium	0.72	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:27	7440-09-7	B
Sodium	5.7	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:27	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:14	7440-38-2	
Barium	0.045	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:14	7440-41-7	
Boron	0.012J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 18:14	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:14	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:14	7440-47-3	
Cobalt	0.00047J	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:14	7439-92-1	
Lithium	0.0030J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:14	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	116	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	94.0	mg/L	5.0	5.0	1		09/24/20 14:02		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/24/20 14:02		
Alkalinity, Total as CaCO ₃	94.0	mg/L	5.0	5.0	1		09/24/20 14:02		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	1.7	mg/L	1.0	0.60	1		09/18/20 23:01	16887-00-6	
Fluoride	0.061J	mg/L	0.10	0.050	1		09/18/20 23:01	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-5		Lab ID: 92495900005		Collected: 09/15/20 10:54	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							
Sulfate	21.2	mg/L	1.0	0.50	1		09/18/20 23:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-6 **Lab ID: 92495900006** Collected: 09/15/20 12:40 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.37	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	49.9	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:32	7440-70-2	
Iron	0.32	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:32	7439-89-6	
Magnesium	9.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:32	7439-95-4	
Manganese	0.071	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:32	7439-96-5	
Potassium	0.61	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:32	7440-09-7	B
Sodium	6.8	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:32	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:31	7440-38-2	
Barium	0.19	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:31	7440-41-7	
Boron	0.016J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 18:31	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:31	7439-92-1	
Lithium	0.0095J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:31	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	217	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		09/24/20 14:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:10		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		09/24/20 14:10		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	1.2	mg/L	1.0	0.60	1		09/18/20 23:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 23:16	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-6		Lab ID: 92495900006		Collected: 09/15/20 12:40	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							
Sulfate	35.3	mg/L	1.0	0.50	1		09/18/20 23:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-18 **Lab ID: 92495900007** Collected: 09/15/20 16:17 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.47	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	430	mg/L	10.0	0.70	10	09/22/20 20:12	09/30/20 13:56	7440-70-2	
Iron	0.82	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:36	7439-89-6	
Magnesium	47.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:36	7439-95-4	
Manganese	3.4	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:36	7439-96-5	
Potassium	10.3	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:36	7440-09-7	
Sodium	12.2	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:36	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0074	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:37	7440-38-2	
Barium	0.030	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:37	7440-39-3	
Beryllium	0.0033	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:37	7440-41-7	
Boron	9.4	mg/L	1.0	0.052	10	09/22/20 20:07	09/24/20 12:24	7440-42-8	
Cadmium	0.0019J	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:37	7440-43-9	
Chromium	0.00063J	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:37	7440-47-3	
Cobalt	0.16	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:37	7440-48-4	
Lead	0.0014J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:37	7439-92-1	
Lithium	0.014J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:37	7439-98-7	
Selenium	0.059	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:37	7782-49-2	
Thallium	0.00016J	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:37	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1890	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:31		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/20 14:31		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	150	mg/L	15.0	9.0	15		09/19/20 09:40	16887-00-6	
Fluoride	0.31	mg/L	0.10	0.050	1		09/18/20 23:30	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWC-18** Lab ID: **92495900007** Collected: 09/15/20 16:17 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									
Sulfate	1080	mg/L	15.0	7.5	15		09/19/20 09:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-17 **Lab ID: 92495900008** Collected: 09/16/20 17:30 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.35	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	277	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:40	7440-70-2	
Iron	0.11	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:40	7439-89-6	
Magnesium	30.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:40	7439-95-4	
Manganese	3.3	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:40	7439-96-5	
Potassium	2.6	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:40	7440-09-7	
Sodium	13.8	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:40	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:43	7440-38-2	
Barium	0.025	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:43	7440-41-7	
Boron	6.7	mg/L	1.0	0.052	10	09/22/20 20:07	09/24/20 12:29	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:43	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:43	7440-47-3	
Cobalt	0.013	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:43	7440-48-4	
Lead	0.000065J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:43	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:43	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1220	mg/L	10.0	10.0	1		09/18/20 10:00		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	205	mg/L	5.0	5.0	1		09/24/20 15:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 15:05		
Alkalinity, Total as CaCO3	205	mg/L	5.0	5.0	1		09/24/20 15:05		

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	
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300.0 IC Anions 28 Days

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

Chloride	156	mg/L	10.0	6.0	10		09/20/20 07:13	16887-00-6	
Fluoride	0.058J	mg/L	0.10	0.050	1		09/19/20 21:21	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-17		Lab ID: 92495900008		Collected: 09/16/20 17:30	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							
Sulfate	467	mg/L	10.0	5.0	10		09/20/20 07:13	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-43D **Lab ID: 92495900009** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.52	Std. Units			1		09/25/20 09:56		
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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 12:43	7439-97-6	
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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		09/18/20 10:00		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	251	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity, Total as CaCO ₃	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	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-43D **Lab ID: 92495900009** Collected: 09/16/20 11:58 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-44D **Lab ID: 92495900010** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.83	Std. Units			1		09/25/20 09:56		
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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 12:45	7439-97-6	
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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		09/18/20 10:00		
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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		M1

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	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-44D **Lab ID: 92495900010** Collected: 09/16/20 15:18 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-15 **Lab ID: 92495900011** Collected: 09/17/20 14:25 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.11	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	188	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:30	7440-70-2	
Iron	0.017J	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:30	7439-89-6	
Magnesium	30.3	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:30	7439-95-4	
Manganese	18.2	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 21:58	7439-96-5	
Potassium	1.0	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:30	7440-09-7	
Sodium	12.1	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:30	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:34	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:34	7440-41-7	
Boron	2.2	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:38	7440-42-8	
Cadmium	0.0016J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:34	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:34	7440-47-3	
Cobalt	0.026	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:34	7439-92-1	
Lithium	0.0094J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:34	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	956	mg/L	20.0	20.0	1		09/22/20 14:21		MW
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	92.0	mg/L	5.0	5.0	1		09/24/20 18:03		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:03		
Alkalinity, Total as CaCO3	92.0	mg/L	5.0	5.0	1		09/24/20 18:03		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:32	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	108	mg/L	9.0	5.4	9		09/22/20 17:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 09:47	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-15 Lab ID: 92495900011 Collected: 09/17/20 14:25 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									
Sulfate	416	mg/L	9.0	4.5	9		09/22/20 17:41	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-16 **Lab ID: 92495900012** Collected: 09/17/20 11:52 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.11	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	190	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:35	7440-70-2	
Iron	1.0	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:35	7439-89-6	
Magnesium	15.4	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:35	7439-95-4	
Manganese	0.036J	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:35	7439-96-5	
Potassium	0.92	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:35	7440-09-7	
Sodium	9.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:35	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:40	7440-38-2	
Barium	0.11	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:40	7440-41-7	
Boron	2.4	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:44	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:40	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:40	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:40	7440-48-4	
Lead	0.000078J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:40	7439-92-1	
Lithium	0.0043J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:40	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:40	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	804	mg/L	20.0	20.0	1		09/22/20 14:22		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	213	mg/L	5.0	5.0	1		09/24/20 18:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:12		
Alkalinity, Total as CaCO3	213	mg/L	5.0	5.0	1		09/24/20 18:12		

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 14:34	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	99.3	mg/L	1.0	0.60	1		09/22/20 10:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 10:02	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWC-16** Lab ID: **92495900012** Collected: 09/17/20 11:52 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									
Sulfate	254	mg/L	5.0	2.5	5		09/22/20 17:56	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: MW-22 **Lab ID: 92495900013** Collected: 09/17/20 17:00 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.66	Std. Units			1		09/25/20 09:56		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	203	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:39	7440-70-2	
Iron	0.026J	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:39	7439-89-6	
Magnesium	42.6	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:39	7439-95-4	
Manganese	17.6	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 22:02	7439-96-5	
Potassium	0.87	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:39	7440-09-7	
Sodium	13.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:39	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:45	7440-38-2	
Barium	0.020	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:45	7440-39-3	
Beryllium	0.000047J	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:45	7440-41-7	
Boron	2.3	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:50	7440-42-8	
Cadmium	0.0021J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:45	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:45	7440-47-3	
Cobalt	0.029	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:45	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:45	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:45	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:45	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1090	mg/L	20.0	20.0	1		09/22/20 14:22		MW
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	61.4	mg/L	5.0	5.0	1		09/24/20 18:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:24		
Alkalinity, Total as CaCO3	61.4	mg/L	5.0	5.0	1		09/24/20 18:24		
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 14:35	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	153	mg/L	10.0	6.0	10		09/22/20 18:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 10:16	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-22		Lab ID: 92495900013		Collected: 09/17/20 17:00	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							
Sulfate	468	mg/L	10.0	5.0	10		09/22/20 18:10	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-23D **Lab ID: 92495900014** Collected: 09/17/20 17:18 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.71	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	361	mg/L	10.0	0.70	10	09/24/20 14:17	09/28/20 22:07	7440-70-2	
Iron	0.34	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:44	7439-89-6	
Magnesium	31.6	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:44	7439-95-4	
Manganese	7.9	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:44	7439-96-5	
Potassium	2.3	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:44	7440-09-7	
Sodium	13.5	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:44	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:51	7440-38-2	
Barium	0.057	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:51	7440-41-7	
Boron	2.7	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:56	7440-42-8	
Cadmium	0.00060J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:51	7440-47-3	
Cobalt	0.00096J	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:51	7440-48-4	
Lead	0.00016J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:51	7439-92-1	
Lithium	0.0021J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:51	7439-93-2	
Molybdenum	0.0026J	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:51	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1360	mg/L	40.0	40.0	1		09/22/20 14:22		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	249	mg/L	5.0	5.0	1		09/28/20 15:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/28/20 15:58		
Alkalinity, Total as CaCO3	249	mg/L	5.0	5.0	1		09/28/20 15:58		

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 14:36	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	171	mg/L	10.0	6.0	10		09/22/20 18:25	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 11:01	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-23D Lab ID: 92495900014 Collected: 09/17/20 17:18 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									
Sulfate	490	mg/L	10.0	5.0	10		09/22/20 18:25	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-42D **Lab ID: 92495900015** Collected: 09/17/20 13:45 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.62	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	43.8	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:48	7440-70-2	
Iron	0.21	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:48	7439-89-6	
Magnesium	5.9	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:48	7439-95-4	
Manganese	0.062	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:48	7439-96-5	
Potassium	1.4	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:48	7440-09-7	
Sodium	7.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:48	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00055J	mg/L	0.0030	0.00028	1	09/24/20 08:45	09/28/20 17:57	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:57	7440-38-2	
Barium	0.13	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:57	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:57	7440-41-7	
Boron	0.098J	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 17:57	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:57	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:57	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:57	7440-48-4	
Lead	0.000062J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:57	7439-92-1	
Lithium	0.0039J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:57	7439-93-2	
Molybdenum	0.0037J	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:57	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:57	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:57	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 12:48	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	188	mg/L	10.0	10.0	1		09/22/20 14:22		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	158	mg/L	5.0	5.0	1		09/24/20 18:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:51		
Alkalinity, Total as CaCO3	158	mg/L	5.0	5.0	1		09/24/20 18:51		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.082J	mg/L	0.10	0.050	1		09/22/20 14:36	18496-25-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-42D **Lab ID: 92495900015** Collected: 09/17/20 13:45 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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		09/22/20 11:16	16887-00-6	
Fluoride	0.20	mg/L	0.10	0.050	1		09/22/20 11:16	16984-48-8	
Sulfate	10.9	mg/L	1.0	0.50	1		09/22/20 11:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: FB-02 **Lab ID: 92495900016** Collected: 09/17/20 18:46 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	ND	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:52	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:52	7439-89-6	
Magnesium	ND	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:52	7439-95-4	
Manganese	ND	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:52	7439-96-5	
Potassium	0.062J	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:52	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:52	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 18:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:03	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:03	7440-41-7	
Boron	0.0078J	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 18:03	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:03	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:03	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00050	0.000078	1	10/13/20 08:00	10/13/20 12:50	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		09/22/20 14:22		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
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 14:37	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		09/22/20 11:31	16887-00-6	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: FB-02 **Lab ID: 92495900016** Collected: 09/17/20 18:46 Received: 09/18/20 10:20 Matrix: Water

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

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

Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 11:31	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/22/20 11:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: FD-02 **Lab ID: 92495900017** Collected: 09/17/20 00:00 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	185	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 20:05	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:05	7439-89-6	
Magnesium	29.8	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:05	7439-95-4	
Manganese	18.5	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 22:11	7439-96-5	
Potassium	1.1	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:05	7440-09-7	
Sodium	11.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:05	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:21	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:21	7440-41-7	
Boron	2.0	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 11:01	7440-42-8	
Cadmium	0.0015J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:21	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:21	7440-47-3	
Cobalt	0.027	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:21	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:21	7439-92-1	
Lithium	0.0080J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:21	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	956	mg/L	20.0	20.0	1		09/22/20 14:22		MW
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	89.8	mg/L	5.0	5.0	1		09/24/20 19:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:05		
Alkalinity, Total as CaCO3	89.8	mg/L	5.0	5.0	1		09/24/20 19:05		
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 14:37	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	107	mg/L	9.0	5.4	9		09/22/20 18:40	16887-00-6	
Fluoride	0.050J	mg/L	0.10	0.050	1		09/22/20 12:16	16984-48-8	
Sulfate	416	mg/L	9.0	4.5	9		09/22/20 18:40	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-14 **Lab ID: 92495900018** Collected: 09/18/20 09:20 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.88	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	623	mg/L	10.0	0.70	10	09/24/20 14:17	09/28/20 22:15	7440-70-2	
Iron	0.90	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:14	7439-89-6	
Magnesium	49.2	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:14	7439-95-4	
Manganese	5.0	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 20:14	7439-96-5	
Potassium	12.6	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:14	7440-09-7	
Sodium	10.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:14	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0029J	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:39	7440-38-2	
Barium	0.019	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:39	7440-39-3	
Beryllium	0.00043J	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/25/20 19:39	7440-41-7	
Boron	11.0	mg/L	1.0	0.052	10	09/24/20 14:23	09/29/20 17:08	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:39	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:39	7440-47-3	
Cobalt	0.027	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:39	7440-48-4	
Lead	0.0012J	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:39	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:39	7439-98-7	
Selenium	0.0045J	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:39	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:39	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2440	mg/L	50.0	50.0	1		09/23/20 13:16		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/30/20 14:26		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/30/20 14:26		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		09/30/20 14:26		

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	
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300.0 IC Anions 28 Days

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

Chloride	288	mg/L	17.0	10.2	17		09/25/20 10:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 10:06	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-14		Lab ID: 92495900018		Collected: 09/18/20 09:20	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							
Sulfate	1260	mg/L	17.0	8.5	17		09/25/20 10:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-21D **Lab ID: 92495900019** Collected: 09/21/20 10:30 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH **6.92** Std. Units 1 09/25/20 09:56

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	428	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:39	7440-70-2
Iron	23.0	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:37	7439-89-6
Magnesium	63.3	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:37	7439-95-4
Manganese	1.4	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:37	7439-96-5
Potassium	1.2	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:37	7440-09-7
Sodium	15.1	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:37	7440-23-5

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:40	7440-38-2
Barium	0.049	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:40	7440-39-3
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:40	7440-41-7
Boron	5.6	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:40	7440-42-8
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:40	7440-43-9
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:40	7440-47-3
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:40	7440-48-4
Lead	ND	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:40	7439-92-1
Lithium	0.022J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:40	7439-93-2
Molybdenum	0.017	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:40	7439-98-7
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:40	7782-49-2
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:40	7440-28-0

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids **2060** mg/L 50.0 50.0 1 09/24/20 10:27

2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	32.8	mg/L	5.0	5.0	1	09/30/20 18:31
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1	09/30/20 18:31
Alkalinity, Total as CaCO3	32.8	mg/L	5.0	5.0	1	09/30/20 18:31

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 11:46 18496-25-8

300.0 IC Anions 28 Days

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

Chloride	236	mg/L	14.0	8.4	14	09/25/20 11:57	16887-00-6
Fluoride	ND	mg/L	0.10	0.050	1	09/24/20 18:31	16984-48-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-21D		Lab ID: 92495900019		Collected: 09/21/20 10:30	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							
Sulfate	1010	mg/L	14.0	7.0	14		09/25/20 11:57	14808-79-8	M6

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-33 **Lab ID: 92495900020** Collected: 09/21/20 13:00 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.48	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	562	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:43	7440-70-2	
Iron	1.3	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:41	7439-89-6	
Magnesium	50.2	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:41	7439-95-4	
Manganese	4.5	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:41	7439-96-5	
Potassium	12.4	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:41	7440-09-7	
Sodium	10.8	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:41	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0083	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:46	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:46	7440-39-3	
Beryllium	0.00090J	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:46	7440-41-7	
Boron	9.0	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:46	7440-42-8	
Cadmium	0.00016J	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:46	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:46	7440-47-3	
Cobalt	0.047	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:46	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:46	7439-92-1	
Lithium	0.00086J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:46	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:46	7439-98-7	
Selenium	0.041	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:46	7782-49-2	
Thallium	0.00029J	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:46	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2340	mg/L	50.0	50.0	1		09/24/20 10:28		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:37		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/30/20 18:37		

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 11:46	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	273	mg/L	18.0	10.8	18		09/25/20 13:08	16887-00-6	
Fluoride	0.14	mg/L	0.10	0.050	1		09/24/20 19:15	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-33		Lab ID: 92495900020		Collected: 09/21/20 13:00	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							
Sulfate	1290	mg/L	18.0	9.0	18		09/25/20 13:08	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: MW-35 **Lab ID: 92495900021** Collected: 09/21/20 12:55 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	5.40	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	503	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:47	7440-70-2	
Iron	2.3	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:46	7439-89-6	
Magnesium	61.6	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:46	7439-95-4	
Manganese	10.8	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:46	7439-96-5	
Potassium	9.2	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:46	7440-09-7	
Sodium	11.7	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:46	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0059	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:52	7440-38-2	
Barium	0.028	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:52	7440-39-3	
Beryllium	0.00040J	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:52	7440-41-7	
Boron	12.3	mg/L	1.0	0.052	10	09/29/20 14:13	10/02/20 15:43	7440-42-8	
Cadmium	0.0010J	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:52	7440-43-9	
Chromium	0.00079J	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:52	7440-47-3	
Cobalt	0.084	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:52	7440-48-4	
Lead	0.00099J	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:52	7439-92-1	
Lithium	0.0036J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:52	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:52	7439-98-7	
Selenium	0.037	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:52	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2210	mg/L	50.0	50.0	1		09/24/20 10:28		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:39		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/30/20 18:39		

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 11:47	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	257	mg/L	17.0	10.2	17		09/25/20 13:23	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 19:29	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-35									
Lab ID: 92495900021									
Collected: 09/21/20 12:55									
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									
Sulfate	1220	mg/L	17.0	8.5	17		09/25/20 13:23	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D **Lab ID: 92495900022** Collected: 09/23/20 16:30 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.05	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	556	mg/L	10.0	0.70	10	09/28/20 15:51	10/01/20 13:15	7440-70-2	
Iron	0.023J	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 21:54	7439-89-6	
Magnesium	49.7	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 21:54	7439-95-4	
Manganese	3.7	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 21:54	7439-96-5	
Potassium	9.6	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 21:54	7440-09-7	
Sodium	15.4	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 21:54	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0010J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:04	7440-38-2	
Barium	0.038	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:04	7440-41-7	
Boron	10.2	mg/L	1.0	0.052	10	09/30/20 14:00	10/07/20 12:17	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:04	7440-47-3	
Cobalt	0.0056	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:04	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:04	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2430	mg/L	100	100	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	94.5	mg/L	5.0	5.0	1		10/02/20 19:08		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		10/02/20 19:08		
Alkalinity, Total as CaCO ₃	94.5	mg/L	5.0	5.0	1		10/02/20 19:08		

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 13:24	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	294	mg/L	23.0	13.8	23		09/29/20 23:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 17:57	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D		Lab ID: 92495900022		Collected: 09/23/20 16:30	Received: 09/24/20 10:25	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							
Sulfate	1080	mg/L	23.0	11.5	23		09/29/20 23:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: MW-36D **Lab ID: 92495900023** Collected: 09/23/20 11:15 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.62	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	62.1	mg/L	1.0	0.070	1	09/28/20 15:51	09/30/20 21:59	7440-70-2	
Iron	0.62	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 21:59	7439-89-6	
Magnesium	7.1	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 21:59	7439-95-4	
Manganese	0.045	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 21:59	7439-96-5	
Potassium	0.44	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 21:59	7440-09-7	
Sodium	6.8	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 21:59	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:10	7440-38-2	
Barium	0.17	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:10	7440-41-7	
Boron	0.055J	mg/L	0.10	0.0052	1	09/30/20 14:00	10/01/20 16:10	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:10	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:10	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:10	7440-48-4	
Lead	0.000088J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:10	7439-92-1	
Lithium	0.0084J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:10	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:10	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	256	mg/L	10.0	10.0	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	159	mg/L	5.0	5.0	1		10/02/20 19:16		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		10/02/20 19:16		
Alkalinity, Total as CaCO ₃	159	mg/L	5.0	5.0	1		10/02/20 19:16		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
 Pace Analytical Services - Asheville

Sulfide	0.055J	mg/L	0.10	0.050	1		09/29/20 13:25	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	2.2	mg/L	1.0	0.60	1		09/29/20 18:12	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 18:12	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-36D		Lab ID: 92495900023		Collected: 09/23/20 11:15	Received: 09/24/20 10:25	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							
Sulfate	56.0	mg/L	1.0	0.50	1		09/29/20 18:12	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-37D **Lab ID: 92495900024** Collected: 09/23/20 08:50 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.62	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	158	mg/L	1.0	0.070	1	09/28/20 15:51	09/30/20 22:03	7440-70-2	
Iron	0.74	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 22:03	7439-89-6	
Magnesium	28.1	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 22:03	7439-95-4	
Manganese	0.12	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 22:03	7439-96-5	
Potassium	1.4	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 22:03	7440-09-7	
Sodium	53.6	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 22:03	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.00095J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:15	7440-38-2	
Barium	0.14	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:15	7440-41-7	
Boron	0.12	mg/L	0.10	0.0052	1	09/30/20 14:00	10/01/20 16:15	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:15	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:15	7440-48-4	
Lead	0.000082J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:15	7439-92-1	
Lithium	0.031	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:15	7439-93-2	
Molybdenum	0.015	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:15	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	894	mg/L	20.0	20.0	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	133	mg/L	5.0	5.0	1		10/02/20 19:26		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/02/20 19:26		
Alkalinity, Total as CaCO3	133	mg/L	5.0	5.0	1		10/02/20 19:26		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.26	mg/L	0.10	0.050	1		09/29/20 13:25	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	166	mg/L	6.0	3.6	6		09/29/20 23:44	16887-00-6	
Fluoride	0.065J	mg/L	0.10	0.050	1		09/29/20 18:26	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-37D		Lab ID: 92495900024		Collected: 09/23/20 08:50	Received: 09/24/20 10:25	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							
Sulfate	256	mg/L	6.0	3.0	6		09/29/20 23:44	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D FILTERED **Lab ID: 92495900025** Collected: 09/23/20 17:00 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.05	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	616	mg/L	10.0	0.70	10	09/28/20 15:51	10/01/20 13:19	7440-70-2	
Iron	2.0	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 22:08	7439-89-6	
Magnesium	53.6	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 22:08	7439-95-4	
Manganese	4.1	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 22:08	7439-96-5	
Potassium	10.6	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 22:08	7440-09-7	
Sodium	16.8	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 22:08	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0017J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:21	7440-38-2	
Barium	0.044	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:21	7440-39-3	
Beryllium	0.00018J	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:21	7440-41-7	
Boron	9.8	mg/L	1.0	0.052	10	09/30/20 14:00	10/05/20 13:54	7440-42-8	
Cadmium	0.00019J	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:21	7440-43-9	
Chromium	0.0027J	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:21	7440-47-3	
Cobalt	0.0070	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:21	7440-48-4	
Lead	0.0010J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:21	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:21	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2550	mg/L	100	100	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	119	mg/L	5.0	5.0	1		10/02/20 19:36		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		10/02/20 19:36		
Alkalinity, Total as CaCO ₃	119	mg/L	5.0	5.0	1		10/02/20 19:36		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.086J	mg/L	0.10	0.050	1		09/29/20 13:27	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	295	mg/L	22.0	13.2	22		09/29/20 16:35	16887-00-6	
Fluoride	0.086J	mg/L	0.10	0.050	1		09/29/20 02:08	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D FILTERED **Lab ID: 92495900025** Collected: 09/23/20 17:00 Received: 09/24/20 10:25 Matrix: Water

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

Sulfate	1100	mg/L	22.0	11.0	22		09/29/20 16:35	14808-79-8	
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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568201 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

METHOD BLANK: 3010803 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495900004	Spike Conc.	Spike Conc.	Result							Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568747

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017, 92495900018

METHOD BLANK: 3013294

Matrix: Water

Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017, 92495900018

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92495904004 Result	Spike Conc.	Spike Conc.	Result							Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568748 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3013298 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495894022 Result	Spike Conc.	Spike Conc.	Result						
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	569461	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples:	92495900022, 92495900023, 92495900024, 92495900025		

METHOD BLANK: 3017167 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/30/20 20:54	
Iron	mg/L	ND	0.040	0.016	09/30/20 20:54	
Magnesium	mg/L	ND	0.050	0.0076	09/30/20 20:54	
Manganese	mg/L	ND	0.040	0.0017	09/30/20 20:54	
Potassium	mg/L	ND	0.20	0.056	09/30/20 20:54	
Sodium	mg/L	ND	1.0	0.26	09/30/20 20:54	

LABORATORY CONTROL SAMPLE: 3017168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.94J	94	80-120	
Iron	mg/L	1	0.97	97	80-120	
Magnesium	mg/L	1	0.97	97	80-120	
Manganese	mg/L	1	0.93	93	80-120	
Potassium	mg/L	1	0.95	95	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017169 3017170

Parameter	Units	3017169		3017170		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92497149001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	1.8	1	1	2.8	2.8	94	95	75-125	1	20
Iron	mg/L	0.050	1	1	1.0	1.0	99	100	75-125	1	20
Magnesium	mg/L	1.4	1	1	2.4	2.4	97	100	75-125	1	20
Manganese	mg/L	0.014J	1	1	0.97	0.96	95	95	75-125	0	20
Potassium	mg/L	2.2	1	1	3.2	3.2	97	94	75-125	1	20
Sodium	mg/L	5.8	1	1	6.8	6.8	104	104	75-125	0	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	568198	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples:	92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010		

METHOD BLANK:	3010799	Matrix:	Water
Associated Lab Samples:	92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010		

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	MS Result	MSD Result						
Antimony	mg/L			0.10	0.10				1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3010801		3010802		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Arsenic	mg/L	ND	0.1	0.1	0.098	0.097	97	97	75-125	1	20		
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568430 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3011696 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3012194		3012195		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92495870011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568749

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900018

METHOD BLANK: 3013302

Matrix: Water

Associated Lab Samples: 92495900018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	3013304		3013305		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	ND	0.1	0.1	0.10	0.11	101	106	75-125	5	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3013304		3013305		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	569670	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3017842 Matrix: Water

Associated Lab Samples: 92495900019, 92495900020, 92495900021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	3017844		3017845		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	0.39	0.1	0.48	0.48	88	90	75-125	1	20	
Barium	mg/L	0.052	0.1	0.15	0.15	98	101	75-125	2	20	
Beryllium	mg/L	0.00011J	0.1	0.087	0.090	87	90	75-125	4	20	
Boron	mg/L	1.6	1	2.4	2.5	79	89	75-125	4	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3017844		3017845		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92495894020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 570000 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3019421 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00078	10/01/20 14:21	
Barium	mg/L	ND	0.010	0.00071	10/01/20 14:21	
Beryllium	mg/L	ND	0.0030	0.000046	10/01/20 14:21	
Boron	mg/L	ND	0.10	0.0052	10/01/20 14:21	
Cadmium	mg/L	ND	0.0025	0.00012	10/01/20 14:21	
Chromium	mg/L	ND	0.010	0.00055	10/01/20 14:21	
Cobalt	mg/L	ND	0.0050	0.00038	10/01/20 14:21	
Lead	mg/L	ND	0.0050	0.000036	10/01/20 14:21	
Lithium	mg/L	ND	0.030	0.00081	10/01/20 14:21	
Molybdenum	mg/L	ND	0.010	0.00069	10/01/20 14:21	
Selenium	mg/L	ND	0.010	0.0016	10/01/20 14:21	
Thallium	mg/L	ND	0.0010	0.00014	10/01/20 14:21	

LABORATORY CONTROL SAMPLE: 3019422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	0.098	98	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	0.10	102	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019423 3019424

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92496941015 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	ND	0.1	0.1	0.098	0.10	98	99	75-125	1	20	
Barium	mg/L	0.043	0.1	0.1	0.15	0.15	102	102	75-125	0	20	
Beryllium	mg/L	0.000058J	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Boron	mg/L	1.6	1	1	2.6	2.7	98	111	75-125	5	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3019423		3019424		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Cadmium	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	1	20	
Cobalt	mg/L	0.0018J	0.1	0.1	0.10	0.10	99	101	75-125	2	20	
Lead	mg/L	0.000082J	0.1	0.1	0.097	0.10	97	100	75-125	3	20	
Lithium	mg/L	0.0060J	0.1	0.1	0.11	0.11	101	101	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	0	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.098	96	98	75-125	2	20	
Thallium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 572608 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900009, 92495900010, 92495900015, 92495900016

METHOD BLANK: 3032633 Matrix: Water
 Associated Lab Samples: 92495900009, 92495900010, 92495900015, 92495900016

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	3032635		3032636		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92499821002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0025	0.0026	97	102	75-125	5	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 567147 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: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

METHOD BLANK: 3005362 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

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: 3005363

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	384	96	84-108	

SAMPLE DUPLICATE: 3005364

Parameter	Units	92495870005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 3005365

Parameter	Units	92495900007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1890	1860	2	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

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: 92495900008, 92495900009, 92495900010

METHOD BLANK: 3006601 Matrix: Water
 Associated Lab Samples: 92495900008, 92495900009, 92495900010

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3010068 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

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: 92495900018

METHOD BLANK: 3011476 Matrix: Water
 Associated Lab Samples: 92495900018

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3012738 Matrix: Water

Associated Lab Samples: 92495900019, 92495900020, 92495900021

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 569350 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: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3016719 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/28/20 11:53	

LABORATORY CONTROL SAMPLE: 3016720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	427	107	84-108	

SAMPLE DUPLICATE: 3016721

Parameter	Units	92496925001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	215	218	1	10	

SAMPLE DUPLICATE: 3016722

Parameter	Units	92495900024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	894	864	3	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 568673 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009

METHOD BLANK: 3012830 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009

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	3012832		3012833		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Alkalinity, Total as CaCO3	mg/L	307	50	358	50	102	104	80-120	0	25		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012834 3012835

Parameter	Units	3012834		3012835		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Alkalinity, Total as CaCO3	mg/L	ND	50	42.7	50	85	84	80-120	1	25		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568674 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900010, 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3012844 Matrix: Water
 Associated Lab Samples: 92495900010, 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 568970 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900018

METHOD BLANK: 3014490 Matrix: Water
 Associated Lab Samples: 92495900018

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		3014492		3014493		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec	MSD % Rec
Alkalinity, Total as CaCO3	mg/L	231	50	274	50	281	86	100	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014494 3014495

Parameter	Units	92495894018		3014494		3014495		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Alkalinity, Total as CaCO3	mg/L	288	50	343	50	338	111	100	80-120	2	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 569912 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3018962 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/30/20 15:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 15:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 15:43	

LABORATORY CONTROL SAMPLE: 3018963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018964 3018965

Parameter	Units	92497388001		3018965		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	2670	50	50	2540	2630	-256	-85	80-120	3	25 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018966 3018967

Parameter	Units	92496574002		3018967		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	66.3	50	50	117	119	101	105	80-120	2	25

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 570520 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3022216 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/02/20 16:32	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/02/20 16:32	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/02/20 16:32	

LABORATORY CONTROL SAMPLE: 3022217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022218 3022219

Parameter	Units	92497530009		3022219		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	22.8	50	50	72.9	73.8	100	102	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022220 3022221

Parameter	Units	92497916010		3022221		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	15.2	50	50	69.2	69.6	108	109	80-120	1	25

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 568020 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007,
 92495900008, 92495900009, 92495900010

METHOD BLANK: 3009676 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007,
 92495900008, 92495900009, 92495900010

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568021 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3009682 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 568022 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900018

METHOD BLANK: 3009689 Matrix: Water
 Associated Lab Samples: 92495900018

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		3009692		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		3009694		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Sulfide	mg/L	ND	0.5	0.5	0.51	0.51	98	98	80-120	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568633 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3012716 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

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	3012718		3012719		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Sulfide	mg/L	92496675001 ND	0.5	0.5	0.49	0.49	96	96	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012720 3012721

Parameter	Units	3012720		3012721		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Sulfide	mg/L	92496675002 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-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 569576 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3017560 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/29/20 13:11	

LABORATORY CONTROL SAMPLE: 3017561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017562 3017563

Parameter	Units	92497358001		3017562		3017563		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec	MSD % Rec
Sulfide	mg/L	ND	ND	0.5	0.5	0.53	0.53	104	104	80-120	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017564 3017565

Parameter	Units	92497241004		3017564		3017565		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Sulfide	mg/L	ND	ND	0.5	0.5	0.37	0.37	74	75	80-120	0	10 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	567529	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

METHOD BLANK: 3007534 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92496029001	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495653005	Result	Spike Conc.	Spike Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 567607 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900008, 92495900009, 92495900010

METHOD BLANK: 3008004 Matrix: Water
 Associated Lab Samples: 92495900008, 92495900009, 92495900010

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495964005 Result	Spike Conc.	Spike Conc.	Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495653007 Result	Spike Conc.	Spike Conc.	Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	567943	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017		

METHOD BLANK: 3009484 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495894011 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	105	50	50	50	152	155	94	101	90-110	2	10	
Fluoride	mg/L	0.10	2.5	2.5	2.5	2.7	2.7	103	104	90-110	1	10	
Sulfate	mg/L	209	50	50	50	255	261	92	103	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3009488 3009489

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495900016 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	ND	50	50	50	52.8	52.5	106	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	2.6	105	104	90-110	1	10	
Sulfate	mg/L	ND	50	50	50	52.6	52.2	105	104	90-110	1	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568377	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900018

METHOD BLANK: 3011350 Matrix: Water

Associated Lab Samples: 92495900018

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495656005	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92496524001	Result	Spike Conc.	Spike Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568379 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3011360 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

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		3011362		3011363		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
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		3011364		3011365		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 569514 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900022, 92495900023, 92495900024

METHOD BLANK: 3017398 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 11:26	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 11:26	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 11:26	

LABORATORY CONTROL SAMPLE: 3017399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.9	108	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	52.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017400 3017401

Parameter	Units	92496941018		MS Spike Conc.		MSD Spike Conc.		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Conc.										
Chloride	mg/L	ND	50	50	52.4	51.8	105	104	90-110	1	10				
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	93	94	90-110	0	10				
Sulfate	mg/L	ND	50	50	51.0	50.1	101	100	90-110	2	10				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017402 3017403

Parameter	Units	92496941019		MS Spike Conc.		MSD Spike Conc.		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Conc.										
Chloride	mg/L	ND	50	50	51.7	51.7	103	103	90-110	0	10				
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	91	95	90-110	5	10				
Sulfate	mg/L	ND	50	50	50.0	49.9	100	100	90-110	0	10				

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 569515	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900025

METHOD BLANK: 3017404 Matrix: Water

Associated Lab Samples: 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 01:40	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 01:40	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 01:40	

LABORATORY CONTROL SAMPLE: 3017405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.1	108	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	54.2	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017406 3017407

Parameter	Units	92496914009		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	ND	50	50	52.3	52.6	105	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	106	90-110	1	10		
Sulfate	mg/L	ND	50	50	51.9	52.3	104	105	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017408 3017409

Parameter	Units	92496914010		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	ND	50	50	51.9	52.4	104	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	105	90-110	1	10		
Sulfate	mg/L	ND	50	50	51.6	52.0	103	104	90-110	1	10		

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QUALIFIERS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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.

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-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900001	HGWA-1				
92495900002	HGWA-2				
92495900003	HGWA-3				
92495900004	HGWA-4				
92495900005	HGWA-5				
92495900006	HGWA-6				
92495900007	HGWC-18				
92495900008	HGWC-17				
92495900009	HGWA-43D				
92495900010	HGWA-44D				
92495900011	HGWC-15				
92495900012	HGWC-16				
92495900013	MW-22				
92495900014	MW-23D				
92495900015	HGWA-42D				
92495900018	HGWC-14				
92495900019	MW-21D				
92495900020	MW-33				
92495900021	MW-35				
92495900022	MW-34D				
92495900023	MW-36D				
92495900024	MW-37D				
92495900025	MW-34D FILTERED				
92495900001	HGWA-1	EPA 3010A	568201	EPA 6010D	568230
92495900002	HGWA-2	EPA 3010A	568201	EPA 6010D	568230
92495900003	HGWA-3	EPA 3010A	568201	EPA 6010D	568230
92495900004	HGWA-4	EPA 3010A	568201	EPA 6010D	568230
92495900005	HGWA-5	EPA 3010A	568201	EPA 6010D	568230
92495900006	HGWA-6	EPA 3010A	568201	EPA 6010D	568230
92495900007	HGWC-18	EPA 3010A	568201	EPA 6010D	568230
92495900008	HGWC-17	EPA 3010A	568201	EPA 6010D	568230
92495900009	HGWA-43D	EPA 3010A	568201	EPA 6010D	568230
92495900010	HGWA-44D	EPA 3010A	568201	EPA 6010D	568230
92495900011	HGWC-15	EPA 3010A	568747	EPA 6010D	568813
92495900012	HGWC-16	EPA 3010A	568747	EPA 6010D	568813
92495900013	MW-22	EPA 3010A	568747	EPA 6010D	568813
92495900014	MW-23D	EPA 3010A	568747	EPA 6010D	568813
92495900015	HGWA-42D	EPA 3010A	568747	EPA 6010D	568813
92495900016	FB-02	EPA 3010A	568747	EPA 6010D	568813
92495900017	FD-02	EPA 3010A	568747	EPA 6010D	568813
92495900018	HGWC-14	EPA 3010A	568747	EPA 6010D	568813
92495900019	MW-21D	EPA 3010A	568748	EPA 6010D	568812
92495900020	MW-33	EPA 3010A	568748	EPA 6010D	568812
92495900021	MW-35	EPA 3010A	568748	EPA 6010D	568812
92495900022	MW-34D	EPA 3010A	569461	EPA 6010D	569503
92495900023	MW-36D	EPA 3010A	569461	EPA 6010D	569503
92495900024	MW-37D	EPA 3010A	569461	EPA 6010D	569503

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900025	MW-34D FILTERED	EPA 3010A	569461	EPA 6010D	569503
92495900001	HGWA-1	EPA 3005A	568198	EPA 6020B	568229
92495900002	HGWA-2	EPA 3005A	568198	EPA 6020B	568229
92495900003	HGWA-3	EPA 3005A	568198	EPA 6020B	568229
92495900004	HGWA-4	EPA 3005A	568198	EPA 6020B	568229
92495900005	HGWA-5	EPA 3005A	568198	EPA 6020B	568229
92495900006	HGWA-6	EPA 3005A	568198	EPA 6020B	568229
92495900007	HGWC-18	EPA 3005A	568198	EPA 6020B	568229
92495900008	HGWC-17	EPA 3005A	568198	EPA 6020B	568229
92495900009	HGWA-43D	EPA 3005A	568198	EPA 6020B	568229
92495900010	HGWA-44D	EPA 3005A	568198	EPA 6020B	568229
92495900011	HGWC-15	EPA 3005A	568430	EPA 6020B	568663
92495900012	HGWC-16	EPA 3005A	568430	EPA 6020B	568663
92495900013	MW-22	EPA 3005A	568430	EPA 6020B	568663
92495900014	MW-23D	EPA 3005A	568430	EPA 6020B	568663
92495900015	HGWA-42D	EPA 3005A	568430	EPA 6020B	568663
92495900016	FB-02	EPA 3005A	568430	EPA 6020B	568663
92495900017	FD-02	EPA 3005A	568430	EPA 6020B	568663
92495900018	HGWC-14	EPA 3005A	568749	EPA 6020B	568811
92495900019	MW-21D	EPA 3005A	569670	EPA 6020B	569718
92495900020	MW-33	EPA 3005A	569670	EPA 6020B	569718
92495900021	MW-35	EPA 3005A	569670	EPA 6020B	569718
92495900022	MW-34D	EPA 3005A	570000	EPA 6020B	570049
92495900023	MW-36D	EPA 3005A	570000	EPA 6020B	570049
92495900024	MW-37D	EPA 3005A	570000	EPA 6020B	570049
92495900025	MW-34D FILTERED	EPA 3005A	570000	EPA 6020B	570049
92495900009	HGWA-43D	EPA 7470A	572608	EPA 7470A	572822
92495900010	HGWA-44D	EPA 7470A	572608	EPA 7470A	572822
92495900015	HGWA-42D	EPA 7470A	572608	EPA 7470A	572822
92495900016	FB-02	EPA 7470A	572608	EPA 7470A	572822
92495900001	HGWA-1	SM 2450C-2011	567147		
92495900002	HGWA-2	SM 2450C-2011	567147		
92495900003	HGWA-3	SM 2450C-2011	567147		
92495900004	HGWA-4	SM 2450C-2011	567147		
92495900005	HGWA-5	SM 2450C-2011	567147		
92495900006	HGWA-6	SM 2450C-2011	567147		
92495900007	HGWC-18	SM 2450C-2011	567147		
92495900008	HGWC-17	SM 2450C-2011	567372		
92495900009	HGWA-43D	SM 2450C-2011	567372		
92495900010	HGWA-44D	SM 2450C-2011	567372		
92495900011	HGWC-15	SM 2450C-2011	568080		
92495900012	HGWC-16	SM 2450C-2011	568080		
92495900013	MW-22	SM 2450C-2011	568080		
92495900014	MW-23D	SM 2450C-2011	568080		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900015	HGWA-42D	SM 2450C-2011	568080		
92495900016	FB-02	SM 2450C-2011	568080		
92495900017	FD-02	SM 2450C-2011	568080		
92495900018	HGWC-14	SM 2450C-2011	568395		
92495900019	MW-21D	SM 2450C-2011	568648		
92495900020	MW-33	SM 2450C-2011	568648		
92495900021	MW-35	SM 2450C-2011	568648		
92495900022	MW-34D	SM 2450C-2011	569350		
92495900023	MW-36D	SM 2450C-2011	569350		
92495900024	MW-37D	SM 2450C-2011	569350		
92495900025	MW-34D FILTERED	SM 2450C-2011	569350		
92495900001	HGWA-1	SM 2320B-2011	568673		
92495900002	HGWA-2	SM 2320B-2011	568673		
92495900003	HGWA-3	SM 2320B-2011	568673		
92495900004	HGWA-4	SM 2320B-2011	568673		
92495900005	HGWA-5	SM 2320B-2011	568673		
92495900006	HGWA-6	SM 2320B-2011	568673		
92495900007	HGWC-18	SM 2320B-2011	568673		
92495900008	HGWC-17	SM 2320B-2011	568673		
92495900009	HGWA-43D	SM 2320B-2011	568673		
92495900010	HGWA-44D	SM 2320B-2011	568674		
92495900011	HGWC-15	SM 2320B-2011	568674		
92495900012	HGWC-16	SM 2320B-2011	568674		
92495900013	MW-22	SM 2320B-2011	568674		
92495900014	MW-23D	SM 2320B-2011	568674		
92495900015	HGWA-42D	SM 2320B-2011	568674		
92495900016	FB-02	SM 2320B-2011	568674		
92495900017	FD-02	SM 2320B-2011	568674		
92495900018	HGWC-14	SM 2320B-2011	568970		
92495900019	MW-21D	SM 2320B-2011	569912		
92495900020	MW-33	SM 2320B-2011	569912		
92495900021	MW-35	SM 2320B-2011	569912		
92495900022	MW-34D	SM 2320B-2011	570520		
92495900023	MW-36D	SM 2320B-2011	570520		
92495900024	MW-37D	SM 2320B-2011	570520		
92495900025	MW-34D FILTERED	SM 2320B-2011	570520		
92495900001	HGWA-1	SM 4500-S2D-2011	568020		
92495900002	HGWA-2	SM 4500-S2D-2011	568020		
92495900003	HGWA-3	SM 4500-S2D-2011	568020		
92495900004	HGWA-4	SM 4500-S2D-2011	568020		
92495900005	HGWA-5	SM 4500-S2D-2011	568020		
92495900006	HGWA-6	SM 4500-S2D-2011	568020		
92495900007	HGWC-18	SM 4500-S2D-2011	568020		
92495900008	HGWC-17	SM 4500-S2D-2011	568020		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900009	HGWA-43D	SM 4500-S2D-2011	568020		
92495900010	HGWA-44D	SM 4500-S2D-2011	568020		
92495900011	HGWC-15	SM 4500-S2D-2011	568021		
92495900012	HGWC-16	SM 4500-S2D-2011	568021		
92495900013	MW-22	SM 4500-S2D-2011	568021		
92495900014	MW-23D	SM 4500-S2D-2011	568021		
92495900015	HGWA-42D	SM 4500-S2D-2011	568021		
92495900016	FB-02	SM 4500-S2D-2011	568021		
92495900017	FD-02	SM 4500-S2D-2011	568021		
92495900018	HGWC-14	SM 4500-S2D-2011	568022		
92495900019	MW-21D	SM 4500-S2D-2011	568633		
92495900020	MW-33	SM 4500-S2D-2011	568633		
92495900021	MW-35	SM 4500-S2D-2011	568633		
92495900022	MW-34D	SM 4500-S2D-2011	569576		
92495900023	MW-36D	SM 4500-S2D-2011	569576		
92495900024	MW-37D	SM 4500-S2D-2011	569576		
92495900025	MW-34D FILTERED	SM 4500-S2D-2011	569576		
92495900001	HGWA-1	EPA 300.0 Rev 2.1 1993	567529		
92495900002	HGWA-2	EPA 300.0 Rev 2.1 1993	567529		
92495900003	HGWA-3	EPA 300.0 Rev 2.1 1993	567529		
92495900004	HGWA-4	EPA 300.0 Rev 2.1 1993	567529		
92495900005	HGWA-5	EPA 300.0 Rev 2.1 1993	567529		
92495900006	HGWA-6	EPA 300.0 Rev 2.1 1993	567529		
92495900007	HGWC-18	EPA 300.0 Rev 2.1 1993	567529		
92495900008	HGWC-17	EPA 300.0 Rev 2.1 1993	567607		
92495900009	HGWA-43D	EPA 300.0 Rev 2.1 1993	567607		
92495900010	HGWA-44D	EPA 300.0 Rev 2.1 1993	567607		
92495900011	HGWC-15	EPA 300.0 Rev 2.1 1993	567943		
92495900012	HGWC-16	EPA 300.0 Rev 2.1 1993	567943		
92495900013	MW-22	EPA 300.0 Rev 2.1 1993	567943		
92495900014	MW-23D	EPA 300.0 Rev 2.1 1993	567943		
92495900015	HGWA-42D	EPA 300.0 Rev 2.1 1993	567943		
92495900016	FB-02	EPA 300.0 Rev 2.1 1993	567943		
92495900017	FD-02	EPA 300.0 Rev 2.1 1993	567943		
92495900018	HGWC-14	EPA 300.0 Rev 2.1 1993	568377		
92495900019	MW-21D	EPA 300.0 Rev 2.1 1993	568379		
92495900020	MW-33	EPA 300.0 Rev 2.1 1993	568379		
92495900021	MW-35	EPA 300.0 Rev 2.1 1993	568379		
92495900022	MW-34D	EPA 300.0 Rev 2.1 1993	569514		
92495900023	MW-36D	EPA 300.0 Rev 2.1 1993	569514		
92495900024	MW-37D	EPA 300.0 Rev 2.1 1993	569514		
92495900025	MW-34D FILTERED	EPA 300.0 Rev 2.1 1993	569515		

REPORT OF LABORATORY ANALYSIS

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Sample Retrieval and Chain of Custody

Client Name: GA Power

MO# : 92495900



Count: Fuel Oil UPS WPS Diesel Commercial Fuel Oil
Tracking in _____

Capacity Seal on Container Present Yes No Seal used Yes No

Pool Number: 00000000000000000000

Packing Material: Super Wrap Bubble Bags None Other _____

Temperature of Used 21.4 Type of fuel Gas Fuel Name _____

Cooler Temperature 0.4 Biologicial Protection FASBIA Yes No

Temp should be below freezing to BTE _____ Comments: _____

Sample or for cooling process not begun
(Date and initials of party in charge)
Date: 4/16/2004

Chain of Custody Present:	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	1
Chain of Custody Filled Out	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	2
Chain of Custody Not required	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	3
Sampler Name & Signature on COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	4
Samples Arrived within Hold Time	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	5
Short Hold Time Analysis (RTI's)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	6
Flush Burn Around Class Requested	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	7
Container Volume	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	8
Correct Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	9
Proper Container Usage	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	10
Company ID/CI	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	11
Failure to use the labeling for Disposed waste	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	12
Sample Labels match COC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	13
Indicates Material as Oily/Water/Sludge	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	14
All containers meeting program hold are listed in COC in compliance with EPA recommendation	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	15
Additional info contains TOC, DMG or DMG (_____)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	16
Samples are tags for identification	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	17
Handytags if NGA Users (48mm)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	18
Try Blank Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	19
Try Blank Control Same Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	20
State Dept. Form 101 (if applicable)				

Client Notification Resolution: _____ Case Log Request? Y N

Person Contacted _____ Date/Time _____

Comments Resolution _____

Project Manager Reviewer _____ City: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance sampling, a copy of this form will be kept in the North Carolina (2) Health Center, along with all other quality assurance information. (See Manual, Appendix 10.000)

LABORATORY

CHAIN-OF-CUSTODY / Analytical Request Document

This document is required for all tests. (See Chapter 14 of the Department of Justice, Laboratory Manual)

Page **2** of **3**

Section A Requestor Information
 Requestor: [Redacted]
 Contact: [Redacted]
 Address: [Redacted]

Section B Requester Information
 Name: [Redacted]
 Position: [Redacted]
 Agency: [Redacted]

Section C Test Information
 Test Name: [Redacted]
 Test Method: [Redacted]
 Test Location: [Redacted]

Section D Analytical Agency
 Agency Name: [Redacted]
 Address: [Redacted]
 Contact: [Redacted]

Section E Test Results
 Test Results: [Redacted]

Item No.	Description of Item	Location	Collector	Time	Date	Signature	Initials	Date	Signature	Initials
1	BALANCE 100g	Lab	[Redacted]	11:15	11/15/00	[Redacted]	[Redacted]	11/15/00	[Redacted]	[Redacted]
2	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
3	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
4	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
5	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
6	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
7	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
8	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
9	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
10	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
11	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
12	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
13	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
14	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
15	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
16	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
17	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
18	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
19	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
20	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

1. This document is not to be used for non-analytical purposes.

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 For Forensic Laboratory Use Only. Do Not Use For Routine Laboratory Analysis.

Handwritten number: 2

Section A: Requester Information
 Agency: NY State
 Requester: NY State
 Address: NY State
 Phone: NY State

Section B: Request Description
 Requested: NY State
 Description: NY State

Section C: Sample Information
 Sample ID: NY State
 Quantity: NY State

Section D: Laboratory Information
 Laboratory: NY State
 Analyst: NY State

Section E: Special Analytical Methods
 Method: NY State
 Reference: NY State

Item #	Description	Quantity	Unit	Container	Material	Preparation		Analysis		Remarks
						Prep	Analysis	Prep	Analysis	
1
2
3
4
5
6
7
8
9
10
11
12

Vertical text on the left side of the page, possibly a date or reference number.

Vertical text at the bottom left of the page.

John Anthony
 ANALYST
 DATE: 10/10/1998

CHAIN-OF-CUSTODY / Analytical Request Document
 An Original Copy of this Document is to be Retained by the Laboratory and a Copy is to be Forwarded to the Requesting Agency

Requester's Name	Requester's Agency	Requester's Address	Requester's City
Requester's Phone	Requester's Contact	Requester's State	Requester's Zip
Requester's Title	Requester's Signature	Requester's Date	Requester's Agency
Requester's E-mail	Requester's Fax	Requester's Filing No.	Requester's File No.
Requester's Project No.	Requester's Case No.	Requester's Sub Case No.	Requester's Lab No.

Item No.	Description	Quantity	Unit	Collection		Analysis		Remarks
				Time	Place	Method	Result	
1	Sample ID	1	Box					
2								
3								

4	Sample ID	1	Box					
5								
6								
7								
8								
9								
10								
11								
12								
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43								
44								
45								
46								
47								
48								
49								
50								

Requester's Name	Requester's Agency	Requester's Address	Requester's City
Requester's Phone	Requester's Contact	Requester's State	Requester's Zip
Requester's Title	Requester's Signature	Requester's Date	Requester's Agency
Requester's E-mail	Requester's Fax	Requester's Filing No.	Requester's File No.
Requester's Project No.	Requester's Case No.	Requester's Sub Case No.	Requester's Lab No.

CHALLENGE
 CHALLENGE

CHALLENGE-CUSTOMER Analytical Request Document
 The Customer hereby certifies that the information provided on this document is true and correct to the best of their knowledge.

Page **2** of **2**

Customer Name: CHALLENGE
 Address: CHALLENGE
 City: CHALLENGE
 State: CHALLENGE
 Zip: CHALLENGE
 Phone: CHALLENGE
 Fax: CHALLENGE
 E-mail: CHALLENGE
 Date: CHALLENGE
 Signature: CHALLENGE
 Title: CHALLENGE

Sample ID	Sample Description	Quantity	Collection Date	Collection Location	Collector	Sample Preparation		Analysis Test		Reference Material
						Preparation Method	Preparation Date	Test Name	Test Date	
1	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
2	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
3	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
4	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
5	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
6	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
7	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
8	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
9	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE
10	CHALLENGE	100g	12/15/2011	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE	CHALLENGE

Additional Comments: CHALLENGE
 Signature: CHALLENGE
 Title: CHALLENGE
 Date: CHALLENGE
 Laboratory Name: CHALLENGE
 Address: CHALLENGE
 City: CHALLENGE
 State: CHALLENGE
 Zip: CHALLENGE
 Phone: CHALLENGE
 Fax: CHALLENGE
 E-mail: CHALLENGE

Handwritten signature

CHAIN-OF-CUSTODY / Analytical Request Document
The Document Forming a Part of the Laboratory's Information Data used for compliance purposes

Page 1 of 2
Handwritten initials

Section 1: Request Information
Requester: Police Department
Requester's Address: 1234 Main St
Requester's Phone: (555) 123-4567
Requester's Email: requester@police.com
Request Date: 12/15/2023
Request Time: 10:00 AM
Requester's Signature: [Signature]
Requester's Title: Officer Smith

Section 2: Laboratory Information
Lab Name: Police Department Lab
Lab Address: 5678 Lab Rd
Lab Phone: (555) 987-6543
Lab Email: lab@police.com
Lab Director: [Signature]
Lab Director's Title: Lab Director

Section 3: Sample Information
Sample ID: PC-12345
Sample Description: Police Department Lab
Sample Quantity: 100 mg
Sample Container: 100 mg
Sample Location: Police Department Lab
Sample Date: 12/15/2023
Sample Time: 10:00 AM
Sample Collector: [Signature]
Sample Collector's Title: Officer Smith

NO.	DESCRIPTION	DATE	TIME	ANALYSIS		ANALYST	REMARKS
				TEST	RESULT		
1	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
2	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
3	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
4	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
5	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
6	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
7	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
8	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
9	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
10	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
11	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
12	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
13	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
14	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
15	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
16	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
17	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
18	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
19	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
20	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
21	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
22	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
23	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
24	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
25	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
26	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
27	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
28	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
29	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
30	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
31	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
32	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
33	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
34	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
35	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
36	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
37	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
38	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
39	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345
40	PC-12345	12/15/2023	10:00 AM	PC-12345	PC-12345	PC-12345	PC-12345

1-800-555-1234

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CHAIN OF CUSTODY / Analytical Request Document
 This document serves as a record of the custody of evidence which must be maintained throughout the process.

Page *24* of *34*

Section 1: Case Information
 Case No: *2004-1000*
 Date: *04/20/04*

Section 2: Requested Evidence
 Evidence Description: *...*
 Quantity: *...*

Section 3: Requesting Agency
 Agency Name: *...*
 Contact: *...*

Section 4: Submission Agency
 Agency Name: *...*
 Contact: *...*

Section 5: Analysis Request
 Analysis Requested: *...*
 Reference: *...*

Item #	Description	Quantity	Unit	Date	Time	Signature		Initials	Remarks
						Collector	Receiver		
1
2
3
4
5
6
7
8
9
10

Section 6: Additional Information
 Date: *...*
 Time: *...*

Section 7: Collector Information
 Name: *...*
 Signature: *...*
 Date: *...*

Section 8: Receiver Information
 Name: *...*
 Signature: *...*
 Date: *...*

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 The Chain of Custody is a record documenting all persons having access to samples received.

3 of 6

Handwritten initials/signature

Requested From: <u>CA Police</u> Requested For: <u>State of California</u> Requested On: <u>11/11/10</u> Requested By: <u>[Signature]</u>	Requested From: <u>State of California</u> Requested For: <u>CA Police</u> Requested On: <u>11/11/10</u> Requested By: <u>[Signature]</u>
Requested For: <u>State of California</u> Requested For: <u>CA Police</u> Requested For: <u>State of California</u> Requested For: <u>CA Police</u>	Requested For: <u>State of California</u> Requested For: <u>CA Police</u> Requested For: <u>State of California</u> Requested For: <u>CA Police</u>

Item #	Description	Quantity	Unit	Date	Time	Signature	Title	Analysis Requested		Remarks
								Method	Time	
1	STANDARD	1	UNIT	11/11/10	12:30	[Signature]	Analyst	GC/MS	11/11/10	Standard for GC/MS
2	...	...	...	...	...	...	...	...	...	...

RECEIVED 11/11/10 11:30 AM

CHAIN OF CUSTODY / Analytical Request Document
 This document serves as a record of the collection, storage, handling, and analysis of evidence.

4 of 6

[Signature]

Section 1: Requesting Agency Information Agency: <u>Alameda County Sheriff's Office</u> Requested by: <u>[Signature]</u> Date: <u>01/11/2018</u>		Section 2: Requesting Agency Contact Name: <u>[Signature]</u> Title: <u>Officer</u> Phone: <u>[Number]</u> Email: <u>[Email]</u>	
Section 3: Laboratory Information Laboratory: <u>Alameda County Sheriff's Office</u> Analyst: <u>[Signature]</u> Date: <u>01/11/2018</u>		Section 4: Sample Information Sample ID: <u>1578</u> Description: <u>[Handwritten]</u> Quantity: <u>[Handwritten]</u>	

Item #	Description	Quantity	Container	Collection		Storage		Analysis	
				By	Date	By	Date	By	Date
1	Sample 1	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
2	Sample 2	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
3	Sample 3	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
4	Sample 4	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
5	Sample 5	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
6	Sample 6	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
7	Sample 7	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
8	Sample 8	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
9	Sample 9	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018
10	Sample 10	1	1578	[Signature]	01/11/2018	[Signature]	01/11/2018	[Signature]	01/11/2018

Section 5: Additional Information Comments: <u>[Handwritten]</u> Date: <u>01/11/2018</u>	Section 6: Signatures Requested by: <u>[Signature]</u> Date: <u>01/11/2018</u> Analyst: <u>[Signature]</u> Date: <u>01/11/2018</u>
---	---



CHAIN-OF-CUSTODY / Analytical Request Document
 For Chain of Custody in State, Federal or International Cases of Substance Abuse

Page 5 of 6

Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description
---	---	---	---

Sample ID	Sample Description	Sample Location	Sample Quantity	Sample Date	Sample Time	Collection		Storage		Analysis		Remarks
						Collector	Time	Temp	Humidity	Method	Time	
1	Sample 1	...	...	...	...	...	...	...	...	...	...	...
2	Sample 2	...	...	...	...	...	...	...	...	...	...	...
3	Sample 3	...	...	...	...	...	...	...	...	...	...	...
4	Sample 4	...	...	...	...	...	...	...	...	...	...	...
5	Sample 5	...	...	...	...	...	...	...	...	...	...	...
6	Sample 6	...	...	...	...	...	...	...	...	...	...	...
7	Sample 7	...	...	...	...	...	...	...	...	...	...	...
8	Sample 8	...	...	...	...	...	...	...	...	...	...	...
9	Sample 9	...	...	...	...	...	...	...	...	...	...	...
10	Sample 10	...	...	...	...	...	...	...	...	...	...	...
11	Sample 11	...	...	...	...	...	...	...	...	...	...	...
12	Sample 12	...	...	...	...	...	...	...	...	...	...	...

Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description	Requested Item Name Requested Item Quantity Requested Item Location Requested Item Description
---	---	---	---

...

...

Ben Anthony

CHAIN OF CUSTODY / Analytical Request Document

6 of 6

Client Name: <i>ABC Company</i>	Requester: <i>John Doe</i>	Request Date: <i>10/15/2013</i>
Client Address: <i>123 Main St, Anytown, CA 90210</i>	Requester Title: <i>Manager</i>	Requester Phone: <i>(555) 123-4567</i>
Client Contact: <i>Jane Smith</i>	Requester Email: <i>john.doe@abc.com</i>	Requester Signature: _____
Request for Analysis: <i>See attached documents</i>	Reference Number: <i>ABC-101</i>	Analysis Fee: <i>See attached documents</i>
<p style="text-align: center;">ANALYST INFORMATION</p> <p>Analyst: <i>Ben Anthony</i> Date: <i>10/15/2013</i></p>		

Item #	Description of Item	Quantity	Sampling Location		Sampling Date	Sampling Time	Sampling Method	Sampling Agency	Sampling Technician	Sampling Equipment	Sampling Notes	Reference Number	Analysis Fee	Analysis Date	Analysis Time	Analysis Method	Analysis Agency	Analysis Technician	Analysis Equipment	Analysis Notes		
			Start	End																		
1	SAMPLED <i>(Large quantity of items)</i>	100																				
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

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LABORATORY OF THE STATE POLICE

Handwritten signature

CHAIN-OF-CUSTODY (Analytical Request Document)

For Chain of Custody and Laboratory Use Only. This document shall remain the property of the laboratory.

Sample ID: <u> </u>	Requester: <u> </u>
Client: <u> </u>	Project: <u> </u>
Address: <u> </u>	City: <u> </u>
Phone: <u> </u>	State: <u> </u>
DOB: <u> </u>	Country: <u> </u>
DOB: <u> </u>	Region: <u> </u>
DOB: <u> </u>	City: <u> </u>
DOB: <u> </u>	State: <u> </u>
DOB: <u> </u>	Country: <u> </u>
DOB: <u> </u>	Region: <u> </u>
DOB: <u> </u>	City: <u> </u>
DOB: <u> </u>	State: <u> </u>
DOB: <u> </u>	Country: <u> </u>

ITEM	Description	Quantity	Unit	Lot #	Storage		Transportation		Analysis		Chain of Custody
					Temp	Time	Temp	Time	Temp	Time	
1	Sample 1	1	g								
2	Sample 2	1	g								
3	Sample 3	1	g								
4	Sample 4	1	g								
5	Sample 5	1	g								
6	Sample 6	1	g								
7	Sample 7	1	g								
8	Sample 8	1	g								
9	Sample 9	1	g								
10	Sample 10	1	g								
11	Sample 11	1	g								
12	Sample 12	1	g								
13	Sample 13	1	g								
14	Sample 14	1	g								
15	Sample 15	1	g								
16	Sample 16	1	g								
17	Sample 17	1	g								
18	Sample 18	1	g								
19	Sample 19	1	g								
20	Sample 20	1	g								
21	Sample 21	1	g								
22	Sample 22	1	g								
23	Sample 23	1	g								
24	Sample 24	1	g								
25	Sample 25	1	g								
26	Sample 26	1	g								
27	Sample 27	1	g								
28	Sample 28	1	g								
29	Sample 29	1	g								
30	Sample 30	1	g								

Sample ID: Date: Time:



CHAIN-OF-CUSTODY / Analytical Request Document
 The Owner of this document is the U.S. Environmental Protection Agency. All information contained herein is the property of the EPA.

Requester: U.S. Environmental Protection Agency
 Requester Address: 400 M Street, NE Washington, DC 20460
 Requester Phone: 202-566-0100
 Requester Email: epa@epa.gov
 Requester Signature: [Signature]
 Requester Title: Director
 Request Date: 11/21/00
 Requested By: [Signature]
 Requested By Title: Analyst

Sample ID: 11-21-00-001
 Sample Description: Water from the [unclear] [unclear]
 Sample Location: [unclear] [unclear] [unclear]
 Sample Date: 11/21/00
 Sample Time: 10:00 AM
 Sample Collector: [unclear]
 Sample Container: [unclear]
 Sample Preservation: [unclear]
 Sample Storage: [unclear]
 Sample Handling: [unclear]
 Sample Analysis: [unclear]
 Sample Results: [unclear]

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Collector	Sample Container	Sample Preservation	Sample Storage	Sample Handling	Sample Analysis	Sample Results	Chain of Custody	
												Signature	Date
11-21-00-001	Water from the [unclear] [unclear]	[unclear] [unclear] [unclear]	11/21/00	10:00 AM	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]
11-21-00-002	[unclear]	[unclear]	11/21/00	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]
11-21-00-003	[unclear]	[unclear]	11/21/00	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]
11-21-00-004	[unclear]	[unclear]	11/21/00	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]
11-21-00-005	[unclear]	[unclear]	11/21/00	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]	[unclear]

Requester: U.S. Environmental Protection Agency, 400 M Street, NE, Washington, DC 20460. Requester Phone: 202-566-0100. Requester Email: epa@epa.gov. Request Date: 11/21/00. Requested By: [unclear]. Requested By Title: Analyst.

[Handwritten signature]
Date Analyzed: _____

CHAIN OF CUSTODY / Analytical Request Document
For Laboratory Analysis (to be completed by the person submitting the sample)

Page 1 of 3

Field No. 1	Field No. 2
Location: On Road	Field Name: _____
County: Adams Co	Request to: _____
Site Name: _____	Requestor: _____
Requestor: _____	Request Date: _____
Requestor Address: _____	Requestor Phone: _____
Requestor E-mail: _____	Requestor Signature: _____
Requestor Title: _____	Requestor Agency: _____

Sample ID: _____	Field No. _____	Field Name: _____	Request Date: _____	Requestor: _____	Requestor Agency: _____
Sample Description: _____	Sample Weight: _____	Sample Volume: _____	Sample Temperature: _____	Sample Storage: _____	Sample Container: _____
Sample Type: _____	Sample Color: _____	Sample Odor: _____	Sample pH: _____	Sample Conductivity: _____	Sample Turbidity: _____
Sample Temperature: _____	Sample Humidity: _____	Sample Wind Speed: _____	Sample Wind Direction: _____	Sample Clouds: _____	Sample Visibility: _____
Sample Time: _____	Sample Date: _____	Sample Location: _____	Sample Coordinates: _____	Sample Elevation: _____	Sample Notes: _____

Field No.	Field Name	Request Date	Requestor	Requestor Agency	Sample ID	Sample Description	Sample Weight	Sample Volume	Sample Temperature	Sample Storage	Sample Container	Sample Type	Sample Color	Sample Odor	Sample pH	Sample Conductivity	Sample Turbidity	Sample Notes
1	On Road	01-11-20	John Doe	Adams Co	AD1001	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
2	On Road	01-11-20	John Doe	Adams Co	AD1002	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
3	On Road	01-11-20	John Doe	Adams Co	AD1003	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
4	On Road	01-11-20	John Doe	Adams Co	AD1004	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
5	On Road	01-11-20	John Doe	Adams Co	AD1005	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
6	On Road	01-11-20	John Doe	Adams Co	AD1006	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
7	On Road	01-11-20	John Doe	Adams Co	AD1007	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
8	On Road	01-11-20	John Doe	Adams Co	AD1008	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
9	On Road	01-11-20	John Doe	Adams Co	AD1009	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
10	On Road	01-11-20	John Doe	Adams Co	AD1010	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
11	On Road	01-11-20	John Doe	Adams Co	AD1011	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	
12	On Road	01-11-20	John Doe	Adams Co	AD1012	Water	100g	100ml	10°C	Refrigerator	Plastic Bottle	Water	Clear	No	7.0	100 µS/cm	0.1 NTU	

Print Name of Laboratory: _____
Date of Collection: _____
Requestor Signature: _____
Requestor Title: _____

Print Name of Laboratory: _____
Date of Collection: _____

Handwritten signature

CHAIN-OF-QUESTION / Analytical Request Document
 For the purpose of a chain of custody of a sample submitted for analysis

Page 2 of 3

Requested Chain of Custody: Requested Sample: Requested Analysis:
 Requested Date: Requested Location: Requested Method:
 Requested Quantity: Requested Container: Requested Label:
 Requested Packaging: Requested Storage: Requested Shipping:

Item #	Description	Quantity	Unit	Material	Date	Time	Location	Signature	Title	Remarks	Status	Notes
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
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49
50

Signature: _____ Date: _____

Handwritten signature

CHAIN-OF-CUSTODY / Analytical Request Document
 An electronically tracked document required to be completed

Page 128 of 128

Section A

Case Information
 Case No: 1121
 Agency: Portland Police

Section B
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section C
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section D
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section E
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section F
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section G
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section H
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section I
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section J
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section K
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Section L
 Requested Project Information
 Requested by: Portland Police
 Requested for: Investigation
 Requested on: 08/21/10

Item #	Description	Quantity	Unit	Material	Location	Remarks	Date	Signature	Initials
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Printed Name of Analyst: [Name]
 Date: 08/21/10
 Signature: [Signature]



October 19, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 SEMIANNUAL RADS
Pace Project No.: 92495890

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 24, 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

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CERTIFICATIONS

Project: HAMMOND AP-2 SEMIANNUAL RAD5

Pace Project No.: 92495890

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 SEMIANNUAL RADS
Pace Project No.: 92495890

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495890001	HGWA-1	Water	09/15/20 14:01	09/16/20 11:14
92495890002	HGWA-2	Water	09/15/20 10:58	09/16/20 11:14
92495890003	HGWA-3	Water	09/15/20 11:45	09/16/20 11:14
92495890004	HGWA-4	Water	09/15/20 14:35	09/16/20 11:14
92495890005	HGWA-5	Water	09/15/20 10:54	09/16/20 11:14
92495890006	HGWA-6	Water	09/15/20 12:40	09/16/20 11:14
92495890007	HGWC-18	Water	09/15/20 16:17	09/16/20 11:14
92495890008	HGWC-17	Water	09/16/20 17:30	09/17/20 09:45
92495890009	HGWA-43D	Water	09/16/20 11:58	09/17/20 09:45
92495890010	HGWA-44D	Water	09/16/20 15:18	09/17/20 09:45
92495890011	HGWC-15	Water	09/17/20 14:25	09/18/20 10:20
92495890012	HGWC-16	Water	09/17/20 11:52	09/18/20 10:20
92495890013	MW-22	Water	09/17/20 17:00	09/18/20 10:20
92495890014	MW-23D	Water	09/17/20 17:18	09/18/20 10:20
92495890015	HGWA-42D	Water	09/17/20 13:45	09/18/20 10:20
92495890016	FB-02	Water	09/17/20 18:46	09/18/20 10:20
92495890017	FD-02	Water	09/17/20 00:00	09/18/20 10:20
92495890018	HGWC-14	Water	09/18/20 09:20	09/21/20 09:25
92495890019	MW-21D	Water	09/21/20 10:30	09/22/20 09:25
92495890020	MW-33	Water	09/21/20 13:00	09/22/20 09:25
92495890021	MW-35	Water	09/21/20 12:55	09/22/20 09:25
92495890022	MW-34D	Water	09/23/20 16:30	09/24/20 10:25
92495890023	MW-36D	Water	09/23/20 11:15	09/24/20 10:25
92495890024	MW-37D	Water	09/23/20 08:50	09/24/20 10:25
92495890025	MW-34D FILTERED	Water	09/23/20 17:00	09/24/20 10:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92495890001	HGWA-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495890002	HGWA-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495890003	HGWA-3	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495890004	HGWA-4	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495890005	HGWA-5	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495890006	HGWA-6	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92495890007	HGWC-18	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92495890008	HGWC-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495890009	HGWA-43D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495890010	HGWA-44D	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495890011	HGWC-15	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495890012	HGWC-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92495890013	MW-22	EPA 9315	LAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92495890014	MW-23D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890015	HGWA-42D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890016	FB-02	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890017	FD-02	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890018	HGWC-14	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890019	MW-21D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890020	MW-33	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890021	MW-35	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890022	MW-34D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890023	MW-36D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890024	MW-37D	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92495890025	MW-34D FILTERED	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL RADS
Pace Project No.: 92495890

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890001	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	
92495890002	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	
92495890003	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	
92495890004	HGWA-4					
EPA 9315	Radium-226	0.0964 ± 0.162 (0.356) C:89% T:NA	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	0.0826 ± 0.394 (0.897) C:70% T:87%	pCi/L		10/16/20 14:41	
Total Radium Calculation	Total Radium	0.179 ± 0.556 (1.25)	pCi/L		10/19/20 09:49	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890005	HGWA-5					
EPA 9315	Radium-226	0.280 ± 0.345 (0.677) C:87% T:NA	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	0.321 ± 0.518 (1.12) C:73% T:88%	pCi/L		10/16/20 14:41	
Total Radium Calculation	Total Radium	0.601 ± 0.863 (1.80)	pCi/L		10/19/20 09:49	
92495890006	HGWA-6					
EPA 9315	Radium-226	0.425 ± 0.378 (0.653) C:89% T:NA	pCi/L		10/15/20 06:56	
EPA 9320	Radium-228	0.937 ± 0.754 (1.52) C:68% T:79%	pCi/L		10/16/20 14:41	
Total Radium Calculation	Total Radium	1.36 ± 1.13 (2.17)	pCi/L		10/19/20 09:49	
92495890007	HGWC-18					
EPA 9315	Radium-226	0.470 ± 0.326 (0.579) C:98% T:NA	pCi/L		10/07/20 07:37	
EPA 9320	Radium-228	1.18 ± 0.568 (0.967) C:67% T:76%	pCi/L		10/07/20 14:01	
Total Radium Calculation	Total Radium	1.65 ± 0.894 (1.55)	pCi/L		10/09/20 14:09	
92495890008	HGWC-17					
EPA 9315	Radium-226	0.0642 ± 0.168 (0.409) C:92% T:NA	pCi/L		10/07/20 07:38	
EPA 9320	Radium-228	0.231 ± 0.404 (0.883) C:79% T:80%	pCi/L		10/08/20 11:52	
Total Radium Calculation	Total Radium	0.295 ± 0.572 (1.29)	pCi/L		10/12/20 13:50	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890009	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		10/12/20 13:50	
92495890010	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		10/12/20 13:50	
92495890011	HGWC-15					
EPA 9315	Radium-226	0.395 ± 0.270 (0.392) C:85% T:NA	pCi/L		10/07/20 07:12	
EPA 9320	Radium-228	-0.0424 ± 0.710 (1.64) C:71% T:54%	pCi/L		10/08/20 14:59	
Total Radium Calculation	Total Radium	0.395 ± 0.980 (2.03)	pCi/L		10/12/20 13:50	
92495890012	HGWC-16					
EPA 9315	Radium-226	0.166 ± 0.199 (0.387) C:83% T:NA	pCi/L		10/07/20 07:12	
EPA 9320	Radium-228	0.938 ± 0.633 (1.22) C:73% T:61%	pCi/L		10/08/20 14:59	
Total Radium Calculation	Total Radium	1.10 ± 0.832 (1.61)	pCi/L		10/12/20 13:50	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890013	MW-22					
EPA 9315	Radium-226	-0.127 ± 0.148 (0.567)	pCi/L		10/07/20 07:12	
EPA 9320	Radium-228	C:68% T:NA 0.0879 ± 0.461 (1.04)	pCi/L		10/08/20 14:59	
Total Radium Calculation	Total Radium	C:75% T:80% 0.0879 ± 0.609 (1.61)	pCi/L		10/12/20 13:50	
92495890014	MW-23D					
EPA 9315	Radium-226	0.0723 ± 0.161 (0.383)	pCi/L		10/07/20 07:12	
EPA 9320	Radium-228	C:93% T:NA 0.248 ± 0.503 (1.11)	pCi/L		10/08/20 14:59	
Total Radium Calculation	Total Radium	C:76% T:74% 0.320 ± 0.664 (1.49)	pCi/L		10/12/20 13:50	
92495890015	HGWA-42D					
EPA 9315	Radium-226	0.0264 ± 0.298 (0.748)	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	C:93% T:NA 0.639 ± 0.484 (0.959)	pCi/L		10/08/20 12:27	
Total Radium Calculation	Total Radium	C:61% T:90% 0.665 ± 0.782 (1.71)	pCi/L		10/12/20 13:50	
92495890016	FB-02					
EPA 9315	Radium-226	-0.0630 ± 0.142 (0.476)	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	C:86% T:NA 0.250 ± 0.457 (1.00)	pCi/L		10/08/20 12:27	
Total Radium Calculation	Total Radium	C:65% T:80% 0.250 ± 0.599 (1.48)	pCi/L		10/12/20 13:50	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890017	FD-02					
EPA 9315	Radium-226	-0.0628 ± 0.180 (0.546) C:87% T:NA	pCi/L		10/08/20 06:52	
EPA 9320	Radium-228	0.491 ± 0.524 (1.09) C:65% T:69%	pCi/L		10/08/20 12:27	
Total Radium Calculation	Total Radium	0.491 ± 0.704 (1.64)	pCi/L		10/12/20 13:50	
92495890018	HGWC-14					
EPA 9315	Radium-226	0.749 ± 0.391 (0.605) C:95% T:NA	pCi/L		10/07/20 07:38	
EPA 9320	Radium-228	1.05 ± 0.676 (1.30) C:72% T:64%	pCi/L		10/08/20 14:58	
Total Radium Calculation	Total Radium	1.80 ± 1.07 (1.91)	pCi/L		10/12/20 13:50	
92495890019	MW-21D					
EPA 9315	Radium-226	0.149 ± 0.263 (0.598) C:91% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	0.287 ± 0.460 (0.997) C:61% T:79%	pCi/L		10/09/20 12:28	
Total Radium Calculation	Total Radium	0.436 ± 0.723 (1.60)	pCi/L		10/12/20 13:50	
92495890020	MW-33					
EPA 9315	Radium-226	0.916 ± 0.387 (0.448) C:90% T:NA	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	1.61 ± 0.599 (0.891) C:69% T:78%	pCi/L		10/09/20 12:28	
Total Radium Calculation	Total Radium	2.53 ± 0.986 (1.34)	pCi/L		10/12/20 13:50	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS
 Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890021	MW-35					
EPA 9315	Radium-226	0.563 ± 0.312 (0.443)	pCi/L		10/08/20 06:53	
EPA 9320	Radium-228	C:91% T:NA 3.29 ± 0.959 (1.09)	pCi/L		10/09/20 15:42	
Total Radium Calculation	Total Radium	C:56% T:71% 3.85 ± 1.27 (1.53)	pCi/L		10/12/20 13:50	
92495890022	MW-34D					
EPA 9315	Radium-226	0.217 ± 0.361 (0.814)	pCi/L		10/14/20 06:24	
EPA 9320	Radium-228	C:80% T:NA 0.346 ± 0.369 (0.771)	pCi/L		10/15/20 14:29	
Total Radium Calculation	Total Radium	C:77% T:84% 0.563 ± 0.730 (1.59)	pCi/L		10/19/20 09:49	
92495890023	MW-36D					
EPA 9315	Radium-226	-0.0688 ± 0.201 (0.618)	pCi/L		10/14/20 08:18	
EPA 9320	Radium-228	C:80% T:NA 0.410 ± 0.372 (0.759)	pCi/L		10/15/20 14:29	
Total Radium Calculation	Total Radium	C:75% T:86% 0.410 ± 0.573 (1.38)	pCi/L		10/19/20 09:49	
92495890024	MW-37D					
EPA 9315	Radium-226	0.386 ± 0.298 (0.514)	pCi/L		10/14/20 06:24	
EPA 9320	Radium-228	C:83% T:NA 0.594 ± 0.423 (0.823)	pCi/L		10/15/20 14:29	
Total Radium Calculation	Total Radium	C:75% T:75% 0.980 ± 0.721 (1.34)	pCi/L		10/19/20 09:49	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495890025	MW-34D FILTERED					
EPA 9315	Radium-226	0.546 ± 0.327 (0.515)	pCi/L		10/14/20 07:28	
EPA 9320	Radium-228	C:92% T:NA -0.00899 ± 0.391 (0.906)	pCi/L		10/15/20 14:29	
Total Radium Calculation	Total Radium	C:68% T:83% 0.546 ± 0.718 (1.42)	pCi/L		10/19/20 09:49	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-1 Lab ID: 92495890001 Collected: 09/15/20 14:01 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
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	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-2 Lab ID: 92495890002 Collected: 09/15/20 10:58 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
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	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-3 Lab ID: 92495890003 Collected: 09/15/20 11:45 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
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	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-4 Lab ID: 92495890004 Collected: 09/15/20 14:35 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0964 ± 0.162 (0.356) C:89% T:NA	pCi/L	10/15/20 06:57	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0826 ± 0.394 (0.897) C:70% T:87%	pCi/L	10/16/20 14:41	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.179 ± 0.556 (1.25)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-5 Lab ID: 92495890005 Collected: 09/15/20 10:54 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.280 ± 0.345 (0.677) C:87% T:NA	pCi/L	10/15/20 06:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.321 ± 0.518 (1.12) C:73% T:88%	pCi/L	10/16/20 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.601 ± 0.863 (1.80)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-6 Lab ID: 92495890006 Collected: 09/15/20 12:40 Received: 09/16/20 11:14 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.425 ± 0.378 (0.653) C:89% T:NA	pCi/L	10/15/20 06:56	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.937 ± 0.754 (1.52) C:68% T:79%	pCi/L	10/16/20 14:41	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.36 ± 1.13 (2.17)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.470 ± 0.326 (0.579) C:98% T:NA	pCi/L	10/07/20 07:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.18 ± 0.568 (0.967) C:67% T:76%	pCi/L	10/07/20 14:01	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.65 ± 0.894 (1.55)	pCi/L	10/09/20 14:09	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0642 ± 0.168 (0.409) C:92% T:NA	pCi/L	10/07/20 07:38	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.231 ± 0.404 (0.883) C:79% T:80%	pCi/L	10/08/20 11:52	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.295 ± 0.572 (1.29)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-43D Lab ID: 92495890009 Collected: 09/16/20 11:58 Received: 09/17/20 09:45 Matrix: Water PWS: Site ID: Sample Type:						
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	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWC-15 Lab ID: 92495890011 Collected: 09/17/20 14:25 Received: 09/18/20 10:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.395 ± 0.270 (0.392) C:85% T:NA	pCi/L	10/07/20 07:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.0424 ± 0.710 (1.64) C:71% T:54%	pCi/L	10/08/20 14:59	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.395 ± 0.980 (2.03)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWC-16 Lab ID: 92495890012 Collected: 09/17/20 11:52 Received: 09/18/20 10:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.166 ± 0.199 (0.387) C:83% T:NA	pCi/L	10/07/20 07:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.938 ± 0.633 (1.22) C:73% T:61%	pCi/L	10/08/20 14:59	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.10 ± 0.832 (1.61)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-22 Lab ID: 92495890013 Collected: 09/17/20 17:00 Received: 09/18/20 10:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	-0.127 ± 0.148 (0.567) C:68% T:NA	pCi/L	10/07/20 07:12	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0879 ± 0.461 (1.04) C:75% T:80%	pCi/L	10/08/20 14:59	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.0879 ± 0.609 (1.61)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: MW-23D **Lab ID: 92495890014** Collected: 09/17/20 17:18 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	0.0723 ± 0.161 (0.383) C:93% T:NA	pCi/L	10/07/20 07:12	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.248 ± 0.503 (1.11) C:76% T:74%	pCi/L	10/08/20 14:59	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.320 ± 0.664 (1.49)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWA-42D Lab ID: 92495890015 Collected: 09/17/20 13:45 Received: 09/18/20 10:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0264 ± 0.298 (0.748) C:93% T:NA	pCi/L	10/08/20 06:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.639 ± 0.484 (0.959) C:61% T:90%	pCi/L	10/08/20 12:27	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.665 ± 0.782 (1.71)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	-0.0630 ± 0.142 (0.476) C:86% T:NA	pCi/L	10/08/20 06:52	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.250 ± 0.457 (1.00) C:65% T:80%	pCi/L	10/08/20 12:27	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.250 ± 0.599 (1.48)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: FD-02 **Lab ID: 92495890017** 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	-0.0628 ± 0.180 (0.546) C:87% T:NA	pCi/L	10/08/20 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.491 ± 0.524 (1.09) C:65% T:69%	pCi/L	10/08/20 12:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.491 ± 0.704 (1.64)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: HGWC-14 Lab ID: 92495890018 Collected: 09/18/20 09:20 Received: 09/21/20 09:25 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.749 ± 0.391 (0.605) C:95% T:NA	pCi/L	10/07/20 07:38	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.05 ± 0.676 (1.30) C:72% T:64%	pCi/L	10/08/20 14:58	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.80 ± 1.07 (1.91)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-21D Lab ID: 92495890019 Collected: 09/21/20 10:30 Received: 09/22/20 09:25 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.149 ± 0.263 (0.598) C:91% T:NA	pCi/L	10/08/20 06:53	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.287 ± 0.460 (0.997) C:61% T:79%	pCi/L	10/09/20 12:28	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.436 ± 0.723 (1.60)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: MW-33 **Lab ID: 92495890020** Collected: 09/21/20 13:00 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	0.916 ± 0.387 (0.448) C:90% T:NA	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.61 ± 0.599 (0.891) C:69% T:78%	pCi/L	10/09/20 12:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.53 ± 0.986 (1.34)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: MW-35 **Lab ID: 92495890021** Collected: 09/21/20 12:55 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	0.563 ± 0.312 (0.443) C:91% T:NA	pCi/L	10/08/20 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	3.29 ± 0.959 (1.09) C:56% T:71%	pCi/L	10/09/20 15:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	3.85 ± 1.27 (1.53)	pCi/L	10/12/20 13:50	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-34D Lab ID: 92495890022 Collected: 09/23/20 16:30 Received: 09/24/20 10:25 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.217 ± 0.361 (0.814) C:80% T:NA	pCi/L	10/14/20 06:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.346 ± 0.369 (0.771) C:77% T:84%	pCi/L	10/15/20 14:29	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.563 ± 0.730 (1.59)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: MW-36D **Lab ID: 92495890023** Collected: 09/23/20 11:15 Received: 09/24/20 10:25 Matrix: Water

PWS: Site ID: Sample Type:

Comments: • One container received with lid on crooked, spilled in transit.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	-0.0688 ± 0.201 (0.618) C:80% T:NA	pCi/L	10/14/20 08:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.410 ± 0.372 (0.759) C:75% T:86%	pCi/L	10/15/20 14:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.410 ± 0.573 (1.38)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Sample: MW-37D **Lab ID: 92495890024** Collected: 09/23/20 08:50 Received: 09/24/20 10:25 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	0.386 ± 0.298 (0.514) C:83% T:NA	pCi/L	10/14/20 06:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.594 ± 0.423 (0.823) C:75% T:75%	pCi/L	10/15/20 14:29	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.980 ± 0.721 (1.34)	pCi/L	10/19/20 09:49	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MW-34D FILTERED Lab ID: 92495890025 Collected: 09/23/20 17:00 Received: 09/24/20 10:25 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.546 ± 0.327 (0.515) C:92% T:NA	pCi/L	10/14/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.00899 ± 0.391 (0.906) C:68% T:83%	pCi/L	10/15/20 14:29	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.546 ± 0.718 (1.42)	pCi/L	10/19/20 09:49	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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: 92495890002, 92495890003, 92495890007, 92495890008, 92495890009, 92495890010, 92495890011, 92495890012, 92495890013, 92495890014, 92495890018

METHOD BLANK: 2009756 Matrix: Water

Associated Lab Samples: 92495890002, 92495890003, 92495890007, 92495890008, 92495890009, 92495890010, 92495890011, 92495890012, 92495890013, 92495890014, 92495890018

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

QC Batch:	417131	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92495890022, 92495890023, 92495890024, 92495890025

METHOD BLANK:	2016812	Matrix:	Water
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Associated Lab Samples: 92495890022, 92495890023, 92495890024, 92495890025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.888 ± 0.380 (0.600) C:70% T:99%	pCi/L	10/15/20 11:15	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

QC Batch:	418032	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92495890004, 92495890005, 92495890006

METHOD BLANK: 2021109 Matrix: Water

Associated Lab Samples: 92495890004, 92495890005, 92495890006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.106 ± 0.162 (0.345) C:92% T:NA	pCi/L	10/15/20 07:21	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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: 92495890019, 92495890020, 92495890021

METHOD BLANK: 2009760 Matrix: Water

Associated Lab Samples: 92495890019, 92495890020, 92495890021

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

QC Batch:	415615	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92495890001

METHOD BLANK: 2009755 Matrix: Water

Associated Lab Samples: 92495890001

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	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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: 92495890015, 92495890016, 92495890017, 92495890019, 92495890020, 92495890021

METHOD BLANK: 2009757 Matrix: Water

Associated Lab Samples: 92495890015, 92495890016, 92495890017, 92495890019, 92495890020, 92495890021

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

Results presented on 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: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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: 92495890001, 92495890002, 92495890003, 92495890007

METHOD BLANK: 2009758 Matrix: Water

Associated Lab Samples: 92495890001, 92495890002, 92495890003, 92495890007

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	

Results presented on 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: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

QC Batch:	417130	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92495890022, 92495890023, 92495890024, 92495890025

METHOD BLANK: 2016810 Matrix: Water

Associated Lab Samples: 92495890022, 92495890023, 92495890024, 92495890025

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.00529 ± 0.135 (0.392) C:94% T:NA	pCi/L	10/14/20 07:09	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

QC Batch:	418037	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92495890004, 92495890005, 92495890006

METHOD BLANK: 2021120 Matrix: Water

Associated Lab Samples: 92495890004, 92495890005, 92495890006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.335 ± 0.463 (0.993) C:71% T:73%	pCi/L	10/16/20 14:41	

Results presented on 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: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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: 92495890008, 92495890009, 92495890010, 92495890011, 92495890012, 92495890013, 92495890014, 92495890015, 92495890016, 92495890017, 92495890018

METHOD BLANK: 2009759 Matrix: Water

Associated Lab Samples: 92495890008, 92495890009, 92495890010, 92495890011, 92495890012, 92495890013, 92495890014, 92495890015, 92495890016, 92495890017, 92495890018

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	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: HAMMOND AP-2 SEMIANNUAL RADS

Pace Project No.: 92495890

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL RADS
 Pace Project No.: 92495890

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495890001	HGWA-1	EPA 9315	415615		
92495890002	HGWA-2	EPA 9315	415616		
92495890003	HGWA-3	EPA 9315	415616		
92495890004	HGWA-4	EPA 9315	418032		
92495890005	HGWA-5	EPA 9315	418032		
92495890006	HGWA-6	EPA 9315	418032		
92495890007	HGWC-18	EPA 9315	415616		
92495890008	HGWC-17	EPA 9315	415616		
92495890009	HGWA-43D	EPA 9315	415616		
92495890010	HGWA-44D	EPA 9315	415616		
92495890011	HGWC-15	EPA 9315	415616		
92495890012	HGWC-16	EPA 9315	415616		
92495890013	MW-22	EPA 9315	415616		
92495890014	MW-23D	EPA 9315	415616		
92495890015	HGWA-42D	EPA 9315	415617		
92495890016	FB-02	EPA 9315	415617		
92495890017	FD-02	EPA 9315	415617		
92495890018	HGWC-14	EPA 9315	415616		
92495890019	MW-21D	EPA 9315	415617		
92495890020	MW-33	EPA 9315	415617		
92495890021	MW-35	EPA 9315	415617		
92495890022	MW-34D	EPA 9315	417130		
92495890023	MW-36D	EPA 9315	417130		
92495890024	MW-37D	EPA 9315	417130		
92495890025	MW-34D FILTERED	EPA 9315	417130		
92495890001	HGWA-1	EPA 9320	415618		
92495890002	HGWA-2	EPA 9320	415618		
92495890003	HGWA-3	EPA 9320	415618		
92495890004	HGWA-4	EPA 9320	418037		
92495890005	HGWA-5	EPA 9320	418037		
92495890006	HGWA-6	EPA 9320	418037		
92495890007	HGWC-18	EPA 9320	415618		
92495890008	HGWC-17	EPA 9320	415619		
92495890009	HGWA-43D	EPA 9320	415619		
92495890010	HGWA-44D	EPA 9320	415619		
92495890011	HGWC-15	EPA 9320	415619		
92495890012	HGWC-16	EPA 9320	415619		
92495890013	MW-22	EPA 9320	415619		
92495890014	MW-23D	EPA 9320	415619		
92495890015	HGWA-42D	EPA 9320	415619		
92495890016	FB-02	EPA 9320	415619		
92495890017	FD-02	EPA 9320	415619		
92495890018	HGWC-14	EPA 9320	415619		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL RADS
 Pace Project No.: 92495890

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495890019	MW-21D	EPA 9320	415620		
92495890020	MW-33	EPA 9320	415620		
92495890021	MW-35	EPA 9320	415620		
92495890022	MW-34D	EPA 9320	417131		
92495890023	MW-36D	EPA 9320	417131		
92495890024	MW-37D	EPA 9320	417131		
92495890025	MW-34D FILTERED	EPA 9320	417131		
92495890001	HGWA-1	Total Radium Calculation	417873		
92495890002	HGWA-2	Total Radium Calculation	417873		
92495890003	HGWA-3	Total Radium Calculation	417873		
92495890004	HGWA-4	Total Radium Calculation	419126		
92495890005	HGWA-5	Total Radium Calculation	419126		
92495890006	HGWA-6	Total Radium Calculation	419126		
92495890007	HGWC-18	Total Radium Calculation	417873		
92495890008	HGWC-17	Total Radium Calculation	418091		
92495890009	HGWA-43D	Total Radium Calculation	418091		
92495890010	HGWA-44D	Total Radium Calculation	418091		
92495890011	HGWC-15	Total Radium Calculation	418091		
92495890012	HGWC-16	Total Radium Calculation	418091		
92495890013	MW-22	Total Radium Calculation	418091		
92495890014	MW-23D	Total Radium Calculation	418091		
92495890015	HGWA-42D	Total Radium Calculation	418091		
92495890016	FB-02	Total Radium Calculation	418091		
92495890017	FD-02	Total Radium Calculation	418091		
92495890018	HGWC-14	Total Radium Calculation	418091		
92495890019	MW-21D	Total Radium Calculation	418091		
92495890020	MW-33	Total Radium Calculation	418091		
92495890021	MW-35	Total Radium Calculation	418091		
92495890022	MW-34D	Total Radium Calculation	419126		
92495890023	MW-36D	Total Radium Calculation	419126		
92495890024	MW-37D	Total Radium Calculation	419126		
92495890025	MW-34D FILTERED	Total Radium Calculation	419126		

REPORT OF LABORATORY ANALYSIS

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Sample Collection Usage Report

Client Name: GA Power

MO# : 92495890



Container Fed Ex UPS USPS Other Commercial Pick Up Tracking #: _____

Customary Seal on Container Present Yes No Seal intact Yes No Date: 11/19/2009

Protecting Material Bubble Wrap Bubble Bags None Other _____

Thermometer Used L14 Type of Ice Yes Dry None Sample on ice cooling process required

Cooler Temperature 0.4 Biological Threat in Process No Yes Unknown
Firm initials of above heading to EIC _____

Cell and Index # of sample bag opening complete 11/19/2009

	Yes	No	Other	Comments
Origin of Quality Program	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Origin of Quality Field Doc	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Origin of Quality Requirement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Arrived within Hold Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Short Hold Time Analysis (within):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Flash Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Sufficient Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Correct Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
- Place Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13.
Trained volume received for Disposed (VQA)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Sample Labels match COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.
Includes definition of Analytical Method	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
No containers needed information from back channel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
All containers meeting inspection are found to be in compliance with EPA recommendations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inspected VQA, Volume, ICE, COC, etc. (N/A) (Yes/No)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	total when completed
Signage checked for identification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14.
Handspace in VQA Vials (if N/A)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
Top Blank Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
Top Blank Outside Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Face Top Blank Lot # if purchased				

Client Notification Resolution _____ Fed Ex Received? Yes No

Payment Collected _____ Quantity _____

Commercial Resolution _____

Project Manager Review _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance updates, a copy of the form will be sent to the North Carolina DCHMP Compliance Office (1) a set of work received per certificate, but of sample received information

Project # _____

WD#: 92495890

PH: _____ Due Date: **10/31/20**
 CLIENT: **GA-CR Power**

*Check mark top half of bag if pH meter decontamination is complete and within the acceptance range for preservation.

Comments: YCA, Excess, TOC, pH, Temp, pH/25°C, Temp, DOC, UTM
 - perform a set of tests to be the reference set.

Sample ID	Notes	PH	Temp	Temp	PH/25°C	Temp	DOC	Ultraviolet
12								
13								
14								
15								
16								
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21								
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pH Adjustment Log for Preserved Samples

Sample ID	Type of Adjustment	pH after adjustment	Date of adjustment	Time of adjustment	Name of Preservative	Lot #

NOTE: Samples stored in a refrigerator or freezer should be equilibrated to room temperature before pH is measured. Samples stored in a cooler should be equilibrated to room temperature before pH is measured. Do not adjust, if stored preservative, out of temperature control.

Handwritten signature
 Date: _____

CHAIN OF CUSTODY / Analytical Request Document
 For: _____

Page 1 of 3

Section 1: Request Information

Requester: _____
 Requested From: _____
 Requested For: _____

Section 2: Analytical Request

Requesting Agency: _____
 Analyst: _____
 Method: _____
 Matrix: _____

Section 3: Sample Information

Sample ID: _____
 Sample Description: _____
 Date Received: _____

Sample ID	Sample Description	Matrix	Quantity	Container	Preservation	Retention Times (min)												Total Time
						1	2	3	4	5	6	7	8	9	10	11	12	
1
2
3
4
5
6
7
8
9
10
11
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CHAIN OF CUSTODY / Analytical Request Document

Page 2 of 3

Section 1: Requesting Agency Information
 Agency Name: Arizona Department of Transportation
 Requested By: [Name]
 Requested For: [Name]

Section 2: Requester Information
 Name: [Name]
 Title: [Title]
 Agency: [Agency]

Section 3: Analytical Request Information
 Requested Analysis: [Analysis]
 Requested Method: [Method]
 Requested Quantity: [Quantity]

Section 4: Laboratory Information
 Laboratory Name: [Lab Name]
 Analyst: [Analyst]
 Date: [Date]

Item #	Item Description	Quantity	Location	Initials	Date	Signature	Notes
1	Sample 100	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
2	Sample 101	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
3	Sample 102	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
4	Sample 103	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
5	Sample 104	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
6	Sample 105	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
7	Sample 106	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
8	Sample 107	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
9	Sample 108	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
10	Sample 109	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
11	Sample 110	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
12	Sample 111	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
13	Sample 112	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
14	Sample 113	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
15	Sample 114	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
16	Sample 115	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
17	Sample 116	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
18	Sample 117	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
19	Sample 118	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
20	Sample 119	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]
21	Sample 120	1	Lab	[Signature]	11/15/10	[Signature]	Received from [Name]

Arizona Department of Transportation

Page 2 of 3

Handwritten signature
 Date Analyzed: 11/11/11

CHAIN OF CUSTODY / Analytical Request Document
 This document is the property of the Laboratory and is loaned to the requesting authority.

Form 100-100-100
 11/11/11

Part A: Requesting Agency
 Agency Name: State of Michigan
 Address: 1000 State Street
 City: Lansing, MI
 State: MI
 Zip: 48201

Part B: Requesting Agency Contact
 Name: John Doe
 Title: Police Officer
 Phone: 313-123-4567
 Fax: 313-123-4568
 Email: john.doe@state.mi.us

Part C: Laboratory Contact
 Name: John Smith
 Title: Analyst
 Phone: 313-123-4569
 Fax: 313-123-4570
 Email: john.smith@lab.state.mi.us

Part D: Request Details
 Date of Request: 11/11/11
 Requested by: John Doe
 Requested for: Police Officer
 Requested for: Police Officer
 Requested for: Police Officer

Part E: Sample Information

Sample #	Sample Description	Quantity	Container	Location	Reference	Analysis Fee	Priority	Analysis Date	Analysis Time	Analysis Location	Analysis Method	Analysis Result
1	EXAMPLE 01	1	1	1	1	1	1	1	1	1	1	1
2	EXAMPLE 02	1	1	1	1	1	1	1	1	1	1	1
3	EXAMPLE 03	1	1	1	1	1	1	1	1	1	1	1
4	EXAMPLE 04	1	1	1	1	1	1	1	1	1	1	1
5	EXAMPLE 05	1	1	1	1	1	1	1	1	1	1	1
6	EXAMPLE 06	1	1	1	1	1	1	1	1	1	1	1
7	EXAMPLE 07	1	1	1	1	1	1	1	1	1	1	1
8	EXAMPLE 08	1	1	1	1	1	1	1	1	1	1	1
9	EXAMPLE 09	1	1	1	1	1	1	1	1	1	1	1
10	EXAMPLE 10	1	1	1	1	1	1	1	1	1	1	1
11	EXAMPLE 11	1	1	1	1	1	1	1	1	1	1	1
12	EXAMPLE 12	1	1	1	1	1	1	1	1	1	1	1

Part F: Chain of Custody

Sample #	Sample Description	Quantity	Container	Location	Reference	Analysis Fee	Priority	Analysis Date	Analysis Time	Analysis Location	Analysis Method	Analysis Result
1	EXAMPLE 01	1	1	1	1	1	1	1	1	1	1	1
2	EXAMPLE 02	1	1	1	1	1	1	1	1	1	1	1
3	EXAMPLE 03	1	1	1	1	1	1	1	1	1	1	1
4	EXAMPLE 04	1	1	1	1	1	1	1	1	1	1	1
5	EXAMPLE 05	1	1	1	1	1	1	1	1	1	1	1
6	EXAMPLE 06	1	1	1	1	1	1	1	1	1	1	1
7	EXAMPLE 07	1	1	1	1	1	1	1	1	1	1	1
8	EXAMPLE 08	1	1	1	1	1	1	1	1	1	1	1
9	EXAMPLE 09	1	1	1	1	1	1	1	1	1	1	1
10	EXAMPLE 10	1	1	1	1	1	1	1	1	1	1	1
11	EXAMPLE 11	1	1	1	1	1	1	1	1	1	1	1
12	EXAMPLE 12	1	1	1	1	1	1	1	1	1	1	1

Part G: Laboratory Information

Lab Name: Michigan State Police Laboratory
 Address: 1000 State Street
 City: Lansing, MI
 State: MI
 Zip: 48201

Part H: Laboratory Contact
 Name: John Smith
 Title: Analyst
 Phone: 313-123-4569
 Fax: 313-123-4570
 Email: john.smith@lab.state.mi.us

Part I: Request Details
 Date of Request: 11/11/11
 Requested by: John Doe
 Requested for: Police Officer
 Requested for: Police Officer
 Requested for: Police Officer

[Handwritten Signature]

QUALITY CONTROL (QCV) Analytical Request Document
 The Department's Quality Management System is based on ISO 9001

Requester's Name: <u>Dr. [Name]</u>	Requester's Title: <u>[Title]</u>	Requester's Department: <u>[Department]</u>	Requester's Location: <u>[Location]</u>
Requester's Address: <u>[Address]</u>	Requester's Phone: <u>[Phone]</u>	Requester's Email: <u>[Email]</u>	Requester's Fax: <u>[Fax]</u>
Requester's Organization: <u>[Organization]</u>	Requester's Country: <u>[Country]</u>	Requester's City: <u>[City]</u>	Requester's State: <u>[State]</u>
Requester's Zip: <u>[Zip]</u>	Requester's Country Code: <u>[Code]</u>	Requester's Latitude: <u>[Latitude]</u>	Requester's Longitude: <u>[Longitude]</u>
Requester's Account: <u>[Account]</u>	Requester's Project: <u>[Project]</u>	Requester's Task: <u>[Task]</u>	Requester's Sub-Task: <u>[Sub-Task]</u>
Requester's Priority: <u>[Priority]</u>	Requester's Urgency: <u>[Urgency]</u>	Requester's Status: <u>[Status]</u>	Requester's Comments: <u>[Comments]</u>

Item #	Description of Sample	Sample ID	Date Collected	Time Collected	Location	Collector	Analyzer	Method	Unit	Result	Standard	Notes	Status
1	EXAMPLE 1	123456	12/15/2020	10:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.15	0.20	OK	OK
2	EXAMPLE 2	123457	12/15/2020	11:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.20	0.20	OK	OK
3	EXAMPLE 3	123458	12/15/2020	12:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.15	0.20	OK	OK
4	EXAMPLE 4	123459	12/15/2020	13:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.20	0.20	OK	OK
5	EXAMPLE 5	123460	12/15/2020	14:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.15	0.20	OK	OK
6	EXAMPLE 6	123461	12/15/2020	15:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.20	0.20	OK	OK
7	EXAMPLE 7	123462	12/15/2020	16:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.15	0.20	OK	OK
8	EXAMPLE 8	123463	12/15/2020	17:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.20	0.20	OK	OK
9	EXAMPLE 9	123464	12/15/2020	18:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.15	0.20	OK	OK
10	EXAMPLE 10	123465	12/15/2020	19:00	12345	J. Doe	GC/MS	GC/MS	mg/L	0.20	0.20	OK	OK

Requester's Name: <u>[Name]</u>	Requester's Title: <u>[Title]</u>	Requester's Department: <u>[Department]</u>	Requester's Location: <u>[Location]</u>
Requester's Address: <u>[Address]</u>	Requester's Phone: <u>[Phone]</u>	Requester's Email: <u>[Email]</u>	Requester's Fax: <u>[Fax]</u>
Requester's Organization: <u>[Organization]</u>	Requester's Country: <u>[Country]</u>	Requester's City: <u>[City]</u>	Requester's State: <u>[State]</u>
Requester's Zip: <u>[Zip]</u>	Requester's Country Code: <u>[Code]</u>	Requester's Latitude: <u>[Latitude]</u>	Requester's Longitude: <u>[Longitude]</u>
Requester's Account: <u>[Account]</u>	Requester's Project: <u>[Project]</u>	Requester's Task: <u>[Task]</u>	Requester's Sub-Task: <u>[Sub-Task]</u>
Requester's Priority: <u>[Priority]</u>	Requester's Urgency: <u>[Urgency]</u>	Requester's Status: <u>[Status]</u>	Requester's Comments: <u>[Comments]</u>

[Handwritten Signature]
 [Handwritten Name]

CHAIN-OF-CUSTODY / Analytical Requisite Documentation
 For Forensic Laboratory Evidence in Criminal Cases and Pre-Identified Materials

Page **2** of **2**

Sample # [Handwritten]

Original Item Description [Handwritten]

Case # [Handwritten]

Case Name [Handwritten]

Officer [Handwritten]

Arresting Agency [Handwritten]

Case Number [Handwritten]

Case File # [Handwritten]

Case Location [Handwritten]

Case Date [Handwritten]

Case Time [Handwritten]

Case Description [Handwritten]

Case Status [Handwritten]

Case Category [Handwritten]

Case Sub-Category [Handwritten]

Case Agency [Handwritten]

Case Officer [Handwritten]

Case Supervisor [Handwritten]

Case Agency Phone [Handwritten]

Case Agency Address [Handwritten]

Case Agency City [Handwritten]

Case Agency State [Handwritten]

Case Agency Zip [Handwritten]

Case Agency Website [Handwritten]

Case Agency Email [Handwritten]

Case Agency Fax [Handwritten]

Case Agency Filing [Handwritten]

Item #	Description	Quantity	Unit	Container		Seal		Label		Storage		Transfer	
				Material	Color	Material	Color	Material	Color	Material	Color	Material	Color
1
2
3
4
5
6
7
8
9
10
11
12

ANALYST SIGNATURE [Handwritten]

DATE [Handwritten]

LABORATORY SIGNATURE [Handwritten]

DATE [Handwritten]

AGENCY SIGNATURE [Handwritten]

DATE [Handwritten]

AGENCY ADDRESS [Handwritten]

AGENCY PHONE [Handwritten]

AGENCY FAX [Handwritten]

AGENCY WEBSITE [Handwritten]

AGENCY EMAIL [Handwritten]

AGENCY FILING [Handwritten]

AGENCY CITY [Handwritten]

AGENCY STATE [Handwritten]

AGENCY ZIP [Handwritten]

AGENCY CASE NUMBER [Handwritten]

AGENCY CASE NAME [Handwritten]

AGENCY CASE DESCRIPTION [Handwritten]

AGENCY CASE STATUS [Handwritten]

AGENCY CASE CATEGORY [Handwritten]

AGENCY CASE SUB-CATEGORY [Handwritten]

AGENCY CASE AGENCY [Handwritten]

AGENCY CASE OFFICER [Handwritten]

AGENCY CASE SUPERVISOR [Handwritten]

AGENCY CASE AGENCY PHONE [Handwritten]

AGENCY CASE AGENCY ADDRESS [Handwritten]

AGENCY CASE AGENCY CITY [Handwritten]

AGENCY CASE AGENCY STATE [Handwritten]

AGENCY CASE AGENCY ZIP [Handwritten]

AGENCY CASE AGENCY WEBSITE [Handwritten]

AGENCY CASE AGENCY EMAIL [Handwritten]

AGENCY CASE AGENCY FAX [Handwritten]

AGENCY CASE AGENCY FILING [Handwritten]

PRO ANALYSIS

CHARTER OF CUSTOMER / Analytical Request Document
 The Customer's name is printed in red. All other fields must be completed in black ink.

Page 1 of 2

Requester Name: <u>City of Los Angeles</u>	Requester Address: <u>City of Los Angeles</u>	Requester Phone: <u>213-473-8200</u>	Requester Email: <u>cityofla@ca.gov</u>
Requester Title: <u>City Manager</u>	Requester Department: <u>City of Los Angeles</u>	Requester Division: <u>City of Los Angeles</u>	Requester Office: <u>City of Los Angeles</u>
Requester Contact Person: <u>City Manager</u>	Requester Contact Title: <u>City Manager</u>	Requester Contact Phone: <u>213-473-8200</u>	Requester Contact Email: <u>cityofla@ca.gov</u>
Requester Contact Address: <u>City of Los Angeles</u>	Requester Contact City: <u>City of Los Angeles</u>	Requester Contact State: <u>CA</u>	Requester Contact Zip: <u>90001</u>
Requester Contact Fax: <u>City of Los Angeles</u>	Requester Contact F1: <u>City of Los Angeles</u>	Requester Contact F2: <u>City of Los Angeles</u>	Requester Contact F3: <u>City of Los Angeles</u>

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Volume	Sample Matrix	Sample Container	Sample Preservation	Sample Handling	Sample Analysis	Sample Results	Sample Comments
1	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
2	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
3	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
4	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
5	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
6	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
7	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
8	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
9	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
10	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
11	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
12	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
13	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
14	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
15	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
16	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
17	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
18	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
19	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000
20	WATER	10000	10/10/10	10:00	1000	Water	1000	1000	1000	1000	1000	1000

Customer name by signature and date. Customer Name: City of Los Angeles Date: 10/10/10

CHAIN-OF-CUSTODY / Analytical Request Document

For Compliance with Laboratory Manual of Standard Methods for compliance services.

Handwritten signature/initials

2

Handwritten initials

Analytical Request
 Compliance Request

Requested From: State of California
 Requested For: California Dept of Industrial Relations
 Requested By: [Signature]

Project: None
 Requested On: 4/17/06
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Requested For: State of California
 Requested By: [Signature]

Sample ID: 10242214
 Sample Description: [Blank]
 Sample Location: [Blank]
 Sample Date: [Blank]
 Sample Time: [Blank]
 Sample Type: [Blank]
 Sample Weight: [Blank]
 Sample Volume: [Blank]
 Sample Temperature: [Blank]
 Sample Storage: [Blank]
 Sample Handling: [Blank]
 Sample Packaging: [Blank]
 Sample Container: [Blank]
 Sample Label: [Blank]
 Sample Seal: [Blank]
 Sample Chain of Custody: [Blank]
 Sample Analysis: [Blank]
 Sample Results: [Blank]
 Sample Comments: [Blank]

Date	Time	Location	Personnel	Activity	Remarks	Temperature		Humidity		Signature	Initials
						Min	Max	Min	Max		
4/17/06	10:30	State of California	[Signature]	Received sample	10242214					[Signature]	
4/17/06	11:00	State of California	[Signature]	Sample received	10242214					[Signature]	
4/17/06	11:30	State of California	[Signature]	Sample stored	10242214					[Signature]	
4/17/06	12:00	State of California	[Signature]	Sample analyzed	10242214					[Signature]	
4/17/06	12:30	State of California	[Signature]	Sample results	10242214					[Signature]	
4/17/06	13:00	State of California	[Signature]	Sample returned	10242214					[Signature]	
4/17/06	13:30	State of California	[Signature]	Sample destroyed	10242214					[Signature]	
4/17/06	14:00	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	14:30	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	15:00	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	15:30	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	16:00	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	16:30	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	17:00	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	17:30	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	18:00	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	18:30	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	19:00	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	19:30	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	20:00	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	20:30	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	21:00	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	21:30	State of California	[Signature]	Sample cleanup	10242214					[Signature]	
4/17/06	22:00	State of California	[Signature]	Sample report	10242214					[Signature]	
4/17/06	22:30	State of California	[Signature]	Sample archive	10242214					[Signature]	
4/17/06	23:00	State of California	[Signature]	Sample cleanup	10242214					[Signature]	

Approved only. Printing this form on non-compliance forms will be a compliance issue. For information on this, see Section 188, the manual of standard methods for compliance services.

CHAIN OF CUSTODY / Analytical Request Document
 The Chain of Custody is a document which provides a continuous record of the control, handling, storage, transport and use of samples and evidence.

Page 3 of 6

[Handwritten signature]

Requester Name <i>[Handwritten]</i>	Requester Title <i>[Handwritten]</i>	Requester Agency <i>[Handwritten]</i>	Requester Address <i>[Handwritten]</i>	Requester City <i>[Handwritten]</i>	Requester State <i>[Handwritten]</i>	Requester Zip <i>[Handwritten]</i>	Requester Phone <i>[Handwritten]</i>
Requester Email <i>[Handwritten]</i>	Requester Fax <i>[Handwritten]</i>	Requester Freq <i>[Handwritten]</i>	Requester QTY <i>[Handwritten]</i>	Requester Lot <i>[Handwritten]</i>	Requester Date <i>[Handwritten]</i>	Requester Time <i>[Handwritten]</i>	Requester Other <i>[Handwritten]</i>

Requester ID	Requester Name	Requester Title	Requester Agency	Requester Address	Requester City	Requester State	Requester Zip	Requester Phone	Requester Fax	Requester Freq	Requester QTY	Requester Lot	Requester Date	Requester Time	Requester Other
1															

Requester ID	Requester Name	Requester Title	Requester Agency	Requester Address	Requester City	Requester State	Requester Zip	Requester Phone	Requester Fax	Requester Freq	Requester QTY	Requester Lot	Requester Date	Requester Time	Requester Other
1	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA	GALENA
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 For Laboratory Use - NOT TO BE USED BY CLIENTS OR OTHERS

4 of 6

Handwritten signature

Requester Name	Requester Agency	Requester Address	Requester Phone
Requester Email	Requester Contact	Requester Title	Requester Fax
Requester City	Requester State	Requester Zip	Requester Country
Requester Date	Requester Time	Requester Location	Requester Method
Requester Notes	Requester Comments	Requester Signature	Requester Date

Item #	Description	Quantity	Unit	Weight	Volume	Temperature	Storage	Analysis	Remarks
1	Sample ID								
2	...								
3	...								
4	...								
5	...								
6	...								
7	...								
8	...								
9	...								
10	...								
11	...								
12	...								
13	...								
14	...								
15	...								
16	...								
17	...								
18	...								
19	...								
20	...								
21	...								
22	...								
23	...								
24	...								
25	...								
26	...								
27	...								
28	...								
29	...								
30	...								
31	...								
32	...								
33	...								
34	...								
35	...								
36	...								
37	...								
38	...								
39	...								
40	...								
41	...								
42	...								
43	...								
44	...								
45	...								
46	...								
47	...								
48	...								
49	...								
50	...								

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RESEARCH
 100-100000000

CHAIN OF CUSTODY / Analytical Request Document
 For Forensic Laboratory Use Only - All information must be provided to the Laboratory

Page 5 of 6

Requester Name State Police	Requester Title State Police	Requester Agency State Police	Requester Address State Police
Requester Phone State Police	Requester Email State Police	Requester Fax State Police	Requester Website State Police
Requester Signature State Police	Requester Date State Police	Requester Time State Police	Requester Location State Police
Requester Contact State Police	Requester Contact State Police	Requester Contact State Police	Requester Contact State Police

Item #	Description	Quantity	Unit	Material	Analysis	Collection		Storage		Transportation		Delivery	
						Date	Time	Date	Time	Date	Time	Date	Time
1	Sample 1	1	g	...	...	...	...	...	...	...	...	...	...
2	Sample 2	1	g	...	...	...	...	...	...	...	...	...	...
3	Sample 3	1	g	...	...	...	...	...	...	...	...	...	...
4	Sample 4	1	g	...	...	...	...	...	...	...	...	...	...
5	Sample 5	1	g	...	...	...	...	...	...	...	...	...	...
6	Sample 6	1	g	...	...	...	...	...	...	...	...	...	...
7	Sample 7	1	g	...	...	...	...	...	...	...	...	...	...
8	Sample 8	1	g	...	...	...	...	...	...	...	...	...	...
9	Sample 9	1	g	...	...	...	...	...	...	...	...	...	...
10	Sample 10	1	g	...	...	...	...	...	...	...	...	...	...

Requester Signature: **[Signature]**
 Date: **10/10/17**
 Time: **1:30pm**
 Location: **State Police**

Requester Name: **State Police**
 Requester Title: **State Police**
 Requester Agency: **State Police**
 Requester Address: **State Police**
 Requester Phone: **State Police**
 Requester Email: **State Police**
 Requester Fax: **State Police**
 Requester Website: **State Police**

Ben Analytical
 1000 ...
 ...

CHAIN OF CUSTODY / Analytical Request Document
 For Samples Analyzed in a Lab. (O.C. 1000) - All information shown herein is confidential and proprietary.

Page 2 of 6
 10/12/2013

Section 1: Sample Information
 Sample ID: 10/12/2013
 Client: Ben Analytical
 Analyst: [Name]
 Date: 10/12/2013

Section 2: Sample Description
 Sample Name: ...
 Sample Type: ...
 Sample Quantity: ...

Section 3: Analysis Request
 Analysis Method: ...
 Reference Material: ...
 Lab: ...

Sample ID	Description	Quantity	Date	Analyst	Analysis Method		Reference Material		Lab
					Method	Material			
1	10/12/2013	[Name]	...	...	...	...	...
2	10/12/2013	[Name]	...	...	...	...	...
3	10/12/2013	[Name]	...	...	...	...	...
4	10/12/2013	[Name]	...	...	...	...	...
5	10/12/2013	[Name]	...	...	...	...	...

Ben Analytical is not responsible for the accuracy of the information provided in this document. The information is provided for informational purposes only.

Handwritten signature: [Signature]

CHAIN OF CUSTODY / Analytical Request Document

1
[Handwritten mark]

Section 1: Requestor Information
 Requestor Name: [Handwritten]
 Requestor Address: [Handwritten]
 Requestor Phone: [Handwritten]
 Requestor Email: [Handwritten]

Section 2: Sample Information
 Sample ID: [Handwritten]
 Sample Description: [Handwritten]
 Sample Location: [Handwritten]

Section 3: Chain of Custody
 Date/Time: [Handwritten]
 Name: [Handwritten]

NO.	ANALYTICAL REQUEST	DATE/TIME	NAME	SIGNATURE	INITIALS	REMARKS
1	URGENT ANALYTICAL REQUEST FOR [Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]
2	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]
3	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]	[Handwritten]

Approved by the [Handwritten] and the [Handwritten] on [Handwritten] at [Handwritten]

[Handwritten signature]
 Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document
 This document is required for all evidence submitted to the Laboratory for forensic testing.

Page 1 of 1

Requester Department of Justice Bureau of Prisons Federal Corrections Institute	Requestor [Name] [Title]	Case No. [Number]	Requestor Agency [Agency Name]	Requestor Address [Address]	Requestor City/State/Zip [City, State, Zip]
Request Date [Date]	Requestor Phone [Phone]	Requestor Fax [Fax]	Requestor Email [Email]	Requestor Website [Website]	Requestor Other [Other Info]
Requester Signature [Signature]	Requester Title [Title]	Requester Agency [Agency]	Requester Address [Address]	Requester City/State/Zip [City, State, Zip]	Requester Other [Other Info]

Item #	Description	Quantity	Unit	Container	Material Type	Analysis Test		Analysis Results					Remarks
						Method	Reference	1	2	3	4	5	
1	Sample #1 [Description]	1	g	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
2	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
3	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
4	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
5	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
6	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
7	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
8	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
9	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]
10	[Description]	[Quantity]	[Unit]	[Container]	[Material]	[Method]	[Reference]	[Result 1]	[Result 2]	[Result 3]	[Result 4]	[Result 5]	[Remarks]

Special Comments: _____

Requestor Signature: _____

Requestor Title: _____

Requestor Agency: _____

Requestor Address: _____

Requestor City/State/Zip: _____

Requestor Phone: _____

Requestor Fax: _____

Requestor Email: _____

Requestor Website: _____

Requestor Other: _____

Request Date: _____

Requestor Signature: _____

Requestor Title: _____

Requestor Agency: _____

Requestor Address: _____

Requestor City/State/Zip: _____

Requestor Phone: _____

Requestor Fax: _____

Requestor Email: _____

Requestor Website: _____

Requestor Other: _____

FIELD ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document

3 - 3

Requested By: [Name] Requested For: [Name]
 Requested On: [Date] Requested At: [Location]
 Requested By Title: [Title] Requested For Title: [Title]
 Requested By Agency: [Agency] Requested For Agency: [Agency]
 Requested For Agency: [Agency]
 Requested For Agency: [Agency]
 Requested For Agency: [Agency]
 Requested For Agency: [Agency]

Item #	Description of Item	Quantity	Unit	Date Acquired	Time Acquired	Where Acquired	Who Acquired	How Acquired	How Stored	How Transported	How Delivered	Who Delivered	Requester's Signature		Requester's Title	Requester's Agency	Requester's Address	Requester's Phone	Requester's Fax	Requester's Email	Requester's Signature	Requester's Title	Requester's Agency	Requester's Address	Requester's Phone	Requester's Fax	Requester's Email
													Signature	Date													
1
2

... (All of Chain of Custody)

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 This document is to be filled out by the collector of evidence at the scene of the crime.

Page 1 of 1

Case No. Report No.
 Date of Collection Time of Collection
 Collector Agency
 Location City
 State Zip
 Name of Agency
 Name of Collector
 Name of Analyst
 Name of Supervisor
 Name of Investigator
 Name of Requester
 Name of Agency
 Name of Collector
 Name of Analyst
 Name of Supervisor
 Name of Investigator
 Name of Requester

Item #	Description of Item	Quantity	Unit	Date	Time	Collector	Agency	City	State	Zip	Name of Agency	Name of Collector	Name of Analyst	Name of Supervisor	Name of Investigator	Name of Requester	Signature of Collector	Signature of Analyst	Signature of Supervisor	Signature of Investigator	Signature of Requester	Signature of Agency		
																						Signature of Analyst	Signature of Supervisor	
1	EXAMPLE ID	1	PC																					
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Signature of Collector
 Signature of Analyst
 Signature of Supervisor
 Signature of Investigator
 Signature of Requester
 Date of Collection
 Time of Collection
 Collector
 Agency
 Location
 City
 State
 Zip
 Name of Agency
 Name of Collector
 Name of Analyst
 Name of Supervisor
 Name of Investigator
 Name of Requester

Quality Control Sample Performance Assessment

APR 2014

APR 2014

APR 2014

APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014

APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014

APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014

APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014

APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014
APR 2014	APR 2014

APR 2014

APR 2014

APR 2014

APR 2014

APR 2014

Quality Control Sample Performance Assessment

10/20/2016

10/20/2016

10/20/2016
10/20/2016
10/20/2016
10/20/2016

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016

Sample ID	Sample Name	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016	10/20/2016

10/20/2016

10/20/2016

10/20/2016

10/20/2016

10/20/2016

10/20/2016

10/20/2016

Quality Control Sample Performance Assessment

10/15/2016

Time: 10:19 AM
 Date: 10/15/2016
 Location: 1010

Method: 1010 - Lead in Drinking Water

Sample ID	Sample Type	Sample Date	Sample Time	Sample Location	Sample Volume	Sample Concentration	Sample Status
1010-1	Tap Water	10/15/2016	10:19 AM	1010	100 mL	0.01 mg/L	Pass
1010-2	Tap Water	10/15/2016	10:20 AM	1010	100 mL	0.01 mg/L	Pass
1010-3	Tap Water	10/15/2016	10:21 AM	1010	100 mL	0.01 mg/L	Pass
1010-4	Tap Water	10/15/2016	10:22 AM	1010	100 mL	0.01 mg/L	Pass
1010-5	Tap Water	10/15/2016	10:23 AM	1010	100 mL	0.01 mg/L	Pass

Sample ID	Sample Type	Sample Date	Sample Time	Sample Location	Sample Volume	Sample Concentration	Sample Status
1010-6	Tap Water	10/15/2016	10:24 AM	1010	100 mL	0.01 mg/L	Pass
1010-7	Tap Water	10/15/2016	10:25 AM	1010	100 mL	0.01 mg/L	Pass
1010-8	Tap Water	10/15/2016	10:26 AM	1010	100 mL	0.01 mg/L	Pass
1010-9	Tap Water	10/15/2016	10:27 AM	1010	100 mL	0.01 mg/L	Pass
1010-10	Tap Water	10/15/2016	10:28 AM	1010	100 mL	0.01 mg/L	Pass

Sample ID	Sample Type	Sample Date	Sample Time	Sample Location	Sample Volume	Sample Concentration	Sample Status
1010-11	Tap Water	10/15/2016	10:29 AM	1010	100 mL	0.01 mg/L	Pass
1010-12	Tap Water	10/15/2016	10:30 AM	1010	100 mL	0.01 mg/L	Pass
1010-13	Tap Water	10/15/2016	10:31 AM	1010	100 mL	0.01 mg/L	Pass
1010-14	Tap Water	10/15/2016	10:32 AM	1010	100 mL	0.01 mg/L	Pass
1010-15	Tap Water	10/15/2016	10:33 AM	1010	100 mL	0.01 mg/L	Pass

Sample ID	Sample Type	Sample Date	Sample Time	Sample Location	Sample Volume	Sample Concentration	Sample Status
1010-16	Tap Water	10/15/2016	10:34 AM	1010	100 mL	0.01 mg/L	Pass
1010-17	Tap Water	10/15/2016	10:35 AM	1010	100 mL	0.01 mg/L	Pass
1010-18	Tap Water	10/15/2016	10:36 AM	1010	100 mL	0.01 mg/L	Pass
1010-19	Tap Water	10/15/2016	10:37 AM	1010	100 mL	0.01 mg/L	Pass
1010-20	Tap Water	10/15/2016	10:38 AM	1010	100 mL	0.01 mg/L	Pass

10/15/2016

10/15/2016

Quality Control Sample Performance Assessment

10/23/2009

Lab: 10/23/2009

City: [Redacted]
 State: [Redacted]
 Lab: [Redacted]
 Date: 10/23/2009

Sample Name	Sample ID	Sample Date
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]

Sample Name	Sample ID	Sample Date	Sample Type
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]

Sample Name	Sample ID	Sample Date	Sample Type
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]

Sample Name	Sample ID	Sample Date
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]

Sample Name	Sample ID	Sample Date
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]

10/23/2009

10/23/2009

10/23/2009

10/23/2009

10/23/2009

10/23/2009

10/23/2009

Quality Control Sample Performance Assessment

Item	Actual	Target	Notes
<p>Preparation of Samples</p> <p>1. All samples were prepared in accordance with the laboratory's standard operating procedure (SOP).</p> <p>2. All samples were prepared by the same analyst.</p> <p>3. All samples were prepared in the same laboratory.</p> <p>4. All samples were prepared in the same location.</p> <p>5. All samples were prepared in the same room.</p> <p>6. All samples were prepared in the same area.</p> <p>7. All samples were prepared in the same vicinity.</p> <p>8. All samples were prepared in the same neighborhood.</p> <p>9. All samples were prepared in the same district.</p> <p>10. All samples were prepared in the same city.</p> <p>11. All samples were prepared in the same state.</p> <p>12. All samples were prepared in the same country.</p> <p>13. All samples were prepared in the same world.</p>	100%	100%	
<p>Analysis of Samples</p> <p>1. All samples were analyzed in accordance with the laboratory's standard operating procedure (SOP).</p> <p>2. All samples were analyzed by the same analyst.</p> <p>3. All samples were analyzed in the same laboratory.</p> <p>4. All samples were analyzed in the same location.</p> <p>5. All samples were analyzed in the same room.</p> <p>6. All samples were analyzed in the same area.</p> <p>7. All samples were analyzed in the same vicinity.</p> <p>8. All samples were analyzed in the same neighborhood.</p> <p>9. All samples were analyzed in the same district.</p> <p>10. All samples were analyzed in the same city.</p> <p>11. All samples were analyzed in the same state.</p> <p>12. All samples were analyzed in the same country.</p> <p>13. All samples were analyzed in the same world.</p>	100%	100%	
<p>Reporting of Results</p> <p>1. All results were reported in accordance with the laboratory's standard operating procedure (SOP).</p> <p>2. All results were reported by the same analyst.</p> <p>3. All results were reported in the same laboratory.</p> <p>4. All results were reported in the same location.</p> <p>5. All results were reported in the same room.</p> <p>6. All results were reported in the same area.</p> <p>7. All results were reported in the same vicinity.</p> <p>8. All results were reported in the same neighborhood.</p> <p>9. All results were reported in the same district.</p> <p>10. All results were reported in the same city.</p> <p>11. All results were reported in the same state.</p> <p>12. All results were reported in the same country.</p> <p>13. All results were reported in the same world.</p>	100%	100%	

Handwritten signature: [Illegible]

DATE: 2/21/2012

ANALYST: [Illegible]

Quality Control Sample Performance Assessment

Assessment Date: _____

Assessment Time: _____
 Assessor: _____
 Assessor Title: _____

Assessment Location: _____

Assessment Item	Assessment Criteria	Assessment Results
1. Sample Collection	Properly labeled and sealed containers used for sample collection.	Yes
2. Sample Storage	Samples stored in a cool, dry, and secure location.	Yes
3. Sample Handling	Samples handled with care to avoid contamination.	Yes
4. Sample Analysis	Samples analyzed using appropriate methods and equipment.	Yes
5. Sample Reporting	Results reported in a timely and accurate manner.	Yes

Assessment Item	Assessment Criteria	Assessment Results
6. Sample Collection	Properly labeled and sealed containers used for sample collection.	Yes
7. Sample Storage	Samples stored in a cool, dry, and secure location.	Yes
8. Sample Handling	Samples handled with care to avoid contamination.	Yes
9. Sample Analysis	Samples analyzed using appropriate methods and equipment.	Yes
10. Sample Reporting	Results reported in a timely and accurate manner.	Yes

Assessment Item	Assessment Criteria	Assessment Results
11. Sample Collection	Properly labeled and sealed containers used for sample collection.	Yes
12. Sample Storage	Samples stored in a cool, dry, and secure location.	Yes
13. Sample Handling	Samples handled with care to avoid contamination.	Yes
14. Sample Analysis	Samples analyzed using appropriate methods and equipment.	Yes
15. Sample Reporting	Results reported in a timely and accurate manner.	Yes

Assessment Item	Assessment Criteria	Assessment Results
16. Sample Collection	Properly labeled and sealed containers used for sample collection.	Yes
17. Sample Storage	Samples stored in a cool, dry, and secure location.	Yes
18. Sample Handling	Samples handled with care to avoid contamination.	Yes
19. Sample Analysis	Samples analyzed using appropriate methods and equipment.	Yes
20. Sample Reporting	Results reported in a timely and accurate manner.	Yes

Assessment Results

Assessment Date: _____

Quality Control Sample Performance Assessment

APPLICANT: **MediMatrix Laboratories, Inc.**

Name: **Patricia**
 Address: **5010**
 City: **Albuquerque**
 State: **NM**

Control Sample Type	Lot #	Result
Internal Control	101	Pass
External Control	102	Pass
External Control	103	Pass
External Control	104	Pass
External Control	105	Pass
External Control	106	Pass

APPLICANT: **MediMatrix Laboratories, Inc.**
 Name: **Patricia**
 Address: **5010**
 City: **Albuquerque**
 State: **NM**

Control Sample Type: **Internal Control**
 Lot #: **101**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **102**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **103**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **104**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **105**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **106**
 Result: **Pass**

Control Sample Type: **Internal Control**
 Lot #: **101**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **102**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **103**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **104**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **105**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **106**
 Result: **Pass**

Control Sample Type: **Internal Control**
 Lot #: **101**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **102**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **103**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **104**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **105**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **106**
 Result: **Pass**

Control Sample Type: **Internal Control**
 Lot #: **101**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **102**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **103**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **104**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **105**
 Result: **Pass**

Control Sample Type: **External Control**
 Lot #: **106**
 Result: **Pass**

The above information is for informational purposes only. It is not intended to be used as a control sample performance assessment.

Comments:

Control Sample Performance Assessment:

Handwritten notes:
 The sample was analyzed and the results were as follows:

Quality Control Sample Performance Assessment

[Handwritten signature]

Approved by: *[Signature]* Date: 11/15/18

QA
 QC
 QM
 QO

QA	100%
QC	100%
QM	100%
QO	100%

QA	100%
QC	100%
QM	100%
QO	100%

QA	100%
QC	100%
QM	100%
QO	100%

Comments: *[Blank]*

QA	100%
QC	100%
QM	100%
QO	100%

QA	100%
QC	100%
QM	100%
QO	100%

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Quality Control Sample Performance Assessment



Annual Quality Control Sample Performance Assessment

Year: 2015
 Sample Size: 100
 Control: 95%

Control Limit	95%
Upper Control Limit	95.5%
Lower Control Limit	94.5%
Center Line	95%

Sample Number	Control Limit	Sample Mean	Sample Standard Deviation
1	95%	95.2%	0.2%
2	95%	95.1%	0.2%
3	95%	95.3%	0.2%
4	95%	95.0%	0.2%
5	95%	95.4%	0.2%
6	95%	95.1%	0.2%
7	95%	95.2%	0.2%
8	95%	95.3%	0.2%
9	95%	95.0%	0.2%
10	95%	95.1%	0.2%
11	95%	95.2%	0.2%
12	95%	95.3%	0.2%
13	95%	95.0%	0.2%
14	95%	95.1%	0.2%
15	95%	95.2%	0.2%
16	95%	95.3%	0.2%
17	95%	95.0%	0.2%
18	95%	95.1%	0.2%
19	95%	95.2%	0.2%
20	95%	95.3%	0.2%

Sample Number	Control Limit	Sample Mean	Sample Standard Deviation
21	95%	95.2%	0.2%
22	95%	95.1%	0.2%
23	95%	95.3%	0.2%
24	95%	95.0%	0.2%
25	95%	95.1%	0.2%
26	95%	95.2%	0.2%
27	95%	95.3%	0.2%
28	95%	95.0%	0.2%
29	95%	95.1%	0.2%
30	95%	95.2%	0.2%
31	95%	95.3%	0.2%
32	95%	95.0%	0.2%
33	95%	95.1%	0.2%
34	95%	95.2%	0.2%
35	95%	95.3%	0.2%
36	95%	95.0%	0.2%
37	95%	95.1%	0.2%
38	95%	95.2%	0.2%
39	95%	95.3%	0.2%
40	95%	95.0%	0.2%

Annual Quality Control Sample Performance Assessment

Control Limit: 95%

Upper Control Limit: 95.5%

Lower Control Limit: 94.5%

Center Line: 95%

Sample Mean: 95.2%

Sample Standard Deviation: 0.2%

Sample Size: 100

Control Chart: 95%

Upper Control Limit: 95.5%

Lower Control Limit: 94.5%

Center Line: 95%

Sample Mean: 95.2%

Sample Standard Deviation: 0.2%

Sample Size: 100

Annual Quality Control Sample Performance Assessment

Control Limit: 95%

Upper Control Limit: 95.5%

Lower Control Limit: 94.5%

Center Line: 95%

Sample Mean: 95.2%

Sample Standard Deviation: 0.2%

Sample Size: 100

Control Chart: 95%

Upper Control Limit: 95.5%

Lower Control Limit: 94.5%

Center Line: 95%

Sample Mean: 95.2%

Sample Standard Deviation: 0.2%

Sample Size: 100

Annual Quality Control Sample Performance Assessment

Annual Quality Control Sample Performance Assessment

Page 80 of 83

Quality Control Sample Performance Assessment

Handwritten: 2/18/81
 101-104

PHS Form No. 101-104-101 (Rev. 10-1-80)

DATE: 2/18/81
 SITE: 101-104
 PROJECT: 101-104
 REGION: 101-104

Quality Control Sample Performance Assessment
 This form is used to assess the performance of quality control samples. It is used to determine if the samples are performing as expected and to identify any problems that may be occurring. The form is used to document the results of the assessment and to provide a basis for corrective action if necessary.

Sample ID	Sample Type	Sample Location	Sample Date	Sample Results	Sample Status
101-104-101	101-104	101-104	101-104	101-104	101-104
101-104-102	101-104	101-104	101-104	101-104	101-104
101-104-103	101-104	101-104	101-104	101-104	101-104
101-104-104	101-104	101-104	101-104	101-104	101-104
101-104-105	101-104	101-104	101-104	101-104	101-104
101-104-106	101-104	101-104	101-104	101-104	101-104
101-104-107	101-104	101-104	101-104	101-104	101-104
101-104-108	101-104	101-104	101-104	101-104	101-104
101-104-109	101-104	101-104	101-104	101-104	101-104
101-104-110	101-104	101-104	101-104	101-104	101-104

Quality Control Sample Performance Assessment
 This form is used to assess the performance of quality control samples. It is used to determine if the samples are performing as expected and to identify any problems that may be occurring. The form is used to document the results of the assessment and to provide a basis for corrective action if necessary.

Sample ID	Sample Type	Sample Location	Sample Date	Sample Results	Sample Status
101-104-111	101-104	101-104	101-104	101-104	101-104
101-104-112	101-104	101-104	101-104	101-104	101-104
101-104-113	101-104	101-104	101-104	101-104	101-104
101-104-114	101-104	101-104	101-104	101-104	101-104
101-104-115	101-104	101-104	101-104	101-104	101-104
101-104-116	101-104	101-104	101-104	101-104	101-104
101-104-117	101-104	101-104	101-104	101-104	101-104
101-104-118	101-104	101-104	101-104	101-104	101-104
101-104-119	101-104	101-104	101-104	101-104	101-104
101-104-120	101-104	101-104	101-104	101-104	101-104

Quality Control Sample Performance Assessment
 This form is used to assess the performance of quality control samples. It is used to determine if the samples are performing as expected and to identify any problems that may be occurring. The form is used to document the results of the assessment and to provide a basis for corrective action if necessary.

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 101-104

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 101-104

Quality Control Sample Performance Assessment



Assess Multiple Facilities with the following steps:

- 1. Review the data
- 2. Review the data
- 3. Review the data
- 4. Review the data

Sample Name	Sample Location	Sample Date	Sample Type	Sample Results
Sample 1	Location 1	2015-01-01	Water	100%
Sample 2	Location 2	2015-01-02	Water	95%
Sample 3	Location 3	2015-01-03	Water	90%
Sample 4	Location 4	2015-01-04	Water	85%
Sample 5	Location 5	2015-01-05	Water	80%
Sample 6	Location 6	2015-01-06	Water	75%
Sample 7	Location 7	2015-01-07	Water	70%
Sample 8	Location 8	2015-01-08	Water	65%
Sample 9	Location 9	2015-01-09	Water	60%
Sample 10	Location 10	2015-01-10	Water	55%

Sample Name	Sample Location	Sample Date	Sample Type	Sample Results
Sample 11	Location 11	2015-01-11	Water	50%
Sample 12	Location 12	2015-01-12	Water	45%
Sample 13	Location 13	2015-01-13	Water	40%
Sample 14	Location 14	2015-01-14	Water	35%
Sample 15	Location 15	2015-01-15	Water	30%
Sample 16	Location 16	2015-01-16	Water	25%
Sample 17	Location 17	2015-01-17	Water	20%
Sample 18	Location 18	2015-01-18	Water	15%
Sample 19	Location 19	2015-01-19	Water	10%
Sample 20	Location 20	2015-01-20	Water	5%

Sample Name	Sample Location	Sample Date	Sample Type	Sample Results
Sample 21	Location 21	2015-01-21	Water	0%
Sample 22	Location 22	2015-01-22	Water	0%
Sample 23	Location 23	2015-01-23	Water	0%
Sample 24	Location 24	2015-01-24	Water	0%
Sample 25	Location 25	2015-01-25	Water	0%

Sample Name	Sample Location	Sample Date	Sample Type	Sample Results
Sample 26	Location 26	2015-01-26	Water	0%
Sample 27	Location 27	2015-01-27	Water	0%
Sample 28	Location 28	2015-01-28	Water	0%
Sample 29	Location 29	2015-01-29	Water	0%
Sample 30	Location 30	2015-01-30	Water	0%

Sample Name	Sample Location	Sample Date	Sample Type	Sample Results
Sample 31	Location 31	2015-01-31	Water	0%
Sample 32	Location 32	2015-02-01	Water	0%
Sample 33	Location 33	2015-02-02	Water	0%
Sample 34	Location 34	2015-02-03	Water	0%
Sample 35	Location 35	2015-02-04	Water	0%

All samples are to be tested for the following parameters: Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Total Hardness, and Total Chlorine Residual (TCR). The results of these tests will be used to determine the quality of the water supply.

[Handwritten signature]



March 10, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: PLANT HAMMOND AP-2 NR
Pace Project No.: 92521359

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between February 10, 2021 and February 15, 2021. 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 Gulf Coast
- 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.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Pace Analytical Gulf Coast

7979 Innovation Park Drive, Baton Rouge, LA 70820

Arkansas Certification #: 88-0655

DoD ELAP Certification #: L18-597

Florida Certification #: E87854

Illinois Certification #: 004585

Kansas Certification #: E-10354

Louisiana/LELAP Certification #: 01955

North Carolina Certification #: 618

North Dakota Certification #: R-195

Oklahoma Certification #: 2019-101

South Carolina Certification #: 73006001

Texas Certification #: T104704178-19-11

USDA Soil Permit # P330-19-00209

Virginia Certification #: 460215

Washington Certification #: C929

Pace Analytical Services Charlotte

9800 Kinsey 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

North Carolina Certification #: 381

South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92521359001	PMW-04	Water	02/09/21 17:04	02/10/21 09:36
92521359002	PMW-04/FILTERED	Water	02/09/21 17:04	02/10/21 09:36
92521359003	HGWC-18	Water	02/10/21 12:23	02/11/21 09:19
92521359004	DUP-3	Water	02/10/21 00:00	02/11/21 09:19
92521359005	TPZ-01	Water	02/10/21 15:10	02/11/21 09:19
92521359006	PMW-03	Water	02/11/21 16:05	02/12/21 09:36
92521359007	TPZ-02	Water	02/12/21 12:04	02/15/21 09:45

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SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92521359001	PMW-04	RSK-175	JAR	1	GCLA
		EPA 6010D	KH	6	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	3	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92521359002	PMW-04/FILTERED	RSK-175	JAR	1	GCLA
		EPA 6010D	KH	6	PASI-GA
		EPA 6020B	CW1	3	PASI-GA
		SM 2450C-2011	AW1	1	PASI-GA
		SM 2320B-2011	ECH	3	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92521359003	HGWC-18	RSK-175	JAR	1	GCLA
		EPA 6010D	DRB, KH	6	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2320B-2011	ECH	3	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	2	PASI-A
		92521359004	DUP-3	RSK-175	JAR	1	GCLA
EPA 6010D	DRB, KH			6	PASI-GA
EPA 6020B	CW1			1	PASI-GA
SM 2320B-2011	ECH			3	PASI-A
SM 4500-S2D-2011	JP1			1	PASI-A
EPA 300.0 Rev 2.1 1993	CDC			2	PASI-A
92521359005	TPZ-01			RSK-175	JAR	1	GCLA
		EPA 6010D	DRB, KH	6	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2320B-2011	ECH	3	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	2	PASI-A
		92521359006	PMW-03	RSK-175	JAR	1	GCLA
EPA 6010D	KH			6	PASI-GA
EPA 6020B	CW1			3	PASI-GA
SM 2320B-2011	ECH			3	PASI-A
SM 2540C-2011	RED			1	PASI-A

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SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92521359007	TPZ-02	SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		RSK-175	JAR	1	GCLA
		EPA 6010D	DRB, KH	6	PASI-GA
		EPA 6020B	CW1	1	PASI-GA
		SM 2320B-2011	ECH	3	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	2	PASI-A

GCLA = Pace Analytical Gulf Coast

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT HAMMOND AP-2 NR
Pace Project No.: 92521359

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521359001	PMW-04					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	7.13	Std. Units		02/18/21 07:57	
RSK-175	Carbon dioxide	9650	ug/L	900	02/14/21 14:02	
EPA 6010D	Iron	3.0	mg/L	0.040	02/17/21 06:20	
EPA 6010D	Manganese	0.33	mg/L	0.040	02/17/21 06:20	
EPA 6010D	Potassium	5.0	mg/L	0.20	02/17/21 06:20	M1
EPA 6010D	Sodium	3.5	mg/L	1.0	02/17/21 06:20	M1
EPA 6010D	Calcium	277	mg/L	1.0	02/17/21 06:20	M1
EPA 6010D	Magnesium	37.2	mg/L	0.050	02/17/21 06:20	M1
EPA 6020B	Boron	9.7	mg/L	0.040	02/15/21 15:09	
EPA 6020B	Cobalt	0.0017J	mg/L	0.0050	02/15/21 15:09	
EPA 6020B	Molybdenum	7.5	mg/L	0.10	02/16/21 13:32	
SM 2450C-2011	Total Dissolved Solids	1260	mg/L	20.0	02/11/21 12:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	156	mg/L	5.0	02/17/21 17:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	156	mg/L	5.0	02/17/21 17:01	
EPA 300.0 Rev 2.1 1993	Chloride	15.7	mg/L	1.0	02/11/21 15:02	
EPA 300.0 Rev 2.1 1993	Fluoride	2.1	mg/L	0.10	02/11/21 15:02	
EPA 300.0 Rev 2.1 1993	Sulfate	489	mg/L	13.0	02/12/21 05:10	M6
92521359002	PMW-04/FILTERED					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	7.13	Std. Units		02/18/21 07:57	
RSK-175	Carbon dioxide	9590	ug/L	900	02/14/21 14:09	
EPA 6010D	Iron	2.6	mg/L	0.040	02/17/21 06:40	
EPA 6010D	Manganese	0.33	mg/L	0.040	02/17/21 06:40	
EPA 6010D	Potassium	4.9	mg/L	0.20	02/17/21 06:40	
EPA 6010D	Sodium	3.5	mg/L	1.0	02/17/21 06:40	
EPA 6010D	Calcium	280	mg/L	1.0	02/17/21 06:40	
EPA 6010D	Magnesium	37.1	mg/L	0.050	02/17/21 06:40	
EPA 6020B	Boron	9.6	mg/L	0.040	02/15/21 15:43	
EPA 6020B	Cobalt	0.0013J	mg/L	0.0050	02/15/21 15:43	
EPA 6020B	Molybdenum	7.1	mg/L	0.10	02/16/21 13:38	
SM 2450C-2011	Total Dissolved Solids	1220	mg/L	20.0	02/11/21 12:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	150	mg/L	5.0	02/17/21 17:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	150	mg/L	5.0	02/17/21 17:13	
EPA 300.0 Rev 2.1 1993	Chloride	13.8	mg/L	1.0	02/11/21 16:24	
EPA 300.0 Rev 2.1 1993	Fluoride	1.9	mg/L	0.10	02/11/21 16:24	
EPA 300.0 Rev 2.1 1993	Sulfate	488	mg/L	13.0	02/12/21 05:57	
92521359003	HGWC-18					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	4.55	Std. Units		02/18/21 07:57	
RSK-175	Carbon dioxide	100000	ug/L	9000	02/14/21 14:38	
EPA 6010D	Iron	0.22	mg/L	0.040	02/17/21 06:45	
EPA 6010D	Manganese	3.1	mg/L	0.040	02/17/21 06:45	
EPA 6010D	Potassium	10.2	mg/L	0.20	02/17/21 06:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521359003	HGWC-18					
EPA 6010D	Sodium	11.9	mg/L	1.0	02/17/21 06:45	
EPA 6010D	Calcium	397	mg/L	10.0	02/17/21 21:48	
EPA 6010D	Magnesium	42.1	mg/L	0.50	02/17/21 21:48	
EPA 6020B	Cobalt	0.14	mg/L	0.0050	02/15/21 16:29	
EPA 300.0 Rev 2.1 1993	Chloride	93.4	mg/L	23.0	02/13/21 03:57	
EPA 300.0 Rev 2.1 1993	Sulfate	1040	mg/L	23.0	02/13/21 03:57	
92521359004	DUP-3					
RSK-175	Carbon dioxide	93200	ug/L	9000	02/14/21 14:47	
EPA 6010D	Iron	0.13	mg/L	0.040	02/17/21 06:50	
EPA 6010D	Manganese	3.1	mg/L	0.040	02/17/21 06:50	
EPA 6010D	Potassium	10.3	mg/L	0.20	02/17/21 06:50	
EPA 6010D	Sodium	11.8	mg/L	1.0	02/17/21 06:50	
EPA 6010D	Calcium	387	mg/L	10.0	02/17/21 21:53	
EPA 6010D	Magnesium	41.6	mg/L	0.50	02/17/21 21:53	
EPA 6020B	Cobalt	0.14	mg/L	0.0050	02/15/21 16:35	
EPA 300.0 Rev 2.1 1993	Chloride	92.9	mg/L	23.0	02/13/21 04:12	
EPA 300.0 Rev 2.1 1993	Sulfate	1040	mg/L	23.0	02/13/21 04:12	
92521359005	TPZ-01					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	9.38	Std. Units		02/18/21 07:57	
EPA 6010D	Iron	0.039J	mg/L	0.040	02/17/21 06:55	
EPA 6010D	Manganese	0.0084J	mg/L	0.040	02/17/21 06:55	
EPA 6010D	Potassium	29.0	mg/L	0.20	02/17/21 06:55	
EPA 6010D	Sodium	13.4	mg/L	1.0	02/17/21 06:55	
EPA 6010D	Calcium	773	mg/L	10.0	02/17/21 21:58	
EPA 6010D	Magnesium	11.0	mg/L	0.50	02/17/21 21:58	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	8.2	mg/L	5.0	02/18/21 16:02	
SM 2320B-2011	Alkalinity,Carbonate (CaCO3)	66.4	mg/L	5.0	02/18/21 16:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	74.6	mg/L	5.0	02/18/21 16:02	
EPA 300.0 Rev 2.1 1993	Chloride	296	mg/L	30.0	02/13/21 04:26	
EPA 300.0 Rev 2.1 1993	Sulfate	1370	mg/L	30.0	02/13/21 04:26	
92521359006	PMW-03					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	5.73	Std. Units		02/18/21 07:57	
RSK-175	Carbon dioxide	15700	ug/L	900	02/26/21 16:19	
EPA 6010D	Iron	16.6	mg/L	0.040	02/17/21 07:25	
EPA 6010D	Manganese	1.6	mg/L	0.040	02/17/21 07:25	
EPA 6010D	Potassium	28.7	mg/L	0.20	02/17/21 07:25	
EPA 6010D	Sodium	14.9	mg/L	1.0	02/17/21 07:25	
EPA 6010D	Calcium	237	mg/L	1.0	02/17/21 07:25	
EPA 6010D	Magnesium	31.8	mg/L	0.050	02/17/21 07:25	
EPA 6020B	Boron	3.2	mg/L	0.040	03/03/21 12:32	
EPA 6020B	Cobalt	0.062	mg/L	0.0050	02/15/21 17:46	
EPA 6020B	Molybdenum	0.0031J	mg/L	0.010	02/15/21 17:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92521359006	PMW-03					
SM 2540C-2011	Total Dissolved Solids	1210	mg/L	50.0	02/17/21 19:55	
EPA 300.0 Rev 2.1 1993	Chloride	91.5	mg/L	1.0	02/16/21 00:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.37	mg/L	0.10	02/16/21 00:31	
EPA 300.0 Rev 2.1 1993	Sulfate	638	mg/L	14.0	02/16/21 14:16	
92521359007	TPZ-02					
	Performed by	CUSTOME			02/18/21 07:57	
		R				
	pH	6.75	Std. Units		02/18/21 07:57	
RSK-175	Carbon dioxide	31700	ug/L	4500	03/05/21 16:54	
EPA 6010D	Iron	54.9	mg/L	0.040	02/17/21 07:29	
EPA 6010D	Manganese	4.0	mg/L	0.040	02/17/21 07:29	
EPA 6010D	Potassium	13.0	mg/L	0.20	02/17/21 07:29	
EPA 6010D	Sodium	24.6	mg/L	1.0	02/17/21 07:29	
EPA 6010D	Calcium	429	mg/L	10.0	02/17/21 22:03	
EPA 6010D	Magnesium	80.3	mg/L	0.50	02/17/21 22:03	
EPA 6020B	Cobalt	0.0091	mg/L	0.0050	02/18/21 21:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	36.7	mg/L	5.0	02/18/21 17:17	
SM 2320B-2011	Alkalinity, Total as CaCO3	36.7	mg/L	5.0	02/18/21 17:17	
EPA 300.0 Rev 2.1 1993	Chloride	115	mg/L	23.0	02/17/21 05:59	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	23.0	02/17/21 05:59	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

Sample: PMW-04 Lab ID: 92521359001 Collected: 02/09/21 17:04 Received: 02/10/21 09:36 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		02/18/21 07:57		
pH	7.13	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	9650	ug/L	900	127	1		02/14/21 14:02	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	3.0	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 06:20	7439-89-6	
Manganese	0.33	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 06:20	7439-96-5	
Potassium	5.0	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 06:20	7440-09-7	M1
Sodium	3.5	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 06:20	7440-23-5	M1
Calcium	277	mg/L	1.0	0.070	1	02/16/21 13:00	02/17/21 06:20	7440-70-2	M1
Magnesium	37.2	mg/L	0.050	0.0076	1	02/16/21 13:00	02/17/21 06:20	7439-95-4	M1
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Boron	9.7	mg/L	0.040	0.0052	1	02/15/21 10:05	02/15/21 15:09	7440-42-8	
Cobalt	0.0017J	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 15:09	7440-48-4	
Molybdenum	7.5	mg/L	0.10	0.0069	10	02/15/21 10:05	02/16/21 13:32	7439-98-7	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1260	mg/L	20.0	20.0	1		02/11/21 12:09		
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	156	mg/L	5.0	5.0	1		02/17/21 17:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/17/21 17:01		
Alkalinity, Total as CaCO3	156	mg/L	5.0	5.0	1		02/17/21 17:01		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/11/21 05:43	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	15.7	mg/L	1.0	0.60	1		02/11/21 15:02	16887-00-6	
Fluoride	2.1	mg/L	0.10	0.050	1		02/11/21 15:02	16984-48-8	
Sulfate	489	mg/L	13.0	6.5	13		02/12/21 05:10	14808-79-8	M6

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Sample: **PMW-04/FILTERED** Lab ID: **92521359002** Collected: 02/09/21 17:04 Received: 02/10/21 09:36 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		02/18/21 07:57		
pH	7.13	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	9590	ug/L	900	127	1		02/14/21 14:09	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	2.6	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 06:40	7439-89-6	
Manganese	0.33	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 06:40	7439-96-5	
Potassium	4.9	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 06:40	7440-09-7	
Sodium	3.5	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 06:40	7440-23-5	
Calcium	280	mg/L	1.0	0.070	1	02/16/21 13:00	02/17/21 06:40	7440-70-2	
Magnesium	37.1	mg/L	0.050	0.0076	1	02/16/21 13:00	02/17/21 06:40	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Boron	9.6	mg/L	0.040	0.0052	1	02/15/21 10:05	02/15/21 15:43	7440-42-8	
Cobalt	0.0013J	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 15:43	7440-48-4	
Molybdenum	7.1	mg/L	0.10	0.0069	10	02/15/21 10:05	02/16/21 13:38	7439-98-7	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1220	mg/L	20.0	20.0	1		02/11/21 12:09		
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	150	mg/L	5.0	5.0	1		02/17/21 17:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/17/21 17:13		
Alkalinity, Total as CaCO3	150	mg/L	5.0	5.0	1		02/17/21 17:13		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/11/21 05:43	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13.8	mg/L	1.0	0.60	1		02/11/21 16:24	16887-00-6	
Fluoride	1.9	mg/L	0.10	0.050	1		02/11/21 16:24	16984-48-8	
Sulfate	488	mg/L	13.0	6.5	13		02/12/21 05:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Sample:	Lab ID:	Collected:	Received:	Matrix:					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: HGWC-18	Lab ID: 92521359003	Collected: 02/10/21 12:23	Received: 02/11/21 09:19	Matrix: Water					
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		02/18/21 07:57		
pH	4.55	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	100000	ug/L	9000	1270	10		02/14/21 14:38	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	0.22	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 06:45	7439-89-6	
Manganese	3.1	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 06:45	7439-96-5	
Potassium	10.2	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 06:45	7440-09-7	
Sodium	11.9	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 06:45	7440-23-5	
Calcium	397	mg/L	10.0	0.70	10	02/16/21 13:00	02/17/21 21:48	7440-70-2	
Magnesium	42.1	mg/L	0.50	0.076	10	02/16/21 13:00	02/17/21 21:48	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Cobalt	0.14	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 16:29	7440-48-4	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		02/18/21 15:52		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		02/18/21 15:52		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		02/18/21 15:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/16/21 04:55	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	93.4	mg/L	23.0	13.8	23		02/13/21 03:57	16887-00-6	
Sulfate	1040	mg/L	23.0	11.5	23		02/13/21 03:57	14808-79-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Sample: DUP-3 **Lab ID: 92521359004** Collected: 02/10/21 00:00 Received: 02/11/21 09:19 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	93200	ug/L	9000	1270	10		02/14/21 14:47	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	0.13	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 06:50	7439-89-6	
Manganese	3.1	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 06:50	7439-96-5	
Potassium	10.3	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 06:50	7440-09-7	
Sodium	11.8	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 06:50	7440-23-5	
Calcium	387	mg/L	10.0	0.70	10	02/16/21 13:00	02/17/21 21:53	7440-70-2	
Magnesium	41.6	mg/L	0.50	0.076	10	02/16/21 13:00	02/17/21 21:53	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Cobalt	0.14	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 16:35	7440-48-4	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/18/21 15:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/18/21 15:58		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		02/18/21 15:58		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/16/21 04:56	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	92.9	mg/L	23.0	13.8	23		02/13/21 04:12	16887-00-6	
Sulfate	1040	mg/L	23.0	11.5	23		02/13/21 04:12	14808-79-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Sample:	TPZ-01	Lab ID:	92521359005	Collected:	02/10/21 15:10	Received:	02/11/21 09:19	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		02/18/21 07:57		
pH	9.38	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	ND	ug/L	900	127	1		02/14/21 15:06	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	0.039J	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 06:55	7439-89-6	
Manganese	0.0084J	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 06:55	7439-96-5	
Potassium	29.0	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 06:55	7440-09-7	
Sodium	13.4	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 06:55	7440-23-5	
Calcium	773	mg/L	10.0	0.70	10	02/16/21 13:00	02/17/21 21:58	7440-70-2	
Magnesium	11.0	mg/L	0.50	0.076	10	02/16/21 13:00	02/17/21 21:58	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Cobalt	ND	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 17:40	7440-48-4	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	8.2	mg/L	5.0	5.0	1		02/18/21 16:02		
Alkalinity, Carbonate (CaCO ₃)	66.4	mg/L	5.0	5.0	1		02/18/21 16:02		
Alkalinity, Total as CaCO ₃	74.6	mg/L	5.0	5.0	1		02/18/21 16:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/16/21 04:56	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	296	mg/L	30.0	18.0	30		02/13/21 04:26	16887-00-6	
Sulfate	1370	mg/L	30.0	15.0	30		02/13/21 04:26	14808-79-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

Sample: PMW-03		Lab ID: 92521359006		Collected: 02/11/21 16:05	Received: 02/12/21 09:36	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		02/18/21 07:57		
pH	5.73	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	15700	ug/L	900	127	1		02/26/21 16:19	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	16.6	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 07:25	7439-89-6	
Manganese	1.6	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 07:25	7439-96-5	
Potassium	28.7	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 07:25	7440-09-7	
Sodium	14.9	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 07:25	7440-23-5	
Calcium	237	mg/L	1.0	0.070	1	02/16/21 13:00	02/17/21 07:25	7440-70-2	
Magnesium	31.8	mg/L	0.050	0.0076	1	02/16/21 13:00	02/17/21 07:25	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Boron	3.2	mg/L	0.040	0.0052	1	02/15/21 10:05	03/03/21 12:32	7440-42-8	
Cobalt	0.062	mg/L	0.0050	0.00038	1	02/15/21 10:05	02/15/21 17:46	7440-48-4	
Molybdenum	0.0031J	mg/L	0.010	0.00069	1	02/15/21 10:05	02/15/21 17:46	7439-98-7	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/18/21 16:15		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/18/21 16:15		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		02/18/21 16:15		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	1210	mg/L	50.0	50.0	1		02/17/21 19:55		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/18/21 02:47	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	91.5	mg/L	1.0	0.60	1		02/16/21 00:31	16887-00-6	
Fluoride	0.37	mg/L	0.10	0.050	1		02/16/21 00:31	16984-48-8	
Sulfate	638	mg/L	14.0	7.0	14		02/16/21 14:16	14808-79-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Sample: TPZ-02 **Lab ID: 92521359007** Collected: 02/12/21 12:04 Received: 02/15/21 09:45 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		02/18/21 07:57		
pH	6.75	Std. Units			1		02/18/21 07:57		
EPA RSK-175									
Analytical Method: RSK-175 Pace Analytical Gulf Coast									
Carbon dioxide	31700	ug/L	4500	635	5		03/05/21 16:54	124-38-9	
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Iron	54.9	mg/L	0.040	0.016	1	02/16/21 13:00	02/17/21 07:29	7439-89-6	
Manganese	4.0	mg/L	0.040	0.0017	1	02/16/21 13:00	02/17/21 07:29	7439-96-5	
Potassium	13.0	mg/L	0.20	0.056	1	02/16/21 13:00	02/17/21 07:29	7440-09-7	
Sodium	24.6	mg/L	1.0	0.26	1	02/16/21 13:00	02/17/21 07:29	7440-23-5	
Calcium	429	mg/L	10.0	0.70	10	02/16/21 13:00	02/17/21 22:03	7440-70-2	
Magnesium	80.3	mg/L	0.50	0.076	10	02/16/21 13:00	02/17/21 22:03	7439-95-4	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Cobalt	0.0091	mg/L	0.0050	0.00038	1	02/17/21 09:52	02/18/21 21:06	7440-48-4	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	36.7	mg/L	5.0	5.0	1		02/18/21 17:17		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		02/18/21 17:17		
Alkalinity, Total as CaCO ₃	36.7	mg/L	5.0	5.0	1		02/18/21 17:17		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/18/21 02:49	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	115	mg/L	23.0	13.8	23		02/17/21 05:59	16887-00-6	
Sulfate	1330	mg/L	23.0	11.5	23		02/17/21 05:59	14808-79-8	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

QC Batch: 704011 Analysis Method: RSK-175
 QC Batch Method: RSK-175 Analysis Description: EPA RSK 175 CO2
 Laboratory: Pace Analytical Gulf Coast
 Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005

METHOD BLANK: 2145390 Matrix: Water
 Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Carbon dioxide	ug/L	ND	900	127	02/14/21 12:06	

Parameter	Units	2145391		2145392			% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec				
Carbon dioxide	ug/L	8700	8180	8740	94	100	38-147	7	40	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 704752

Analysis Method: RSK-175

QC Batch Method: RSK-175

Analysis Description: EPA RSK 175 CO2

Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 92521359006

METHOD BLANK: 2149556

Matrix: Water

Associated Lab Samples: 92521359006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Carbon dioxide	ug/L	ND	900	127	02/26/21 15:56	

LABORATORY CONTROL SAMPLE & LCSD: 2149557

2149558

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon dioxide	ug/L	8700	6200	6890	71	79	38-147	11	40	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 705314

Analysis Method: RSK-175

QC Batch Method: RSK-175

Analysis Description: EPA RSK 175 CO2

Laboratory: Pace Analytical Gulf Coast

Associated Lab Samples: 92521359007

METHOD BLANK: 2152532

Matrix: Water

Associated Lab Samples: 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Carbon dioxide	ug/L	ND	900	127	03/05/21 16:21	

LABORATORY CONTROL SAMPLE & LCSD: 2152533

2152534

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon dioxide	ug/L	8700	7700	7090	89	81	38-147	8	40	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch:	600338	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005, 92521359006, 92521359007

METHOD BLANK: 3164531 Matrix: Water
 Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005, 92521359006, 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	02/17/21 06:00	
Iron	mg/L	ND	0.040	0.016	02/17/21 06:00	
Magnesium	mg/L	ND	0.050	0.0076	02/17/21 06:00	
Manganese	mg/L	ND	0.040	0.0017	02/17/21 06:00	
Potassium	mg/L	ND	0.20	0.056	02/17/21 06:00	
Sodium	mg/L	ND	1.0	0.26	02/17/21 06:00	

LABORATORY CONTROL SAMPLE: 3164532

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	
Iron	mg/L	1	0.98	98	80-120	
Magnesium	mg/L	1	0.98	98	80-120	
Manganese	mg/L	1	0.99	99	80-120	
Potassium	mg/L	1	0.97	97	80-120	
Sodium	mg/L	1	1.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164533 3164534

Parameter	Units	3164533		3164534		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	277	1	286	289	858	1140	75-125	1	20	M1
Iron	mg/L	3.0	1	4.1	4.1	114	115	75-125	0	20	
Magnesium	mg/L	37.2	1	38.3	39.7	108	248	75-125	4	20	M1
Manganese	mg/L	0.33	1	1.3	1.3	100	101	75-125	1	20	
Potassium	mg/L	5.0	1	6.1	6.3	112	126	75-125	2	20	M1
Sodium	mg/L	3.5	1	4.7	4.8	115	126	75-125	2	20	M1

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 599971 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005, 92521359006

METHOD BLANK: 3162772 Matrix: Water
 Associated Lab Samples: 92521359001, 92521359002, 92521359003, 92521359004, 92521359005, 92521359006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.040	0.0052	02/15/21 14:17	
Cobalt	mg/L	ND	0.0050	0.00038	02/15/21 14:17	
Molybdenum	mg/L	ND	0.010	0.00069	02/15/21 14:17	

LABORATORY CONTROL SAMPLE: 3162773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.0	103	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162774 3162775

Parameter	Units	92520706023		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result								% Rec	% Rec
Boron	mg/L	ND	1	1	1	1.0	1.0	102	102	75-125	0	20		
Cobalt	mg/L	ND	0.1	0.1	0.1	0.10	0.10	103	104	75-125	0	20		
Molybdenum	mg/L	ND	0.1	0.1	0.1	0.10	0.10	105	101	75-125	4	20		

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600602

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92521359007

METHOD BLANK: 3165498

Matrix: Water

Associated Lab Samples: 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	mg/L	ND	0.0050	0.00038	02/18/21 19:29	

LABORATORY CONTROL SAMPLE: 3165499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3165500 3165501

Parameter	Units	3165500		3165501		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Cobalt	mg/L	92521574001 ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

QC Batch: 599289 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: 92521359001, 92521359002

METHOD BLANK: 3159302 Matrix: Water
 Associated Lab Samples: 92521359001, 92521359002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/11/21 12:08	

LABORATORY CONTROL SAMPLE: 3159303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	404	101	84-108	

SAMPLE DUPLICATE: 3159917

Parameter	Units	92521556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	331	337	2	10	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600596

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359001, 92521359002

METHOD BLANK: 3165442

Matrix: Water

Associated Lab Samples: 92521359001, 92521359002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/17/21 12:17	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/17/21 12:17	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/17/21 12:17	

LABORATORY CONTROL SAMPLE: 3165443

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.7	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3165444 3165445

Parameter	Units	92520226007		3165445		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO3	mg/L	ND	50	50	48.9	49.2	98	98	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3165446 3165447

Parameter	Units	92520229010		3165447		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	143	50	50	194	200	103	114	80-120	3	25

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600890 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92521359003, 92521359004, 92521359005, 92521359006, 92521359007

METHOD BLANK: 3166949 Matrix: Water
 Associated Lab Samples: 92521359003, 92521359004, 92521359005, 92521359006, 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/18/21 13:37	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/18/21 13:37	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/18/21 13:37	

LABORATORY CONTROL SAMPLE: 3166950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.0	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3166951 3166952

Parameter	Units	92521472001		3166951		3166952		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	21.9	50	50	72.8	73.5	102	103	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3166953 3166954

Parameter	Units	92522145001		3166953		3166954		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	22.6	50	50	73.5	73.8	102	102	80-120	0	25

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600758

Analysis Method: SM 2540C-2011

QC Batch Method: SM 2540C-2011

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359006

METHOD BLANK: 3166471

Matrix: Water

Associated Lab Samples: 92521359006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/17/21 19:54	

LABORATORY CONTROL SAMPLE: 3166472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	232	93	90-110	

SAMPLE DUPLICATE: 3166473

Parameter	Units	92521359006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1210	1210	0	25	

SAMPLE DUPLICATE: 3166474

Parameter	Units	92522288010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	30.0	45.0	40	25	D6

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 599213

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359001, 92521359002

METHOD BLANK: 3159141

Matrix: Water

Associated Lab Samples: 92521359001, 92521359002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/11/21 05:30	

LABORATORY CONTROL SAMPLE: 3159142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159143 3159144

Parameter	Units	92520663005		3159143		3159144		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec						
Sulfide	mg/L	ND	0.5	0.5	0.21	0.20	38	38	80-120	0	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159145 3159146

Parameter	Units	92520935003		3159145		3159146		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec						
Sulfide	mg/L	ND	0.5	0.5	0.49	0.49	99	99	80-120	0	10		

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600173 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92521359003, 92521359004, 92521359005

METHOD BLANK: 3164004 Matrix: Water
 Associated Lab Samples: 92521359003, 92521359004, 92521359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/16/21 04:49	

LABORATORY CONTROL SAMPLE: 3164005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164006 3164007

Parameter	Units	92521856001		3164007		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	ND	0.5	0.47	0.47	92	92	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164008 3164009

Parameter	Units	92521856002		3164009		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Sulfide	mg/L	ND	0.5	0.42	0.42	82	82	80-120	0	10	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600833

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359006, 92521359007

METHOD BLANK: 3166788

Matrix: Water

Associated Lab Samples: 92521359006, 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/18/21 02:39	

LABORATORY CONTROL SAMPLE: 3166789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.52	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3166790 3166791

Parameter	Units	92521912002		3166791		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Sulfide	mg/L	ND	0.5	0.51	0.51	96	96	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3166792 3166793

Parameter	Units	92522081001		3166793		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Sulfide	mg/L	ND	0.5	0.19	0.19	35	35	80-120	0	10 M1	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 599257 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359001, 92521359002

METHOD BLANK: 3159217 Matrix: Water

Associated Lab Samples: 92521359001, 92521359002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/11/21 13:11	
Fluoride	mg/L	ND	0.10	0.050	02/11/21 13:11	
Sulfate	mg/L	ND	1.0	0.50	02/11/21 13:11	

LABORATORY CONTROL SAMPLE: 3159218

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	2.6	105	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159221 3159222

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521143004	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	4.7	50	50	57.8	58.2	106	107	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	93	96	90-110	4	10		
Sulfate	mg/L	51.1	50	50	81.8	81.9	62	62	90-110	0	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159223 3159224

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521359001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	15.7	50	50	67.3	67.4	103	103	90-110	0	10		
Fluoride	mg/L	2.1	2.5	2.5	4.4	4.4	92	91	90-110	0	10		
Sulfate	mg/L	489	50	50	518	517	59	57	90-110	0	10	M6	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR
 Pace Project No.: 92521359

QC Batch: 599653 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92521359003, 92521359004, 92521359005

METHOD BLANK: 3161218 Matrix: Water
 Associated Lab Samples: 92521359003, 92521359004, 92521359005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/12/21 12:49	
Sulfate	mg/L	ND	1.0	0.50	02/12/21 12:49	

LABORATORY CONTROL SAMPLE: 3161219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.3	103	90-110	
Sulfate	mg/L	50	53.0	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3161220 3161221

Parameter	Units	92521478001		3161221		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	6.8	50	50	61.1	59.0	109	104	90-110	3	10
Sulfate	mg/L	12.5	50	50	68.0	65.9	111	107	90-110	3	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3161241 3161242

Parameter	Units	92521574001		3161242		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	4.3	50	50	59.5	60.0	110	111	90-110	1	10 M1
Sulfate	mg/L	423	50	50	510	440	175	33	90-110	15	10 M6,R1

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 599863	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359006

METHOD BLANK: 3162426 Matrix: Water

Associated Lab Samples: 92521359006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/15/21 22:21	
Fluoride	mg/L	ND	0.10	0.050	02/15/21 22:21	
Sulfate	mg/L	ND	1.0	0.50	02/15/21 22:21	

LABORATORY CONTROL SAMPLE: 3162427

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	2.6	105	90-110	
Sulfate	mg/L	50	52.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162428 3162429

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521957001 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	118	50	50	165	170	95	103	90-110	3	10		
Fluoride	mg/L	0.41	2.5	2.5	2.7	2.8	93	95	90-110	2	10		
Sulfate	mg/L	104	50	50	151	155	94	103	90-110	3	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162430 3162431

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521151008 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	37.7	50	50	89.5	88.8	104	102	90-110	1	10		
Fluoride	mg/L	0.15	2.5	2.5	2.7	2.6	102	97	90-110	5	10		
Sulfate	mg/L	67.5	50	50	112	113	89	90	90-110	1	10 M1		

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QUALITY CONTROL DATA

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

QC Batch: 600235 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521359007

METHOD BLANK: 3164171 Matrix: Water

Associated Lab Samples: 92521359007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/16/21 14:16	
Sulfate	mg/L	ND	1.0	0.50	02/16/21 14:16	

LABORATORY CONTROL SAMPLE: 3164172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164173 3164174

Parameter	Units	92522138001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Chloride	mg/L	11.0	50	50	59.9	60.4	98	99	90-110	1	10	
Sulfate	mg/L	9.1	50	50	59.2	59.7	100	101	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164175 3164176

Parameter	Units	92521578011 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Chloride	mg/L	1.1	50	50	50.5	51.1	99	100	90-110	1	10	
Sulfate	mg/L	7.9	50	50	58.2	58.7	101	102	90-110	1	10	

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QUALIFIERS

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

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.

WORKORDER QUALIFIERS

WO: 92521359

[1] The RSK-175 analyses for sample 22102230601, PMW-03 was performed 1 day outside of holding time. (Ruth Welsh 03/02/2021 07:44)

[1] The sample was received outside of holding time. The PM authorized the laboratory to proceed with the analyses. (Ruth Welsh 03/04/2021 16:18)

ANALYTE QUALIFIERS

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

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521359001	PMW-04				
92521359002	PMW-04/FILTERED				
92521359003	HGWC-18				
92521359005	TPZ-01				
92521359006	PMW-03				
92521359007	TPZ-02				
92521359001	PMW-04	RSK-175	704011		
92521359002	PMW-04/FILTERED	RSK-175	704011		
92521359003	HGWC-18	RSK-175	704011		
92521359004	DUP-3	RSK-175	704011		
92521359005	TPZ-01	RSK-175	704011		
92521359006	PMW-03	RSK-175	704752		
92521359007	TPZ-02	RSK-175	705314		
92521359001	PMW-04	EPA 3010A	600338	EPA 6010D	600407
92521359002	PMW-04/FILTERED	EPA 3010A	600338	EPA 6010D	600407
92521359003	HGWC-18	EPA 3010A	600338	EPA 6010D	600407
92521359004	DUP-3	EPA 3010A	600338	EPA 6010D	600407
92521359005	TPZ-01	EPA 3010A	600338	EPA 6010D	600407
92521359006	PMW-03	EPA 3010A	600338	EPA 6010D	600407
92521359007	TPZ-02	EPA 3010A	600338	EPA 6010D	600407
92521359001	PMW-04	EPA 3005A	599971	EPA 6020B	600018
92521359002	PMW-04/FILTERED	EPA 3005A	599971	EPA 6020B	600018
92521359003	HGWC-18	EPA 3005A	599971	EPA 6020B	600018
92521359004	DUP-3	EPA 3005A	599971	EPA 6020B	600018
92521359005	TPZ-01	EPA 3005A	599971	EPA 6020B	600018
92521359006	PMW-03	EPA 3005A	599971	EPA 6020B	600018
92521359007	TPZ-02	EPA 3005A	600602	EPA 6020B	600714
92521359001	PMW-04	SM 2450C-2011	599289		
92521359002	PMW-04/FILTERED	SM 2450C-2011	599289		
92521359001	PMW-04	SM 2320B-2011	600596		
92521359002	PMW-04/FILTERED	SM 2320B-2011	600596		
92521359003	HGWC-18	SM 2320B-2011	600890		
92521359004	DUP-3	SM 2320B-2011	600890		
92521359005	TPZ-01	SM 2320B-2011	600890		
92521359006	PMW-03	SM 2320B-2011	600890		
92521359007	TPZ-02	SM 2320B-2011	600890		
92521359006	PMW-03	SM 2540C-2011	600758		
92521359001	PMW-04	SM 4500-S2D-2011	599213		
92521359002	PMW-04/FILTERED	SM 4500-S2D-2011	599213		
92521359003	HGWC-18	SM 4500-S2D-2011	600173		
92521359004	DUP-3	SM 4500-S2D-2011	600173		
92521359005	TPZ-01	SM 4500-S2D-2011	600173		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND AP-2 NR

Pace Project No.: 92521359

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521359006	PMW-03	SM 4500-S2D-2011	600833		
92521359007	TPZ-02	SM 4500-S2D-2011	600833		
92521359001	PMW-04	EPA 300.0 Rev 2.1 1993	599257		
92521359002	PMW-04/FILTERED	EPA 300.0 Rev 2.1 1993	599257		
92521359003	HGWC-18	EPA 300.0 Rev 2.1 1993	599653		
92521359004	DUP-3	EPA 300.0 Rev 2.1 1993	599653		
92521359005	TPZ-01	EPA 300.0 Rev 2.1 1993	599653		
92521359006	PMW-03	EPA 300.0 Rev 2.1 1993	599863		
92521359007	TPZ-02	EPA 300.0 Rev 2.1 1993	600235		

REPORT OF LABORATORY ANALYSIS

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Document Name:
 Sample Condition Logon Form (P25018)
 Document No:
 4-048-03-033 Rev.07

Document Revised: October 18, 2025
 Page 3 of 3
 Issuing Authority:
 Tracy Carolyn-Gibbs, Director

Laboratory receiving samples:

Asheville Asheville Greenville Hendersonville Kalesville Mechanicsville Arden Knoxville

Sample ID: **230**
 Date: **10/20/25**

Client Name:

6. Alway
Alway

Project ID:

W0# : 92521359



Cover:
 Commercial

Dry Ice
 Ambient

Dry Ice
 Ambient

Open

Quarantine Present? Yes No

Seal or Lock? Yes No

Desired Lab Personnel performing Collection: **2/1/25**
Alway

Packing Method:

No. Ice packs

Active bags

None

Other

Biological Threat Potential:

Yes

No

Pending

Thermometer:

In Good

OK

Bad

None

Cooler Temp:

3.8°C

Correction Factor:
 400/36000/100

Type of Ice: **00**

Temp should be above freezing in 4°C

Remove out of cooler until a temperature of cooling element has begun

Cooler Temp Controlled (Yes):

USDA Regulated Cool? Yes, water sample

Did person originate in a quarantined zone within the United States (A-11 or 12 listed states)?

Did samples originate from a foreign source, international, or other state? Yes No

Yes No

Item	Yes	No	Other	Count
Chemical Spills (P25018)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3
Samples analyzed with hot liquid (P25018)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Seal Hold Time Analysis (P25018)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
Blank Turn Around Time Requirement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4
40 Micron Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Control Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
Space Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
Containers Insured?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7
Described analysis. Samples for collection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8
Sample Labels Match (P25018)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9
Includes Date/Time/ID/Label Match	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10
Handover in 15 MINUTE (P25018)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Pre-Label Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12
Log Label, Quoted to all Parties?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13

COMMUNITY/QUARANTINE OCCURRENCE?

Label Count Required? Yes No

Lot # of spill containers

Other information, as applicable

Signature

Project Manager SCUR Review

Date

Project Manager SRF Review

Date

LABORATORY REQUEST FORM

CHAIN-OF-CUSTODY / Analytical Request Document
 This form is to be used for all types of samples sent to the laboratory for analysis.

1 1 1

Lab No: A
 Requested item name: [Blank]
 Requested by: [Blank]
 Date: [Blank]
 Location: [Blank]
 Requested by: [Blank]
 Requested by: [Blank]

Request item name: [Blank]
 Requested by: [Blank]
 Date: [Blank]
 Location: [Blank]
 Requested by: [Blank]
 Requested by: [Blank]

ANALYST: [Blank]
 DATE: [Blank]

Sample #	Sample Description	Volume/Weight	Container	Collector	ANALYST	DATE	INITIALS	REMARKS
1	SAMPLE 10 [Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
2	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
3	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
4	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
5	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

ANALYST: [Blank]
 DATE: [Blank]
 LOCATION: [Blank]

LABORATORY USE ONLY

ANALYST: [Blank]	DATE: [Blank]
LOCATION: [Blank]	INITIALS: [Blank]

ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document
 This Documentation is a flow processor of information used to support analysis.

Page 1 of 1

Section A: Request Information

Requester: CH-133 Request ID: CH-133

Request Type: Substance Found in

Request Description: CH-133

Request Date: 11/11/2011

Requester Contact: CH-133

Section B: Requester Information

Requester Name: CH-133

Requester Address: CH-133

Requester Phone: CH-133

Requester Email: CH-133

Section C: Request Details

Request Description: CH-133

Request Date: 11/11/2011

Requester Contact: CH-133

Requester Address: CH-133

Requester Phone: CH-133

Requester Email: CH-133

Item #	Description	Quantity	Unit	Date	Time	Location	Requester Signature		Requester Title	Requester Address	Requester Phone	Requester Email
							Signature	Date				
1	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
2	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
3	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
4	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
5	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
6	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
7	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
8	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
9	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
10	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
11	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	
12	CH-133	1	unit	11/11/2011	12:00	CH-133	[Signature]	11/11/2011	CH-133	CH-133	CH-133	

Section D: Requester Information

Requester Name: CH-133

Requester Address: CH-133

Requester Phone: CH-133

Requester Email: CH-133

Section E: Request Details

Request Description: CH-133

Request Date: 11/11/2011

Requester Contact: CH-133

Requester Address: CH-133

Requester Phone: CH-133

Requester Email: CH-133

[Handwritten Signature]
 Date Analyzed: _____

CHAIN OF CUSTODY / Analytical Request Document
 This form is required for all forensic, biological, or chemical tests and is completed by the analyst.

Page 39 of 41

Requester Information:
 Requester Name: _____
 Requester Title: _____
 Requester Agency: _____

Request Details:
 Requested Test(s): _____
 Requested Date: _____

Sample Information:
 Sample ID: _____
 Sample Description: _____

Collection Information:
 Date Collected: _____
 Location: _____

Analysis Information:
 Analysis Type: _____
 Analysis Date: _____

Chain of Custody:
 Name: _____
 Title: _____
 Signature: _____
 Date: _____

Item #	Description	Quantity	Unit	Container	Analysis Type	Analysis Date	Analyst	Signature	Date
1	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
2	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
3	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
4	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
5	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
6	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
7	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
8	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
9	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
10	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
11	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
12	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
13	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
14	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
15	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
16	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
17	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
18	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
19	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011
20	MEAT	1	kg	1	Meat	1/16/2011	[Signature]	[Signature]	1/16/2011

APPROVALS:
 Requester Signature: _____
 Requester Title: _____
 Requester Agency: _____
 Date: _____

ANALYST SIGNATURE AND DATE:
 Analyst Signature: _____
 Analyst Title: _____
 Analyst Agency: _____
 Date: _____



CHAIN OF CUSTODY / Analytical Request Document

Page 2 of 2

Requester's Name: DA FROST	Requesting Agency: SEC SERVICES	Requester's Title: Special Agent in Charge	Requester's Agency: SECURITY DIVISION
Requester's Address: 1000 ...	Requester's Phone: ...	Requester's Email: ...	Requester's Fax: ...
Requester's Organization: ...	Requester's Division: ...	Requester's Office: ...	Requester's Contact: ...
Requester's Date: ...	Requester's Time: ...	Requester's Location: ...	Requester's Signature: ...

Item #	Description	Quantity	Unit	Date/Time	Location	Collector	Collector's Signature	Requester's Signature										
								Signature	Signature	Signature	Signature	Signature	Signature	Signature				
1
2
3
4
5
6
7
8
9
10

Requester's Signature: **...**

Requester's Title: **...**

Requester's Date: **...**

Requester's Location: **...**

Requester's Agency: **...**

Requester's Contact: **...**

Requester's Phone: **...**

Requester's Email: **...**

Requester's Fax: **...**

Requester's Signature: **...**

Requester's Title: **...**

Requester's Date: **...**

Requester's Location: **...**

Requester's Agency: **...**

Requester's Contact: **...**

Requester's Phone: **...**

Requester's Email: **...**

Requester's Fax: **...**

Handwritten signature
 [Illegible text]

CHAIN OF CUSTODY / Analytical Request Document
 This document is to be completed by the analyst or the analyst's supervisor.

Page 1 of 1

Section I: Analytical Request Information

Requester: [Illegible] Requested By: [Illegible]

Requester's Agency: [Illegible] Requested By's Agency: [Illegible]

Requester's Contact: [Illegible] Requested By's Contact: [Illegible]

Requester's Address: [Illegible] Requested By's Address: [Illegible]

Requester's Phone: [Illegible] Requested By's Phone: [Illegible]

Requester's Email: [Illegible] Requested By's Email: [Illegible]

Requester's Fax: [Illegible] Requested By's Fax: [Illegible]

Requester's Website: [Illegible] Requested By's Website: [Illegible]

Requester's Other: [Illegible] Requested By's Other: [Illegible]

Requester's Signature: [Illegible] Requested By's Signature: [Illegible]

Requester's Title: [Illegible] Requested By's Title: [Illegible]

Requester's Date: [Illegible] Requested By's Date: [Illegible]

Requester's Location: [Illegible] Requested By's Location: [Illegible]

Requester's State: [Illegible] Requested By's State: [Illegible]

Requester's Zip: [Illegible] Requested By's Zip: [Illegible]

Requester's Country: [Illegible] Requested By's Country: [Illegible]

Requester's Continent: [Illegible] Requested By's Continent: [Illegible]

Requester's Latitude: [Illegible] Requested By's Latitude: [Illegible]

Requester's Longitude: [Illegible] Requested By's Longitude: [Illegible]

Requester's Timezone: [Illegible] Requested By's Timezone: [Illegible]

Requester's Currency: [Illegible] Requested By's Currency: [Illegible]

Requester's Language: [Illegible] Requested By's Language: [Illegible]

Requester's Character Set: [Illegible] Requested By's Character Set: [Illegible]

Requester's Encoding: [Illegible] Requested By's Encoding: [Illegible]

Requester's Compression: [Illegible] Requested By's Compression: [Illegible]

Requester's Decompression: [Illegible] Requested By's Decompression: [Illegible]

Requester's Encryption: [Illegible] Requested By's Encryption: [Illegible]

Requester's Decryption: [Illegible] Requested By's Decryption: [Illegible]

Requester's Hashing: [Illegible] Requested By's Hashing: [Illegible]

Requester's Signature Verification: [Illegible] Requested By's Signature Verification: [Illegible]

Requester's Certificate Validation: [Illegible] Requested By's Certificate Validation: [Illegible]

Requester's Public Key Retrieval: [Illegible] Requested By's Public Key Retrieval: [Illegible]

Requester's Private Key Retrieval: [Illegible] Requested By's Private Key Retrieval: [Illegible]

Requester's Key Pair Generation: [Illegible] Requested By's Key Pair Generation: [Illegible]

Requester's Key Exchange: [Illegible] Requested By's Key Exchange: [Illegible]

Requester's Key Distribution: [Illegible] Requested By's Key Distribution: [Illegible]

Requester's Key Management: [Illegible] Requested By's Key Management: [Illegible]

Requester's Key Rotation: [Illegible] Requested By's Key Rotation: [Illegible]

Requester's Key Revocation: [Illegible] Requested By's Key Revocation: [Illegible]

Requester's Key Archiving: [Illegible] Requested By's Key Archiving: [Illegible]

Requester's Key Backup: [Illegible] Requested By's Key Backup: [Illegible]

Requester's Key Restore: [Illegible] Requested By's Key Restore: [Illegible]

Requester's Key Recovery: [Illegible] Requested By's Key Recovery: [Illegible]

Requester's Key Destruction: [Illegible] Requested By's Key Destruction: [Illegible]

Sample ID	Sample Description	Sample Quantity	Sample Location		Sample Date	Sample Time	Sample Status	Sample Notes	Sample Analysis				Sample Results	Sample Comments	
			Sample ID	Sample Description					Sample Quantity	Sample Location	Sample Date	Sample Time			Sample Status	Sample Notes
1	Sample 1	100g	100g	100g	100g	100g	100g	100g	100g	100g	100g	100g	100g	100g	100g
2	Sample 2	200g	200g	200g	200g	200g	200g	200g	200g	200g	200g	200g	200g	200g	200g
3	Sample 3	300g	300g	300g	300g	300g	300g	300g	300g	300g	300g	300g	300g	300g	300g
4	Sample 4	400g	400g	400g	400g	400g	400g	400g	400g	400g	400g	400g	400g	400g	400g
5	Sample 5	500g	500g	500g	500g	500g	500g	500g	500g	500g	500g	500g	500g	500g	500g
6	Sample 6	600g	600g	600g	600g	600g	600g	600g	600g	600g	600g	600g	600g	600g	600g
7	Sample 7	700g	700g	700g	700g	700g	700g	700g	700g	700g	700g	700g	700g	700g	700g
8	Sample 8	800g	800g	800g	800g	800g	800g	800g	800g	800g	800g	800g	800g	800g	800g
9	Sample 9	900g	900g	900g	900g	900g	900g	900g	900g	900g	900g	900g	900g	900g	900g
10	Sample 10	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g

Section II: Laboratory Information

Laboratory Name: [Illegible]

Laboratory Address: [Illegible]

Laboratory Phone: [Illegible]

Laboratory Fax: [Illegible]

Laboratory Website: [Illegible]

Laboratory Email: [Illegible]

Laboratory Other: [Illegible]

Laboratory Signature: [Illegible]

Laboratory Title: [Illegible]

Laboratory Date: [Illegible]

Laboratory Location: [Illegible]

Laboratory State: [Illegible]

Laboratory Zip: [Illegible]

Laboratory Country: [Illegible]

Laboratory Continent: [Illegible]

Laboratory Latitude: [Illegible]

Laboratory Longitude: [Illegible]

Laboratory Timezone: [Illegible]

Laboratory Currency: [Illegible]

Laboratory Language: [Illegible]

Laboratory Character Set: [Illegible]

Laboratory Encoding: [Illegible]

Laboratory Compression: [Illegible]

Laboratory Decompression: [Illegible]

Laboratory Encryption: [Illegible]

Laboratory Decryption: [Illegible]

Laboratory Hashing: [Illegible]

Laboratory Signature Verification: [Illegible]

Laboratory Certificate Validation: [Illegible]

Laboratory Public Key Retrieval: [Illegible]

Laboratory Private Key Retrieval: [Illegible]

Laboratory Key Pair Generation: [Illegible]

Laboratory Key Exchange: [Illegible]

Laboratory Key Distribution: [Illegible]

Laboratory Key Management: [Illegible]

Laboratory Key Rotation: [Illegible]

Laboratory Key Revocation: [Illegible]

Laboratory Key Archiving: [Illegible]

Laboratory Key Backup: [Illegible]

Laboratory Key Restore: [Illegible]

Laboratory Key Recovery: [Illegible]

Laboratory Key Destruction: [Illegible]

Time Series Analytical Data

June 14, 2016

Joju Abraham
Southern Company Services
Earth Sciences & Env Eng
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Workorder: 103584 CCR - Hammond AP

Dear Joju Abraham:

The Environmental Laboratory has completed the analysis of your samples and reports the results on the attached pages. Our laboratory maintains current NELAC accreditation for those analytes listed under the scope of accreditation. Analytes not listed in this scope are currently not maintained under an accreditation program. The analytes of this report that are listed under our NELAC scope of accreditation meet all requirements of the NELAC standards, unless otherwise noted by data qualifiers. Internal clients can view the scope and effective dates of our accreditation at:

<http://environmental.southernco.com/gpc/environmental-lab/chem.html>

External clients can receive a copy of our scope of accreditation by contacting the laboratory.

All results relate only to the contents of the samples submitted. Samples will be disposed of after 30 days unless otherwise instructed. This report should only be reproduced in full with all associated records. This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

If you have any questions or comments, contact your Program Manager:

L. Bidy

lbbiddy@southernco.com

(404) 799-2132 / 8-530-2132

Respectfully submitted,



R. S. Dickerson
rsdicker@southernco.com
QA/QC Specialist

Report ID: 103584 - 5039789
GPC Report Page 1 of 15

CERTIFICATE OF ANALYSIS

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SAMPLE SUMMARY

Workorder: 103584 CCR - Hammond AP

Lab ID	Sample ID	Analysis Request Number	Matrix	Date Collected	Date Received
103584001	HGWC-18	N/A	Water	5/24/2016 10:24	5/24/2016 15:35

Report ID: 103584 - 5039789
GPC Report Page 2 of 15

CERTIFICATE OF ANALYSIS

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ANALYTICAL RESULTS

Workorder: 103584 CCR - Hammond AP

Lab ID:	103584001	Date Received:	5/24/2016 15:35
Sample ID:	HGWC-18	Date Collected:	5/24/2016 10:24
Sample Description	Hammond AP GW	Matrix:	Water
Location	Hammond AP		

Parameters	Results	Units	MDL	RL	Prepared	By	Analyzed	By	Qual
Analysis Desc: EPA 6010D		Preparation Method: EPA 3005A							
		Analytical Method: EPA 6010D							
INORGANICS					5/31/2016 10:30	KLW	6/7/2016 13:03	MRP	
Calcium	403	mg/L	2.00	10.0	5/31/2016 10:30	KLW	6/7/2016 13:03	MRP	
Analysis Desc: EPA 6020B		Preparation Method: EPA 3005A							
		Analytical Method: EPA 6020B							
TOTAL METALS					5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Analysis Desc: EPA 7470A		Preparation Method: EPA 7470A							
		Analytical Method: EPA 7470A							
Mercury	<0.000500	mg/L	0.000250	0.000500	5/31/2016 06:22	WCM	5/31/2016 12:52	WCM	
Analysis Desc: EPA 6020B		Preparation Method: EPA 3005A							
		Analytical Method: EPA 6020B							
Lithium	0.0142J	mg/L	0.0100	0.0500	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Beryllium	0.00278J	mg/L	0.000600	0.00300	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Boron	9.33	mg/L	0.400	2.00	5/31/2016 10:45	KLW	6/6/2016 12:05	ELS	
Chromium	<0.0100	mg/L	0.00200	0.0100	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Cobalt	0.170J	mg/L	0.0400	0.200	5/31/2016 10:45	KLW	6/6/2016 12:05	ELS	
Arsenic	0.00294J	mg/L	0.00100	0.00500	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Selenium	<0.200	mg/L	0.0400	0.200	5/31/2016 10:45	KLW	6/6/2016 12:05	ELS	
Molybdenum	<0.0100	mg/L	0.00200	0.0100	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Cadmium	<0.0200	mg/L	0.00200	0.0200	5/31/2016 10:45	KLW	6/6/2016 12:05	ELS	
Antimony	<0.00300	mg/L	0.000600	0.00300	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Barium	<0.200	mg/L	0.0400	0.200	5/31/2016 10:45	KLW	6/6/2016 12:05	ELS	
Thallium	<0.00100	mg/L	0.000200	0.00100	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Lead	0.00154J	mg/L	0.00100	0.00500	5/31/2016 10:45	KLW	6/4/2016 13:00	ELS	
Analysis Desc: EPA 300		Analytical Method: EPA 300							
TOTAL NUTRIENTS							6/7/2016 09:54	LBB	
Sulfate	834	mg/L	60.0	200			6/9/2016 00:52	LBB	
Chloride	280	mg/L	8.00	50.0			6/9/2016 00:52	LBB	
Fluoride	<0.3000	mg/L	0.0100	0.3000			6/7/2016 09:54	LBB	
Analysis Desc: SM 2540C		Analytical Method: SM 2540C							
WET CHEMISTRY							5/26/2016 17:40	KLW	

Report ID: 103584 - 5039789
 GPC Report Page 3 of 15

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ANALYTICAL RESULTS

Workorder: 103584 CCR - Hammond AP

Lab ID:	103584001	Date Received:	5/24/2016 15:35
Sample ID:	HGWC-18	Date Collected:	5/24/2016 10:24
Sample Description	Hammond AP GW	Matrix:	Water
Location	Hammond AP		

Parameters	Results	Units	MDL	RL	Prepared	By	Analyzed	By	Qual
TDS	1900	mg/L	25	25			5/26/2016 17:40	KLW	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: 103584 CCR - Hammond AP

PARAMETER QUALIFIERS

ND	None detected at the laboratory Method Detection Limit
MDL	Method Detection Limit
RL	Reporting Limit
J	The reported value is between the laboratory method detection limit and the laboratory reporting limit

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

QC Batch:	IC/3037	Analysis Method:		EPA 300		
QC Batch Method:	EPA 300					
Associated Lab Samples:	103563003	103563004	103563005	103563006	103563007	103563008
	103563009	103563010	103563011	103563012	103563013	103563014
	103584001					

METHOD BLANK: 106396

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Fluoride	mg/L	<0.3000	0.3000	

METHOD BLANK: 106754

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chloride	mg/L	<0.2500	0.2500	
Sulfate	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.3000	0.3000	

LABORATORY CONTROL SAMPLE: 106389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	6.83	6.70	98	90-110	

LABORATORY CONTROL SAMPLE: 106397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	0.5	0.5194	104	90-110	

LABORATORY CONTROL SAMPLE: 106755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	0.5	0.4766	95.3	90-110	
Sulfate	mg/L	5	4.90	98	90-110	
Fluoride	mg/L	0.5	0.5231	105	90-110	

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

LABORATORY CONTROL SAMPLE: 106757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	11.3	11.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 106400 106404 Original: 103563013

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0	1	1.06	1.05	106	105	90-110	0.95	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 106405 106406 Original: 103563013

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Sulfate	mg/L	395	1000	1400	1400	100	101	90-110	1	10	

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

QC Batch: GRAV/2879 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C
 Associated Lab Samples: 103584001

METHOD BLANK: 106503

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
TDS	mg/L	<25	25	

LABORATORY CONTROL SAMPLE: 106506

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
TDS	mg/L	241	236	97.9	90-110	

SAMPLE DUPLICATE: 106504 Original: 103561002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
TDS	mg/L	32	29	9.8	20	

SAMPLE DUPLICATE: 106505 Original: 103621008

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
TDS	mg/L	196	183	6.9	20	

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

QC Batch: HGPR/1663 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A
 Associated Lab Samples: 103563010 103563011 103563012 103563013 103563014 103584001

METHOD BLANK: 106537

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
TOTAL METALS				
Mercury	mg/L	<0.000500	0.000500	

LABORATORY CONTROL SAMPLE: 106533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TOTAL METALS						
Mercury	mg/L	0.0122	0.0126	103	80-120	

LABORATORY CONTROL SAMPLE: 106538

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
TOTAL METALS						
Mercury	mg/L	0.002	0.00209	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 106539 106540 Original: 103567006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TOTAL METALS											
Mercury	mg/L	9.1e-006	0.002	0.00205	0.00213	102	106	80-120	3.8	20	

SAMPLE DUPLICATE: 106536 Original: 103567002

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
TOTAL METALS						
Mercury	mg/L	<0.000500	<0.000500	0	20	

Report ID: 103584 - 5039789
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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

SAMPLE DUPLICATE: 106541

Original: 103584001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD Qualifiers
TOTAL METALS					
Mercury	mg/L	<0.000500	<0.000500	2.1	20

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

QC Batch: DIGM/4336 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3005A
 Associated Lab Samples: 103584001

METHOD BLANK: 106558

Parameter	Units	Blank Result	Reporting Limit Qualifiers
INORGANICS			
Calcium	mg/L	<0.500	0.500

LABORATORY CONTROL SAMPLE: 106559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
INORGANICS					
Calcium	mg/L	5	5.03	101	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 106560 106561 Original: 103621002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
INORGANICS											
Calcium	mg/L	13	5	18.0	17.6	101	92.3	75-125	9	20	

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

QC Batch: DIGM/4337 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A
 Associated Lab Samples: 103584001

METHOD BLANK: 106562

Parameter	Units	Blank Result	Reporting Limit Qualifiers
TOTAL METALS			
Lithium	mg/L	<0.0500	0.0500
Beryllium	mg/L	<0.00300	0.00300
Boron	mg/L	<0.100	0.100
Chromium	mg/L	<0.0100	0.0100
Cobalt	mg/L	<0.0100	0.0100
Arsenic	mg/L	<0.00500	0.00500
Selenium	mg/L	<0.0100	0.0100
Molybdenum	mg/L	<0.0100	0.0100
Cadmium	mg/L	<0.00100	0.00100
Antimony	mg/L	<0.00300	0.00300
Barium	mg/L	<0.0100	0.0100
Thallium	mg/L	<0.00100	0.00100
Lead	mg/L	<0.00500	0.00500

LABORATORY CONTROL SAMPLE: 106563

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits Qualifiers
TOTAL METALS					
Lithium	mg/L	0.2	0.199	99.4	80-120
Beryllium	mg/L	0.1	0.0964	96.4	80-120
Boron	mg/L	0.3	0.296	98.6	80-120
Chromium	mg/L	0.1	0.0971	97.1	80-120
Cobalt	mg/L	0.1	0.100	100	80-120
Arsenic	mg/L	0.1	0.0918	91.8	80-120
Selenium	mg/L	0.1	0.0897	89.7	80-120
Molybdenum	mg/L	0.1	0.0938	93.8	80-120
Cadmium	mg/L	0.1	0.0986	98.6	80-120
Antimony	mg/L	0.1	0.0937	93.7	80-120
Barium	mg/L	0.1	0.101	101	80-120
Thallium	mg/L	0.1	0.0967	96.7	80-120
Lead	mg/L	0.1	0.0951	95.1	80-120

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QUALITY CONTROL DATA

Workorder: 103584 CCR - Hammond AP

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 106564 106565 Original: 103567005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
TOTAL METALS											
Lithium	mg/L	0.021	0.2	0.214	0.215	96.4	97.1	75-125	0.72	20	
Beryllium	mg/L	0.00038	0.1	0.0955	0.0951	95.1	94.7	75-125	0.42	20	
Boron	mg/L	0.0035	0.3	0.295	0.297	97	97.9	75-125	0.92	20	
Chromium	mg/L	0.00051	0.1	0.102	0.103	102	102	75-125	0	20	
Cobalt	mg/L	3.1e-005	0.1	0.102	0.101	102	101	75-125	0.99	20	
Arsenic	mg/L	6e-005	0.1	0.0992	0.100	99.1	100	75-125	0.9	20	
Selenium	mg/L	0.00028	0.1	0.0994	0.0994	99.1	99.1	75-125	0	20	
Molybdenum	mg/L	0.0085	0.1	0.110	0.112	102	103	75-125	0.98	20	
Cadmium	mg/L	6.8e-005	0.1	0.101	0.101	100	101	75-125	1	20	
Antimony	mg/L	0.00103	0.1	0.102	0.102	101	101	75-125	0	20	
Barium	mg/L	0.00102	0.1	0.106	0.107	105	106	75-125	0.95	20	
Thallium	mg/L	8e-006	0.1	0.0976	0.0978	97.6	97.8	75-125	0.2	20	
Lead	mg/L	6.7e-005	0.1	0.0978	0.0984	97.7	98.3	75-125	0.61	20	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 103584 CCR - Hammond AP

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
103584001	HGWC-18	EPA 300	IC/3037		
103584001	HGWC-18	SM 2540C	GRAV/2879		
103584001	HGWC-18	EPA 7470A	HGPR/1663	EPA 7470A	CVAA/1848
103584001	HGWC-18	EPA 3005A	DIGM/4336	EPA 6010D	ICP/5024
103584001	HGWC-18	EPA 3005A	DIGM/4337	EPA 6020B	ICPM/1080

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LABORATORY CERTIFICATIONS

Workorder: 103584 CCR - Hammond AP

Certification Program	Certification Number
NELAC	E57554

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**ANALYSIS REQUEST AND
CHAIN OF CUSTODY RECORD**

Georgia Power Environmental Laboratory
 2480 Manner Road, Box 20110
 Atlanta, Georgia 30328
 Phone: (404) 799-2100
 Company: 8-620-2100

Work Order No. 103584
 Reviewed By: AMY SMITH

LAB USE ONLY

Page 1 of 1
 Standard Turnaround Time
 # of Business Days (Days)
 (Must be entered through this Lab order assignment)

Company: Seachurn Company Services
 Report to: John Atkinson
 Address: 291 Ralph McGill Blvd SE, Bldg 802
Atlanta, GA 30338
 Phone/Fax: 404-504-7237
 Contact: John Atkinson
 Project/Location: Plant Howard
 Account Number:
 Special Instructions: Howard AP CER

Sample Shipment Date: 5-24-2016
 Sample Received Date: 5/26/16 @ 11:35
 Sampled By: Raykin Payne (APR)
 Sample Received By: APR Payne
 Authorization: Additional analysis will be allowed, acceptable by customer unless stated otherwise.

LAB USE ONLY

Sample Type: _____
 Matrix: _____
 No. of Containers: _____

LAB USE ONLY LAB ID	Sample Number ¹⁾	Collection ¹⁾		Sample Description ¹⁾	PRESERVATIVE ²⁾		ANALYSIS REQUESTED ²⁾		Preparative Lab ³⁾	LAB USE ONLY # Comments
		Date	Time		1)	2)	1)	2)		
103584001	HGLC-1B	5/24/16	10:24	Howard AP CER	U	W	TS (S) 200	TS (S) 200	APR Payne	TS (S) 200

LAB USE ONLY: Sample Receipt Information #
 5-26-16 (APR Payne) with trace; can bring good. Conditions as said APRL. Hand.

Sample Receipt Checklist



Client: Hammond # of Samples: 1
 Workorder No.: 103584 Tracking No:
 Carrier: HAND

Question	Answer	Comment
Radioactivity wasn't checked or is $\lt; 10$ background as measured by a survey meter	True	
Custody seals were present on cooler	False	
Custody seals were present on sample	False	
The cooler or samples do not appear to have been compromised or tampered with	True	
Samples were received on ice	True	
Cooler temperature is acceptable	True	
Cooler temperature is recorded	True	1
COC is present	True	
COC is filled out in ink and is legible	True	
COC is filled out with pertinent information	True	
The field sampler's name is on the COC	True	
Sample containers have legible labels	True	
Information on the sample label agrees with information on the COC	True	
Samples are received within holding times	True	
Containers are not broken or leaking	True	
Sample collection date/times are present	True	
Appropriate sample containers are used	True	
Sample bottles are completely filled	True	
Sample preservation is checked	True	
Sample preservation is acceptable	True	
There is sufficient sample volume for all requested analyses	True	
Containers requiring zero headspace have no headspace or the bubble is $\lt; 6\text{mm}$ (1/4 inch)	True	
Multiphasic samples are not present	True	
Samples do not require splitting or compositing	True	

Receiving Narrative:

No non-conformance noted.



PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AZG0286

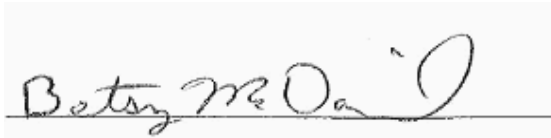
July 20, 2016

Project: CCR Event

Project #:Plant Hammond

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

Approved:


Project Manager

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All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FB-1	AZG0286-01	DI Water	07/12/16 14:00	07/13/16 08:15
FB-2	AZG0286-02	DI Water	07/12/16 14:15	07/13/16 08:15
HGWA-3	AZG0286-03	Ground Water	07/12/16 09:24	07/13/16 08:15
HGWC-14	AZG0286-04	Ground Water	07/12/16 13:55	07/13/16 08:15
HGWC-7	AZG0286-05	Ground Water	07/12/16 10:20	07/13/16 08:15
HGWC-16	AZG0286-06	Ground Water	07/12/16 14:30	07/13/16 08:15
HGWC-13	AZG0286-07	Ground Water	07/12/16 12:20	07/13/16 08:15
HGWC-8	AZG0286-08	Ground Water	07/12/16 10:40	07/13/16 08:15
HGWC-15	AZG0286-09	Ground Water	07/12/16 12:35	07/13/16 08:15
HGWC-10	AZG0286-10	Ground Water	07/12/16 11:21	07/13/16 08:15
Dup-2	AZG0286-11	Ground Water	07/12/16 00:00	07/13/16 08:15
FERB-2	AZG0286-12	DI Water	07/12/16 16:00	07/13/16 08:15
FERB-1	AZG0286-13	DI Water	07/12/16 15:50	07/13/16 08:15
HGWC-9	AZG0286-14	Ground Water	07/12/16 10:05	07/13/16 08:15
Dup-1	AZG0286-15	Ground Water	07/12/16 00:00	07/13/16 08:15
HGWC-11	AZG0286-16	Ground Water	07/12/16 11:35	07/13/16 08:15
HGWC-12	AZG0286-17	Ground Water	07/12/16 12:30	07/13/16 08:15
HGWC-17	AZG0286-18	Ground Water	07/12/16 15:04	07/13/16 08:15
HGWC-18	AZG0286-19	Ground Water	07/12/16 15:21	07/13/16 08:15



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: FB-1

Lab Number ID: AZG0286-01

Date/Time Sampled: 7/12/2016 2:00:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	0.05	0.25	0.01	mg/L	EPA 300.0	J, B-01	1	07/15/16 09:38	07/15/16 13:23	6070333	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 13:23	6070333	RLC
Sulfate	0.08	1.0	0.05	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 13:23	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Boron	ND	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Calcium	ND	0.500	0.0126	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:01	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:35	6070275	CSW



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: FB-2

Lab Number ID: AZG0286-02

Date/Time Sampled: 7/12/2016 2:15:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	0.08	0.25	0.01	mg/L	EPA 300.0	J, B-01	1	07/15/16 09:38	07/15/16 13:44	6070333	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 13:44	6070333	RLC
Sulfate	0.08	1.0	0.05	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 13:44	6070333	RLC
Metals, Total											
Antimony	0.0008	0.0030	0.0002	mg/L	EPA 6020B	J, B-01	1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Boron	ND	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Calcium	ND	0.500	0.0126	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Thallium	0.00008	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:31	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:49	6070275	CSW



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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWA-3

Lab Number ID: AZG0286-03

Date/Time Sampled: 7/12/2016 9:24:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	249	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	6.2	0.25	0.01	mg/L	EPA 300.0	B-01	1	07/15/16 09:38	07/15/16 14:05	6070333	RLC
Fluoride	0.12	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 14:05	6070333	RLC
Sulfate	44	1.0	0.05	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 14:05	6070333	RLC
Metals, Total											
Antimony	0.0003	0.0030	0.0002	mg/L	EPA 6020B	J, B-01	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Arsenic	0.0008	0.0050	0.0007	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Barium	0.115	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Boron	0.0074	0.100	0.0044	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Calcium	61.5	5.00	0.126	mg/L	EPA 6020B		10	07/14/16 09:00	07/18/16 13:00	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Lead	0.0001	0.0050	0.00008	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Lithium	0.0024	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:37	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:51	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-14

Lab Number ID: AZG0286-04

Date/Time Sampled: 7/12/2016 1:55:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	3140	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	620	5.0	0.28	mg/L	EPA 300.0	B-01	20	07/15/16 09:38	07/19/16 19:54	6070333	RLC
Fluoride	0.20	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 15:07	6070333	RLC
Sulfate	1300	50	2.6	mg/L	EPA 300.0		50	07/15/16 09:38	07/20/16 02:06	6070333	RLC
Metals, Total											
Antimony	0.0003	0.0030	0.0002	mg/L	EPA 6020B	B-01, J	1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Arsenic	0.0059	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Barium	0.0214	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Beryllium	0.0005	0.0030	0.00009	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Boron	16.0	1.00	0.0441	mg/L	EPA 6020B		10	07/14/16 09:00	07/18/16 13:11	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Calcium	528	50.0	1.26	mg/L	EPA 6020B		100	07/14/16 09:00	07/18/16 13:06	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Cobalt	0.0232	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Lead	0.0015	0.0050	0.00008	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Selenium	0.0146	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Thallium	0.0003	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:43	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:53	6070275	CSW



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-7

Lab Number ID: AZG0286-05

Date/Time Sampled: 7/12/2016 10:20:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	410	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	50	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/19/16 20:15	6070333	RLC
Fluoride	0.20	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 15:27	6070333	RLC
Sulfate	100	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/19/16 20:15	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Barium	0.0731	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Boron	0.857	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Calcium	88.8	5.00	0.126	mg/L	EPA 6020B		10	07/14/16 09:00	07/18/16 13:17	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Cobalt	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Molybdenum	0.0273	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Lithium	0.0021	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:49	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:56	6070275	CSW



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-16

Lab Number ID: AZG0286-06

Date/Time Sampled: 7/12/2016 2:30:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	585	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	34	0.25	0.01	mg/L	EPA 300.0	B-01	1	07/15/16 09:38	07/15/16 15:48	6070333	RLC
Fluoride	0.26	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 15:48	6070333	RLC
Sulfate	220	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/19/16 20:35	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Barium	0.0886	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Boron	1.62	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Calcium	142	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 13:23	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Lithium	0.0037	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 14:54	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 15:58	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-13

Lab Number ID: AZG0286-07

Date/Time Sampled: 7/12/2016 12:20:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	563	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	78	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/19/16 20:56	6070333	RLC
Fluoride	0.53	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 16:09	6070333	RLC
Sulfate	210	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/19/16 20:56	6070333	RLC
Metals, Total											
Antimony	0.0003	0.0030	0.0002	mg/L	EPA 6020B	B-01, J	1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Arsenic	0.297	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Barium	0.0697	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Boron	1.91	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Calcium	101	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 13:40	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Cobalt	0.0032	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Molybdenum	0.0316	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Thallium	0.0004	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Lithium	0.0366	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:00	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:00	6070275	CSW



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-8

Lab Number ID: AZG0286-08

Date/Time Sampled: 7/12/2016 10:40:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	704	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	110	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/19/16 21:17	6070333	RLC
Fluoride	0.67	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 16:29	6070333	RLC
Sulfate	230	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/19/16 21:17	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Barium	0.0830	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Boron	1.43	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Cadmium	0.0002	0.0010	0.0001	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Calcium	127	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 13:46	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Cobalt	0.0019	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Molybdenum	0.455	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Thallium	0.00007	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Lithium	0.0023	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:06	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:03	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-15

Lab Number ID: AZG0286-09

Date/Time Sampled: 7/12/2016 12:35:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1100	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	190	5.0	0.28	mg/L	EPA 300.0	B-01	20	07/15/16 09:38	07/19/16 23:00	6070333	RLC
Fluoride	0.09	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 18:13	6070333	RLC
Sulfate	440	20	1.0	mg/L	EPA 300.0		20	07/15/16 09:38	07/19/16 23:00	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Barium	0.0372	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Boron	1.65	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Cadmium	0.0019	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Calcium	186	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 13:52	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Cobalt	0.0393	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Molybdenum	0.0007	0.0100	0.0005	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:12	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:05	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-10

Lab Number ID: AZG0286-10

Date/Time Sampled: 7/12/2016 11:21:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	661	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	63	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/19/16 23:20	6070333	RLC
Fluoride	0.15	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 18:33	6070333	RLC
Sulfate	190	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/19/16 23:20	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Barium	0.0926	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Boron	0.778	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Calcium	143	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 13:58	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Cobalt	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Molybdenum	0.0013	0.0100	0.0005	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:17	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:07	6070275	CSW



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: Dup-2

Lab Number ID: AZG0286-11

Date/Time Sampled: 7/12/2016 12:00:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1190	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	240	5.0	0.28	mg/L	EPA 300.0	B-01	20	07/15/16 09:38	07/19/16 23:41	6070333	RLC
Fluoride	0.05	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 18:54	6070333	RLC
Sulfate	510	20	1.0	mg/L	EPA 300.0		20	07/15/16 09:38	07/19/16 23:41	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Barium	0.0398	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Boron	1.65	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Cadmium	0.0018	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Calcium	197	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 14:03	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Cobalt	0.0394	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:23	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:10	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AZG0286-12

Date/Time Sampled: 7/12/2016 4:00:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	0.88	0.25	0.01	mg/L	EPA 300.0	B-01	1	07/15/16 09:38	07/15/16 19:15	6070333	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 19:15	6070333	RLC
Sulfate	2.0	1.0	0.05	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 19:15	6070333	RLC
Metals, Total											
Antimony	0.0007	0.0030	0.0002	mg/L	EPA 6020B	B-01, J	1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Boron	ND	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Calcium	ND	0.500	0.0126	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Thallium	0.00007	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 15:57	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:18	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: FERB-1

Lab Number ID: AZG0286-13

Date/Time Sampled: 7/12/2016 3:50:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	0.02	0.25	0.01	mg/L	EPA 300.0	B-01, J	1	07/15/16 09:38	07/15/16 19:35	6070333	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 19:35	6070333	RLC
Sulfate	0.11	1.0	0.05	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 19:35	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Barium	0.0013	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Boron	ND	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Calcium	0.285	0.500	0.0126	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Cobalt	ND	0.0100	0.0003	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:02	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:20	6070275	CSW



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Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-9

Lab Number ID: AZG0286-14

Date/Time Sampled: 7/12/2016 10:05:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	887	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	160	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/20/16 00:02	6070333	RLC
Fluoride	0.24	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 19:56	6070333	RLC
Sulfate	230	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/20/16 00:02	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Barium	0.130	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Boron	1.56	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Calcium	174	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 14:09	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Cobalt	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Molybdenum	0.0229	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Lithium	0.0040	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:08	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:22	6070275	CSW



PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: Dup-1

Lab Number ID: AZG0286-15

Date/Time Sampled: 7/12/2016 12:00:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	897	25	10	mg/L	SM 2540 C		1	07/14/16 13:05	07/14/16 13:05	6070304	JPT
Inorganic Anions											
Chloride	71	1.2	0.07	mg/L	EPA 300.0	B-01	5	07/15/16 09:38	07/20/16 00:22	6070333	RLC
Fluoride	0.17	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 20:17	6070333	RLC
Sulfate	100	5.0	0.26	mg/L	EPA 300.0		5	07/15/16 09:38	07/20/16 00:22	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Barium	0.130	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Boron	1.58	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Calcium	167	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 14:15	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Cobalt	0.0006	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Molybdenum	0.0223	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Thallium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Lithium	0.0041	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:14	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:25	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-11

Lab Number ID: AZG0286-16

Date/Time Sampled: 7/12/2016 11:35:00AM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	627	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	100	2.5	0.14	mg/L	EPA 300.0	B-01	10	07/15/16 09:38	07/20/16 00:43	6070333	RLC
Fluoride	0.44	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 20:37	6070333	RLC
Sulfate	390	10	0.51	mg/L	EPA 300.0		10	07/15/16 09:38	07/20/16 00:43	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Arsenic	0.0015	0.0050	0.0007	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Barium	0.0616	0.0100	0.0003	mg/L	EPA 6020B	B-01	1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Boron	1.17	0.100	0.0044	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Calcium	124	25.0	0.628	mg/L	EPA 6020B		50	07/14/16 09:00	07/18/16 14:20	6070274	CSW
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Cobalt	0.0021	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Molybdenum	0.0251	0.0100	0.0005	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Selenium	0.0057	0.0100	0.0009	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Thallium	0.00008	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/14/16 09:00	07/15/16 16:19	6070274	CSW
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/15/16 08:50	07/15/16 16:27	6070275	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-12

Lab Number ID: AZG0286-17

Date/Time Sampled: 7/12/2016 12:30:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	909	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	160	2.5	0.14	mg/L	EPA 300.0	B-01	10	07/15/16 09:38	07/20/16 01:04	6070333	RLC
Fluoride	0.31	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 20:58	6070333	RLC
Sulfate	320	10	0.51	mg/L	EPA 300.0		10	07/15/16 09:38	07/20/16 01:04	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Arsenic	0.0050	0.0050	0.0007	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Barium	0.135	0.0100	0.0003	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Boron	1.98	0.100	0.0044	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Calcium	181	25.0	0.628	mg/L	EPA 6020B		50	07/15/16 07:55	07/18/16 17:25	6070320	KLH
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Cobalt	0.0018	0.0100	0.0003	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Molybdenum	0.0484	0.0100	0.0005	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Thallium	0.0002	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Lithium	0.0113	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:20	6070320	KLH
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/18/16 11:30	07/18/16 16:52	6070347	CSW



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-17

Lab Number ID: AZG0286-18

Date/Time Sampled: 7/12/2016 3:04:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	976	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	100	2.5	0.14	mg/L	EPA 300.0	B-01	10	07/15/16 09:38	07/20/16 01:24	6070333	RLC
Fluoride	0.09	0.30	0.02	mg/L	EPA 300.0	J	1	07/15/16 09:38	07/15/16 21:19	6070333	RLC
Sulfate	460	10	0.51	mg/L	EPA 300.0		10	07/15/16 09:38	07/20/16 01:24	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Arsenic	ND	0.0050	0.0007	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Barium	0.0221	0.0100	0.0003	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Beryllium	ND	0.0030	0.00009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Boron	9.58	1.00	0.0441	mg/L	EPA 6020B		10	07/15/16 07:55	07/18/16 17:37	6070320	KLH
Cadmium	ND	0.0010	0.0001	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Calcium	199	25.0	0.628	mg/L	EPA 6020B		50	07/15/16 07:55	07/18/16 17:31	6070320	KLH
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Cobalt	0.0148	0.0100	0.0003	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Lead	ND	0.0050	0.00008	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Selenium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Thallium	0.0001	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Lithium	ND	0.0500	0.0012	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:26	6070320	KLH
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/18/16 11:30	07/18/16 17:00	6070347	CSW



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AZG0286-19

Date/Time Sampled: 7/12/2016 3:21:00PM

Date/Time Received: 7/13/2016 8:15:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1950	25	10	mg/L	SM 2540 C		1	07/15/16 13:50	07/15/16 13:50	6070339	JPT
Inorganic Anions											
Chloride	300	5.0	0.28	mg/L	EPA 300.0	B-01	20	07/15/16 09:38	07/20/16 01:45	6070333	RLC
Fluoride	0.54	0.30	0.02	mg/L	EPA 300.0		1	07/15/16 09:38	07/15/16 23:23	6070333	RLC
Sulfate	930	20	1.0	mg/L	EPA 300.0		20	07/15/16 09:38	07/20/16 01:45	6070333	RLC
Metals, Total											
Antimony	ND	0.0030	0.0002	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Arsenic	0.0074	0.0050	0.0007	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Barium	0.0346	0.0100	0.0003	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Beryllium	0.0032	0.0030	0.00009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Boron	11.9	1.00	0.0441	mg/L	EPA 6020B		10	07/15/16 07:55	07/18/16 17:48	6070320	KLH
Cadmium	0.0022	0.0010	0.0001	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Calcium	328	25.0	0.628	mg/L	EPA 6020B		50	07/15/16 07:55	07/18/16 17:43	6070320	KLH
Chromium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Cobalt	0.168	0.0100	0.0003	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Lead	0.0012	0.0050	0.00008	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Molybdenum	ND	0.0100	0.0005	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Selenium	0.0360	0.0100	0.0009	mg/L	EPA 6020B		1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Thallium	0.0002	0.0010	0.00006	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Lithium	0.0141	0.0500	0.0012	mg/L	EPA 6020B	J	1	07/15/16 07:55	07/18/16 15:32	6070320	KLH
Mercury	ND	0.00050	0.00013	mg/L	EPA 7470A		1	07/18/16 11:30	07/18/16 17:03	6070347	CSW



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Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070304 - SM 2540 C											
Blank (6070304-BLK1) Prepared & Analyzed: 07/14/16											
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6070304-BS1) Prepared & Analyzed: 07/14/16											
Total Dissolved Solids	384	25	10	mg/L	400.00		96	84-108			
Duplicate (6070304-DUP1) Source: AZG0253-04 Prepared & Analyzed: 07/14/16											
Total Dissolved Solids	155	25	10	mg/L		149			4	10	
Duplicate (6070304-DUP2) Source: AZG0286-03 Prepared & Analyzed: 07/14/16											
Total Dissolved Solids	244	25	10	mg/L		249			2	10	
Batch 6070339 - SM 2540 C											
Blank (6070339-BLK1) Prepared & Analyzed: 07/15/16											
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6070339-BS1) Prepared & Analyzed: 07/15/16											
Total Dissolved Solids	387	25	10	mg/L	400.00		97	84-108			
Duplicate (6070339-DUP1) Source: AZG0286-06 Prepared & Analyzed: 07/15/16											
Total Dissolved Solids	599	25	10	mg/L		585			2	10	
Duplicate (6070339-DUP2) Source: AZG0286-17 Prepared & Analyzed: 07/15/16											
Total Dissolved Solids	942	25	10	mg/L		909			4	10	
Batch 6070351 - SM 2540 C											
Blank (6070351-BLK1) Prepared & Analyzed: 07/18/16											
Total Dissolved Solids	ND	25	10	mg/L							



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070351 - SM 2540 C											
LCS (6070351-BS1)						Prepared & Analyzed: 07/18/16					
Total Dissolved Solids	395	25	10	mg/L	400.00		99	84-108			
Duplicate (6070351-DUP1)						Source: AZG0286-07RE1 Prepared & Analyzed: 07/18/16					
Total Dissolved Solids	572	25	10	mg/L		562			2	10	
Duplicate (6070351-DUP2)						Source: AZG0286-08RE1 Prepared & Analyzed: 07/18/16					
Total Dissolved Solids	703	25	10	mg/L		686			2	10	
Duplicate (6070351-DUP3)						Source: AZG0286-10RE1 Prepared & Analyzed: 07/18/16					
Total Dissolved Solids	624	25	10	mg/L		647			4	10	
Duplicate (6070351-DUP4)						Source: AZG0365-02 Prepared & Analyzed: 07/18/16					
Total Dissolved Solids	142	25	10	mg/L		135			5	10	



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070333 - EPA 300.0											
Blank (6070333-BLK1)						Prepared & Analyzed: 07/15/16					
Chloride	0.09	0.25	0.01	mg/L							J
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6070333-BS1)						Prepared & Analyzed: 07/15/16					
Chloride	9.88	0.25	0.01	mg/L	10.010		99	90-110			
Fluoride	10.6	0.30	0.02	mg/L	10.010		106	90-110			
Sulfate	10.1	1.0	0.05	mg/L	10.010		101	90-110			
Matrix Spike (6070333-MS1)						Source: AZG0286-03 Prepared & Analyzed: 07/15/16					
Chloride	15.6	0.25	0.01	mg/L	10.010	6.16	94	90-110			
Fluoride	10.3	0.30	0.02	mg/L	10.010	0.12	101	90-110			
Sulfate	49.9	1.0	0.05	mg/L	10.010	44.4	55	90-110			QM-05
Matrix Spike (6070333-MS2)						Source: AZG0286-18 Prepared & Analyzed: 07/15/16					
Chloride	91.8	0.25	0.01	mg/L	10.010	91.7	0.9	90-110			QM-05
Fluoride	10.5	0.30	0.02	mg/L	10.010	0.09	104	90-110			
Sulfate	286	1.0	0.05	mg/L	10.010	302	NR	90-110			QM-05
Matrix Spike Dup (6070333-MSD1)						Source: AZG0286-03 Prepared & Analyzed: 07/15/16					
Chloride	15.9	0.25	0.01	mg/L	10.010	6.16	98	90-110	2	15	
Fluoride	10.6	0.30	0.02	mg/L	10.010	0.12	105	90-110	3	15	
Sulfate	50.2	1.0	0.05	mg/L	10.010	44.4	58	90-110	0.6	15	QM-05



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July 20, 2016

Report No.: AZG0286

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070274 - EPA 3005A											
Blank (6070274-BLK1)						Prepared: 07/14/16 Analyzed: 07/15/16					
Antimony	0.0003	0.0030	0.0002	mg/L							J
Arsenic	ND	0.0050	0.0007	mg/L							
Barium	0.0004	0.0100	0.0003	mg/L							J
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.100	0.0044	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0126	mg/L							
Chromium	ND	0.0100	0.0004	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0004	mg/L							
Lead	ND	0.0050	0.00008	mg/L							
Molybdenum	ND	0.0100	0.0005	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0009	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00006	mg/L							
Vanadium	ND	0.0100	0.0016	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0012	mg/L							
LCS (6070274-BS1)						Prepared: 07/14/16 Analyzed: 07/15/16					
Antimony	0.108	0.0030	0.0002	mg/L	0.10000		108	80-120			
Arsenic	0.0994	0.0050	0.0007	mg/L	0.10000		99	80-120			
Barium	0.0986	0.0100	0.0003	mg/L	0.10000		99	80-120			
Beryllium	0.102	0.0030	0.00009	mg/L	0.10000		102	80-120			
Boron	0.997	0.100	0.0044	mg/L	1.0000		100	80-120			
Cadmium	0.100	0.0010	0.0001	mg/L	0.10000		100	80-120			
Calcium	1.07	0.500	0.0126	mg/L	1.0000		107	80-120			
Chromium	0.0999	0.0100	0.0004	mg/L	0.10000		100	80-120			
Cobalt	0.0996	0.0100	0.0003	mg/L	0.10000		100	80-120			
Copper	0.100	0.0250	0.0004	mg/L	0.10000		100	80-120			
Lead	0.0973	0.0050	0.00008	mg/L	0.10000		97	80-120			
Molybdenum	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Nickel	0.0965	0.0100	0.0005	mg/L	0.10000		97	80-120			
Selenium	0.100	0.0100	0.0009	mg/L	0.10000		100	80-120			
Silver	0.102	0.0100	0.0002	mg/L	0.10000		102	80-120			
Thallium	0.0989	0.0010	0.00006	mg/L	0.10000		99	80-120			
Vanadium	0.0981	0.0100	0.0016	mg/L	0.10000		98	80-120			
Zinc	0.0989	0.0100	0.0013	mg/L	0.10000		99	80-120			
Lithium	0.0949	0.0500	0.0012	mg/L	0.10000		95	80-120			



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July 20, 2016

Report No.: AZG0286

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070274 - EPA 3005A											
Matrix Spike (6070274-MS1)			Source: AZG0285-03			Prepared: 07/14/16 Analyzed: 07/15/16					
Antimony	0.119	0.0030	0.0002	mg/L	0.10000	0.0094	110	75-125			
Arsenic	0.102	0.0050	0.0007	mg/L	0.10000	0.0009	101	75-125			
Barium	0.126	0.0100	0.0003	mg/L	0.10000	0.0246	101	75-125			
Beryllium	0.0972	0.0030	0.00009	mg/L	0.10000	ND	97	75-125			
Boron	0.940	0.100	0.0044	mg/L	1.0000	0.0050	93	75-125			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000	ND	101	75-125			
Calcium	30.0	2.50	0.0628	mg/L	1.0000	29.6	35	75-125			QM-02
Chromium	0.102	0.0100	0.0004	mg/L	0.10000	ND	102	75-125			
Cobalt	0.0969	0.0100	0.0003	mg/L	0.10000	ND	97	75-125			
Copper	0.0960	0.0250	0.0004	mg/L	0.10000	ND	96	75-125			
Lead	0.0968	0.0050	0.00008	mg/L	0.10000	ND	97	75-125			
Molybdenum	0.109	0.0100	0.0005	mg/L	0.10000	0.0011	108	75-125			
Nickel	0.0982	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Selenium	0.0985	0.0100	0.0009	mg/L	0.10000	ND	98	75-125			
Silver	0.101	0.0100	0.0002	mg/L	0.10000	ND	101	75-125			
Thallium	0.0998	0.0010	0.00006	mg/L	0.10000	0.00007	100	75-125			
Vanadium	0.103	0.0100	0.0016	mg/L	0.10000	0.0020	101	75-125			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000	ND	105	75-125			
Lithium	0.0964	0.0500	0.0012	mg/L	0.10000	ND	96	75-125			
Matrix Spike Dup (6070274-MSD1)			Source: AZG0285-03			Prepared: 07/14/16 Analyzed: 07/15/16					
Antimony	0.119	0.0030	0.0002	mg/L	0.10000	0.0094	109	75-125	0.04	20	
Arsenic	0.105	0.0050	0.0007	mg/L	0.10000	0.0009	104	75-125	2	20	
Barium	0.126	0.0100	0.0003	mg/L	0.10000	0.0246	102	75-125	0.3	20	
Beryllium	0.100	0.0030	0.00009	mg/L	0.10000	ND	100	75-125	3	20	
Boron	0.975	0.100	0.0044	mg/L	1.0000	0.0050	97	75-125	4	20	
Cadmium	0.0991	0.0010	0.0001	mg/L	0.10000	ND	99	75-125	2	20	
Calcium	29.8	2.50	0.0628	mg/L	1.0000	29.6	11	75-125	0.8	20	QM-02
Chromium	0.103	0.0100	0.0004	mg/L	0.10000	ND	103	75-125	0.4	20	
Cobalt	0.0958	0.0100	0.0003	mg/L	0.10000	ND	96	75-125	1	20	
Copper	0.0973	0.0250	0.0004	mg/L	0.10000	ND	97	75-125	1	20	
Lead	0.0961	0.0050	0.00008	mg/L	0.10000	ND	96	75-125	0.7	20	
Molybdenum	0.108	0.0100	0.0005	mg/L	0.10000	0.0011	107	75-125	0.9	20	
Nickel	0.0944	0.0100	0.0005	mg/L	0.10000	ND	94	75-125	4	20	
Selenium	0.105	0.0100	0.0009	mg/L	0.10000	ND	105	75-125	6	20	
Silver	0.0971	0.0100	0.0002	mg/L	0.10000	ND	97	75-125	4	20	
Thallium	0.0999	0.0010	0.00006	mg/L	0.10000	0.00007	100	75-125	0.09	20	
Vanadium	0.101	0.0100	0.0016	mg/L	0.10000	0.0020	99	75-125	1	20	
Zinc	0.101	0.0100	0.0013	mg/L	0.10000	ND	101	75-125	4	20	
Lithium	0.0963	0.0500	0.0012	mg/L	0.10000	ND	96	75-125	0.09	20	



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Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070274 - EPA 3005A											
Post Spike (6070274-PS1)				Source: AZG0285-03				Prepared: 07/14/16 Analyzed: 07/15/16			
Antimony	109			ug/L	100.00	9.37	100	80-120			
Arsenic	98.8			ug/L	100.00	0.881	98	80-120			
Barium	124			ug/L	100.00	24.6	99	80-120			
Beryllium	103			ug/L	100.00	0.0104	103	80-120			
Boron	976			ug/L	1000.0	5.04	97	80-120			
Cadmium	100			ug/L	100.00	-0.0070	100	80-120			
Calcium	29500			ug/L	1000.0	29600	NR	80-120			QM-02
Chromium	98.3			ug/L	100.00	0.251	98	80-120			
Cobalt	97.0			ug/L	100.00	0.0362	97	80-120			
Copper	94.8			ug/L	100.00	0.211	95	80-120			
Lead	94.8			ug/L	100.00	0.0103	95	80-120			
Molybdenum	108			ug/L	100.00	1.14	107	80-120			
Nickel	94.4			ug/L	100.00	-0.0435	94	80-120			
Selenium	96.4			ug/L	100.00	-0.385	97	80-120			
Silver	99.2			ug/L	100.00	0.0045	99	80-120			
Thallium	97.9			ug/L	100.00	0.0736	98	80-120			
Vanadium	102			ug/L	100.00	2.04	100	80-120			
Zinc	97.9			ug/L	100.00	0.969	97	80-120			
Lithium	98.4			ug/L	100.00	0.445	98	80-120			

Batch 6070275 - EPA 7470A

Blank (6070275-BLK1)				Prepared & Analyzed: 07/15/16							
Mercury	ND	0.00050	0.00013	mg/L							
LCS (6070275-BS1)				Prepared & Analyzed: 07/15/16							
Mercury	0.00235	0.00050	0.00013	mg/L	2.5000E-3		94	80-120			



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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070275 - EPA 7470A											
Matrix Spike (6070275-MS1)			Source: AZG0286-09			Prepared & Analyzed: 07/15/16					
Mercury	0.00186	0.00050	0.00013	mg/L	2.5000E-3	ND	75	75-125			
Matrix Spike Dup (6070275-MSD1)			Source: AZG0286-09			Prepared & Analyzed: 07/15/16					
Mercury	0.00188	0.00050	0.00013	mg/L	2.5000E-3	ND	75	75-125	1	20	
Post Spike (6070275-PS1)			Source: AZG0286-09			Prepared & Analyzed: 07/15/16					
Mercury	1.31			ug/L	1.6667	0.0174	78	80-120			QM-05
Batch 6070320 - EPA 3005A											
Blank (6070320-BLK1)						Prepared: 07/15/16 Analyzed: 07/18/16					
Antimony	ND	0.0030	0.0002	mg/L							
Arsenic	ND	0.0050	0.0007	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00009	mg/L							
Boron	ND	0.100	0.0044	mg/L							
Cadmium	ND	0.0010	0.0001	mg/L							
Calcium	ND	0.500	0.0126	mg/L							
Chromium	ND	0.0100	0.0004	mg/L							
Cobalt	ND	0.0100	0.0003	mg/L							
Copper	ND	0.0250	0.0004	mg/L							
Lead	ND	0.0050	0.00008	mg/L							
Molybdenum	ND	0.0100	0.0005	mg/L							
Nickel	ND	0.0100	0.0005	mg/L							
Selenium	ND	0.0100	0.0009	mg/L							
Silver	ND	0.0100	0.0002	mg/L							
Thallium	ND	0.0010	0.00006	mg/L							
Vanadium	ND	0.0100	0.0016	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0012	mg/L							



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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070320 - EPA 3005A											
LCS (6070320-BS1)						Prepared: 07/15/16 Analyzed: 07/18/16					
Antimony	0.107	0.0030	0.0002	mg/L	0.10000		107	80-120			
Arsenic	0.106	0.0050	0.0007	mg/L	0.10000		106	80-120			
Barium	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Beryllium	0.103	0.0030	0.00009	mg/L	0.10000		103	80-120			
Boron	0.967	0.100	0.0044	mg/L	1.0000		97	80-120			
Cadmium	0.104	0.0010	0.0001	mg/L	0.10000		104	80-120			
Calcium	1.03	0.500	0.0126	mg/L	1.0000		103	80-120			
Chromium	0.103	0.0100	0.0004	mg/L	0.10000		103	80-120			
Cobalt	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Copper	0.103	0.0250	0.0004	mg/L	0.10000		103	80-120			
Lead	0.0998	0.0050	0.00008	mg/L	0.10000		100	80-120			
Molybdenum	0.110	0.0100	0.0005	mg/L	0.10000		110	80-120			
Nickel	0.102	0.0100	0.0005	mg/L	0.10000		102	80-120			
Selenium	0.101	0.0100	0.0009	mg/L	0.10000		101	80-120			
Silver	0.108	0.0100	0.0002	mg/L	0.10000		108	80-120			
Thallium	0.102	0.0010	0.00006	mg/L	0.10000		102	80-120			
Vanadium	0.107	0.0100	0.0016	mg/L	0.10000		107	80-120			
Zinc	0.103	0.0100	0.0013	mg/L	0.10000		103	80-120			
Lithium	0.0979	0.0500	0.0012	mg/L	0.10000		98	80-120			
Matrix Spike (6070320-MS1)						Source: AZG0365-03 Prepared: 07/15/16 Analyzed: 07/18/16					
Antimony	0.105	0.0030	0.0002	mg/L	0.10000	0.0003	105	75-125			
Arsenic	0.100	0.0050	0.0007	mg/L	0.10000	ND	100	75-125			
Barium	0.124	0.0100	0.0003	mg/L	0.10000	0.0255	98	75-125			
Beryllium	0.0954	0.0030	0.00009	mg/L	0.10000	ND	95	75-125			
Boron	0.949	0.100	0.0044	mg/L	1.0000	0.0047	94	75-125			
Cadmium	0.101	0.0010	0.0001	mg/L	0.10000	ND	101	75-125			
Calcium	13.2	2.50	0.0628	mg/L	1.0000	12.3	90	75-125			
Chromium	0.106	0.0100	0.0004	mg/L	0.10000	0.0029	103	75-125			
Cobalt	0.0977	0.0100	0.0003	mg/L	0.10000	ND	98	75-125			
Copper	0.0995	0.0250	0.0004	mg/L	0.10000	ND	99	75-125			
Lead	0.0940	0.0050	0.00008	mg/L	0.10000	0.0001	94	75-125			
Molybdenum	0.110	0.0100	0.0005	mg/L	0.10000	0.0017	108	75-125			
Nickel	0.0976	0.0100	0.0005	mg/L	0.10000	0.0007	97	75-125			
Selenium	0.0991	0.0100	0.0009	mg/L	0.10000	ND	99	75-125			
Silver	0.102	0.0100	0.0002	mg/L	0.10000	ND	102	75-125			
Thallium	0.0966	0.0010	0.00006	mg/L	0.10000	0.0002	96	75-125			
Vanadium	0.101	0.0100	0.0016	mg/L	0.10000	ND	101	75-125			
Zinc	0.0973	0.0100	0.0013	mg/L	0.10000	0.0031	94	75-125			
Lithium	0.0909	0.0500	0.0012	mg/L	0.10000	ND	91	75-125			



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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070320 - EPA 3005A											
Matrix Spike Dup (6070320-MSD1)			Source: AZG0365-03			Prepared: 07/15/16 Analyzed: 07/18/16					
Antimony	0.102	0.0030	0.0002	mg/L	0.10000	0.0003	102	75-125	3	20	
Arsenic	0.101	0.0050	0.0007	mg/L	0.10000	ND	101	75-125	0.2	20	
Barium	0.122	0.0100	0.0003	mg/L	0.10000	0.0255	97	75-125	1	20	
Beryllium	0.0981	0.0030	0.00009	mg/L	0.10000	ND	98	75-125	3	20	
Boron	0.944	0.100	0.0044	mg/L	1.0000	0.0047	94	75-125	0.5	20	
Cadmium	0.0999	0.0010	0.0001	mg/L	0.10000	ND	100	75-125	0.9	20	
Calcium	12.9	2.50	0.0628	mg/L	1.0000	12.3	59	75-125	2	20	QM-02
Chromium	0.110	0.0100	0.0004	mg/L	0.10000	0.0029	107	75-125	3	20	
Cobalt	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125	3	20	
Copper	0.0993	0.0250	0.0004	mg/L	0.10000	ND	99	75-125	0.1	20	
Lead	0.0964	0.0050	0.00008	mg/L	0.10000	0.0001	96	75-125	2	20	
Molybdenum	0.108	0.0100	0.0005	mg/L	0.10000	0.0017	106	75-125	2	20	
Nickel	0.101	0.0100	0.0005	mg/L	0.10000	0.0007	101	75-125	4	20	
Selenium	0.100	0.0100	0.0009	mg/L	0.10000	ND	100	75-125	1	20	
Silver	0.103	0.0100	0.0002	mg/L	0.10000	ND	103	75-125	1	20	
Thallium	0.0990	0.0010	0.00006	mg/L	0.10000	0.0002	99	75-125	2	20	
Vanadium	0.104	0.0100	0.0016	mg/L	0.10000	ND	104	75-125	3	20	
Zinc	0.115	0.0100	0.0013	mg/L	0.10000	0.0031	112	75-125	17	20	
Lithium	0.0916	0.0500	0.0012	mg/L	0.10000	ND	92	75-125	0.7	20	
Post Spike (6070320-PS1)			Source: AZG0365-03			Prepared: 07/15/16 Analyzed: 07/18/16					
Antimony	105			ug/L	100.00	0.256	104	80-120			
Arsenic	101			ug/L	100.00	0.458	101	80-120			
Barium	125			ug/L	100.00	25.5	99	80-120			
Beryllium	95.3			ug/L	100.00	0.0582	95	80-120			
Boron	929			ug/L	1000.0	4.73	92	80-120			
Cadmium	103			ug/L	100.00	0.0426	103	80-120			
Calcium	13200			ug/L	1000.0	12300	93	80-120			
Chromium	109			ug/L	100.00	2.92	106	80-120			
Cobalt	97.5			ug/L	100.00	0.221	97	80-120			
Copper	97.8			ug/L	100.00	0.108	98	80-120			
Lead	95.3			ug/L	100.00	0.101	95	80-120			
Molybdenum	107			ug/L	100.00	1.73	106	80-120			
Nickel	97.6			ug/L	100.00	0.655	97	80-120			
Selenium	99.0			ug/L	100.00	0.403	99	80-120			
Silver	104			ug/L	100.00	0.0019	104	80-120			
Thallium	96.6			ug/L	100.00	0.171	96	80-120			
Vanadium	105			ug/L	100.00	0.730	104	80-120			
Zinc	101			ug/L	100.00	3.06	98	80-120			
Lithium	93.1			ug/L	100.00	0.499	93	80-120			



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Report No.: AZG0286

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6070347 - EPA 7470A											
Blank (6070347-BLK1)						Prepared & Analyzed: 07/18/16					
Mercury	ND	0.00050	0.00013	mg/L							
LCS (6070347-BS1)						Prepared & Analyzed: 07/18/16					
Mercury	0.00205	0.00050	0.00013	mg/L	2.5000E-3		82	80-120			
Matrix Spike (6070347-MS1)						Source: AZG0286-17 Prepared & Analyzed: 07/18/16					
Mercury	0.00182	0.00050	0.00013	mg/L	2.5000E-3	ND	73	75-125			QM-05
Matrix Spike Dup (6070347-MSD1)						Source: AZG0286-17 Prepared & Analyzed: 07/18/16					
Mercury	0.00178	0.00050	0.00013	mg/L	2.5000E-3	ND	71	75-125	2	20	QM-05
Post Spike (6070347-PS1)						Source: AZG0286-17 Prepared & Analyzed: 07/18/16					
Mercury	1.22			ug/L	1.6667	-0.0299	75	80-120			QM-05



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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

July 20, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QM-05** The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.
- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).
- B-01** Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

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

CHAIN OF CUSTODY RECORD

Pace Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
(770) 734-4000 FAX (770) 734-4011

PAGE 1 OF 2



CLIENT NAME: *Southwestern Company Services*
2401 Peachtree N.W. Bldg. 4000
Atlanta, GA 30309

PROJECT TO: *401-500-7427*

PROJECT NAME: *Plant Demand AP GW CCR*

PROJECT #:

CLIENT ADDRESS: *100 Peachtree Parkway*
Atlanta, GA 30309

PROJECT COMMENTS:

ANALYSIS REQUESTED:

1	3
2	3
3	3
4	3
5	3
6	3
7	3
8	3
9	3
10	3
11	3
12	3

CONTAINER TYPE:

1 - PLASTIC	ESSENTIATOR
2 - AMBER GLASS	1 - HCL, ETC
3 - CLEAR GLASS	2 - HNO ₃ , ETC
4 - VOA VIAL	3 - HNO ₃
5 - STEWEL	4 - TROCH, ETC
6 - OTHER	5 - METALS, ETC
	6 - HNO ₃ , ETC
	7 - ETC - VARIOUS

METALS/TRACE:

1 - CHROMIUM WATER	11 - SO ₄
2 - WATER/WATER	12 - SILICO
3 - CHROMIUM WATER	13 - BOD
4 - SURFACE WATER	14 - AM
5 - STORM WATER	15 - LIQUID
6 - WATER	16 - PROTECT

Collection DATE	Collection TIME	WATER CODE	SAMPLE IDENTIFICATION
1/10/00	11:00	W2	FIB-1
1/10/00	11:15	W2	FIB-2
1/10/00	09:00	GW	HGW-3
1/10/00	13:55	GW	HGW-4
1/10/00	13:10	GW	HGW-7
1/10/00	14:30	GW	HGW-16
1/10/00	14:20	GW	HGW-13
1/10/00	16:40	GW	HGW-1
1/10/00	12:35	GW	HGW-15
1/10/00	11:21	GW	HGW-10
1/10/00	-	GW	GW-2
1/10/00	10:00	GW	FW-3

1	3	1	1	1
2	3	1	1	1
3	3	1	1	1
4	3	1	1	1
5	3	1	1	1
6	3	1	1	1
7	3	1	1	1
8	3	1	1	1
9	3	1	1	1
10	3	1	1	1
11	3	1	1	1
12	3	1	1	1

LAB #: *A2610296*

ANALYST: *[Signature]*

DATE: *1/10/00*

TIME: *11:00*

LOCATION: *Plant Demand AP GW CCR*

PROJECT #:

FOR LABORATORY USE ONLY

LAB #: *A2610296*

ANALYST: *[Signature]*

DATE: *1/10/00*

TIME: *11:00*

LOCATION: *Plant Demand AP GW CCR*

PROJECT #:

CHAIN OF CUSTODY RECORD



PAC Analytical Services, Inc.
118 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30062
(770) 734-4200 · FAX (770) 734-4201

PAGE 2 of 3

CLIENT: Southern Company Services
244 Ralph McGill Blvd SE Bldg 8E
Atlanta, GA 30308
PROJECT: 100 North Peachtree
Road
Plant Name: AP GWC LFR

L	ANALYSES REQUESTED				L	CONTAINER TYPE	PRESERVATION
	P	P	P	P			
1					13	1 - PLASTIC	1 - NO. 101
2					14	1 - AMBER GLASS	2 - HNO ₃ / HCl
3					15	1 - CLEAR GLASS	3 - HNO ₃ / HCl
4					16	1 - VOA VIAL	4 - HNO ₃ / HCl
5					17	1 - STERILE	5 - MCHNDA, HCl
6					18	1 - OTHER	6 - Na ₂ SO ₄ , HCl
7							7 - HCl - hot liquid
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Collection DATE	Collection TIME	Matrix Code	Sample Identification
1/16/08	15:50	GW	VFERB-1
1/16/08	16:05	GW	VH6WC-9
1/16/08	16:10	GW	DUP-1
1/16/08	16:35	GW	VH6WC-11
1/16/08	16:40	GW	VH6WC-12
1/16/08	16:50	GW	VH6WC-13
1/16/08	16:55	GW	VH6WC-18

ANALYST: [Signature] DATE: 1/16/08
 COLLECTOR: [Signature] DATE: 1/16/08
 REVIEWER: [Signature] DATE: 1/16/08
 APPROVER: [Signature] DATE: 1/16/08
 COMMENTS: [Handwritten notes]



PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST

Printed: 7/20/2016 5:17:20PM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 07/13/16 08:15

Work Order: AZG0286

Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 19

#Containers: 58

Minimum Temp(C): 1.0

Maximum Temp(C): 1.0

Custody Seal(s) Used: Yes

CHECKLIST ITEMS

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

Comments:



PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

Georgia Power
2480 Maner Road
Atlanta, GA 30339

Attention: Mr. Joju Abraham

Report Number: AZI0077

September 14, 2016

Project: CCR Event

Project #: Plant Hammond

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

Approved:


Project Manager

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, Inc.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-7	AZI0077-01	Ground Water	09/01/16 09:20	09/02/16 12:40
HGWC-8	AZI0077-02	Ground Water	09/01/16 08:50	09/02/16 12:40
HGWC-9	AZI0077-03	Ground Water	09/01/16 09:32	09/02/16 12:40
HGWC-10	AZI0077-04	Ground Water	09/01/16 10:18	09/02/16 12:40
HGWC-11	AZI0077-05	Ground Water	09/01/16 10:48	09/02/16 12:40
HGWC-12	AZI0077-06	Ground Water	09/01/16 11:34	09/02/16 12:40
HGWC-13	AZI0077-07	Ground Water	09/01/16 11:20	09/02/16 12:40
HGWC-14	AZI0077-08	Ground Water	09/01/16 12:07	09/02/16 12:40
HGWC-15	AZI0077-09	Ground Water	09/01/16 12:58	09/02/16 12:40
HGWC-16	AZI0077-10	Ground Water	09/01/16 12:50	09/02/16 12:40
HGWC-17	AZI0077-11	Ground Water	09/01/16 14:45	09/02/16 12:40
HGWC-18	AZI0077-12	Ground Water	09/01/16 14:32	09/02/16 12:40
FB-1	AZI0077-13	DI Water	09/01/16 09:21	09/02/16 12:40
FB-2	AZI0077-14	DI Water	09/01/16 12:18	09/02/16 12:40
FERB-1	AZI0077-15	DI Water	09/01/16 14:00	09/02/16 12:40
FERB-2	AZI0077-16	DI Water	09/01/16 15:28	09/02/16 12:40
Dup-1	AZI0077-17	Ground Water	09/01/16 00:00	09/02/16 12:40
Dup-2	AZI0077-18	Ground Water	09/01/16 00:00	09/02/16 12:40



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-7

Lab Number ID: AZI0077-01

Date/Time Sampled: 9/1/2016 9:20:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	484	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	50	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 16:25	6090177	RLC
Fluoride	0.51	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 13:32	6090177	RLC
Sulfate	100	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 16:25	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Barium	0.0747	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Boron	0.904	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Calcium	96.3	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 17:38	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Molybdenum	0.0274	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Lithium	0.0025	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:39	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:41	6090124	MTC



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-8

Lab Number ID: AZI0077-02

Date/Time Sampled: 9/1/2016 8:50:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	763	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	110	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 16:46	6090177	RLC
Fluoride	0.94	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 13:54	6090177	RLC
Sulfate	230	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 16:46	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Barium	0.0829	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Boron	1.91	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 13:33	6090121	KLH
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Calcium	135	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 12:57	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Cobalt	0.0023	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Molybdenum	0.481	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Lithium	0.0029	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:45	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:44	6090124	MTC



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-9

Lab Number ID: AZI0077-03

Date/Time Sampled: 9/1/2016 9:32:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	956	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	160	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 18:29	6090177	RLC
Fluoride	0.46	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 14:15	6090177	RLC
Sulfate	230	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 18:29	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Barium	0.130	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Boron	2.00	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 13:39	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Calcium	170	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:02	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Cobalt	0.0007	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Molybdenum	0.0239	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Lithium	0.0044	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:50	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/07/16 08:50	09/07/16 17:46	6090124	MTC



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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-10

Lab Number ID: AZI0077-04

Date/Time Sampled: 9/1/2016 10:18:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	769	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	77	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 18:50	6090177	RLC
Fluoride	0.50	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 14:36	6090177	RLC
Sulfate	190	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 18:50	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Barium	0.0994	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Boron	0.786	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Calcium	156	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:08	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Cobalt	0.0007	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 20:56	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 16:50	6090109	MTC



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-11

Lab Number ID: AZI0077-05

Date/Time Sampled: 9/1/2016 10:48:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	656	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	58	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 19:11	6090177	RLC
Fluoride	0.67	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 16:44	6090177	RLC
Sulfate	240	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 09:25	09/11/16 19:11	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Barium	0.0497	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Boron	1.49	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Calcium	107	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:14	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Cobalt	0.0025	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Molybdenum	0.0259	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Selenium	0.0057	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:02	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 16:52	6090109	MTC



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-12

Lab Number ID: AZI0077-06

Date/Time Sampled: 9/1/2016 11:34:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1480	25	10	mg/L	SM 2540 C		1	09/07/16 20:30	09/07/16 20:30	6090135	JPT
Inorganic Anions											
Chloride	140	2.5	0.14	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 19:31	6090177	RLC
Fluoride	0.62	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 17:48	6090177	RLC
Sulfate	300	10	0.51	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 19:31	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Arsenic	0.0043	0.0050	0.0016	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Barium	0.123	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Boron	2.28	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 13:45	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Calcium	179	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:19	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Cobalt	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Molybdenum	0.0474	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Lithium	0.0118	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:08	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 16:54	6090109	MTC



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-13

Lab Number ID: AZI0077-07

Date/Time Sampled: 9/1/2016 11:20:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	702	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	100	2.5	0.14	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 19:52	6090177	RLC
Fluoride	0.74	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 18:09	6090177	RLC
Sulfate	190	10	0.51	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 19:52	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Arsenic	0.314	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Barium	0.0700	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Boron	2.30	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 13:50	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Calcium	120	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:25	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Cobalt	0.0033	0.0100	0.0005	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Molybdenum	0.0336	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Thallium	0.0004	0.0010	0.0002	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Lithium	0.0400	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:13	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 16:57	6090109	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-14

Lab Number ID: AZI0077-08

Date/Time Sampled: 9/1/2016 12:07:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	3200	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	510	25	1.4	mg/L	EPA 300.0		100	09/08/16 09:25	09/11/16 20:13	6090177	RLC
Fluoride	0.08	0.30	0.02	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 18:30	6090177	RLC
Sulfate	1300	100	5.1	mg/L	EPA 300.0		100	09/08/16 09:25	09/11/16 20:13	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Arsenic	0.0056	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Barium	0.0208	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Beryllium	0.0005	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Boron	12.3	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 13:56	6090121	KLH
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Calcium	586	50.0	3.11	mg/L	EPA 6020B		100	09/07/16 08:35	09/12/16 13:31	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Cobalt	0.0248	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Lead	0.0016	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Selenium	0.0137	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Thallium	0.0003	0.0010	0.0002	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:19	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 16:59	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-15

Lab Number ID: AZI0077-09

Date/Time Sampled: 9/1/2016 12:58:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1180	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	200	2.5	0.14	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 20:33	6090177	RLC
Fluoride	0.22	0.30	0.02	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 18:51	6090177	RLC
Sulfate	440	10	0.51	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 20:33	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Barium	0.0364	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Boron	1.93	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 14:08	6090121	KLH
Cadmium	0.0017	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Calcium	189	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:37	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Cobalt	0.0450	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Lithium	0.0021	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:25	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:06	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-16

Lab Number ID: AZI0077-10

Date/Time Sampled: 9/1/2016 12:50:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	625	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	34	0.25	0.01	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 19:12	6090177	RLC
Fluoride	0.42	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 19:12	6090177	RLC
Sulfate	220	10	0.51	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 20:54	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Barium	0.0934	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Boron	1.31	0.100	0.0064	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Calcium	141	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 13:54	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Lithium	0.0033	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:31	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:09	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

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

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-17

Lab Number ID: AZI0077-11

Date/Time Sampled: 9/1/2016 2:45:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1060	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	95	2.5	0.14	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 21:15	6090177	RLC
Fluoride	0.03	0.30	0.02	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 19:55	6090177	RLC
Sulfate	430	10	0.51	mg/L	EPA 300.0		10	09/08/16 09:25	09/11/16 21:15	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Barium	0.0227	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Boron	5.76	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 14:13	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Calcium	213	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 14:00	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Cobalt	0.0151	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Selenium	0.0014	0.0100	0.0010	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:48	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:11	6090109	MTC



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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AZI0077-12

Date/Time Sampled: 9/1/2016 2:32:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	2000	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	270	25	1.4	mg/L	EPA 300.0		100	09/08/16 09:25	09/11/16 21:35	6090177	RLC
Fluoride	0.49	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 21:41	6090177	RLC
Sulfate	890	100	5.1	mg/L	EPA 300.0		100	09/08/16 09:25	09/11/16 21:35	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Arsenic	0.0073	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Barium	0.0336	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Beryllium	0.0034	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Boron	8.80	1.00	0.0642	mg/L	EPA 6020B		10	09/07/16 08:35	09/13/16 14:19	6090121	KLH
Cadmium	0.0024	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Calcium	379	25.0	1.55	mg/L	EPA 6020B		50	09/07/16 08:35	09/12/16 14:05	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Cobalt	0.180	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Lead	0.0014	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Selenium	0.0347	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Lithium	0.0158	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:54	6090121	KLH
Mercury	0.00006	0.00050	0.000041	mg/L	EPA 7470A	J	1	09/06/16 11:30	09/06/16 17:13	6090109	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: FB-1

Lab Number ID: AZI0077-13

Date/Time Sampled: 9/1/2016 9:21:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	12	25	10	mg/L	SM 2540 C	J	1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	0.05	0.25	0.01	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 22:02	6090177	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 22:02	6090177	RLC
Sulfate	0.15	1.0	0.05	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 22:02	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Boron	0.0423	0.100	0.0064	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Calcium	0.0407	0.500	0.0311	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 21:59	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:16	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: FB-2

Lab Number ID: AZI0077-14

Date/Time Sampled: 9/1/2016 12:18:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	32	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J	1	09/08/16 09:25	09/08/16 22:24	6090177	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 22:24	6090177	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/08/16 09:25	09/08/16 22:24	6090177	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Boron	0.0221	0.100	0.0064	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Calcium	0.0317	0.500	0.0311	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Lead	0.0002	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/07/16 08:35	09/08/16 22:05	6090121	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:18	6090109	MTC



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: FERB-1

Lab Number ID: AZI0077-15

Date/Time Sampled: 9/1/2016 2:00:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	29	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	0.05	0.25	0.01	mg/L	EPA 300.0	J	1	09/08/16 19:50	09/10/16 18:14	6090212	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 19:50	09/10/16 18:14	6090212	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/08/16 19:50	09/10/16 18:14	6090212	RLC
Metals, Total											
Antimony	0.0014	0.0030	0.0008	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Barium	0.0012	0.0100	0.0004	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Boron	0.0105	0.100	0.0064	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Calcium	0.0345	0.500	0.0311	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:35	6090169	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:21	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AZI0077-16

Date/Time Sampled: 9/1/2016 3:28:00PM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: DI Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	46	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	0.03	0.25	0.01	mg/L	EPA 300.0	J	1	09/08/16 19:50	09/10/16 18:34	6090212	RLC
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 19:50	09/10/16 18:34	6090212	RLC
Sulfate	ND	1.0	0.05	mg/L	EPA 300.0		1	09/08/16 19:50	09/10/16 18:34	6090212	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Boron	ND	0.100	0.0064	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:41	6090169	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:23	6090109	MTC



PACE ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: Dup-1

Lab Number ID: AZI0077-17

Date/Time Sampled: 9/1/2016 12:00:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	481	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	50	1.2	0.07	mg/L	EPA 300.0		5	09/08/16 19:50	09/11/16 13:40	6090212	RLC
Fluoride	0.46	0.30	0.02	mg/L	EPA 300.0		1	09/08/16 19:50	09/10/16 18:55	6090212	RLC
Sulfate	100	5.0	0.26	mg/L	EPA 300.0		5	09/08/16 19:50	09/11/16 13:40	6090212	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Barium	0.0759	0.0100	0.0004	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Boron	0.888	0.100	0.0064	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Cadmium	0.0004	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Calcium	95.9	5.00	0.311	mg/L	EPA 6020B		10	09/08/16 10:40	09/12/16 17:32	6090169	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Molybdenum	0.0266	0.0100	0.0017	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Lithium	0.0024	0.0500	0.0021	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:47	6090169	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:25	6090109	MTC



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Project: CCR Event

Client ID: Dup-2

Lab Number ID: AZI0077-18

Date/Time Sampled: 9/1/2016 12:00:00AM

Date/Time Received: 9/2/2016 12:40:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	3190	25	10	mg/L	SM 2540 C		1	09/07/16 21:25	09/07/16 21:25	6090136	JPT
Inorganic Anions											
Chloride	520	12	0.70	mg/L	EPA 300.0		50	09/08/16 19:50	09/12/16 04:28	6090212	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	09/08/16 19:50	09/10/16 19:16	6090212	RLC
Sulfate	1400	50	2.6	mg/L	EPA 300.0		50	09/08/16 19:50	09/12/16 04:28	6090212	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Arsenic	0.0055	0.0050	0.0016	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Barium	0.0213	0.0100	0.0004	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Beryllium	0.0005	0.0030	0.00008	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Boron	12.4	1.00	0.0642	mg/L	EPA 6020B		10	09/08/16 10:40	09/14/16 11:46	6090169	CSW
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Calcium	547	50.0	3.11	mg/L	EPA 6020B		100	09/08/16 10:40	09/12/16 16:18	6090169	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Cobalt	0.0250	0.0100	0.0005	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Lead	0.0017	0.0050	0.0001	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Selenium	0.0117	0.0100	0.0010	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Thallium	0.0003	0.0010	0.0002	mg/L	EPA 6020B	J	1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	09/08/16 10:40	09/09/16 18:52	6090169	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	09/06/16 11:30	09/06/16 17:28	6090109	MTC



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September 14, 2016

Report No.: AZI0077

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090135 - SM 2540 C											
Blank (6090135-BLK1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090135-BS1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	336	25	10	mg/L	400.00		84	84-108			
Duplicate (6090135-DUP1)						Source: AZI0058-08 Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	580	25	10	mg/L		539			7	10	
Duplicate (6090135-DUP2)						Source: AZI0077-04 Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	691	25	10	mg/L		769			11	10	QR-03
Batch 6090136 - SM 2540 C											
Blank (6090136-BLK1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6090136-BS1)						Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	407	25	10	mg/L	400.00		102	84-108			
Duplicate (6090136-DUP1)						Source: AZI0077-07 Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	694	25	10	mg/L		702			1	10	
Duplicate (6090136-DUP2)						Source: AZI0094-01 Prepared & Analyzed: 09/07/16					
Total Dissolved Solids	228	25	10	mg/L		243			6	10	



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September 14, 2016

Report No.: AZI0077

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090177 - EPA 300.0											
Blank (6090177-BLK1)						Prepared & Analyzed: 09/08/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6090177-BS1)						Prepared & Analyzed: 09/08/16					
Chloride	10.3	0.25	0.01	mg/L	10.010		102	90-110			
Fluoride	10.8	0.30	0.02	mg/L	10.010		108	90-110			
Sulfate	10.4	1.0	0.05	mg/L	10.010		103	90-110			
Matrix Spike (6090177-MS1)						Source: AZI0077-05					
						Prepared & Analyzed: 09/08/16					
Chloride	62.4	0.25	0.01	mg/L	10.010	58.3	41	90-110			QM-05
Fluoride	11.5	0.30	0.02	mg/L	10.010	0.67	108	90-110			
Sulfate	185	1.0	0.05	mg/L	10.010	193	NR	90-110			QM-05
Matrix Spike (6090177-MS2)						Source: AZI0077-10					
						Prepared & Analyzed: 09/08/16					
Chloride	41.2	0.25	0.01	mg/L	10.010	34.4	68	90-110			QM-05
Fluoride	11.5	0.30	0.02	mg/L	10.010	0.42	111	90-110			QM-05
Sulfate	175	1.0	0.05	mg/L	10.010	182	NR	90-110			QM-05
Matrix Spike Dup (6090177-MSD1)						Source: AZI0077-05					
						Prepared & Analyzed: 09/08/16					
Chloride	62.6	0.25	0.01	mg/L	10.010	58.3	43	90-110	0.4	15	QM-05
Fluoride	11.7	0.30	0.02	mg/L	10.010	0.67	111	90-110	2	15	QM-05
Sulfate	185	1.0	0.05	mg/L	10.010	193	NR	90-110	0.09	15	QM-05
Batch 6090212 - EPA 300.0											
Blank (6090212-BLK1)						Prepared: 09/08/16 Analyzed: 09/10/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090212 - EPA 300.0											
LCS (6090212-BS1)						Prepared: 09/08/16 Analyzed: 09/10/16					
Chloride	10.2	0.25	0.01	mg/L	10.010		102	90-110			
Fluoride	10.5	0.30	0.02	mg/L	10.010		105	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.010		102	90-110			
Matrix Spike (6090212-MS1)						Source: AZI0168-02 Prepared: 09/08/16 Analyzed: 09/10/16					
Chloride	25.2	0.25	0.01	mg/L	10.010	15.8	94	90-110			
Fluoride	11.9	0.30	0.02	mg/L	10.010	0.17	117	90-110			QM-05
Sulfate	147	1.0	0.05	mg/L	10.010	153	NR	90-110			QM-05
Matrix Spike (6090212-MS2)						Source: AZI0192-04 Prepared: 09/08/16 Analyzed: 09/11/16					
Chloride	26.4	0.25	0.01	mg/L	10.010	17.3	91	90-110			
Fluoride	12.0	0.30	0.02	mg/L	10.010	0.32	117	90-110			QM-05
Sulfate	177	1.0	0.05	mg/L	10.010	185	NR	90-110			QM-05
Matrix Spike Dup (6090212-MSD1)						Source: AZI0168-02 Prepared: 09/08/16 Analyzed: 09/10/16					
Chloride	25.1	0.25	0.01	mg/L	10.010	15.8	94	90-110	0.08	15	
Fluoride	11.8	0.30	0.02	mg/L	10.010	0.17	117	90-110	0.5	15	QM-05
Sulfate	147	1.0	0.05	mg/L	10.010	153	NR	90-110	0.09	15	QM-05



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Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090109 - EPA 7470A											
Blank (6090109-BLK1) Prepared & Analyzed: 09/06/16											
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090109-BS1) Prepared & Analyzed: 09/06/16											
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3		94	80-120			
Matrix Spike (6090109-MS1) Source: AZI0077-04 Prepared & Analyzed: 09/06/16											
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125			
Matrix Spike Dup (6090109-MSD1) Source: AZI0077-04 Prepared & Analyzed: 09/06/16											
Mercury	0.00237	0.00050	0.000041	mg/L	2.5000E-3	ND	95	75-125	0.1	20	
Post Spike (6090109-PS1) Source: AZI0077-04 Prepared & Analyzed: 09/06/16											
Mercury	1.68			ug/L	1.6667	0.00330	100	80-120			
Batch 6090121 - EPA 3005A											
Blank (6090121-BLK1) Prepared: 09/07/16 Analyzed: 09/08/16											
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090121 - EPA 3005A											
LCS (6090121-BS1)						Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	0.109	0.0030	0.0008	mg/L	0.10000		109	80-120			
Arsenic	0.0983	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.0965	0.0100	0.0004	mg/L	0.10000		96	80-120			
Beryllium	0.0979	0.0030	0.00008	mg/L	0.10000		98	80-120			
Boron	0.990	0.100	0.0064	mg/L	1.0000		99	80-120			
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	0.942	0.500	0.0311	mg/L	1.0000		94	80-120			
Chromium	0.100	0.0100	0.0009	mg/L	0.10000		100	80-120			
Cobalt	0.0969	0.0100	0.0005	mg/L	0.10000		97	80-120			
Copper	0.0966	0.0050	0.0005	mg/L	0.10000		97	80-120			
Lead	0.0985	0.0050	0.0001	mg/L	0.10000		98	80-120			
Molybdenum	0.102	0.0100	0.0017	mg/L	0.10000		102	80-120			
Nickel	0.0957	0.0050	0.0006	mg/L	0.10000		96	80-120			
Selenium	0.0999	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.0964	0.0050	0.0005	mg/L	0.10000		96	80-120			
Thallium	0.0983	0.0010	0.0002	mg/L	0.10000		98	80-120			
Vanadium	0.104	0.0100	0.0071	mg/L	0.10000		104	80-120			
Zinc	0.103	0.0100	0.0021	mg/L	0.10000		103	80-120			
Lithium	0.0971	0.0500	0.0021	mg/L	0.10000		97	80-120			
Matrix Spike (6090121-MS1)						Source: AZI0059-01 Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	0.110	0.0030	0.0008	mg/L	0.10000	ND	110	75-125			
Arsenic	0.0984	0.0050	0.0016	mg/L	0.10000	ND	98	75-125			
Barium	0.112	0.0100	0.0004	mg/L	0.10000	0.0142	98	75-125			
Beryllium	0.0935	0.0030	0.00008	mg/L	0.10000	ND	93	75-125			
Boron	0.952	0.100	0.0064	mg/L	1.0000	ND	95	75-125			
Cadmium	0.101	0.0010	0.00007	mg/L	0.10000	ND	101	75-125			
Calcium	4.12	0.500	0.0311	mg/L	1.0000	3.30	82	75-125			
Chromium	0.117	0.0100	0.0009	mg/L	0.10000	0.0147	102	75-125			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000	ND	101	75-125			
Copper	0.0970	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Lead	0.0973	0.0050	0.0001	mg/L	0.10000	0.0001	97	75-125			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125			
Nickel	0.103	0.0050	0.0006	mg/L	0.10000	0.0035	100	75-125			
Selenium	0.0978	0.0100	0.0010	mg/L	0.10000	ND	98	75-125			
Silver	0.0973	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Thallium	0.0984	0.0010	0.0002	mg/L	0.10000	ND	98	75-125			
Vanadium	0.111	0.0100	0.0071	mg/L	0.10000	ND	111	75-125			
Zinc	0.109	0.0100	0.0021	mg/L	0.10000	0.0062	103	75-125			
Lithium	0.0988	0.0500	0.0021	mg/L	0.10000	0.0030	96	75-125			



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Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090121 - EPA 3005A											
Matrix Spike Dup (6090121-MSD1)			Source: AZI0059-01			Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	0.109	0.0030	0.0008	mg/L	0.10000	ND	109	75-125	0.06	20	
Arsenic	0.0992	0.0050	0.0016	mg/L	0.10000	ND	99	75-125	0.8	20	
Barium	0.113	0.0100	0.0004	mg/L	0.10000	0.0142	99	75-125	1	20	
Beryllium	0.0946	0.0030	0.00008	mg/L	0.10000	ND	95	75-125	1	20	
Boron	0.904	0.100	0.0064	mg/L	1.0000	ND	90	75-125	5	20	
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125	3	20	
Calcium	4.13	0.500	0.0311	mg/L	1.0000	3.30	82	75-125	0.2	20	
Chromium	0.110	0.0100	0.0009	mg/L	0.10000	0.0147	95	75-125	6	20	
Cobalt	0.0972	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	4	20	
Copper	0.0961	0.0050	0.0005	mg/L	0.10000	ND	96	75-125	1	20	
Lead	0.0989	0.0050	0.0001	mg/L	0.10000	0.0001	99	75-125	2	20	
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000	ND	103	75-125	0.4	20	
Nickel	0.103	0.0050	0.0006	mg/L	0.10000	0.0035	100	75-125	0.4	20	
Selenium	0.101	0.0100	0.0010	mg/L	0.10000	ND	101	75-125	3	20	
Silver	0.0994	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	2	20	
Thallium	0.0996	0.0010	0.0002	mg/L	0.10000	ND	100	75-125	1	20	
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000	ND	108	75-125	3	20	
Zinc	0.108	0.0100	0.0021	mg/L	0.10000	0.0062	102	75-125	1	20	
Lithium	0.0985	0.0500	0.0021	mg/L	0.10000	0.0030	96	75-125	0.3	20	
Post Spike (6090121-PS1)			Source: AZI0059-01			Prepared: 09/07/16 Analyzed: 09/08/16					
Antimony	95.5			ug/L	100.00	0.627	95	80-120			
Arsenic	100			ug/L	100.00	0.162	100	80-120			
Barium	113			ug/L	100.00	14.2	98	80-120			
Beryllium	102			ug/L	100.00	0.0291	102	80-120			
Boron	956			ug/L	1000.0	5.64	95	80-120			
Cadmium	104			ug/L	100.00	0.0253	103	80-120			
Calcium	4230			ug/L	1000.0	3300	93	80-120			
Chromium	115			ug/L	100.00	14.7	101	80-120			
Cobalt	101			ug/L	100.00	0.235	101	80-120			
Copper	100			ug/L	100.00	0.237	100	80-120			
Lead	101			ug/L	100.00	0.130	101	80-120			
Molybdenum	103			ug/L	100.00	0.0836	102	80-120			
Nickel	103			ug/L	100.00	3.46	100	80-120			
Selenium	103			ug/L	100.00	0.602	103	80-120			
Silver	98.7			ug/L	100.00	0.0071	99	80-120			
Thallium	100			ug/L	100.00	0.0246	100	80-120			
Vanadium	109			ug/L	100.00	4.25	105	80-120			
Zinc	110			ug/L	100.00	6.19	104	80-120			
Lithium	103			ug/L	100.00	2.97	100	80-120			



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090124 - EPA 7470A											
Blank (6090124-BLK1)						Prepared & Analyzed: 09/07/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6090124-BS1)						Prepared & Analyzed: 09/07/16					
Mercury	0.00239	0.00050	0.000041	mg/L	2.5000E-3		96	80-120			
Matrix Spike (6090124-MS1)						Source: AZI0058-10 Prepared & Analyzed: 09/07/16					
Mercury	0.00225	0.00050	0.000041	mg/L	2.5000E-3	ND	90	75-125			
Matrix Spike Dup (6090124-MSD1)						Source: AZI0058-10 Prepared & Analyzed: 09/07/16					
Mercury	0.00222	0.00050	0.000041	mg/L	2.5000E-3	ND	89	75-125	1	20	
Post Spike (6090124-PS1)						Source: AZI0058-10 Prepared & Analyzed: 09/07/16					
Mercury	1.63			ug/L	1.6667	0.0124	97	80-120			
Batch 6090169 - EPA 3005A											
Blank (6090169-BLK1)						Prepared: 09/08/16 Analyzed: 09/09/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							



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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090169 - EPA 3005A											
LCS (6090169-BS1)						Prepared: 09/08/16 Analyzed: 09/09/16					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000		106	80-120			
Arsenic	0.0993	0.0050	0.0016	mg/L	0.10000		99	80-120			
Barium	0.0945	0.0100	0.0004	mg/L	0.10000		94	80-120			
Beryllium	0.0976	0.0030	0.00008	mg/L	0.10000		98	80-120			
Boron	1.02	0.100	0.0064	mg/L	1.0000		102	80-120			
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000		103	80-120			
Calcium	0.979	0.500	0.0311	mg/L	1.0000		98	80-120			
Chromium	0.103	0.0100	0.0009	mg/L	0.10000		103	80-120			
Cobalt	0.0986	0.0100	0.0005	mg/L	0.10000		99	80-120			
Copper	0.0990	0.0050	0.0005	mg/L	0.10000		99	80-120			
Lead	0.102	0.0050	0.0001	mg/L	0.10000		102	80-120			
Molybdenum	0.0997	0.0100	0.0017	mg/L	0.10000		100	80-120			
Nickel	0.0987	0.0050	0.0006	mg/L	0.10000		99	80-120			
Selenium	0.0990	0.0100	0.0010	mg/L	0.10000		99	80-120			
Silver	0.100	0.0050	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.100	0.0010	0.0002	mg/L	0.10000		100	80-120			
Vanadium	0.0993	0.0100	0.0071	mg/L	0.10000		99	80-120			
Zinc	0.100	0.0100	0.0021	mg/L	0.10000		100	80-120			
Lithium	0.0988	0.0500	0.0021	mg/L	0.10000		99	80-120			
Matrix Spike (6090169-MS1)				Source: AZI0077-17		Prepared: 09/08/16 Analyzed: 09/09/16					
Antimony	0.106	0.0030	0.0008	mg/L	0.10000	ND	106	75-125			
Arsenic	0.102	0.0050	0.0016	mg/L	0.10000	ND	102	75-125			
Barium	0.169	0.0100	0.0004	mg/L	0.10000	0.0759	93	75-125			
Beryllium	0.0930	0.0030	0.00008	mg/L	0.10000	ND	93	75-125			
Boron	1.94	1.00	0.0642	mg/L	1.0000	0.888	105	75-125			
Cadmium	0.0991	0.0010	0.00007	mg/L	0.10000	0.0004	99	75-125			
Calcium	96.8	5.00	0.311	mg/L	1.0000	95.9	82	75-125			
Chromium	0.105	0.0100	0.0009	mg/L	0.10000	ND	105	75-125			
Cobalt	0.0997	0.0100	0.0005	mg/L	0.10000	ND	100	75-125			
Copper	0.0960	0.0050	0.0005	mg/L	0.10000	ND	96	75-125			
Lead	0.0960	0.0050	0.0001	mg/L	0.10000	ND	96	75-125			
Molybdenum	0.125	0.0100	0.0017	mg/L	0.10000	0.0266	98	75-125			
Nickel	0.102	0.0050	0.0006	mg/L	0.10000	0.0011	101	75-125			
Selenium	0.0978	0.0100	0.0010	mg/L	0.10000	ND	98	75-125			
Silver	0.0977	0.0050	0.0005	mg/L	0.10000	ND	98	75-125			
Thallium	0.0966	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.103	0.0100	0.0071	mg/L	0.10000	ND	103	75-125			
Zinc	0.100	0.0100	0.0021	mg/L	0.10000	0.0027	98	75-125			
Lithium	0.0941	0.0500	0.0021	mg/L	0.10000	0.0024	92	75-125			



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Report No.: AZI0077

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6090169 - EPA 3005A											
Matrix Spike Dup (6090169-MSD1)			Source: AZI0077-17			Prepared: 09/08/16 Analyzed: 09/09/16					
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	3	20	
Arsenic	0.101	0.0050	0.0016	mg/L	0.10000	ND	101	75-125	0.8	20	
Barium	0.168	0.0100	0.0004	mg/L	0.10000	0.0759	92	75-125	0.7	20	
Beryllium	0.0960	0.0030	0.00008	mg/L	0.10000	ND	96	75-125	3	20	
Boron	1.96	1.00	0.0642	mg/L	1.0000	0.888	107	75-125	0.8	20	
Cadmium	0.0992	0.0010	0.00007	mg/L	0.10000	0.0004	99	75-125	0.09	20	
Calcium	98.6	5.00	0.311	mg/L	1.0000	95.9	263	75-125	2	20	QM-02
Chromium	0.107	0.0100	0.0009	mg/L	0.10000	ND	107	75-125	2	20	
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	0.5	20	
Copper	0.0975	0.0050	0.0005	mg/L	0.10000	ND	97	75-125	2	20	
Lead	0.0973	0.0050	0.0001	mg/L	0.10000	ND	97	75-125	1	20	
Molybdenum	0.126	0.0100	0.0017	mg/L	0.10000	0.0266	100	75-125	1	20	
Nickel	0.100	0.0050	0.0006	mg/L	0.10000	0.0011	99	75-125	2	20	
Selenium	0.0955	0.0100	0.0010	mg/L	0.10000	ND	95	75-125	2	20	
Silver	0.0938	0.0050	0.0005	mg/L	0.10000	ND	94	75-125	4	20	
Thallium	0.0982	0.0010	0.0002	mg/L	0.10000	ND	98	75-125	2	20	
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000	ND	106	75-125	3	20	
Zinc	0.104	0.0100	0.0021	mg/L	0.10000	0.0027	102	75-125	4	20	
Lithium	0.0983	0.0500	0.0021	mg/L	0.10000	0.0024	96	75-125	4	20	
Post Spike (6090169-PS1)			Source: AZI0077-17			Prepared: 09/08/16 Analyzed: 09/09/16					
Antimony	101			ug/L	100.00	0.299	101	80-120			
Arsenic	102			ug/L	100.00	0.235	101	80-120			
Barium	175			ug/L	100.00	75.9	99	80-120			
Beryllium	97.5			ug/L	100.00	0.0116	97	80-120			
Boron	1910			ug/L	1000.0	888	102	80-120			
Cadmium	101			ug/L	100.00	0.400	101	80-120			
Calcium	98600			ug/L	1000.0	95900	262	80-120			QM-02
Chromium	101			ug/L	100.00	0.306	101	80-120			
Cobalt	95.3			ug/L	100.00	0.465	95	80-120			
Copper	93.2			ug/L	100.00	0.123	93	80-120			
Lead	94.2			ug/L	100.00	0.0087	94	80-120			
Molybdenum	128			ug/L	100.00	26.6	101	80-120			
Nickel	94.4			ug/L	100.00	1.09	93	80-120			
Selenium	95.4			ug/L	100.00	-0.575	96	80-120			
Silver	97.8			ug/L	100.00	0.0070	98	80-120			
Thallium	95.3			ug/L	100.00	0.0424	95	80-120			
Vanadium	98.9			ug/L	100.00	0.409	99	80-120			
Zinc	101			ug/L	100.00	2.66	98	80-120			
Lithium	101			ug/L	100.00	2.37	98	80-120			



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

September 14, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

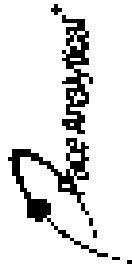
Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QR-03** The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.
- QM-05** The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.
- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

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

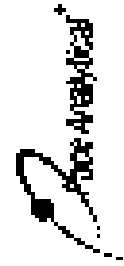


Trace Analytical Services, Inc.
 110 TECHNOLOGY PARKWAY POACH TREE COHENS GA 30281
 (770) 734-4800 Fax (770) 734-4801 www.trace-anal.com

CHAIN OF CUSTODY RECORD

PAGE 1 OF 2

START NAME George Power STREET ADDRESS: 56-1016 Highway 101 PO Box 1016, Poach Tree Cohens, GA 30281 Phone: (770) 734-4800 FAX: (770) 734-4801		CLIENT NAME GEORGIA DEPARTMENT OF TRANSPORTATION 1010 Peachtree Dunwoody Drive SE Atlanta, GA 30309 (404) 320-1000		REPORT TO: Mr. [Name] / Mr. [Name] FOR OUR STUDIO CONTACT INFORMATION: [Phone] / [Email] PROJECT NAME: [Name] PROJECT #: [Number]		ANALYSIS REQUESTED: [List of tests and methods]		TESTS: [List of specific tests and methods]		TESTS: [List of specific tests and methods]	
Collection Date	Collection Time	Method	Sample Identification	Lot Number	Quantity	Container	Notes	Analyst	Signature	Date	
09/10/16	09:20	GC/MS	H616C-7		1	1					
09/10/16	09:50	GC/MS	H616C-8		1	1					
09/10/16	09:52	GC/MS	H616C-9		1	1					
09/10/16	10:18	GC/MS	H616C-10		1	1					
09/10/16	10:48	GC/MS	H616C-11		1	1					
09/10/16	11:34	GC/MS	H616C-12		1	1					
09/10/16	11:20	GC/MS	H616C-13		1	1					
09/10/16	12:07	GC/MS	H616C-14		1	1					
09/10/16	12:58	GC/MS	H616C-15		1	1					
09/10/16	12:50	GC/MS	H616C-16		1	1					
09/10/16	14:45	GC/MS	H616C-17		1	1					
09/10/16	14:32	GC/MS	H616C-18		1	1					
ANALYST SIGNATURE: [Signature] DATE: 09/10/16 SUPERVISOR SIGNATURE: [Signature] DATE: 09/10/16 CLIENT SIGNATURE: [Signature] DATE: 09/10/16											



CHAIN OF CUSTODY RECORD

Fine Analytical Services, Inc.
110 TECHNOLOGY PARKWAY, PEACHTREE CORNERS, GA 30092
6781734-900 FAX: 6781734-4201 www.fineana.com

LAB# 2 SH# 2

CLIENT NAME: [REDACTED]
CLIENT PHONE: [REDACTED]
CLIENT ADDRESS: [REDACTED]
CLIENT CITY/STATE/ZIP: [REDACTED]
CLIENT CONTACT: [REDACTED]
CLIENT FAX: [REDACTED]

REQUESTED COMPLETE BY DATE: 12/19/07
REQUESTED BY: [REDACTED]
PHONE NUMBER: [REDACTED]

PROJECT: [REDACTED]
DATE RECEIVED: 12/16/07
CLIENT REFERENCE: [REDACTED]

DATE	TIME	ANALYST	ACTION	
			IN	OUT
09/24/07	12:18	[REDACTED]	[REDACTED]	[REDACTED]
09/24/07	14:00	[REDACTED]	[REDACTED]	[REDACTED]
09/24/07	15:32	[REDACTED]	[REDACTED]	[REDACTED]
09/26/07	-	[REDACTED]	[REDACTED]	[REDACTED]
09/26/07	-	[REDACTED]	[REDACTED]	[REDACTED]

CLIENT RECEIVED: [REDACTED]
DATE: 12/16/07
TIME: 12:40
INITIALS: [REDACTED]

LABORATORY: [REDACTED] LAB# A270077

ANALYSIS	DATE	TIME	ANALYST	STATUS	OTHER
1	12/16	12:40	[REDACTED]	COMPLETE	
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

LABORATORY: [REDACTED]

CLIENT RECEIVED: [REDACTED]
DATE: 12/16/07
TIME: 12:40
INITIALS: [REDACTED]



PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST

Printed: 9/14/2016 1:46:17PM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 09/02/16 12:40

Work Order: AZI0077

Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 18

#Containers: 56

Minimum Temp(C): 1.0

Maximum Temp(C): 1.0

Custody Seal(s) Used: Yes

CHECKLIST ITEMS

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

Comments:



PACE ANALYTICAL SERVICES, INC.

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

Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AZJ0727

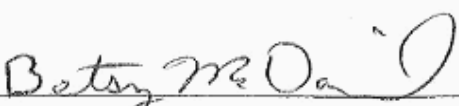
November 07, 2016

Project: CCR Event

Project #:Plant Hammond

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

Approved:


Project Manager

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, Inc.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, INC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-18	AZJ0727-01	Ground Water	10/25/16 12:30	10/26/16 11:50
HGWC-16	AZJ0727-02	Ground Water	10/25/16 11:35	10/26/16 11:50
HGWC-17	AZJ0727-03	Ground Water	10/25/16 12:35	10/26/16 11:50
FERB-2	AZJ0727-04	Water	10/25/16 10:00	10/26/16 11:50
FB-2	AZJ0727-05	Water	10/25/16 09:00	10/26/16 11:50
Dup-2	AZJ0727-06	Ground Water	10/25/16 00:00	10/26/16 11:50



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AZJ0727-01

Date/Time Sampled: 10/25/2016 12:30:00PM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1870	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	290	25	1.4	mg/L	EPA 300.0		100	10/27/16 14:24	11/02/16 22:56	6100735	RLC
Fluoride	0.58	0.30	0.02	mg/L	EPA 300.0		1	10/27/16 14:24	10/29/16 01:51	6100735	RLC
Sulfate	950	100	5.1	mg/L	EPA 300.0		100	10/27/16 14:24	11/02/16 22:56	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Arsenic	0.0060	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Barium	0.0349	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Beryllium	0.0034	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Boron	8.50	0.500	0.0321	mg/L	EPA 6020B		5	10/28/16 09:30	11/02/16 15:29	6100754	CSW
Cadmium	0.0022	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Calcium	362	25.0	1.55	mg/L	EPA 6020B		50	10/28/16 09:30	11/02/16 15:22	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Cobalt	0.188	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Lead	0.0015	0.0050	0.0001	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Selenium	0.0282	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Lithium	0.0160	0.0500	0.0021	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 13:56	6100754	CSW
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	10/28/16 08:45	10/28/16 14:24	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: HGWC-16

Lab Number ID: AZJ0727-02

Date/Time Sampled: 10/25/2016 11:35:00AM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	563	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	35	2.5	0.14	mg/L	EPA 300.0		10	10/27/16 14:24	11/02/16 23:18	6100735	RLC
Fluoride	0.25	0.30	0.02	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 02:11	6100735	RLC
Sulfate	230	10	0.51	mg/L	EPA 300.0		10	10/27/16 14:24	11/02/16 23:18	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Barium	0.0991	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Boron	1.27	0.100	0.0064	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Calcium	138	25.0	1.55	mg/L	EPA 6020B		50	10/28/16 09:30	11/02/16 15:35	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Lithium	0.0029	0.0500	0.0021	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 14:02	6100754	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 14:27	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: HGWC-17

Lab Number ID: AZJ0727-03

Date/Time Sampled: 10/25/2016 12:35:00PM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	98	2.5	0.14	mg/L	EPA 300.0		10	10/27/16 14:24	11/03/16 01:07	6100735	RLC
Fluoride	0.07	0.30	0.02	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 02:32	6100735	RLC
Sulfate	440	10	0.51	mg/L	EPA 300.0		10	10/27/16 14:24	11/03/16 01:07	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Barium	0.0225	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Boron	5.38	0.500	0.0321	mg/L	EPA 6020B		5	10/28/16 09:30	11/02/16 16:03	6100754	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Calcium	206	25.0	1.55	mg/L	EPA 6020B		50	10/28/16 09:30	11/02/16 15:56	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Cobalt	0.0141	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 14:29	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AZJ0727-04

Date/Time Sampled: 10/25/2016 10:00:00AM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	7.3	0.25	0.01	mg/L	EPA 300.0		1	10/27/16 14:24	10/29/16 02:53	6100735	RLC
Fluoride	0.02	0.30	0.02	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 02:53	6100735	RLC
Sulfate	33	1.0	0.05	mg/L	EPA 300.0		1	10/27/16 14:24	10/29/16 02:53	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Boron	0.0257	0.100	0.0064	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Calcium	0.0441	0.500	0.0311	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 14:08	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:14	6100754	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 14:31	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: FB-2

Lab Number ID: AZJ0727-05

Date/Time Sampled: 10/25/2016 9:00:00AM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	0.26	0.25	0.01	mg/L	EPA 300.0		1	10/27/16 14:24	10/29/16 03:13	6100735	RLC
Fluoride	0.11	0.30	0.02	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 03:13	6100735	RLC
Sulfate	0.89	1.0	0.05	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 03:13	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Boron	0.0123	0.100	0.0064	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:19	6100754	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 14:34	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Project: CCR Event

Client ID: Dup-2

Lab Number ID: AZJ0727-06

Date/Time Sampled: 10/25/2016 12:00:00AM

Date/Time Received: 10/26/2016 11:50:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	584	25	10	mg/L	SM 2540 C		1	10/27/16 16:30	10/27/16 16:30	6100729	JPT
Inorganic Anions											
Chloride	34	0.25	0.01	mg/L	EPA 300.0		1	10/27/16 14:24	10/29/16 03:35	6100735	RLC
Fluoride	0.29	0.30	0.02	mg/L	EPA 300.0	J	1	10/27/16 14:24	10/29/16 03:35	6100735	RLC
Sulfate	230	10	0.51	mg/L	EPA 300.0		10	10/27/16 14:24	11/03/16 01:29	6100735	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Barium	0.100	0.0100	0.0004	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Boron	1.25	0.100	0.0064	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Calcium	136	25.0	1.55	mg/L	EPA 6020B		50	10/28/16 09:30	11/02/16 16:09	6100754	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Lithium	0.0029	0.0500	0.0021	mg/L	EPA 6020B	J	1	10/28/16 09:30	10/31/16 14:25	6100754	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	10/28/16 08:45	10/28/16 14:41	6100745	MTC



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Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100729 - SM 2540 C											
Blank (6100729-BLK1)						Prepared & Analyzed: 10/27/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6100729-BS1)						Prepared & Analyzed: 10/27/16					
Total Dissolved Solids	360	25	10	mg/L	400.00		90	84-108			
Duplicate (6100729-DUP1)						Source: AZJ0726-03 Prepared & Analyzed: 10/27/16					
Total Dissolved Solids	179	25	10	mg/L		172			4	10	
Duplicate (6100729-DUP2)						Source: AZJ0727-02 Prepared & Analyzed: 10/27/16					
Total Dissolved Solids	567	25	10	mg/L		563			0.7	10	



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November 07, 2016

Report No.: AZJ0727

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100735 - EPA 300.0											
Blank (6100735-BLK1)						Prepared: 10/27/16 Analyzed: 10/28/16					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6100735-BS1)						Prepared: 10/27/16 Analyzed: 10/28/16					
Chloride	10.1	0.25	0.01	mg/L	10.010		101	90-110			
Fluoride	10.1	0.30	0.02	mg/L	10.020		101	90-110			
Sulfate	10.1	1.0	0.05	mg/L	10.020		101	90-110			
Matrix Spike (6100735-MS1)						Source: AZJ0710-05 Prepared: 10/27/16 Analyzed: 10/28/16					
Chloride	10.8	0.25	0.01	mg/L	10.010	1.17	96	90-110			
Fluoride	9.73	0.30	0.02	mg/L	10.020	0.04	97	90-110			
Sulfate	10.4	1.0	0.05	mg/L	10.020	0.74	97	90-110			
Matrix Spike (6100735-MS2)						Source: AZJ0726-03 Prepared: 10/27/16 Analyzed: 10/29/16					
Chloride	14.1	0.25	0.01	mg/L	10.010	4.81	93	90-110			
Fluoride	9.53	0.30	0.02	mg/L	10.020	0.17	93	90-110			
Sulfate	40.1	1.0	0.05	mg/L	10.020	40.7	NR	90-110			QM-02
Matrix Spike Dup (6100735-MSD1)						Source: AZJ0710-05 Prepared: 10/27/16 Analyzed: 10/28/16					
Chloride	11.5	0.25	0.01	mg/L	10.010	1.17	103	90-110	6	15	
Fluoride	10.6	0.30	0.02	mg/L	10.020	0.04	105	90-110	9	15	
Sulfate	11.2	1.0	0.05	mg/L	10.020	0.74	104	90-110	7	15	



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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100745 - EPA 7470A											
Blank (6100745-BLK1)						Prepared & Analyzed: 10/28/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6100745-BS1)						Prepared & Analyzed: 10/28/16					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			
Matrix Spike (6100745-MS1)						Source: AZJ0710-06 Prepared & Analyzed: 10/28/16					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3	ND	98	75-125			
Matrix Spike Dup (6100745-MSD1)						Source: AZJ0710-06 Prepared & Analyzed: 10/28/16					
Mercury	0.00244	0.00050	0.000041	mg/L	2.5000E-3	ND	98	75-125	0.5	20	
Post Spike (6100745-PS1)						Source: AZJ0710-06 Prepared & Analyzed: 10/28/16					
Mercury	1.70			ug/L	1.6667	0.00854	102	80-120			
Batch 6100754 - EPA 3005A											
Blank (6100754-BLK1)						Prepared: 10/28/16 Analyzed: 10/31/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.100	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0050	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0050	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0050	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100754 - EPA 3005A											
LCS (6100754-BS1)						Prepared: 10/28/16 Analyzed: 10/31/16					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000		104	80-120			
Arsenic	0.0981	0.0050	0.0016	mg/L	0.10000		98	80-120			
Barium	0.0998	0.0100	0.0004	mg/L	0.10000		100	80-120			
Beryllium	0.0990	0.0030	0.00008	mg/L	0.10000		99	80-120			
Boron	1.02	0.100	0.0064	mg/L	1.0000		102	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.00	0.500	0.0311	mg/L	1.0000		100	80-120			
Chromium	0.0995	0.0100	0.0009	mg/L	0.10000		99	80-120			
Cobalt	0.0981	0.0100	0.0005	mg/L	0.10000		98	80-120			
Copper	0.0960	0.0050	0.0005	mg/L	0.10000		96	80-120			
Lead	0.0998	0.0050	0.0001	mg/L	0.10000		100	80-120			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000		103	80-120			
Nickel	0.0975	0.0050	0.0006	mg/L	0.10000		98	80-120			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000		103	80-120			
Silver	0.103	0.0050	0.0005	mg/L	0.10000		103	80-120			
Thallium	0.102	0.0010	0.0002	mg/L	0.10000		102	80-120			
Vanadium	0.0975	0.0100	0.0071	mg/L	0.10000		98	80-120			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000		106	80-120			
Lithium	0.101	0.0500	0.0021	mg/L	0.10000		101	80-120			
Matrix Spike (6100754-MS1)											
				Source: AZJ0710-07		Prepared: 10/28/16 Analyzed: 10/31/16					
Antimony	0.107	0.0030	0.0008	mg/L	0.10000	ND	107	75-125			
Arsenic	0.0981	0.0050	0.0016	mg/L	0.10000	ND	98	75-125			
Barium	0.128	0.0100	0.0004	mg/L	0.10000	0.0271	101	75-125			
Beryllium	0.0975	0.0030	0.00008	mg/L	0.10000	0.00009	97	75-125			
Boron	1.04	0.100	0.0064	mg/L	1.0000	ND	104	75-125			
Cadmium	0.0988	0.0010	0.00007	mg/L	0.10000	0.0001	99	75-125			
Calcium	32.3	2.50	0.155	mg/L	1.0000	30.2	208	75-125			QM-02
Chromium	0.107	0.0100	0.0009	mg/L	0.10000	ND	107	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.0968	0.0050	0.0005	mg/L	0.10000	ND	97	75-125			
Lead	0.100	0.0050	0.0001	mg/L	0.10000	0.0001	100	75-125			
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125			
Nickel	0.100	0.0050	0.0006	mg/L	0.10000	0.0006	100	75-125			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125			
Silver	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125			
Vanadium	0.107	0.0100	0.0071	mg/L	0.10000	ND	107	75-125			
Zinc	0.146	0.0100	0.0021	mg/L	0.10000	0.0402	105	75-125			
Lithium	0.102	0.0500	0.0021	mg/L	0.10000	ND	102	75-125			



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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

Report No.: AZJ0727

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6100754 - EPA 3005A											
Matrix Spike Dup (6100754-MSD1)			Source: AZJ0710-07			Prepared: 10/28/16 Analyzed: 10/31/16					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000	ND	104	75-125	2	20	
Arsenic	0.0989	0.0050	0.0016	mg/L	0.10000	ND	99	75-125	0.9	20	
Barium	0.129	0.0100	0.0004	mg/L	0.10000	0.0271	101	75-125	0.4	20	
Beryllium	0.0954	0.0030	0.00008	mg/L	0.10000	0.00009	95	75-125	2	20	
Boron	0.985	0.100	0.0064	mg/L	1.0000	ND	99	75-125	5	20	
Cadmium	0.0995	0.0010	0.00007	mg/L	0.10000	0.0001	99	75-125	0.7	20	
Calcium	32.2	2.50	0.155	mg/L	1.0000	30.2	197	75-125	0.4	20	QM-02
Chromium	0.106	0.0100	0.0009	mg/L	0.10000	ND	106	75-125	1	20	
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125	1	20	
Copper	0.0990	0.0050	0.0005	mg/L	0.10000	ND	99	75-125	2	20	
Lead	0.100	0.0050	0.0001	mg/L	0.10000	0.0001	100	75-125	0.3	20	
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000	ND	106	75-125	0.8	20	
Nickel	0.102	0.0050	0.0006	mg/L	0.10000	0.0006	101	75-125	1	20	
Selenium	0.101	0.0100	0.0010	mg/L	0.10000	ND	101	75-125	0.9	20	
Silver	0.102	0.0050	0.0005	mg/L	0.10000	ND	102	75-125	0.1	20	
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125	0.005	20	
Vanadium	0.105	0.0100	0.0071	mg/L	0.10000	ND	105	75-125	1	20	
Zinc	0.149	0.0100	0.0021	mg/L	0.10000	0.0402	109	75-125	3	20	
Lithium	0.0977	0.0500	0.0021	mg/L	0.10000	ND	98	75-125	5	20	
Post Spike (6100754-PS1)			Source: AZJ0710-07			Prepared: 10/28/16 Analyzed: 10/31/16					
Antimony	97.4			ug/L	100.00	0.314	97	80-120			
Arsenic	102			ug/L	100.00	0.144	102	80-120			
Barium	125			ug/L	100.00	27.1	97	80-120			
Beryllium	101			ug/L	100.00	0.0908	101	80-120			
Boron	1020			ug/L	1000.0	6.19	101	80-120			
Cadmium	101			ug/L	100.00	0.113	101	80-120			
Calcium	32400			ug/L	1000.0	30200	220	80-120			QM-02
Chromium	103			ug/L	100.00	0.860	102	80-120			
Cobalt	100			ug/L	100.00	0.0677	100	80-120			
Copper	95.2			ug/L	100.00	0.178	95	80-120			
Lead	98.2			ug/L	100.00	0.145	98	80-120			
Molybdenum	105			ug/L	100.00	0.161	105	80-120			
Nickel	95.9			ug/L	100.00	0.590	95	80-120			
Selenium	105			ug/L	100.00	0.123	105	80-120			
Silver	103			ug/L	100.00	0.0110	103	80-120			
Thallium	102			ug/L	100.00	0.0377	102	80-120			
Vanadium	103			ug/L	100.00	0.451	102	80-120			
Zinc	143			ug/L	100.00	40.2	103	80-120			
Lithium	103			ug/L	100.00	0.622	103	80-120			



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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

November 07, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
J Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

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

CHAIN OF CUSTODY RECORD



Pace Analytical Services, Inc.
116 TECHNOLOGY PARKWAY PEACHTREE CORNERS, GA 30090
(770) 734-6000 FAX (770) 734-6001 www.pace-iso.com

CLIENT NAME: Georgia Power	PROJECT #	ANALYTES REQUESTED	CONTAINER TYPE	EMERGENCY USE ONLY
PROJECT ADDRESS: GEORGIA POWER CO. 11105 WOODBRIDGE BLVD ALPHARETTA, GA 30004 EVALUATION # 2016-08-0201	1036	1. 1036	1. HPI-HPIC	1. HPI-HPIC
PROJECT CONTACT: Joe Williams	1036	2. 1036	2. HPI-HPIC	2. HPI-HPIC
PROJECT CONTACT PHONE: 404-488-1036	1036	3. 1036	3. HPI-HPIC	3. HPI-HPIC
PROJECT CONTACT EMAIL: jwilliams@ge.com	1036	4. 1036	4. HPI-HPIC	4. HPI-HPIC
PROJECT NAME: 1036-08-2016	1036	5. 1036	5. HPI-HPIC	5. HPI-HPIC
PROJECT TYPE: Environmental - HP/MP	1036	6. 1036	6. HPI-HPIC	6. HPI-HPIC
PROJECT #	1036	7. 1036	7. HPI-HPIC	7. HPI-HPIC
Collector Date	08-02-2016	8. 1036	8. HPI-HPIC	8. HPI-HPIC
Analyzer Code	001	9. 1036	9. HPI-HPIC	9. HPI-HPIC
Sample Identification	1036-08-02-01	10. 1036	10. HPI-HPIC	10. HPI-HPIC
Collector	Joe Williams	11. 1036	11. HPI-HPIC	11. HPI-HPIC
Analyzer	001	12. 1036	12. HPI-HPIC	12. HPI-HPIC
Collector	Joe Williams	13. 1036	13. HPI-HPIC	13. HPI-HPIC
Analyzer	001	14. 1036	14. HPI-HPIC	14. HPI-HPIC
Collector	Joe Williams	15. 1036	15. HPI-HPIC	15. HPI-HPIC
Analyzer	001	16. 1036	16. HPI-HPIC	16. HPI-HPIC
Collector	Joe Williams	17. 1036	17. HPI-HPIC	17. HPI-HPIC
Analyzer	001	18. 1036	18. HPI-HPIC	18. HPI-HPIC
Collector	Joe Williams	19. 1036	19. HPI-HPIC	19. HPI-HPIC
Analyzer	001	20. 1036	20. HPI-HPIC	20. HPI-HPIC
Collector	Joe Williams	21. 1036	21. HPI-HPIC	21. HPI-HPIC
Analyzer	001	22. 1036	22. HPI-HPIC	22. HPI-HPIC
Collector	Joe Williams	23. 1036	23. HPI-HPIC	23. HPI-HPIC
Analyzer	001	24. 1036	24. HPI-HPIC	24. HPI-HPIC
Collector	Joe Williams	25. 1036	25. HPI-HPIC	25. HPI-HPIC
Analyzer	001	26. 1036	26. HPI-HPIC	26. HPI-HPIC
Collector	Joe Williams	27. 1036	27. HPI-HPIC	27. HPI-HPIC
Analyzer	001	28. 1036	28. HPI-HPIC	28. HPI-HPIC
Collector	Joe Williams	29. 1036	29. HPI-HPIC	29. HPI-HPIC
Analyzer	001	30. 1036	30. HPI-HPIC	30. HPI-HPIC
Collector	Joe Williams	31. 1036	31. HPI-HPIC	31. HPI-HPIC
Analyzer	001	32. 1036	32. HPI-HPIC	32. HPI-HPIC
Collector	Joe Williams	33. 1036	33. HPI-HPIC	33. HPI-HPIC
Analyzer	001	34. 1036	34. HPI-HPIC	34. HPI-HPIC
Collector	Joe Williams	35. 1036	35. HPI-HPIC	35. HPI-HPIC
Analyzer	001	36. 1036	36. HPI-HPIC	36. HPI-HPIC
Collector	Joe Williams	37. 1036	37. HPI-HPIC	37. HPI-HPIC
Analyzer	001	38. 1036	38. HPI-HPIC	38. HPI-HPIC
Collector	Joe Williams	39. 1036	39. HPI-HPIC	39. HPI-HPIC
Analyzer	001	40. 1036	40. HPI-HPIC	40. HPI-HPIC
Collector	Joe Williams	41. 1036	41. HPI-HPIC	41. HPI-HPIC
Analyzer	001	42. 1036	42. HPI-HPIC	42. HPI-HPIC
Collector	Joe Williams	43. 1036	43. HPI-HPIC	43. HPI-HPIC
Analyzer	001	44. 1036	44. HPI-HPIC	44. HPI-HPIC
Collector	Joe Williams	45. 1036	45. HPI-HPIC	45. HPI-HPIC
Analyzer	001	46. 1036	46. HPI-HPIC	46. HPI-HPIC
Collector	Joe Williams	47. 1036	47. HPI-HPIC	47. HPI-HPIC
Analyzer	001	48. 1036	48. HPI-HPIC	48. HPI-HPIC
Collector	Joe Williams	49. 1036	49. HPI-HPIC	49. HPI-HPIC
Analyzer	001	50. 1036	50. HPI-HPIC	50. HPI-HPIC
Collector	Joe Williams	51. 1036	51. HPI-HPIC	51. HPI-HPIC
Analyzer	001	52. 1036	52. HPI-HPIC	52. HPI-HPIC
Collector	Joe Williams	53. 1036	53. HPI-HPIC	53. HPI-HPIC
Analyzer	001	54. 1036	54. HPI-HPIC	54. HPI-HPIC
Collector	Joe Williams	55. 1036	55. HPI-HPIC	55. HPI-HPIC
Analyzer	001	56. 1036	56. HPI-HPIC	56. HPI-HPIC
Collector	Joe Williams	57. 1036	57. HPI-HPIC	57. HPI-HPIC
Analyzer	001	58. 1036	58. HPI-HPIC	58. HPI-HPIC
Collector	Joe Williams	59. 1036	59. HPI-HPIC	59. HPI-HPIC
Analyzer	001	60. 1036	60. HPI-HPIC	60. HPI-HPIC



PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST

Printed: 11/7/2016 3:46:16PM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 10/26/16 11:50

Work Order: AZJ0727

Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 6

#Containers: 19

Minimum Temp(C): 1.0

Maximum Temp(C): 1.0

Custody Seal(s) Used: N/A

CHECKLIST ITEMS

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

Comments:



PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AZL0435

December 28, 2016

Project: CCR Event

Project #: Plant Hammond

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

Approved:


Signature

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, LLC.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWA-5	AZL0435-01	Water	12/08/16 10:44	12/09/16 12:05
HGWA-6	AZL0435-02	Water	12/08/16 12:47	12/09/16 12:05
HGWC-18	AZL0435-03	Water	12/08/16 14:17	12/09/16 12:05
FB-2	AZL0435-04	Water	12/08/16 14:40	12/09/16 12:05
FERB-2	AZL0435-05	Water	12/08/16 14:50	12/09/16 12:05



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Project: CCR Event

Client ID: HGWA-5

Lab Number ID: AZL0435-01

Date/Time Sampled: 12/8/2016 10:44:00AM

Date/Time Received: 12/9/2016 12:05:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	116	25	10	mg/L	SM 2540 C		1	12/13/16 11:20	12/13/16 11:20	6120356	JPT
Inorganic Anions											
Chloride	2.0	0.25	0.01	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 12:53	6120712	RNB
Fluoride	0.08	0.30	0.02	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 12:53	6120712	RNB
Sulfate	20	1.0	0.05	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 12:53	6120712	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Barium	0.0496	0.0100	0.0004	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Boron	0.0083	0.0400	0.0064	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Calcium	23.5	5.00	0.311	mg/L	EPA 6020B		10	12/15/16 09:05	12/22/16 17:10	6120445	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Cobalt	0.0006	0.0100	0.0005	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Lithium	0.0027	0.0500	0.0021	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:18	6120445	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	12/15/16 10:35	12/15/16 14:50	6120426	MTC



PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Project: CCR Event

Client ID: HGWA-6

Lab Number ID: AZL0435-02

Date/Time Sampled: 12/8/2016 12:47:00PM

Date/Time Received: 12/9/2016 12:05:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	235	25	10	mg/L	SM 2540 C		1	12/13/16 11:20	12/13/16 11:20	6120356	JPT
Inorganic Anions											
Chloride	1.6	0.25	0.01	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 13:14	6120712	RNB
Fluoride	0.06	0.30	0.02	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 13:14	6120712	RNB
Sulfate	36	1.0	0.05	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 13:14	6120712	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Barium	0.162	0.0100	0.0004	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Boron	0.0159	0.0400	0.0064	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Calcium	49.2	25.0	1.55	mg/L	EPA 6020B		50	12/15/16 09:05	12/22/16 17:47	6120445	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Lithium	0.0100	0.0500	0.0021	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:23	6120445	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	12/15/16 10:35	12/15/16 14:53	6120426	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AZL0435-03

Date/Time Sampled: 12/8/2016 2:17:00PM

Date/Time Received: 12/9/2016 12:05:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1930	25	10	mg/L	SM 2540 C		1	12/13/16 11:20	12/13/16 11:20	6120356	JPT
Inorganic Anions											
Chloride	300	25	1.4	mg/L	EPA 300.0		100	12/22/16 16:55	12/24/16 16:05	6120712	RNB
Fluoride	0.63	0.30	0.02	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 13:35	6120712	RNB
Sulfate	910	100	5.1	mg/L	EPA 300.0		100	12/22/16 16:55	12/24/16 16:05	6120712	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Arsenic	0.0070	0.0050	0.0016	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Barium	0.0339	0.0100	0.0004	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Beryllium	0.0033	0.0030	0.00008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Boron	7.15	0.0400	0.0064	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Cadmium	0.0024	0.0010	0.00007	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Calcium	366	50.0	3.11	mg/L	EPA 6020B		100	12/15/16 09:05	12/22/16 17:53	6120445	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Cobalt	0.206	0.0100	0.0005	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Lead	0.0017	0.0050	0.0001	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Selenium	0.0373	0.0100	0.0010	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Lithium	0.0144	0.0500	0.0021	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:29	6120445	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	12/15/16 10:35	12/15/16 14:55	6120426	MTC



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Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Project: CCR Event

Client ID: FB-2

Lab Number ID: AZL0435-04

Date/Time Sampled: 12/8/2016 2:40:00PM

Date/Time Received: 12/9/2016 12:05:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	12/13/16 11:20	12/13/16 11:20	6120356	JPT
Inorganic Anions											
Chloride	0.15	0.25	0.01	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 14:17	6120712	RNB
Fluoride	0.03	0.30	0.02	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 14:17	6120712	RNB
Sulfate	0.47	1.0	0.05	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 14:17	6120712	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Boron	0.0245	0.0400	0.0064	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Calcium	0.0797	0.500	0.0311	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:35	6120445	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	12/15/16 10:35	12/15/16 14:57	6120426	MTC



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Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AZL0435-05

Date/Time Sampled: 12/8/2016 2:50:00PM

Date/Time Received: 12/9/2016 12:05:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	12/13/16 11:20	12/13/16 11:20	6120356	JPT
Inorganic Anions											
Chloride	0.05	0.25	0.01	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 14:39	6120712	RNB
Fluoride	ND	0.30	0.02	mg/L	EPA 300.0		1	12/22/16 16:55	12/23/16 14:39	6120712	RNB
Sulfate	0.14	1.0	0.05	mg/L	EPA 300.0	J	1	12/22/16 16:55	12/23/16 14:39	6120712	RNB
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Calcium	0.0321	0.500	0.0311	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Lead	0.0003	0.0050	0.0001	mg/L	EPA 6020B	J	1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	12/15/16 09:05	12/16/16 20:52	6120445	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	12/15/16 10:35	12/15/16 15:00	6120426	MTC



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Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6120356 - SM 2540 C											
Blank (6120356-BLK1)						Prepared & Analyzed: 12/13/16					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (6120356-BS1)						Prepared & Analyzed: 12/13/16					
Total Dissolved Solids	411	25	10	mg/L	400.00		103	84-108			
Duplicate (6120356-DUP1)						Source: AZL0406-04			Prepared & Analyzed: 12/13/16		
Total Dissolved Solids	974	25	10	mg/L		980			0.6	10	
Duplicate (6120356-DUP2)						Source: AZL0435-04			Prepared & Analyzed: 12/13/16		
Total Dissolved Solids	ND	25	10	mg/L		ND				10	



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December 28, 2016

Report No.: AZL0435

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6120712 - EPA 300.0											
Blank (6120712-BLK1) Prepared: 12/22/16 Analyzed: 12/23/16											
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.02	mg/L							
Sulfate	ND	1.0	0.05	mg/L							
LCS (6120712-BS1) Prepared: 12/22/16 Analyzed: 12/23/16											
Chloride	10.2	0.25	0.01	mg/L	10.010		102	90-110			
Fluoride	10.5	0.30	0.02	mg/L	10.020		105	90-110			
Sulfate	10.2	1.0	0.05	mg/L	10.020		101	90-110			
Matrix Spike (6120712-MS1) Source: AZL0418-01 Prepared: 12/22/16 Analyzed: 12/23/16											
Chloride	15.6	0.25	0.01	mg/L	10.010	6.97	87	90-110			QM-02
Fluoride	9.22	0.30	0.02	mg/L	10.020	0.09	91	90-110			
Sulfate	70.7	1.0	0.05	mg/L	10.020	68.3	24	90-110			QM-02
Matrix Spike (6120712-MS2) Source: AZL0435-03 Prepared: 12/22/16 Analyzed: 12/23/16											
Chloride	182	0.25	0.01	mg/L	10.010	199	NR	90-110			QM-02
Fluoride	13.4	0.30	0.02	mg/L	10.020	0.63	127	90-110			QM-05
Sulfate	415	1.0	0.05	mg/L	10.020	440	NR	90-110			QM-02
Matrix Spike Dup (6120712-MSD1) Source: AZL0418-01 Prepared: 12/22/16 Analyzed: 12/23/16											
Chloride	16.5	0.25	0.01	mg/L	10.010	6.97	95	90-110	5	15	
Fluoride	10.1	0.30	0.02	mg/L	10.020	0.09	100	90-110	9	15	
Sulfate	70.9	1.0	0.05	mg/L	10.020	68.3	25	90-110	0.2	15	QM-02



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December 28, 2016

Report No.: AZL0435

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6120426 - EPA 7470A											
Blank (6120426-BLK1)						Prepared & Analyzed: 12/15/16					
Mercury	ND	0.00050	0.000041	mg/L							
LCS (6120426-BS1)						Prepared & Analyzed: 12/15/16					
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			
Matrix Spike (6120426-MS1)						Source: AZL0406-04 Prepared & Analyzed: 12/15/16					
Mercury	0.00243	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125			
Matrix Spike Dup (6120426-MSD1)						Source: AZL0406-04 Prepared & Analyzed: 12/15/16					
Mercury	0.00242	0.00050	0.000041	mg/L	2.5000E-3	ND	97	75-125	0.3	20	
Post Spike (6120426-PS1)						Source: AZL0406-04 Prepared & Analyzed: 12/15/16					
Mercury	1.77			ug/L	1.6667	-0.0161	106	80-120			
Batch 6120445 - EPA 3005A											
Blank (6120445-BLK1)						Prepared: 12/15/16 Analyzed: 12/16/16					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 6120445 - EPA 3005A

LCS (6120445-BS1)

Prepared: 12/15/16 Analyzed: 12/16/16

Antimony	0.116	0.0030	0.0008	mg/L	0.10000		116	80-120			
Arsenic	0.105	0.0050	0.0016	mg/L	0.10000		105	80-120			
Barium	0.105	0.0100	0.0004	mg/L	0.10000		105	80-120			
Beryllium	0.111	0.0030	0.00008	mg/L	0.10000		111	80-120			
Boron	1.05	0.0400	0.0064	mg/L	1.0000		105	80-120			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000		104	80-120			
Calcium	1.07	0.500	0.0311	mg/L	1.0000		107	80-120			
Chromium	0.104	0.0100	0.0009	mg/L	0.10000		104	80-120			
Cobalt	0.105	0.0100	0.0005	mg/L	0.10000		105	80-120			
Copper	0.103	0.0250	0.0005	mg/L	0.10000		103	80-120			
Lead	0.104	0.0050	0.0001	mg/L	0.10000		104	80-120			
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000		106	80-120			
Nickel	0.105	0.0100	0.0006	mg/L	0.10000		105	80-120			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000		102	80-120			
Silver	0.103	0.0100	0.0005	mg/L	0.10000		103	80-120			
Thallium	0.105	0.0010	0.0002	mg/L	0.10000		105	80-120			
Vanadium	0.107	0.0100	0.0071	mg/L	0.10000		107	80-120			
Zinc	0.106	0.0100	0.0021	mg/L	0.10000		106	80-120			
Lithium	0.106	0.0500	0.0021	mg/L	0.10000		106	80-120			

Matrix Spike (6120445-MS1)

Source: AZL0418-01

Prepared: 12/15/16 Analyzed: 12/16/16

Antimony	0.115	0.0030	0.0008	mg/L	0.10000	ND	115	75-125			
Arsenic	0.105	0.0050	0.0016	mg/L	0.10000	ND	105	75-125			
Barium	0.174	0.0100	0.0004	mg/L	0.10000	0.0781	95	75-125			
Beryllium	0.0958	0.0030	0.00008	mg/L	0.10000	ND	96	75-125			
Boron	1.01	0.0400	0.0064	mg/L	1.0000	0.224	79	75-125			
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125			
Calcium	78.8	25.0	1.55	mg/L	1.0000	74.0	480	75-125			QM-02
Chromium	0.104	0.0100	0.0009	mg/L	0.10000	ND	104	75-125			
Cobalt	0.108	0.0100	0.0005	mg/L	0.10000	0.0005	107	75-125			
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125			
Lead	0.101	0.0050	0.0001	mg/L	0.10000	ND	101	75-125			
Molybdenum	0.110	0.0100	0.0017	mg/L	0.10000	ND	110	75-125			
Nickel	0.106	0.0100	0.0006	mg/L	0.10000	ND	106	75-125			
Selenium	0.102	0.0100	0.0010	mg/L	0.10000	ND	102	75-125			
Silver	0.103	0.0100	0.0005	mg/L	0.10000	ND	103	75-125			
Thallium	0.104	0.0010	0.0002	mg/L	0.10000	ND	104	75-125			
Vanadium	0.107	0.0100	0.0071	mg/L	0.10000	ND	107	75-125			
Zinc	0.111	0.0100	0.0021	mg/L	0.10000	ND	111	75-125			
Lithium	0.0967	0.0500	0.0021	mg/L	0.10000	ND	97	75-125			



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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Report No.: AZL0435

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6120445 - EPA 3005A											
Matrix Spike Dup (6120445-MSD1)			Source: AZL0418-01			Prepared: 12/15/16 Analyzed: 12/16/16					
Antimony	0.118	0.0030	0.0008	mg/L	0.10000	ND	118	75-125	3	20	
Arsenic	0.109	0.0050	0.0016	mg/L	0.10000	ND	109	75-125	3	20	
Barium	0.176	0.0100	0.0004	mg/L	0.10000	0.0781	98	75-125	1	20	
Beryllium	0.0929	0.0030	0.00008	mg/L	0.10000	ND	93	75-125	3	20	
Boron	0.979	0.0400	0.0064	mg/L	1.0000	0.224	76	75-125	3	20	
Cadmium	0.104	0.0010	0.00007	mg/L	0.10000	ND	104	75-125	0.4	20	
Calcium	81.3	25.0	1.55	mg/L	1.0000	74.0	728	75-125	3	20	QM-02
Chromium	0.106	0.0100	0.0009	mg/L	0.10000	ND	106	75-125	2	20	
Cobalt	0.103	0.0100	0.0005	mg/L	0.10000	0.0005	102	75-125	5	20	
Copper	0.101	0.0250	0.0005	mg/L	0.10000	ND	101	75-125	1	20	
Lead	0.101	0.0050	0.0001	mg/L	0.10000	ND	101	75-125	0.5	20	
Molybdenum	0.112	0.0100	0.0017	mg/L	0.10000	ND	112	75-125	2	20	
Nickel	0.103	0.0100	0.0006	mg/L	0.10000	ND	103	75-125	3	20	
Selenium	0.104	0.0100	0.0010	mg/L	0.10000	ND	104	75-125	2	20	
Silver	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125	1	20	
Thallium	0.103	0.0010	0.0002	mg/L	0.10000	ND	103	75-125	1	20	
Vanadium	0.108	0.0100	0.0071	mg/L	0.10000	ND	108	75-125	0.3	20	
Zinc	0.106	0.0100	0.0021	mg/L	0.10000	ND	106	75-125	4	20	
Lithium	0.0925	0.0500	0.0021	mg/L	0.10000	ND	92	75-125	4	20	
Post Spike (6120445-PS1)											
Source: AZL0418-01			Prepared: 12/15/16 Analyzed: 12/16/16								
Antimony	109			ug/L	100.00	0.375	108	80-120			
Arsenic	110			ug/L	100.00	1.00	109	80-120			
Barium	178			ug/L	100.00	78.1	100	80-120			
Beryllium	96.0			ug/L	100.00	0.0417	96	80-120			
Boron	1010			ug/L	1000.0	224	78	80-120			QM-02
Cadmium	106			ug/L	100.00	0.0408	106	80-120			
Calcium	81800			ug/L	1000.0	74000	782	80-120			QM-02
Chromium	103			ug/L	100.00	0.152	103	80-120			
Cobalt	104			ug/L	100.00	0.524	103	80-120			
Copper	101			ug/L	100.00	0.266	101	80-120			
Lead	99.8			ug/L	100.00	0.0576	100	80-120			
Molybdenum	110			ug/L	100.00	0.410	110	80-120			
Nickel	103			ug/L	100.00	0.424	103	80-120			
Selenium	105			ug/L	100.00	0.274	105	80-120			
Silver	101			ug/L	100.00	0.0079	101	80-120			
Thallium	102			ug/L	100.00	0.0281	102	80-120			
Vanadium	109			ug/L	100.00	-1.15	109	80-120			
Zinc	108			ug/L	100.00	1.45	106	80-120			
Lithium	92.8			ug/L	100.00	0.782	92	80-120			



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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

December 28, 2016

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

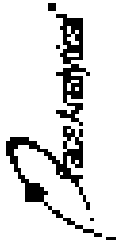
Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QM-05** The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.
- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

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



Page Analytical Services, Inc.
 17177 TECNOLOGY PARKWAY, PRACVILLE, CALIFORNIA, CA 95022
 (916) 724-4300 FAX: (916) 724-4201 WWW: www.see.com

CHAIN OF CUSTODY RECORD

PAGE: 4 OF 1

CLIENT INFORMATION
 Client Name: [Blank]
 Client Address: [Blank]
 Client City/State: [Blank]
 Client Phone: [Blank]
 Client E-Mail: [Blank]

PROJECT INFORMATION
 Project Name: [Blank]
 Project Number: [Blank]
 Project Start Date: [Blank]
 Project End Date: [Blank]

DATE	TIME	BY	REASON FOR REQUEST

ANALYSIS INFORMATION

ANALYSIS	UNIT	RESULT	REMARKS
1. TSS	mg/L		
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170. TSS	mg/L		

ANALYST SIGNATURE: [Blank]
LABORATORY: [Blank]
DATE: [Blank]



PACE ANALYTICAL SERVICES, INC.

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

LOG-IN CHECKLIST

Printed: 12/12/2016 10:56:35AM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 12/09/16 12:05

Work Order: AZL0435

Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 5

#Containers: 15

Minimum Temp(C): 0.5

Maximum Temp(C): 0.5

Custody Seal(s) Used: N/A

CHECKLIST ITEMS

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

Comments:



PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AAA0909

February 07, 2017

Project: CCR Event

Project #:Plant Hammond

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

Approved:

A handwritten signature in black ink, appearing to read "Betsy McOa", written over a horizontal line.

Project Manager

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, LLC.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-9	AAA0909-01	Ground Water	01/26/17 09:25	01/27/17 12:25
HGWC-10	AAA0909-02	Ground Water	01/26/17 09:50	01/27/17 12:25
HGWC-11	AAA0909-03	Ground Water	01/26/17 12:15	01/27/17 12:25
HGWC-12	AAA0909-04	Ground Water	01/26/17 09:43	01/27/17 12:25
HGWC-13	AAA0909-05	Ground Water	01/26/17 10:52	01/27/17 12:25
HGWC-14	AAA0909-06	Ground Water	01/26/17 13:15	01/27/17 12:25
HGWC-15	AAA0909-07	Ground Water	01/26/17 14:30	01/27/17 12:25
HGWC-16	AAA0909-08	Ground Water	01/26/17 11:07	01/27/17 12:25
HGWC-17	AAA0909-09	Ground Water	01/26/17 13:20	01/27/17 12:25
HGWC-18	AAA0909-10	Ground Water	01/26/17 15:12	01/27/17 12:25
Dup-1	AAA0909-11	Ground Water	01/26/17 00:00	01/27/17 12:25
Dup-2	AAA0909-12	Ground Water	01/26/17 00:00	01/27/17 12:25
FB-1	AAA0909-13	Water	01/26/17 13:35	01/27/17 12:25
FERB-1	AAA0909-14	Water	01/26/17 13:40	01/27/17 12:25
FB-2	AAA0909-15	Water	01/26/17 14:05	01/27/17 12:25
FERB-2	AAA0909-16	Water	01/26/17 14:10	01/27/17 12:25



PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-9

Lab Number ID: AAA0909-01

Date/Time Sampled: 1/26/2017 9:25:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	869	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	170	12	0.65	mg/L	EPA 300.0		50	01/31/17 09:35	02/02/17 08:17	7010769	RLC
Fluoride	0.004	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 12:31	7010769	RLC
Sulfate	270	50	4.6	mg/L	EPA 300.0		50	01/31/17 09:35	02/02/17 08:17	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Barium	0.142	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Boron	1.87	0.0400	0.0064	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Calcium	175	25.0	1.55	mg/L	EPA 6020B	B-01	50	02/01/17 15:35	02/02/17 18:48	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Cobalt	0.0006	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Molybdenum	0.0234	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Lithium	0.0042	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 18:42	7020013	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:40	7010766	MTC



PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-10

Lab Number ID: AAA0909-02

Date/Time Sampled: 1/26/2017 9:50:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	368	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	7.0	0.25	0.01	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 12:52	7010769	RLC
Fluoride	0.29	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 12:52	7010769	RLC
Sulfate	90	10	0.92	mg/L	EPA 300.0		10	01/31/17 09:35	02/02/17 08:39	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Barium	0.0538	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/01/17 15:35	02/03/17 13:48	7020013	KLH
Boron	0.108	0.0400	0.0064	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Calcium	82.6	25.0	1.55	mg/L	EPA 6020B	B-01	50	02/01/17 15:35	02/02/17 19:32	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Selenium	0.0041	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:27	7020013	KLH
Mercury	0.00005	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:42	7010766	MTC



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Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-11

Lab Number ID: AAA0909-03

Date/Time Sampled: 1/26/2017 12:15:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	571	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	90	2.5	0.13	mg/L	EPA 300.0		10	01/31/17 09:35	02/02/17 09:01	7010769	RLC
Fluoride	0.27	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 13:56	7010769	RLC
Sulfate	230	10	0.92	mg/L	EPA 300.0		10	01/31/17 09:35	02/02/17 09:01	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Barium	0.0696	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/01/17 15:35	02/03/17 13:54	7020013	KLH
Boron	2.23	0.0400	0.0064	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Calcium	121	25.0	1.55	mg/L	EPA 6020B	B-01	50	02/01/17 15:35	02/02/17 19:44	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Cobalt	0.0014	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Molybdenum	0.0277	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Selenium	0.0062	0.0100	0.0010	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:38	7020013	KLH
Mercury	0.00005	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:44	7010766	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-12

Lab Number ID: AAA0909-04

Date/Time Sampled: 1/26/2017 9:43:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	846	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	160	5.0	0.26	mg/L	EPA 300.0		20	01/31/17 09:35	02/02/17 09:24	7010769	RLC
Fluoride	0.12	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 14:17	7010769	RLC
Sulfate	260	20	1.8	mg/L	EPA 300.0		20	01/31/17 09:35	02/02/17 09:24	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Barium	0.127	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/01/17 15:35	02/03/17 14:00	7020013	KLH
Boron	3.07	0.0400	0.0064	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Calcium	172	25.0	1.55	mg/L	EPA 6020B	B-01	50	02/01/17 15:35	02/02/17 19:55	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Cobalt	0.0016	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Molybdenum	0.0484	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Lithium	0.0099	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 19:50	7020013	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	01/31/17 11:00	01/31/17 15:47	7010766	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-13

Lab Number ID: AAA0909-05

Date/Time Sampled: 1/26/2017 10:52:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	411	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	70	1.2	0.06	mg/L	EPA 300.0		5	01/31/17 09:35	02/02/17 09:46	7010769	RLC
Fluoride	0.68	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 14:38	7010769	RLC
Sulfate	83	5.0	0.46	mg/L	EPA 300.0		5	01/31/17 09:35	02/02/17 09:46	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Arsenic	0.424	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Barium	0.0738	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	02/01/17 15:35	02/03/17 14:05	7020013	KLH
Boron	2.45	0.0400	0.0064	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Calcium	77.9	25.0	1.55	mg/L	EPA 6020B	B-01	50	02/01/17 15:35	02/02/17 20:07	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Cobalt	0.0024	0.0100	0.0005	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Molybdenum	0.0410	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Thallium	0.0004	0.0010	0.0002	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Lithium	0.0342	0.0500	0.0021	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:01	7020013	KLH
Mercury	0.00004	0.00050	0.000041	mg/L	EPA 7470A	J	1	01/31/17 11:00	01/31/17 15:49	7010766	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-14

Lab Number ID: AAA0909-06

Date/Time Sampled: 1/26/2017 1:15:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	3080	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	640	25	1.3	mg/L	EPA 300.0		100	01/31/17 09:35	02/04/17 04:18	7010769	RLC
Fluoride	0.13	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 14:59	7010769	RLC
Sulfate	1400	100	9.2	mg/L	EPA 300.0		100	01/31/17 09:35	02/04/17 04:18	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Arsenic	0.0089	0.0050	0.0016	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Barium	0.0238	0.0100	0.0004	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Beryllium	0.0005	0.0030	0.00008	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/03/17 14:11	7020013	KLH
Boron	19.2	2.00	0.321	mg/L	EPA 6020B		50	02/01/17 15:35	02/02/17 20:37	7020013	KLH
Cadmium	0.0001	0.0010	0.00007	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Calcium	558	50.0	3.11	mg/L	EPA 6020B	B-01	100	02/01/17 15:35	02/03/17 14:17	7020013	KLH
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Cobalt	0.0294	0.0100	0.0005	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Lead	0.0020	0.0050	0.0001	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Selenium	0.0214	0.0100	0.0010	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Thallium	0.0003	0.0010	0.0002	mg/L	EPA 6020B	J	1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	02/01/17 15:35	02/02/17 20:12	7020013	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:37	7020032	MTC



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Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-15

Lab Number ID: AAA0909-07

Date/Time Sampled: 1/26/2017 2:30:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1260	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	260	5.0	0.26	mg/L	EPA 300.0		20	01/31/17 09:35	02/04/17 04:39	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 15:21	7010769	RLC
Sulfate	490	20	1.8	mg/L	EPA 300.0		20	01/31/17 09:35	02/04/17 04:39	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Barium	0.0287	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:53	7010760	CSW
Boron	2.31	2.00	0.321	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 20:39	7010760	CSW
Cadmium	0.0013	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Calcium	212	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 20:39	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Cobalt	0.0550	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:34	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:53	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:39	7020032	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-16

Lab Number ID: AAA0909-08

Date/Time Sampled: 1/26/2017 11:07:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	608	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	41	2.5	0.13	mg/L	EPA 300.0		10	01/31/17 09:35	02/04/17 05:01	7010769	RLC
Fluoride	0.02	0.30	0.004	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 15:42	7010769	RLC
Sulfate	250	10	0.92	mg/L	EPA 300.0		10	01/31/17 09:35	02/04/17 05:01	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Barium	0.105	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 15:59	7010760	CSW
Boron	1.19	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Calcium	139	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 20:51	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Lead	0.0001	0.0050	0.0001	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:45	7010760	CSW
Lithium	0.0028	0.0500	0.0021	mg/L	EPA 6020B	J	1	01/31/17 10:00	02/01/17 15:59	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:41	7020032	MTC



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-17

Lab Number ID: AAA0909-09

Date/Time Sampled: 1/26/2017 1:20:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1000	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	99	6.2	0.32	mg/L	EPA 300.0		25	01/31/17 09:35	02/04/17 06:48	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 17:28	7010769	RLC
Sulfate	440	25	2.3	mg/L	EPA 300.0		25	01/31/17 09:35	02/04/17 06:48	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Barium	0.0229	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:05	7010760	CSW
Boron	5.78	2.00	0.321	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:02	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Calcium	198	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:02	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Cobalt	0.0154	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 20:57	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:05	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:44	7020032	MTC



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AAA0909-10

Date/Time Sampled: 1/26/2017 3:12:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1950	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	340	25	1.3	mg/L	EPA 300.0		100	01/31/17 09:35	02/04/17 07:09	7010769	RLC
Fluoride	0.71	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 17:49	7010769	RLC
Sulfate	970	100	9.2	mg/L	EPA 300.0		100	01/31/17 09:35	02/04/17 07:09	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Arsenic	0.0068	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Barium	0.0293	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Beryllium	0.0034	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:11	7010760	CSW
Boron	9.17	2.00	0.321	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:14	7010760	CSW
Cadmium	0.0025	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Calcium	394	50.0	3.11	mg/L	EPA 6020B		100	01/31/17 10:00	02/02/17 16:07	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Cobalt	0.195	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Lead	0.0013	0.0050	0.0001	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Selenium	0.0385	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:08	7010760	CSW
Lithium	0.0136	0.0500	0.0021	mg/L	EPA 6020B	J	1	01/31/17 10:00	02/01/17 16:11	7010760	CSW
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	J	1	02/02/17 12:05	02/02/17 16:51	7020032	MTC



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

February 07, 2017

Attention: Mr. Joju Abraham

Report No.: AAA0909

Project: CCR Event

Client ID: Dup-1

Lab Number ID: AAA0909-11

Date/Time Sampled: 1/26/2017 12:00:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	362	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	7.6	0.25	0.01	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 18:32	7010769	RLC
Fluoride	0.30	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 18:32	7010769	RLC
Sulfate	89	5.0	0.46	mg/L	EPA 300.0		5	01/31/17 09:35	02/04/17 07:30	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Barium	0.0484	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:18	7010760	CSW
Boron	0.0976	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Calcium	81.8	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:25	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Selenium	0.0029	0.0100	0.0010	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:19	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:18	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:53	7020032	MTC



PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: Dup-2

Lab Number ID: AAA0909-12

Date/Time Sampled: 1/26/2017 12:00:00AM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	389	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	71	1.2	0.06	mg/L	EPA 300.0		5	01/31/17 09:35	02/04/17 07:51	7010769	RLC
Fluoride	0.60	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 18:53	7010769	RLC
Sulfate	84	5.0	0.46	mg/L	EPA 300.0		5	01/31/17 09:35	02/04/17 07:51	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Arsenic	0.408	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Barium	0.0701	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:24	7010760	CSW
Boron	3.00	2.00	0.321	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:48	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Calcium	87.8	25.0	1.55	mg/L	EPA 6020B		50	01/31/17 10:00	01/31/17 21:48	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Cobalt	0.0023	0.0100	0.0005	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Molybdenum	0.0423	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Thallium	0.0004	0.0010	0.0002	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 21:42	7010760	CSW
Lithium	0.0333	0.0500	0.0021	mg/L	EPA 6020B	J	1	01/31/17 10:00	02/01/17 16:24	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:56	7020032	MTC



PACE ANALYTICAL SERVICES, LLC.

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

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: FB-1

Lab Number ID: AAA0909-13

Date/Time Sampled: 1/26/2017 1:35:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	17	25	10	mg/L	SM 2540 C	J	1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 19:14	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 19:14	7010769	RLC
Sulfate	0.12	1.0	0.09	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 19:14	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:30	7010760	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 21:54	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:30	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 16:58	7020032	MTC



PACE ANALYTICAL SERVICES, LLC.

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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: FERB-1

Lab Number ID: AAA0909-14

Date/Time Sampled: 1/26/2017 1:40:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	28	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 19:35	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 19:35	7010769	RLC
Sulfate	0.10	1.0	0.09	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 19:35	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:36	7010760	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Calcium	0.0401	0.500	0.0311	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:00	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:36	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:00	7020032	MTC



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: FB-2

Lab Number ID: AAA0909-15

Date/Time Sampled: 1/26/2017 2:05:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	0.03	0.25	0.01	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 19:56	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 19:56	7010769	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 19:56	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Barium	ND	0.0100	0.0004	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:42	7010760	CSW
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Cadmium	ND	0.0010	0.00007	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Calcium	ND	0.500	0.0311	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:05	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/01/17 16:42	7010760	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:03	7020032	MTC



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AAA0909-16

Date/Time Sampled: 1/26/2017 2:10:00PM

Date/Time Received: 1/27/2017 12:25:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	01/31/17 17:51	01/31/17 17:51	7010778	JPT
Inorganic Anions											
Chloride	0.04	0.25	0.01	mg/L	EPA 300.0	J	1	01/31/17 09:35	01/31/17 20:18	7010769	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 20:18	7010769	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	01/31/17 09:35	01/31/17 20:18	7010769	RLC
Metals, Total											
Antimony	ND	0.0030	0.0008	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Arsenic	ND	0.0050	0.0016	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Barium	0.0005	0.0100	0.0004	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Beryllium	ND	0.0030	0.00008	mg/L	EPA 6020B		1	01/31/17 10:00	02/02/17 16:12	7010760	KLH
Boron	ND	0.0400	0.0064	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Cadmium	0.00008	0.0010	0.00007	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Calcium	0.0351	0.500	0.0311	mg/L	EPA 6020B	J	1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Chromium	ND	0.0100	0.0009	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Lead	ND	0.0050	0.0001	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Molybdenum	ND	0.0100	0.0017	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Selenium	ND	0.0100	0.0010	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Thallium	ND	0.0010	0.0002	mg/L	EPA 6020B		1	01/31/17 10:00	01/31/17 22:11	7010760	CSW
Lithium	ND	0.0500	0.0021	mg/L	EPA 6020B		1	01/31/17 10:00	02/02/17 16:12	7010760	KLH
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	02/02/17 12:05	02/02/17 17:05	7020032	MTC



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February 07, 2017

Report No.: AAA0909

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010778 - SM 2540 C											
Blank (7010778-BLK1)						Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7010778-BS1)						Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	407	25	10	mg/L	400.00		102	84-108			
Duplicate (7010778-DUP1)						Source: AAA0909-04 Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	884	25	10	mg/L		846			4	10	
Duplicate (7010778-DUP2)						Source: AAA0909-14 Prepared & Analyzed: 01/31/17					
Total Dissolved Solids	21	25	10	mg/L		28			29	10	QR-03, J



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Report No.: AAA0909

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010769 - EPA 300.0											
Blank (7010769-BLK1)						Prepared & Analyzed: 01/31/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7010769-BS1)						Prepared & Analyzed: 01/31/17					
Chloride	10.4	0.25	0.01	mg/L	10.010		104	90-110			
Fluoride	10.4	0.30	0.004	mg/L	10.020		104	90-110			
Sulfate	10.3	1.0	0.09	mg/L	10.020		103	90-110			
Matrix Spike (7010769-MS1)						Source: AAA0909-02 Prepared & Analyzed: 01/31/17					
Chloride	16.6	0.25	0.01	mg/L	10.010	6.98	96	90-110			
Fluoride	11.1	0.30	0.004	mg/L	10.020	0.29	108	90-110			
Sulfate	82.2	1.0	0.09	mg/L	10.020	80.8	14	90-110			QM-02
Matrix Spike (7010769-MS2)						Source: AAA0909-10 Prepared & Analyzed: 01/31/17					
Chloride	147	0.25	0.01	mg/L	10.010	153	NR	90-110			QM-02
Fluoride	14.4	0.30	0.004	mg/L	10.020	0.71	137	90-110			QM-05
Sulfate	413	1.0	0.09	mg/L	10.020	438	NR	90-110			QM-02
Matrix Spike Dup (7010769-MSD1)						Source: AAA0909-02 Prepared & Analyzed: 01/31/17					
Chloride	16.7	0.25	0.01	mg/L	10.010	6.98	97	90-110	0.08	15	
Fluoride	11.2	0.30	0.004	mg/L	10.020	0.29	109	90-110	0.3	15	
Sulfate	82.3	1.0	0.09	mg/L	10.020	80.8	15	90-110	0.1	15	QM-02



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Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Blank (7010760-BLK1)						Prepared & Analyzed: 01/31/17					
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	ND	0.500	0.0311	mg/L							
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	ND	0.0100	0.0021	mg/L							
Lithium	ND	0.0500	0.0021	mg/L							
LCS (7010760-BS1)						Prepared & Analyzed: 01/31/17					
Antimony	0.104	0.0030	0.0008	mg/L	0.10000		104	80-120			
Arsenic	0.104	0.0050	0.0016	mg/L	0.10000		104	80-120			
Barium	0.0974	0.0100	0.0004	mg/L	0.10000		97	80-120			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000		104	80-120			
Boron	1.06	0.0400	0.0064	mg/L	1.0000		106	80-120			
Cadmium	0.0997	0.0010	0.00007	mg/L	0.10000		100	80-120			
Calcium	1.06	0.500	0.0311	mg/L	1.0000		106	80-120			
Chromium	0.102	0.0100	0.0009	mg/L	0.10000		102	80-120			
Cobalt	0.101	0.0100	0.0005	mg/L	0.10000		101	80-120			
Copper	0.101	0.0250	0.0005	mg/L	0.10000		101	80-120			
Lead	0.102	0.0050	0.0001	mg/L	0.10000		102	80-120			
Molybdenum	0.103	0.0100	0.0017	mg/L	0.10000		103	80-120			
Nickel	0.103	0.0100	0.0006	mg/L	0.10000		103	80-120			
Selenium	0.100	0.0100	0.0010	mg/L	0.10000		100	80-120			
Silver	0.100	0.0100	0.0005	mg/L	0.10000		100	80-120			
Thallium	0.100	0.0010	0.0002	mg/L	0.10000		100	80-120			
Vanadium	0.101	0.0100	0.0071	mg/L	0.10000		101	80-120			
Zinc	0.107	0.0100	0.0021	mg/L	0.10000		107	80-120			
Lithium	0.0962	0.0500	0.0021	mg/L	0.10000		96	80-120			



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Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Matrix Spike (7010760-MS1)			Source: AAA0909-08				Prepared & Analyzed: 01/31/17				
Antimony	0.106	0.0030	0.0008	mg/L	0.10000	ND	106	75-125			
Arsenic	0.109	0.0050	0.0016	mg/L	0.10000	ND	109	75-125			
Barium	0.209	0.0100	0.0004	mg/L	0.10000	0.105	104	75-125			
Beryllium	0.104	0.0030	0.00008	mg/L	0.10000	ND	104	75-125			
Boron	2.78	2.00	0.321	mg/L	1.0000	1.19	159	75-125			QM-02
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125			
Calcium	145	25.0	1.55	mg/L	1.0000	139	618	75-125			QM-02
Chromium	0.106	0.0100	0.0009	mg/L	0.10000	ND	106	75-125			
Cobalt	0.102	0.0100	0.0005	mg/L	0.10000	ND	102	75-125			
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125			
Lead	0.0985	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.108	0.0100	0.0017	mg/L	0.10000	ND	108	75-125			
Nickel	0.0994	0.0100	0.0006	mg/L	0.10000	ND	99	75-125			
Selenium	0.103	0.0100	0.0010	mg/L	0.10000	ND	103	75-125			
Silver	0.0976	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Thallium	0.0974	0.0010	0.0002	mg/L	0.10000	ND	97	75-125			
Vanadium	0.106	0.0100	0.0071	mg/L	0.10000	ND	106	75-125			
Zinc	0.105	0.0100	0.0021	mg/L	0.10000	0.0025	102	75-125			
Lithium	0.0978	0.0500	0.0021	mg/L	0.10000	0.0028	95	75-125			
Matrix Spike Dup (7010760-MSD1)			Source: AAA0909-08				Prepared & Analyzed: 01/31/17				
Antimony	0.103	0.0030	0.0008	mg/L	0.10000	ND	103	75-125	2	20	
Arsenic	0.108	0.0050	0.0016	mg/L	0.10000	ND	108	75-125	1	20	
Barium	0.202	0.0100	0.0004	mg/L	0.10000	0.105	97	75-125	3	20	
Beryllium	0.106	0.0030	0.00008	mg/L	0.10000	ND	106	75-125	2	20	
Boron	2.71	2.00	0.321	mg/L	1.0000	1.19	152	75-125	3	20	QM-02
Cadmium	0.0983	0.0010	0.00007	mg/L	0.10000	ND	98	75-125	3	20	
Calcium	142	25.0	1.55	mg/L	1.0000	139	298	75-125	2	20	QM-02
Chromium	0.0999	0.0100	0.0009	mg/L	0.10000	ND	100	75-125	6	20	
Cobalt	0.100	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	2	20	
Copper	0.0945	0.0250	0.0005	mg/L	0.10000	ND	95	75-125	7	20	
Lead	0.0990	0.0050	0.0001	mg/L	0.10000	0.0001	99	75-125	0.5	20	
Molybdenum	0.107	0.0100	0.0017	mg/L	0.10000	ND	107	75-125	0.6	20	
Nickel	0.0991	0.0100	0.0006	mg/L	0.10000	ND	99	75-125	0.3	20	
Selenium	0.105	0.0100	0.0010	mg/L	0.10000	ND	105	75-125	2	20	
Silver	0.0974	0.0100	0.0005	mg/L	0.10000	ND	97	75-125	0.3	20	
Thallium	0.0973	0.0010	0.0002	mg/L	0.10000	ND	97	75-125	0.1	20	
Vanadium	0.102	0.0100	0.0071	mg/L	0.10000	ND	102	75-125	4	20	
Zinc	0.0996	0.0100	0.0021	mg/L	0.10000	0.0025	97	75-125	5	20	
Lithium	0.100	0.0500	0.0021	mg/L	0.10000	0.0028	97	75-125	2	20	



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Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010760 - EPA 3005A											
Post Spike (7010760-PS1)			Source: AAA0909-08			Prepared & Analyzed: 01/31/17					
Antimony	92.7			ug/L	100.00	0.0220	93	80-120			
Arsenic	107			ug/L	100.00	-0.219	107	80-120			
Barium	196			ug/L	100.00	105	91	80-120			
Beryllium	105			ug/L	100.00	0.0100	105	80-120			
Boron	2660			ug/L	1000.0	1190	148	80-120			QM-02
Cadmium	100			ug/L	100.00	0.0104	100	80-120			
Calcium	143000			ug/L	1000.0	139000	377	80-120			QM-02
Chromium	107			ug/L	100.00	0.148	107	80-120			
Cobalt	102			ug/L	100.00	0.123	102	80-120			
Copper	97.5			ug/L	100.00	0.247	97	80-120			
Lead	94.5			ug/L	100.00	0.122	94	80-120			
Molybdenum	106			ug/L	100.00	0.0875	106	80-120			
Nickel	99.0			ug/L	100.00	0.284	99	80-120			
Selenium	106			ug/L	100.00	0.338	106	80-120			
Silver	93.9			ug/L	100.00	0.0015	94	80-120			
Thallium	93.8			ug/L	100.00	0.0007	94	80-120			
Vanadium	108			ug/L	100.00	-2.17	108	80-120			
Zinc	104			ug/L	100.00	2.53	101	80-120			
Lithium	100			ug/L	100.00	2.80	98	80-120			

Batch 7010766 - EPA 7470A

Blank (7010766-BLK1)				Prepared & Analyzed: 01/31/17							
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7010766-BS1)				Prepared & Analyzed: 01/31/17							
Mercury	0.00245	0.00050	0.000041	mg/L	2.5000E-3		98	80-120			



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Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7010766 - EPA 7470A											
Matrix Spike (7010766-MS1)			Source: AAA0792-01			Prepared & Analyzed: 01/31/17					
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (7010766-MSD1)			Source: AAA0792-01			Prepared & Analyzed: 01/31/17					
Mercury	0.00246	0.00050	0.000041	mg/L	2.5000E-3	ND	98	75-125	4	20	
Post Spike (7010766-PS1)			Source: AAA0792-01			Prepared & Analyzed: 01/31/17					
Mercury	1.66			ug/L	1.6667	0.0236	98	80-120			
Batch 7020013 - EPA 3005A											
Blank (7020013-BLK1)			Prepared: 02/01/17 Analyzed: 02/02/17								
Antimony	ND	0.0030	0.0008	mg/L							
Arsenic	ND	0.0050	0.0016	mg/L							
Barium	ND	0.0100	0.0004	mg/L							
Beryllium	ND	0.0030	0.00008	mg/L							
Boron	ND	0.0400	0.0064	mg/L							
Cadmium	ND	0.0010	0.00007	mg/L							
Calcium	0.125	0.500	0.0311	mg/L							J
Chromium	ND	0.0100	0.0009	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0005	mg/L							
Lead	ND	0.0050	0.0001	mg/L							
Molybdenum	ND	0.0100	0.0017	mg/L							
Nickel	ND	0.0100	0.0006	mg/L							
Selenium	ND	0.0100	0.0010	mg/L							
Silver	ND	0.0100	0.0005	mg/L							
Thallium	ND	0.0010	0.0002	mg/L							
Vanadium	ND	0.0100	0.0071	mg/L							
Zinc	0.0044	0.0100	0.0021	mg/L							J
Lithium	ND	0.0500	0.0021	mg/L							



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020013 - EPA 3005A											
LCS (7020013-BS1)						Prepared: 02/01/17 Analyzed: 02/02/17					
Antimony	0.110	0.0030	0.0008	mg/L	0.10000		110	80-120			
Arsenic	0.107	0.0050	0.0016	mg/L	0.10000		107	80-120			
Barium	0.101	0.0100	0.0004	mg/L	0.10000		101	80-120			
Beryllium	0.106	0.0030	0.00008	mg/L	0.10000		106	80-120			
Boron	1.07	0.0400	0.0064	mg/L	1.0000		107	80-120			
Cadmium	0.103	0.0010	0.00007	mg/L	0.10000		103	80-120			
Calcium	1.12	0.500	0.0311	mg/L	1.0000		112	80-120			
Chromium	0.118	0.0100	0.0009	mg/L	0.10000		118	80-120			
Cobalt	0.109	0.0100	0.0005	mg/L	0.10000		109	80-120			
Copper	0.109	0.0250	0.0005	mg/L	0.10000		109	80-120			
Lead	0.104	0.0050	0.0001	mg/L	0.10000		104	80-120			
Molybdenum	0.106	0.0100	0.0017	mg/L	0.10000		106	80-120			
Nickel	0.112	0.0100	0.0006	mg/L	0.10000		112	80-120			
Selenium	0.113	0.0100	0.0010	mg/L	0.10000		113	80-120			
Silver	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Thallium	0.101	0.0010	0.0002	mg/L	0.10000		101	80-120			
Vanadium	0.115	0.0100	0.0071	mg/L	0.10000		115	80-120			
Zinc	0.114	0.0100	0.0021	mg/L	0.10000		114	80-120			
Lithium	0.104	0.0500	0.0021	mg/L	0.10000		104	80-120			
Matrix Spike (7020013-MS1)						Source: AAA0909-01 Prepared: 02/01/17 Analyzed: 02/02/17					
Antimony	0.115	0.0030	0.0008	mg/L	0.10000	ND	115	75-125			
Arsenic	0.116	0.0050	0.0016	mg/L	0.10000	ND	116	75-125			
Barium	0.255	0.0100	0.0004	mg/L	0.10000	0.142	113	75-125			
Beryllium	0.0906	0.0030	0.00008	mg/L	0.10000	ND	91	75-125			
Boron	2.88	0.0400	0.0064	mg/L	1.0000	1.87	102	75-125			
Cadmium	0.100	0.0010	0.00007	mg/L	0.10000	ND	100	75-125			
Calcium	184	25.0	1.55	mg/L	1.0000	175	853	75-125			QM-02
Chromium	0.117	0.0100	0.0009	mg/L	0.10000	ND	117	75-125			
Cobalt	0.111	0.0100	0.0005	mg/L	0.10000	0.0006	110	75-125			
Copper	0.104	0.0250	0.0005	mg/L	0.10000	ND	104	75-125			
Lead	0.0977	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125			
Molybdenum	0.141	0.0100	0.0017	mg/L	0.10000	0.0234	118	75-125			
Nickel	0.112	0.0100	0.0006	mg/L	0.10000	0.0009	111	75-125			
Selenium	0.112	0.0100	0.0010	mg/L	0.10000	ND	112	75-125			
Silver	0.0985	0.0100	0.0005	mg/L	0.10000	ND	98	75-125			
Thallium	0.0988	0.0010	0.0002	mg/L	0.10000	ND	99	75-125			
Vanadium	0.119	0.0100	0.0071	mg/L	0.10000	ND	119	75-125			
Zinc	0.110	0.0100	0.0021	mg/L	0.10000	0.0055	104	75-125			
Lithium	0.0974	0.0500	0.0021	mg/L	0.10000	0.0042	93	75-125			



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020013 - EPA 3005A											
Matrix Spike Dup (7020013-MSD1)			Source: AAA0909-01			Prepared: 02/01/17 Analyzed: 02/02/17					
Antimony	0.112	0.0030	0.0008	mg/L	0.10000	ND	112	75-125	3	20	
Arsenic	0.116	0.0050	0.0016	mg/L	0.10000	ND	116	75-125	0.5	20	
Barium	0.242	0.0100	0.0004	mg/L	0.10000	0.142	101	75-125	5	20	
Beryllium	0.0921	0.0030	0.00008	mg/L	0.10000	ND	92	75-125	2	20	
Boron	2.91	0.0400	0.0064	mg/L	1.0000	1.87	104	75-125	0.7	20	
Cadmium	0.102	0.0010	0.00007	mg/L	0.10000	ND	102	75-125	1	20	
Calcium	189	25.0	1.55	mg/L	1.0000	175	NR	75-125	3	20	QM-02
Chromium	0.115	0.0100	0.0009	mg/L	0.10000	ND	115	75-125	2	20	
Cobalt	0.110	0.0100	0.0005	mg/L	0.10000	0.0006	109	75-125	1	20	
Copper	0.102	0.0250	0.0005	mg/L	0.10000	ND	102	75-125	1	20	
Lead	0.0986	0.0050	0.0001	mg/L	0.10000	0.0001	98	75-125	0.9	20	
Molybdenum	0.132	0.0100	0.0017	mg/L	0.10000	0.0234	108	75-125	7	20	
Nickel	0.108	0.0100	0.0006	mg/L	0.10000	0.0009	107	75-125	4	20	
Selenium	0.115	0.0100	0.0010	mg/L	0.10000	ND	115	75-125	2	20	
Silver	0.0962	0.0100	0.0005	mg/L	0.10000	ND	96	75-125	2	20	
Thallium	0.0985	0.0010	0.0002	mg/L	0.10000	ND	98	75-125	0.3	20	
Vanadium	0.116	0.0100	0.0071	mg/L	0.10000	ND	116	75-125	2	20	
Zinc	0.111	0.0100	0.0021	mg/L	0.10000	0.0055	105	75-125	0.7	20	
Lithium	0.101	0.0500	0.0021	mg/L	0.10000	0.0042	97	75-125	4	20	
Post Spike (7020013-PS1)											
Source: AAA0909-01			Prepared: 02/01/17 Analyzed: 02/02/17								
Antimony	104			ug/L	100.00	0.572	103	80-120			
Arsenic	118			ug/L	100.00	0.952	117	80-120			
Barium	249			ug/L	100.00	142	107	80-120			
Beryllium	89.5			ug/L	100.00	0.0129	89	80-120			
Boron	2800			ug/L	1000.0	1870	93	80-120			
Cadmium	101			ug/L	100.00	0.0242	101	80-120			
Calcium	180000			ug/L	1000.0	175000	432	80-120			QM-02
Chromium	119			ug/L	100.00	0.0861	118	80-120			
Cobalt	109			ug/L	100.00	0.595	108	80-120			
Copper	105			ug/L	100.00	0.484	105	80-120			
Lead	98.5			ug/L	100.00	0.122	98	80-120			
Molybdenum	134			ug/L	100.00	23.4	110	80-120			
Nickel	109			ug/L	100.00	0.947	109	80-120			
Selenium	117			ug/L	100.00	0.426	116	80-120			
Silver	94.8			ug/L	100.00	0.0211	95	80-120			
Thallium	100			ug/L	100.00	0.0533	100	80-120			
Vanadium	121			ug/L	100.00	-0.716	121	80-120			
Zinc	111			ug/L	100.00	5.50	105	80-120			
Lithium	98.7			ug/L	100.00	4.24	94	80-120			



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

February 07, 2017

Report No.: AAA0909

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7020032 - EPA 7470A											
Blank (7020032-BLK1) Prepared & Analyzed: 02/02/17											
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7020032-BS1) Prepared & Analyzed: 02/02/17											
Mercury	0.00252	0.00050	0.000041	mg/L	2.5000E-3		101	80-120			
Matrix Spike (7020032-MS1) Source: AAA0909-10 Prepared & Analyzed: 02/02/17											
Mercury	0.00253	0.00050	0.000041	mg/L	2.5000E-3	0.00008	98	75-125			
Matrix Spike Dup (7020032-MSD1) Source: AAA0909-10 Prepared & Analyzed: 02/02/17											
Mercury	0.00249	0.00050	0.000041	mg/L	2.5000E-3	0.00008	96	75-125	2	20	
Post Spike (7020032-PS1) Source: AAA0909-10 Prepared & Analyzed: 02/02/17											
Mercury	1.67			ug/L	1.6667	0.0534	97	80-120			



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Atlanta GA, 30339

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February 07, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QR-03** The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.
- QM-05** The spike recovery was outside acceptance limits for the MS and/or MSD and/or PDS due to suspected matrix interference. Sample results for the QC batch were accepted based on acceptable LCS recoveries.
- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).
- B-01** Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

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

CHAIN OF CUSTODY RECORD

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



CLIENT NAME: George Perel		CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: 42 Treviata Center Parkway SW B408 Birmingham, AL 35202 205-988-8417		REPORT TO: Laura Padley Mesa Padley Heath McCorkle info@paceanalytical.com		PROJECT NAME/DATE: Pace Hammond - AP 143		PROJECT #: OOR	
Collection DATE	Collection TIME	MATRIX CODE*	C O W P A B	SAMPLE IDENTIFICATION	ANALYSIS REQUESTED	CONTAINER TYPE	RESERVATION		
01/05/17	8:25	OW	x	HQWC-8	1 1 2	P - PLASTIC	1 - HQ, JFC		
01/05/17	8:50	OW	x	HQWC-10	1 1 2	A - AMBER GLASS	2 - H ₂ O ₂ , JFC		
01/05/17	12:15	OW	x	HQWC-11	1 1 4	G - CLEAR GLASS	3 - HNO ₃		
01/05/17	8:40	OW	x	HQWC-12	1 1 4	V - VOA VIAL	4 - MACH, JFC		
01/05/17	10:50	OW	x	HQWC-13	1 1 2	B - STERILE	5 - MACH/HA, JFC		
01/05/17	13:15	OW	x	HQWC-14	1 1 2	O - OTHER	6 - H ₂ O ₂ , JFC		
01/05/17	14:30	OW	x	HQWC-18	1 1 2		7 - JFC red issues		
01/05/17	11:00	OW	x	HQWC-18	1 1 2				
01/05/17	13:30	OW	x	HQWC-17	1 1 2				
01/05/17	15:12	OW	x	HQWC-18	1 1 2				
01/05/17	-	OW	x	DUP-1	1 1 2				
01/05/17	-	OW	x	DUP-2	1 1 2				
SAMPLED BY AND TITLE: M. Bush, JFC DATE: 01/05/17 TIME: 15:12					REQUISITION BY: S. V. King (OOR) REQUISITION DATE: 1/5/17	LAB # Received into Lab: Tracking #	ANALYSIS DATE ONLY AHA-Caly JFC		



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

CHAIN OF CUSTODY RECORD

PAGE 3 OF 7

CLIENT NAME: Georgia Power
 CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
 48 Inverness Center Parkway, 8th Floor
 Birmingham, AL 35243
 205-850-5417

REPORT TO: Lauren Perry
 Mailing Facility: Helen McComb
 REQUESTED COMPLETION DATE: info@paceanalytical.com

PROJECT NAME/STATE: Plant Inverness - AP 142

ANALYTES REQUESTED			COMMENTS		
REF ID	QTY	ANALYTES	ANALYTES	QTY	COMMENTS
1	4	1 - 100 mL BOTTLE	1 - 100 mL BOTTLE	4	
2	4	1 - 500 mL BOTTLE	1 - 500 mL BOTTLE	4	
3	4	1 - 1 L BOTTLE	1 - 1 L BOTTLE	4	
4	4	1 - 2 L BOTTLE	1 - 2 L BOTTLE	4	

Collection DATE	Collection TIME	MATRIX CODE	SAMPLE IDENTIFICATION		REMARKS/ADDITIONAL INFORMATION
			C O R M A P	S I D	
01/08/17	13:36	W		FB-1	
01/08/17	13:40	W		FB0B-1	
01/08/17	14:05	W		FB-2	
01/08/17	14:10	W		FB0B-2	

SAMPLE ID AND TITLE: 1518035
 DATE/TIME: 1/15/17

LAB # 112035 ZOC
 DATE/TIME 1/15/17
 RECEIVED BY: (Signature)
 DATE/TIME: 1/15/17

LAB # 112035 ZOC
 DATE/TIME 1/15/17
 RECEIVED BY: (Signature)
 DATE/TIME: 1/15/17

LAB # 112035 ZOC
 DATE/TIME 1/15/17
 RECEIVED BY: (Signature)
 DATE/TIME: 1/15/17



PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST

Printed: 1/30/2017 8:46:08AM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 01/27/17 12:25

Work Order: AAA0909

Logged In By: Charles Hawks

OBSERVATIONS

#Samples: 16

#Containers: 68

Minimum Temp(C): 2.0

Maximum Temp(C): 2.0

Custody Seal(s) Used: Yes

CHECKLIST ITEMS

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

Comments:



PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AAC0910

April 03, 2017

Project: CCR Event

Project #:Plant Hammond

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

Approved:

A handwritten signature in black ink, appearing to read "Betsy McOa", written over a horizontal line.

Project Manager

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, LLC.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-14	AAC0910-01	Water	03/23/17 09:35	03/24/17 14:20
HGWC-15	AAC0910-02	Water	03/23/17 11:25	03/24/17 14:20
HGWC-18	AAC0910-03	Water	03/23/17 10:25	03/24/17 14:20
FB-1	AAC0910-04	Water	03/23/17 09:25	03/24/17 14:20
FERB-1	AAC0910-05	Water	03/23/17 09:30	03/24/17 14:20
FB-2	AAC0910-06	Water	03/23/17 09:55	03/24/17 14:20
FERB-2	AAC0910-07	Water	03/23/17 10:00	03/24/17 14:20



PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: HGWC-14

Lab Number ID: AAC0910-01

Date/Time Sampled: 3/23/2017 9:35:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	3060	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	600	25	1.3	mg/L	EPA 300.0		100	03/29/17 10:17	03/31/17 00:17	7030885	RLC
Fluoride	0.28	0.30	0.004	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 01:20	7030885	RLC
Sulfate	1500	100	9.2	mg/L	EPA 300.0		100	03/29/17 10:17	03/31/17 00:17	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Arsenic	0.0069	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Barium	0.0244	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Beryllium	0.0006	0.0030	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Boron	23.1	4.00	0.604	mg/L	EPA 6020B		100	03/29/17 06:30	03/31/17 16:20	7030831	CSW
Cadmium	0.0002	0.0010	0.00006	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Calcium	652	50.0	1.04	mg/L	EPA 6020B	B-01	100	03/29/17 06:30	03/31/17 16:20	7030831	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Cobalt	0.0311	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Lead	0.0019	0.0050	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Selenium	0.0167	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Thallium	0.0003	0.0010	0.00005	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 03:49	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:02	7030865	MTC



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: HGWC-15

Lab Number ID: AAC0910-02

Date/Time Sampled: 3/23/2017 11:25:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1360	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	280	5.0	0.26	mg/L	EPA 300.0		20	03/29/17 10:17	03/30/17 11:30	7030885	RLC
Fluoride	0.12	0.30	0.004	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 01:41	7030885	RLC
Sulfate	530	20	1.8	mg/L	EPA 300.0		20	03/29/17 10:17	03/30/17 11:30	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Arsenic	0.0008	0.0050	0.0004	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Barium	0.0329	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Boron	2.72	2.00	0.302	mg/L	EPA 6020B		50	03/29/17 06:30	03/31/17 16:26	7030831	CSW
Cadmium	0.0020	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Calcium	229	25.0	0.522	mg/L	EPA 6020B	B-01	50	03/29/17 06:30	03/31/17 16:26	7030831	CSW
Chromium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Cobalt	0.0715	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Lead	0.0010	0.0050	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Selenium	0.0016	0.0100	0.0014	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Lithium	0.0016	0.0500	0.0011	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:11	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:04	7030865	MTC



PACE ANALYTICAL SERVICES, LLC.

Environmental Monitoring & Laboratory Analysis
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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AAC0910-03

Date/Time Sampled: 3/23/2017 10:25:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	2080	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	350	5.0	0.26	mg/L	EPA 300.0		20	03/29/17 10:17	03/30/17 11:52	7030885	RLC
Fluoride	0.57	0.30	0.004	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 02:02	7030885	RLC
Sulfate	980	20	1.8	mg/L	EPA 300.0		20	03/29/17 10:17	03/30/17 11:52	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Arsenic	0.0082	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Barium	0.0313	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Beryllium	0.0036	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Boron	10.6	2.00	0.302	mg/L	EPA 6020B		50	03/29/17 06:30	03/31/17 16:32	7030831	CSW
Cadmium	0.0025	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Calcium	440	25.0	0.522	mg/L	EPA 6020B	B-01	50	03/29/17 06:30	03/31/17 16:32	7030831	CSW
Chromium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Cobalt	0.223	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Lead	0.0010	0.0050	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Selenium	0.0414	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Lithium	0.0151	0.0500	0.0011	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:23	7030831	CSW
Mercury	0.00009	0.00050	0.000041	mg/L	EPA 7470A	J	1	03/29/17 13:10	03/30/17 15:06	7030865	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: FB-1

Lab Number ID: AAC0910-04

Date/Time Sampled: 3/23/2017 9:25:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	0.08	0.25	0.01	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 03:45	7030885	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 03:45	7030885	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 03:45	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Boron	0.0135	0.0400	0.0060	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Calcium	0.0580	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Chromium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:34	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:13	7030865	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: FERB-1

Lab Number ID: AAC0910-05

Date/Time Sampled: 3/23/2017 9:30:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 04:26	7030885	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 04:26	7030885	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 04:26	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Barium	0.0003	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Boron	0.0087	0.0400	0.0060	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Calcium	0.0730	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Chromium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Lead	0.0001	0.0050	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:40	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:16	7030865	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: FB-2

Lab Number ID: AAC0910-06

Date/Time Sampled: 3/23/2017 9:55:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	ND	25	10	mg/L	SM 2540 C		1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	0.07	0.25	0.01	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 04:47	7030885	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 04:47	7030885	RLC
Sulfate	ND	1.0	0.09	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 04:47	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Barium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Calcium	0.0486	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:46	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:18	7030865	MTC



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Project: CCR Event

Client ID: FERB-2

Lab Number ID: AAC0910-07

Date/Time Sampled: 3/23/2017 10:00:00AM

Date/Time Received: 3/24/2017 2:20:00PM

Matrix: Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	10	25	10	mg/L	SM 2540 C	J	1	03/29/17 16:28	03/29/17 16:28	7030887	JPT
Inorganic Anions											
Chloride	0.09	0.25	0.01	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 05:09	7030885	RLC
Fluoride	ND	0.30	0.004	mg/L	EPA 300.0		1	03/29/17 10:17	03/30/17 05:09	7030885	RLC
Sulfate	0.11	1.0	0.09	mg/L	EPA 300.0	J	1	03/29/17 10:17	03/30/17 05:09	7030885	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Arsenic	ND	0.0050	0.0004	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Barium	0.0008	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Boron	ND	0.0400	0.0060	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Calcium	0.159	0.500	0.0104	mg/L	EPA 6020B	B-01, J	1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Chromium	0.0005	0.0100	0.0003	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Cobalt	ND	0.0100	0.0005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Lead	0.0004	0.0050	0.00007	mg/L	EPA 6020B	J	1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Thallium	ND	0.0010	0.00005	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Lithium	ND	0.0500	0.0011	mg/L	EPA 6020B		1	03/29/17 06:30	03/30/17 04:52	7030831	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	03/29/17 13:10	03/30/17 15:21	7030865	MTC



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April 03, 2017

Report No.: AAC0910

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030887 - SM 2540 C											
Blank (7030887-BLK1)						Prepared & Analyzed: 03/29/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7030887-BS1)						Prepared & Analyzed: 03/29/17					
Total Dissolved Solids	411	25	10	mg/L	400.00		103	84-108			
Duplicate (7030887-DUP1)						Source: AAC0909-05 Prepared & Analyzed: 03/29/17					
Total Dissolved Solids	302	25	10	mg/L		302			0	10	
Duplicate (7030887-DUP2)						Source: AAC0910-07 Prepared & Analyzed: 03/29/17					
Total Dissolved Solids	ND	25	10	mg/L		10				10	



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April 03, 2017

Report No.: AAC0910

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030885 - EPA 300.0											
Blank (7030885-BLK1)						Prepared & Analyzed: 03/29/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7030885-BS1)						Prepared & Analyzed: 03/29/17					
Chloride	10.1	0.25	0.01	mg/L	10.010		101	90-110			
Fluoride	10.4	0.30	0.004	mg/L	10.020		104	90-110			
Sulfate	10.2	1.0	0.09	mg/L	10.020		102	90-110			
Matrix Spike (7030885-MS1)						Source: AAC0905-01 Prepared & Analyzed: 03/29/17					
Chloride	17.1	0.25	0.01	mg/L	10.010	7.05	100	90-110			
Fluoride	10.7	0.30	0.004	mg/L	10.020	0.12	105	90-110			
Sulfate	168	1.0	0.09	mg/L	10.020	175	NR	90-110			QM-02
Matrix Spike (7030885-MS2)						Source: AAC0910-04 Prepared: 03/29/17 Analyzed: 03/30/17					
Chloride	10.2	0.25	0.01	mg/L	10.010	0.08	101	90-110			
Fluoride	10.6	0.30	0.004	mg/L	10.020	ND	106	90-110			
Sulfate	10.3	1.0	0.09	mg/L	10.020	ND	103	90-110			
Matrix Spike Dup (7030885-MSD1)						Source: AAC0905-01 Prepared & Analyzed: 03/29/17					
Chloride	17.0	0.25	0.01	mg/L	10.010	7.05	99	90-110	0.7	15	
Fluoride	10.7	0.30	0.004	mg/L	10.020	0.12	106	90-110	0.4	15	
Sulfate	168	1.0	0.09	mg/L	10.020	175	NR	90-110	0.005	15	QM-02



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030831 - EPA 3005A											
Blank (7030831-BLK1)											
						Prepared: 03/29/17 Analyzed: 03/30/17					
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	0.0136	0.500	0.0104	mg/L							J
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							
LCS (7030831-BS1)											
						Prepared: 03/29/17 Analyzed: 03/30/17					
Antimony	0.109	0.0030	0.0003	mg/L	0.10000		109	80-120			
Arsenic	0.102	0.0050	0.0004	mg/L	0.10000		102	80-120			
Barium	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Beryllium	0.106	0.0030	0.00007	mg/L	0.10000		106	80-120			
Boron	1.14	0.0400	0.0060	mg/L	1.0000		114	80-120			
Cadmium	0.106	0.0010	0.00006	mg/L	0.10000		106	80-120			
Calcium	1.03	0.500	0.0104	mg/L	1.0000		103	80-120			
Chromium	0.107	0.0100	0.0003	mg/L	0.10000		107	80-120			
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000		104	80-120			
Copper	0.107	0.0250	0.0003	mg/L	0.10000		107	80-120			
Lead	0.0980	0.0050	0.00007	mg/L	0.10000		98	80-120			
Molybdenum	0.110	0.0100	0.0006	mg/L	0.10000		110	80-120			
Nickel	0.105	0.0100	0.0003	mg/L	0.10000		105	80-120			
Selenium	0.102	0.0100	0.0014	mg/L	0.10000		102	80-120			
Silver	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Thallium	0.101	0.0010	0.00005	mg/L	0.10000		101	80-120			
Vanadium	0.108	0.0100	0.0014	mg/L	0.10000		108	80-120			
Zinc	0.107	0.0100	0.0013	mg/L	0.10000		107	80-120			
Lithium	0.110	0.0500	0.0011	mg/L	0.10000		110	80-120			



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030831 - EPA 3005A											
Matrix Spike (7030831-MS1)			Source: AAC0909-01			Prepared: 03/29/17 Analyzed: 03/30/17					
Antimony	0.104	0.0030	0.0003	mg/L	0.10000	ND	104	75-125			
Arsenic	0.101	0.0050	0.0004	mg/L	0.10000	ND	101	75-125			
Barium	0.134	0.0100	0.0003	mg/L	0.10000	0.0380	96	75-125			
Beryllium	0.105	0.0030	0.00007	mg/L	0.10000	ND	105	75-125			
Boron	1.14	0.0400	0.0060	mg/L	1.0000	0.0192	112	75-125			
Cadmium	0.106	0.0010	0.00006	mg/L	0.10000	ND	106	75-125			
Calcium	15.9	25.0	0.522	mg/L	1.0000	13.9	200	75-125			QM-02, J
Chromium	0.110	0.0100	0.0003	mg/L	0.10000	ND	110	75-125			
Cobalt	0.106	0.0100	0.0005	mg/L	0.10000	0.0007	106	75-125			
Copper	0.105	0.0250	0.0003	mg/L	0.10000	ND	105	75-125			
Lead	0.0969	0.0050	0.00007	mg/L	0.10000	ND	97	75-125			
Molybdenum	0.101	0.0100	0.0006	mg/L	0.10000	ND	101	75-125			
Nickel	0.107	0.0100	0.0003	mg/L	0.10000	0.0007	106	75-125			
Selenium	0.105	0.0100	0.0014	mg/L	0.10000	ND	105	75-125			
Silver	0.104	0.0100	0.0003	mg/L	0.10000	ND	104	75-125			
Thallium	0.0989	0.0010	0.00005	mg/L	0.10000	ND	99	75-125			
Vanadium	0.109	0.0100	0.0014	mg/L	0.10000	ND	109	75-125			
Zinc	0.106	0.0100	0.0013	mg/L	0.10000	ND	106	75-125			
Lithium	0.118	0.0500	0.0011	mg/L	0.10000	0.0115	106	75-125			
Matrix Spike Dup (7030831-MSD1)			Source: AAC0909-01			Prepared: 03/29/17 Analyzed: 03/30/17					
Antimony	0.107	0.0030	0.0003	mg/L	0.10000	ND	107	75-125	3	20	
Arsenic	0.101	0.0050	0.0004	mg/L	0.10000	ND	101	75-125	0.1	20	
Barium	0.136	0.0100	0.0003	mg/L	0.10000	0.0380	98	75-125	2	20	
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000	ND	103	75-125	2	20	
Boron	1.16	0.0400	0.0060	mg/L	1.0000	0.0192	114	75-125	1	20	
Cadmium	0.105	0.0010	0.00006	mg/L	0.10000	ND	105	75-125	0.5	20	
Calcium	15.4	25.0	0.522	mg/L	1.0000	13.9	149	75-125	3	20	QM-02, J
Chromium	0.110	0.0100	0.0003	mg/L	0.10000	ND	110	75-125	0.6	20	
Cobalt	0.108	0.0100	0.0005	mg/L	0.10000	0.0007	107	75-125	1	20	
Copper	0.108	0.0250	0.0003	mg/L	0.10000	ND	108	75-125	3	20	
Lead	0.0972	0.0050	0.00007	mg/L	0.10000	ND	97	75-125	0.4	20	
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000	ND	105	75-125	3	20	
Nickel	0.107	0.0100	0.0003	mg/L	0.10000	0.0007	107	75-125	0.4	20	
Selenium	0.101	0.0100	0.0014	mg/L	0.10000	ND	101	75-125	5	20	
Silver	0.103	0.0100	0.0003	mg/L	0.10000	ND	103	75-125	0.9	20	
Thallium	0.0984	0.0010	0.00005	mg/L	0.10000	ND	98	75-125	0.6	20	
Vanadium	0.109	0.0100	0.0014	mg/L	0.10000	ND	109	75-125	0.8	20	
Zinc	0.104	0.0100	0.0013	mg/L	0.10000	ND	104	75-125	2	20	
Lithium	0.112	0.0500	0.0011	mg/L	0.10000	0.0115	100	75-125	5	20	



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Georgia Power
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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

April 03, 2017

Report No.: AAC0910

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030831 - EPA 3005A											
Post Spike (7030831-PS1)			Source: AAC0909-01			Prepared: 03/29/17 Analyzed: 03/30/17					
Antimony	100			ug/L	100.00	0.0193	100	80-120			
Arsenic	100			ug/L	100.00	0.251	100	80-120			
Barium	138			ug/L	100.00	38.0	100	80-120			
Beryllium	103			ug/L	100.00	0.0067	103	80-120			
Boron	1120			ug/L	1000.0	19.2	111	80-120			
Cadmium	106			ug/L	100.00	-0.0195	106	80-120			
Calcium	14700			ug/L	1000.0	13900	86	80-120			
Chromium	110			ug/L	100.00	0.0294	110	80-120			
Cobalt	107			ug/L	100.00	0.672	106	80-120			
Copper	106			ug/L	100.00	-0.150	106	80-120			
Lead	97.2			ug/L	100.00	0.0077	97	80-120			
Molybdenum	107			ug/L	100.00	0.0307	107	80-120			
Nickel	104			ug/L	100.00	0.658	104	80-120			
Selenium	101			ug/L	100.00	0.229	100	80-120			
Silver	104			ug/L	100.00	0.0044	104	80-120			
Thallium	99.6			ug/L	100.00	0.0015	100	80-120			
Vanadium	110			ug/L	100.00	0.0259	110	80-120			
Zinc	106			ug/L	100.00	0.432	106	80-120			
Lithium	123			ug/L	100.00	11.5	111	80-120			

Batch 7030865 - EPA 7470A

Blank (7030865-BLK1)					Prepared: 03/29/17 Analyzed: 03/30/17						
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7030865-BS1)					Prepared: 03/29/17 Analyzed: 03/30/17						
Mercury	0.00238	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			



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April 03, 2017

Report No.: AAC0910

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7030865 - EPA 7470A											
Matrix Spike (7030865-MS1)			Source: AAC0909-05			Prepared: 03/29/17 Analyzed: 03/30/17					
Mercury	0.00235	0.00050	0.000041	mg/L	2.5000E-3	ND	94	75-125			
Matrix Spike Dup (7030865-MSD1)			Source: AAC0909-05			Prepared: 03/29/17 Analyzed: 03/30/17					
Mercury	0.00231	0.00050	0.000041	mg/L	2.5000E-3	ND	93	75-125	1	20	
Post Spike (7030865-PS1)			Source: AAC0909-05			Prepared: 03/29/17 Analyzed: 03/30/17					
Mercury	1.72			ug/L	1.6667	-0.00556	103	80-120			



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April 03, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).
- B-01** Analyte was detected in the associated method blank at an estimated level equal to or greater than the MDL. Sample values reported as greater than the MDL and less than 10x the method blank value are reported as estimated values.

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



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April 03, 2017

Report Notes

There were 2 containers present instead of 1 as listed on the COC for Radium. MMR



PACE ANALYTICAL SERVICES, LLC.

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

LOG-IN CHECKLIST

Printed: 3/27/2017 12:05:30PM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 03/24/17 14:20

Work Order: AAC0910

Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 7

#Containers: 28

Minimum Temp(C): 1.0

Maximum Temp(C): 1.0

Custody Seal(s) Used: Yes

CHECKLIST ITEMS

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

Comments:

There were 2 containers present instead of 1 as listed on the COC for Radium. MMR



PACE ANALYTICAL SERVICES, LLC.

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

Laboratory Report

Prepared For:

**Georgia Power
2480 Maner Road
Atlanta, GA 30339**

Attention: Mr. Joju Abraham

Report Number: AAE0894

June 05, 2017

Project: CCR Event

Project #:Plant Hammond

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

Approved:

A handwritten signature in black ink, appearing to read "Betsy McOa", written over a horizontal line.

Project Manager

This report may not be reproduced, except in full, without written approval from Pace Analytical Services, LLC.
All test results relate only to the samples analyzed.



PACE ANALYTICAL SERVICES, LLC.

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Georgia Power
2480 Maner Road
Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HGWC-17	AAE0894-01	Ground Water	05/25/17 09:35	05/26/17 09:55
HGWC-18	AAE0894-02	Ground Water	05/25/17 09:40	05/26/17 09:55



PACE ANALYTICAL SERVICES, LLC.

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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Case Narrative

The Radium analysis by methods EPA 9315/9320 was performed by Pace-Pittsburgh, 1638 Roseytown Road - Suites 2, 3, 4, Greensburg PA 15601. The Pace-Pittsburgh lab contact is Jacquelyn Collins at 724-850-5612.



PACE ANALYTICAL SERVICES, LLC.

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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

Project: CCR Event

Client ID: HGWC-17

Lab Number ID: AAE0894-01

Date/Time Sampled: 5/25/2017 9:35:00AM

Date/Time Received: 5/26/2017 9:55:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1080	25	10	mg/L	SM 2540 C		1	05/31/17 17:50	05/31/17 17:50	7050957	JPT
Inorganic Anions											
Chloride	99	12	0.65	mg/L	EPA 300.0		50	05/31/17 15:00	06/02/17 00:21	7050979	RLC
Fluoride	0.42	0.30	0.004	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 07:13	7050979	RLC
Sulfate	430	50	4.6	mg/L	EPA 300.0		50	05/31/17 15:00	06/02/17 00:21	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Arsenic	0.0007	0.0050	0.0004	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Barium	0.0255	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Beryllium	ND	0.0030	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Boron	8.58	2.00	0.302	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 15:25	7050903	CSW
Cadmium	ND	0.0010	0.00006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Calcium	292	25.0	0.522	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 15:25	7050903	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Cobalt	0.0154	0.0100	0.0005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Lead	ND	0.0050	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Selenium	ND	0.0100	0.0014	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Thallium	0.0001	0.0010	0.00005	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Lithium	0.0011	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:20	7050903	CSW
Mercury	ND	0.00050	0.000041	mg/L	EPA 7470A		1	05/30/17 11:45	05/30/17 20:02	7050858	MTC



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

Project: CCR Event

Client ID: HGWC-18

Lab Number ID: AAE0894-02

Date/Time Sampled: 5/25/2017 9:40:00AM

Date/Time Received: 5/26/2017 9:55:00AM

Matrix: Ground Water

Analyte	Result	RL	MDL	Units	Method	Qual.	DF	Preparation Date	Analytical Date	Batch	Init.
General Chemistry											
Total Dissolved Solids	1970	25	10	mg/L	SM 2540 C		1	05/31/17 17:50	05/31/17 17:50	7050957	JPT
Inorganic Anions											
Chloride	290	25	1.3	mg/L	EPA 300.0		100	05/31/17 15:00	06/02/17 00:41	7050979	RLC
Fluoride	0.54	0.30	0.004	mg/L	EPA 300.0		1	05/31/17 15:00	06/01/17 09:20	7050979	RLC
Sulfate	920	100	9.2	mg/L	EPA 300.0		100	05/31/17 15:00	06/02/17 00:41	7050979	RLC
Metals, Total											
Antimony	ND	0.0030	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Arsenic	0.0060	0.0050	0.0004	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Barium	0.0336	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Beryllium	0.0036	0.0030	0.00007	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Boron	13.2	2.00	0.302	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 15:37	7050903	CSW
Cadmium	0.0027	0.0010	0.00006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Calcium	492	25.0	0.522	mg/L	EPA 6020B		50	05/30/17 11:10	06/02/17 15:37	7050903	CSW
Chromium	ND	0.0100	0.0003	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Cobalt	0.209	0.0100	0.0005	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Lead	0.0012	0.0050	0.00007	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Molybdenum	ND	0.0100	0.0006	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Selenium	0.0190	0.0100	0.0014	mg/L	EPA 6020B		1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Thallium	0.0002	0.0010	0.00005	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Lithium	0.0154	0.0500	0.0011	mg/L	EPA 6020B	J	1	05/30/17 11:10	06/02/17 15:31	7050903	CSW
Mercury	0.00008	0.00050	0.000041	mg/L	EPA 7470A	J	1	05/30/17 11:45	05/30/17 20:04	7050858	MTC



PACE ANALYTICAL SERVICES, LLC.

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

Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

General Chemistry - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050957 - SM 2540 C											
Blank (7050957-BLK1)						Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	ND	25	10	mg/L							
LCS (7050957-BS1)						Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	381	25	10	mg/L	400.00		95	84-108			
Duplicate (7050957-DUP1)						Source: AAE0911-07 Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	ND	25	10	mg/L		ND				10	
Duplicate (7050957-DUP2)						Source: AAE0912-01 Prepared & Analyzed: 05/31/17					
Total Dissolved Solids	190	25	10	mg/L		223			16	10	QR-03



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 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

Inorganic Anions - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050979 - EPA 300.0											
Blank (7050979-BLK1)						Prepared & Analyzed: 05/31/17					
Chloride	ND	0.25	0.01	mg/L							
Fluoride	ND	0.30	0.004	mg/L							
Sulfate	ND	1.0	0.09	mg/L							
LCS (7050979-BS1)						Prepared & Analyzed: 05/31/17					
Chloride	10.2	0.25	0.01	mg/L	10.020		101	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020		101	90-110			
Sulfate	10.3	1.0	0.09	mg/L	10.050		103	90-110			
Matrix Spike (7050979-MS1)						Source: AAE0857-03 Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	12.9	0.25	0.01	mg/L	10.020	2.91	100	90-110			
Fluoride	10.2	0.30	0.004	mg/L	10.020	0.009	102	90-110			
Sulfate	115	1.0	0.09	mg/L	10.050	118	NR	90-110			QM-02
Matrix Spike (7050979-MS2)						Source: AAE0894-01 Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	99.6	0.25	0.01	mg/L	10.020	99.9	NR	90-110			QM-02
Fluoride	11.2	0.30	0.004	mg/L	10.020	0.42	107	90-110			
Sulfate	275	1.0	0.09	mg/L	10.050	290	NR	90-110			QM-02
Matrix Spike Dup (7050979-MSD1)						Source: AAE0857-03 Prepared: 05/31/17 Analyzed: 06/01/17					
Chloride	13.0	0.25	0.01	mg/L	10.020	2.91	100	90-110	0.2	15	
Fluoride	10.3	0.30	0.004	mg/L	10.020	0.009	102	90-110	0.2	15	
Sulfate	115	1.0	0.09	mg/L	10.050	118	NR	90-110	0.02	15	QM-02



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June 05, 2017

Report No.: AAE0894

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050858 - EPA 7470A											
Blank (7050858-BLK1) Prepared & Analyzed: 05/30/17											
Mercury	ND	0.00050	0.000041	mg/L							
LCS (7050858-BS1) Prepared & Analyzed: 05/30/17											
Mercury	0.00236	0.00050	0.000041	mg/L	2.5000E-3		95	80-120			
Matrix Spike (7050858-MS1) Source: AAE0894-01 Prepared & Analyzed: 05/30/17											
Mercury	0.00202	0.00050	0.000041	mg/L	2.5000E-3	ND	81	75-125			
Matrix Spike Dup (7050858-MSD1) Source: AAE0894-01 Prepared & Analyzed: 05/30/17											
Mercury	0.00208	0.00050	0.000041	mg/L	2.5000E-3	ND	83	75-125	3	20	
Post Spike (7050858-PS1) Source: AAE0894-01 Prepared & Analyzed: 05/30/17											
Mercury	1.51			ug/L	1.6667	0.0252	89	80-120			
Batch 7050903 - EPA 3005A											
Blank (7050903-BLK1) Prepared: 05/30/17 Analyzed: 06/02/17											
Antimony	ND	0.0030	0.0003	mg/L							
Arsenic	ND	0.0050	0.0004	mg/L							
Barium	ND	0.0100	0.0003	mg/L							
Beryllium	ND	0.0030	0.00007	mg/L							
Boron	ND	0.0400	0.0060	mg/L							
Cadmium	ND	0.0010	0.00006	mg/L							
Calcium	ND	0.500	0.0104	mg/L							
Chromium	ND	0.0100	0.0003	mg/L							
Cobalt	ND	0.0100	0.0005	mg/L							
Copper	ND	0.0250	0.0003	mg/L							
Lead	ND	0.0050	0.00007	mg/L							
Molybdenum	ND	0.0100	0.0006	mg/L							
Nickel	ND	0.0100	0.0003	mg/L							
Selenium	ND	0.0100	0.0014	mg/L							
Silver	ND	0.0100	0.0003	mg/L							
Thallium	ND	0.0010	0.00005	mg/L							
Vanadium	ND	0.0100	0.0014	mg/L							
Zinc	ND	0.0100	0.0013	mg/L							
Lithium	ND	0.0500	0.0011	mg/L							



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 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050903 - EPA 3005A											
LCS (7050903-BS1)						Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	0.110	0.0030	0.0003	mg/L	0.10000		110	80-120			
Arsenic	0.104	0.0050	0.0004	mg/L	0.10000		104	80-120			
Barium	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000		103	80-120			
Boron	1.07	0.0400	0.0060	mg/L	1.0000		107	80-120			
Cadmium	0.104	0.0010	0.00006	mg/L	0.10000		104	80-120			
Calcium	1.08	0.500	0.0104	mg/L	1.0000		108	80-120			
Chromium	0.104	0.0100	0.0003	mg/L	0.10000		104	80-120			
Cobalt	0.106	0.0100	0.0005	mg/L	0.10000		106	80-120			
Copper	0.103	0.0250	0.0003	mg/L	0.10000		103	80-120			
Lead	0.103	0.0050	0.00007	mg/L	0.10000		103	80-120			
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000		105	80-120			
Nickel	0.106	0.0100	0.0003	mg/L	0.10000		106	80-120			
Selenium	0.105	0.0100	0.0014	mg/L	0.10000		105	80-120			
Silver	0.102	0.0100	0.0003	mg/L	0.10000		102	80-120			
Thallium	0.104	0.0010	0.00005	mg/L	0.10000		104	80-120			
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000		106	80-120			
Zinc	0.106	0.0100	0.0013	mg/L	0.10000		106	80-120			
Lithium	0.106	0.0500	0.0011	mg/L	0.10000		106	80-120			
Matrix Spike (7050903-MS1)						Source: AAE0911-01 Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125			
Arsenic	0.105	0.0050	0.0004	mg/L	0.10000	0.0015	103	75-125			
Barium	0.456	0.0100	0.0003	mg/L	0.10000	0.193	263	75-125			QM-02
Beryllium	0.0993	0.0030	0.00007	mg/L	0.10000	ND	99	75-125			
Boron	1.01	0.0400	0.0060	mg/L	1.0000	0.0100	100	75-125			
Cadmium	0.102	0.0010	0.00006	mg/L	0.10000	ND	102	75-125			
Calcium	34.6	25.0	0.522	mg/L	1.0000	33.8	73	75-125			QM-02
Chromium	0.107	0.0100	0.0003	mg/L	0.10000	ND	107	75-125			
Cobalt	0.104	0.0100	0.0005	mg/L	0.10000	ND	104	75-125			
Copper	0.103	0.0250	0.0003	mg/L	0.10000	ND	103	75-125			
Lead	0.101	0.0050	0.00007	mg/L	0.10000	0.0001	101	75-125			
Molybdenum	0.109	0.0100	0.0006	mg/L	0.10000	0.0020	107	75-125			
Nickel	0.105	0.0100	0.0003	mg/L	0.10000	ND	105	75-125			
Selenium	0.103	0.0100	0.0014	mg/L	0.10000	ND	103	75-125			
Silver	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125			
Thallium	0.103	0.0010	0.00005	mg/L	0.10000	0.0001	103	75-125			
Vanadium	0.110	0.0100	0.0014	mg/L	0.10000	ND	110	75-125			
Zinc	0.105	0.0100	0.0013	mg/L	0.10000	0.0015	104	75-125			
Lithium	0.104	0.0500	0.0011	mg/L	0.10000	ND	104	75-125			



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Georgia Power
 2480 Maner Road
 Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Report No.: AAE0894

Metals, Total - Quality Control

Analyte	Result	RL	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 7050903 - EPA 3005A											
Matrix Spike Dup (7050903-MSD1)			Source: AAE0911-01			Prepared: 05/30/17 Analyzed: 06/02/17					
Antimony	0.108	0.0030	0.0003	mg/L	0.10000	ND	108	75-125	0.3	20	
Arsenic	0.105	0.0050	0.0004	mg/L	0.10000	0.0015	103	75-125	0.1	20	
Barium	0.461	0.0100	0.0003	mg/L	0.10000	0.193	268	75-125	1	20	QM-02
Beryllium	0.103	0.0030	0.00007	mg/L	0.10000	ND	103	75-125	4	20	
Boron	1.02	0.0400	0.0060	mg/L	1.0000	0.0100	101	75-125	1	20	
Cadmium	0.105	0.0010	0.00006	mg/L	0.10000	ND	105	75-125	2	20	
Calcium	35.3	25.0	0.522	mg/L	1.0000	33.8	145	75-125	2	20	QM-02
Chromium	0.102	0.0100	0.0003	mg/L	0.10000	ND	102	75-125	4	20	
Cobalt	0.0996	0.0100	0.0005	mg/L	0.10000	ND	100	75-125	4	20	
Copper	0.100	0.0250	0.0003	mg/L	0.10000	ND	100	75-125	3	20	
Lead	0.100	0.0050	0.00007	mg/L	0.10000	0.0001	100	75-125	1	20	
Molybdenum	0.105	0.0100	0.0006	mg/L	0.10000	0.0020	103	75-125	3	20	
Nickel	0.100	0.0100	0.0003	mg/L	0.10000	ND	100	75-125	4	20	
Selenium	0.105	0.0100	0.0014	mg/L	0.10000	ND	105	75-125	1	20	
Silver	0.101	0.0100	0.0003	mg/L	0.10000	ND	101	75-125	0.1	20	
Thallium	0.102	0.0010	0.00005	mg/L	0.10000	0.0001	102	75-125	0.9	20	
Vanadium	0.106	0.0100	0.0014	mg/L	0.10000	ND	106	75-125	3	20	
Zinc	0.102	0.0100	0.0013	mg/L	0.10000	0.0015	101	75-125	3	20	
Lithium	0.104	0.0500	0.0011	mg/L	0.10000	ND	104	75-125	0.06	20	
Post Spike (7050903-PS1)											
Source: AAE0911-01			Prepared: 05/30/17 Analyzed: 06/02/17								
Antimony	106			ug/L	100.00	0.0698	106	80-120			
Arsenic	105			ug/L	100.00	1.49	103	80-120			
Barium	463			ug/L	100.00	193	270	80-120			QM-02
Beryllium	103			ug/L	100.00	0.0042	103	80-120			
Boron	1040			ug/L	1000.0	9.96	103	80-120			
Cadmium	100			ug/L	100.00	-0.0083	100	80-120			
Calcium	35400			ug/L	1000.0	33800	160	80-120			QM-02
Chromium	105			ug/L	100.00	0.145	105	80-120			
Cobalt	104			ug/L	100.00	0.156	104	80-120			
Copper	98.4			ug/L	100.00	-0.110	98	80-120			
Lead	99.2			ug/L	100.00	0.0975	99	80-120			
Molybdenum	106			ug/L	100.00	2.05	104	80-120			
Nickel	101			ug/L	100.00	0.229	101	80-120			
Selenium	104			ug/L	100.00	0.434	103	80-120			
Silver	102			ug/L	100.00	-0.0023	102	80-120			
Thallium	102			ug/L	100.00	0.0965	102	80-120			
Vanadium	107			ug/L	100.00	0.898	106	80-120			
Zinc	103			ug/L	100.00	1.49	101	80-120			
Lithium	101			ug/L	100.00	0.192	101	80-120			



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Atlanta GA, 30339

Attention: Mr. Joju Abraham

June 05, 2017

Legend

Definition of Laboratory Terms

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

Sample Information

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

Phthalic acid and phthalic anhydride are reported as dimethyl phthalate

Maleic acid and maleic anhydride are reported as dimethyl malate

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

Definition of Qualifiers

- QR-03** The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to suspected matrix interference and/or non-homogeneous sample matrix.
- QM-02** The spike recovery is outside acceptance limits due to insignificant spike amount as compared to sample concentration.
- J** Estimated value less than Reporting Limit (RL) but greater than Method Detection Limit(MDL) (CLP J-Flag).

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



Trace Analytical Services, Inc.
 10112 PROXIMITY PARKWAY, PLACENTIA, CALIFORNIA, CA 92869
 (714) 734-1000 FAX (714) 734-1001 www.trace-analysts.com

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

CLIENT NAME
 George Poulos
CLIENT ADDRESS
 541 North M. Cal Street #10168
 Los Angeles, CA 90012
PHONE 323-266-0734
REPORT TO [Signature]
PROJECT NUMBER 104
PROJECT NAME [Signature]

SAMPLE		ANALYSIS REQUESTED												
Collector	Collection Date	1	2	3	4	5	6	7	8	9	10	11	12	13
10429-11	8-22-03	✓												
10429-12	8-26-03	✓												

ANALYSIS REQUESTED
 (Detailed list of tests requested in the grid above)

COMMENTS
 (Notes for each sample collection)

LABORATORY USE
 P - PLASTIC
 A - NUMBER OF SALS
 G - SUPPLY OF SALS
 W - WASH WATER
 S - SIFTABLE
 O - OTHER
 REGENERATION
 1. HCL, HNO3
 2. H2SO4, HNO3
 3. HNO3
 4. HNO3, H2O2
 5. HNO3, H2O2
 6. HNO3, H2O2
 7. HNO3, H2O2

WATER CODES
 DW - DRINKING WATER
 WW - WASTEWATER
 GW - GROUNDWATER
 SW - SURFACE WATER
 SW - SODIUM WATER
 W - WATER
 P - PRODUCT
 H - HAZARDOUS (Hazardous Waste, Petroleum)

ANALYSIS INFORMATION
 LABORATORY USE ONLY
 ANALYZED BY: [Signature]
 APPROVED BY: [Signature]
 DATE: 8-28-03
 TIME: 1:30 PM

CHAIN OF CUSTODY
 DATE: 8-28-03
 TIME: 1:30 PM
 SAMPLE NO: 10429-11
 ANALYST: [Signature]
 REVIEWER: [Signature]
 TEST RESULT: [Signature]

[Signature]
 ANALYST

[Signature]
 REVIEWER

[Signature]
 TEST RESULT

[Signature]
 DATE: 8-28-03
 TIME: 1:30 PM

CONTACT INFORMATION
 10112 PROXIMITY PARKWAY, PLACENTIA, CA 92869
 (714) 734-1000 FAX (714) 734-1001 www.trace-analysts.com



PACE ANALYTICAL SERVICES, LLC.

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LOG-IN CHECKLIST

Printed: 5/26/2017 4:35:54PM

Attn: Mr. Joju Abraham

Client: Georgia Power

Project: CCR Event

Date Received: 05/26/17 09:55

Work Order: AAE0894

Logged In By: Mohammad M. Rahman

OBSERVATIONS

#Samples: 2

#Containers: 10

Minimum Temp(C): 1.2

Maximum Temp(C): 1.2

Custody Seal(s) Used: N/A

CHECKLIST ITEMS

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

Comments:



April 26, 2018

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

RE: Project: Plant Hammond AP
Pace Project No.: 263577

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: Plant Hammond AP

Pace Project No.: 263577

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Texas Certification #: T104704397-08-TX

Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond AP

Pace Project No.: 263577

Lab ID	Sample ID	Matrix	Date Collected	Date Received
263577001	HGWA-5	Water	04/03/18 10:13	04/04/18 16:10
263577002	HGWA-5	Water	04/03/18 10:13	04/04/18 16:10
263577003	HGWA-6	Water	04/03/18 11:15	04/04/18 16:10
263577004	HGWA-6	Water	04/03/18 11:15	04/04/18 16:10
263577005	HGWC-18	Water	04/03/18 13:08	04/04/18 16:10
263577006	HGWC-18	Water	04/03/18 13:08	04/04/18 16:10
263577007	HGWC-17	Water	04/03/18 14:19	04/04/18 16:10
263577008	HGWC-17	Water	04/03/18 14:19	04/04/18 16:10
263577009	HGWC-16	Water	04/03/18 16:46	04/04/18 16:10
263577010	HGWC-16	Water	04/03/18 16:46	04/04/18 16:10
263577011	FB-01	Water	04/03/18 17:20	04/04/18 16:10
263577012	FB-01	Water	04/03/18 17:20	04/04/18 16:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP
 Pace Project No.: 263577

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
263577001	HGWA-5	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577002	HGWA-5	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
263577003	HGWA-6	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577004	HGWA-6	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
263577005	HGWC-18	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577006	HGWC-18	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
263577007	HGWC-17	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577008	HGWC-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
263577009	HGWC-16	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577010	HGWC-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
263577011	FB-01	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	AAP	1	PASI-GA
		EPA 300.0	RLC	1	PASI-GA
263577012	FB-01	EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWA-5		Lab ID: 263577001		Collected: 04/03/18 10:13		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:16	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:16	7440-38-2		
Barium	0.038	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:16	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:16	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:16	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:16	7440-47-3		
Cobalt	ND	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:16	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:16	7439-92-1		
Lithium	0.0033J	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:16	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:16	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:16	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:16	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 14:58	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		04/11/18 04:50	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWA-6		Lab ID: 263577003		Collected: 04/03/18 11:15		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:22	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:22	7440-38-2		
Barium	0.14	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:22	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:22	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:22	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:22	7440-47-3		
Cobalt	ND	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:22	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:22	7439-92-1		
Lithium	0.012J	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:22	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:22	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:22	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:22	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 15:00	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		04/11/18 05:11	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWC-18		Lab ID: 263577005		Collected: 04/03/18 13:08		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:28	7440-36-0		
Arsenic	0.0062	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:28	7440-38-2		
Barium	0.028	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:28	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:28	7440-41-7		
Cadmium	0.0022	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:28	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:28	7440-47-3		
Cobalt	0.19	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:28	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:28	7439-92-1		
Lithium	0.013J	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:28	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:28	7439-98-7		
Selenium	0.029	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:28	7782-49-2		
Thallium	0.00014J	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:28	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 15:02	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	0.33	mg/L	0.30	0.029	1		04/11/18 05:31	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWC-17		Lab ID: 263577007		Collected: 04/03/18 14:19		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:33	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:33	7440-38-2		
Barium	0.025	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:33	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:33	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:33	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:33	7440-47-3		
Cobalt	0.016	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:33	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:33	7439-92-1		
Lithium	ND	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:33	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:33	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:33	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:33	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 15:05	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		04/11/18 07:14	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWC-16		Lab ID: 263577009		Collected: 04/03/18 16:46		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:39	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:39	7440-38-2		
Barium	0.099	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:39	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:39	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:39	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:39	7440-47-3		
Cobalt	ND	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:39	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:39	7439-92-1		
Lithium	0.0028J	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:39	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:39	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:39	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:39	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 15:07	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		04/11/18 07:35	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: FB-01		Lab ID: 263577011		Collected: 04/03/18 17:20		Received: 04/04/18 16:10		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	04/06/18 09:47	04/09/18 16:45	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	04/06/18 09:47	04/09/18 16:45	7440-38-2		
Barium	ND	mg/L	0.010	0.00078	1	04/06/18 09:47	04/09/18 16:45	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/06/18 09:47	04/09/18 16:45	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	04/06/18 09:47	04/09/18 16:45	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	04/06/18 09:47	04/09/18 16:45	7440-47-3		
Cobalt	ND	mg/L	0.010	0.00052	1	04/06/18 09:47	04/09/18 16:45	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	04/06/18 09:47	04/09/18 16:45	7439-92-1		
Lithium	ND	mg/L	0.050	0.00097	1	04/06/18 09:47	04/09/18 16:45	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	04/06/18 09:47	04/09/18 16:45	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	04/06/18 09:47	04/09/18 16:45	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/06/18 09:47	04/09/18 16:45	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/09/18 11:00	04/09/18 15:10	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		04/11/18 08:16	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 3949 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

METHOD BLANK: 19999 Matrix: Water
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	04/09/18 14:27	

LABORATORY CONTROL SAMPLE: 20000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.0025	0.0025	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 20001 20002

Parameter	Units	263576001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.0025	.0025	0.0024	0.0024	95	95	75-125	0	20	

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

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QUALITY CONTROL DATA

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 3854 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

METHOD BLANK: 19572 Matrix: Water
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	04/09/18 15:02	
Arsenic	mg/L	ND	0.0050	0.00057	04/09/18 15:02	
Barium	mg/L	ND	0.010	0.00078	04/09/18 15:02	
Beryllium	mg/L	ND	0.0030	0.000050	04/09/18 15:02	
Cadmium	mg/L	ND	0.0010	0.000093	04/09/18 15:02	
Chromium	mg/L	ND	0.010	0.0016	04/09/18 15:02	
Cobalt	mg/L	ND	0.010	0.00052	04/09/18 15:02	
Lead	mg/L	ND	0.0050	0.00027	04/09/18 15:02	
Lithium	mg/L	ND	0.050	0.00097	04/09/18 15:02	
Molybdenum	mg/L	ND	0.010	0.0019	04/09/18 15:02	
Selenium	mg/L	ND	0.010	0.0014	04/09/18 15:02	
Thallium	mg/L	ND	0.0010	0.00014	04/09/18 15:02	

LABORATORY CONTROL SAMPLE: 19573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	.1	0.10	102	80-120	
Arsenic	mg/L	.1	0.097	97	80-120	
Barium	mg/L	.1	0.098	98	80-120	
Beryllium	mg/L	.1	0.11	105	80-120	
Cadmium	mg/L	.1	0.10	101	80-120	
Chromium	mg/L	.1	0.11	107	80-120	
Cobalt	mg/L	.1	0.10	103	80-120	
Lead	mg/L	.1	0.10	101	80-120	
Lithium	mg/L	.1	0.11	109	80-120	
Molybdenum	mg/L	.1	0.10	100	80-120	
Selenium	mg/L	.1	0.10	100	80-120	
Thallium	mg/L	.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 19574 19575

Parameter	Units	263576001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Antimony	mg/L	ND	.1	.1	0.10	0.10	102	102	75-125	1	20	
Arsenic	mg/L	ND	.1	.1	0.10	0.099	103	99	75-125	4	20	
Barium	mg/L	0.11	.1	.1	0.15	0.15	38	35	75-125	2	20 M1	
Beryllium	mg/L	ND	.1	.1	0.099	0.095	99	95	75-125	4	20	
Cadmium	mg/L	ND	.1	.1	0.10	0.10	102	101	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

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QUALITY CONTROL DATA

Project: Plant Hammond AP

Pace Project No.: 263577

Parameter	Units	19574		19575		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		263576001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Chromium	mg/L	ND	.1	.1	0.11	0.10	108	101	75-125	6	20	
Cobalt	mg/L	ND	.1	.1	0.11	0.10	105	101	75-125	5	20	
Lead	mg/L	ND	.1	.1	0.098	0.097	98	96	75-125	2	20	
Lithium	mg/L	0.0030J	.1	.1	0.10	0.10	100	98	75-125	1	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.10	105	100	75-125	5	20	
Selenium	mg/L	ND	.1	.1	0.10	0.098	105	97	75-125	7	20	
Thallium	mg/L	ND	.1	.1	0.099	0.097	99	97	75-125	2	20	

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QUALITY CONTROL DATA

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 4034 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

METHOD BLANK: 20201 Matrix: Water
 Associated Lab Samples: 263577001, 263577003, 263577005, 263577007, 263577009, 263577011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.30	0.029	04/11/18 01:03	

LABORATORY CONTROL SAMPLE: 20202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	10	10.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 20203 20204

Parameter	Units	263576003 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	10	10	9.9	10	99	99	90-110	0	15	

MATRIX SPIKE SAMPLE: 20205

Parameter	Units	263576005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	0.39	10	10.8	104	90-110	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: **HGWA-5** Lab ID: **263577002** Collected: 04/03/18 10:13 Received: 04/04/18 16:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.447 ± 0.252 (0.297) C:85% T:NA	pCi/L	04/12/18 09:11	13982-63-3	
Radium-228	EPA 9320	0.411 ± 0.425 (0.883) C:76% T:79%	pCi/L	04/16/18 15:12	15262-20-1	
Total Radium	Total Radium Calculation	0.858 ± 0.677 (1.18)	pCi/L	04/25/18 11:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.359 ± 0.233 (0.337) C:87% T:NA	pCi/L	04/12/18 09:11	13982-63-3	
Radium-228	EPA 9320	0.469 ± 0.395 (0.800) C:76% T:92%	pCi/L	04/16/18 15:12	15262-20-1	
Total Radium	Total Radium Calculation	0.828 ± 0.628 (1.14)	pCi/L	04/25/18 11:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: HGWC-18 **Lab ID: 263577006** Collected: 04/03/18 13:08 Received: 04/04/18 16:10 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	1.23 ± 0.421 (0.364) C:93% T:NA	pCi/L	04/12/18 09:11	13982-63-3	
Radium-228	EPA 9320	1.30 ± 0.493 (0.760) C:81% T:84%	pCi/L	04/16/18 15:12	15262-20-1	
Total Radium	Total Radium Calculation	2.53 ± 0.914 (1.12)	pCi/L	04/25/18 11:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: **HGWC-17** Lab ID: **263577008** Collected: 04/03/18 14:19 Received: 04/04/18 16:10 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.163 ± 0.0895 (0.139) C:88% T:NA	pCi/L	04/18/18 19:06	13982-63-3	
Radium-228	EPA 9320	0.246 ± 0.365 (0.787) C:71% T:80%	pCi/L	04/20/18 11:37	15262-20-1	
Total Radium	Total Radium Calculation	0.409 ± 0.455 (0.926)	pCi/L	04/25/18 11:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: **HGWC-16** Lab ID: **263577010** Collected: 04/03/18 16:46 Received: 04/04/18 16:10 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.417 ± 0.133 (0.138) C:88% T:NA	pCi/L	04/18/18 19:06	13982-63-3	
Radium-228	EPA 9320	0.366 ± 0.532 (1.14) C:46% T:87%	pCi/L	04/20/18 11:37	15262-20-1	
Total Radium	Total Radium Calculation	0.783 ± 0.665 (1.28)	pCi/L	04/25/18 11:20	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

Sample: **FB-01** Lab ID: **263577012** Collected: 04/03/18 17:20 Received: 04/04/18 16:10 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.304 ± 0.118 (0.156) C:83% T:NA	pCi/L	04/18/18 19:06	13982-63-3	
Radium-228	EPA 9320	-0.0339 ± 0.428 (1.01) C:64% T:77%	pCi/L	04/20/18 11:37	15262-20-1	
Total Radium	Total Radium Calculation	0.304 ± 0.546 (1.17)	pCi/L	04/25/18 11:20	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 293840 Analysis Method: EPA 9320
 QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
 Associated Lab Samples: 263577002, 263577004, 263577006

METHOD BLANK: 1438693 Matrix: Water
 Associated Lab Samples: 263577002, 263577004, 263577006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0384 ± 0.272 (0.648) C:79% T:84%	pCi/L	04/16/18 11:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 294196 Analysis Method: EPA 9320
 QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
 Associated Lab Samples: 263577008, 263577010, 263577012

METHOD BLANK: 1440643 Matrix: Water

Associated Lab Samples: 263577008, 263577010, 263577012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0447 ± 0.264 (0.636) C:75% T:85%	pCi/L	04/20/18 11:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP

Pace Project No.: 263577

QC Batch: 294194 Analysis Method: EPA 9315

QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium

Associated Lab Samples: 263577008, 263577010, 263577012

METHOD BLANK: 1440635 Matrix: Water

Associated Lab Samples: 263577008, 263577010, 263577012

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.260 ± 0.105 (0.126) C:91% T:NA	pCi/L	04/18/18 19:04	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP
 Pace Project No.: 263577

QC Batch: 293839 Analysis Method: EPA 9315
 QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
 Associated Lab Samples: 263577002, 263577004, 263577006

METHOD BLANK: 1438692 Matrix: Water
 Associated Lab Samples: 263577002, 263577004, 263577006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0457 ± 0.172 (0.432) C:92% T:NA	pCi/L	04/12/18 09:04	

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QUALIFIERS

Project: Plant Hammond AP
Pace Project No.: 263577

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-GA Pace Analytical Services - Atlanta, GA
PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP
 Pace Project No.: 263577

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
263577001	HGWA-5	EPA 3005A	3854	EPA 6020B	3993
263577003	HGWA-6	EPA 3005A	3854	EPA 6020B	3993
263577005	HGWC-18	EPA 3005A	3854	EPA 6020B	3993
263577007	HGWC-17	EPA 3005A	3854	EPA 6020B	3993
263577009	HGWC-16	EPA 3005A	3854	EPA 6020B	3993
263577011	FB-01	EPA 3005A	3854	EPA 6020B	3993
263577001	HGWA-5	EPA 7470A	3949	EPA 7470A	3989
263577003	HGWA-6	EPA 7470A	3949	EPA 7470A	3989
263577005	HGWC-18	EPA 7470A	3949	EPA 7470A	3989
263577007	HGWC-17	EPA 7470A	3949	EPA 7470A	3989
263577009	HGWC-16	EPA 7470A	3949	EPA 7470A	3989
263577011	FB-01	EPA 7470A	3949	EPA 7470A	3989
263577002	HGWA-5	EPA 9315	293839		
263577004	HGWA-6	EPA 9315	293839		
263577006	HGWC-18	EPA 9315	293839		
263577008	HGWC-17	EPA 9315	294194		
263577010	HGWC-16	EPA 9315	294194		
263577012	FB-01	EPA 9315	294194		
263577002	HGWA-5	EPA 9320	293840		
263577004	HGWA-6	EPA 9320	293840		
263577006	HGWC-18	EPA 9320	293840		
263577008	HGWC-17	EPA 9320	294196		
263577010	HGWC-16	EPA 9320	294196		
263577012	FB-01	EPA 9320	294196		
263577002	HGWA-5	Total Radium Calculation	295904		
263577004	HGWA-6	Total Radium Calculation	295904		
263577006	HGWC-18	Total Radium Calculation	295904		
263577008	HGWC-17	Total Radium Calculation	295904		
263577010	HGWC-16	Total Radium Calculation	295904		
263577012	FB-01	Total Radium Calculation	295904		
263577001	HGWA-5	EPA 300.0	4034		
263577003	HGWA-6	EPA 300.0	4034		
263577005	HGWC-18	EPA 300.0	4034		
263577007	HGWC-17	EPA 300.0	4034		
263577009	HGWC-16	EPA 300.0	4034		
263577011	FB-01	EPA 300.0	4034		

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

Section 1 Requested Program Information
 Approved Date: 01/15/2014 Requested Program: GC-MS/MS
 Requested By: John J. [Name] Requested By Title: Analyst
 Requested By Phone: [Phone] Requested By Email: [Email]
 Requested By Address: [Address]
 Requested By City: [City] Requested By State: [State] Requested By Zip: [Zip]
 Requested By Agency: TAL [Agency]
 Requested By Date: 01/15/2014
 Requested By Time: 10:00 AM
 Requested By Location: [Location]
 Requested By Signature: [Signature]
 Requested By Title: [Title]
 Requested By Agency: [Agency]
 Requested By Phone: [Phone]
 Requested By Email: [Email]
 Requested By Address: [Address]
 Requested By City: [City] Requested By State: [State] Requested By Zip: [Zip]
 Requested By Agency: [Agency]

SAMPLE ID	Description	COLLECTED		ANALYST	METHOD	LABORATORY	DATE	TIME	LOCATION	REMARKS
		FROM	TO							
1. HGCAR-5	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]
2. HGCAR-6	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]
3. HGCAR-10	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]
4. HGCAR-17	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]
5. HGCAR-16	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]
6. FR-01	GC-MS/MS	01/15/2014	01/15/2014	J	GC-MS/MS	GC-MS/MS	10:00 AM	10:00 AM	[Location]	[Remarks]

Section 2 Requested Program Information
 Approved Date: 01/15/2014 Requested Program: GC-MS/MS
 Requested By: John J. [Name] Requested By Title: Analyst
 Requested By Phone: [Phone] Requested By Email: [Email]
 Requested By Address: [Address]
 Requested By City: [City] Requested By State: [State] Requested By Zip: [Zip]
 Requested By Agency: TAL [Agency]
 Requested By Date: 01/15/2014
 Requested By Time: 10:00 AM
 Requested By Location: [Location]
 Requested By Signature: [Signature]
 Requested By Title: [Title]
 Requested By Agency: [Agency]
 Requested By Phone: [Phone]
 Requested By Email: [Email]
 Requested By Address: [Address]
 Requested By City: [City] Requested By State: [State] Requested By Zip: [Zip]
 Requested By Agency: [Agency]

WON-263577



Shipment Condition Upon Receipt



Client Name: GVA Power Project # _____

Carrier: Fed Ex UPS USPS Other Trace
 Tracking # _____
 Capacity Seal on Cooler Box Present Yes No Seal Taped Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other _____
 Temperature Used 83 Type of Ice Wet Dry None Samples on Ice, Temperature not below _____
 Cooler Temperature 0.3 Biological Transfer to Cooler Yes No
 Time should be above freezing to IFC Comments

NOA: 263577

PI: 84 Due Date: 04/11/10
 CLIENT: GVA Power - GCR

Date and Initials of Person Receiving Samples
 (Signature) [Signature]

Check if Capacity Present	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	1
Check if Capacity Filled Out	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	2
Check if Outlets Reinsulated	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	3
Sample Name & Signature on COC	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	4
Samplers Arrived within Hold Time	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	5
Short Hold Time Analysis (if any)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	6
Rush Turn Around Time Required	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	7
Sampler Volume	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	8
Correct Container Used	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	9
-Purge Containers Lined	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	10
Containers Lined	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	10
Filled volume received for Dispatched tests	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	11
Sample Labels match COC	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	12
(Volume, Sample ID, No. of Tests, Name)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	12
All containers needing preservation from high levels checked	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	13
All containers needing preservation are found to be in compliance with EPA or equivalent	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	14
Signature of all water, ice, and other items	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	15
Signature of all water, ice, and other items	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	15
Signature checked for each container	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	16
Headspace in VOA vials, 40mm	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	17
Trip Tapes Present	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	18
Trip Tape Control Seal Present	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	19
Red Trip Tape Lot # if applicable	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	20

Client Notification Resolution: _____ Fax Call Required? Yes No
 Person Contacted: _____ Date/Time: _____
 Company: Pace Analytical

 Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting both containers, the container with the most volume should be used for testing. The other container should be used for backup testing.
 Date: 04/11/10 11:00 AM



June 29, 2018

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

RE: Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265795

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP 1&2, 3&4
 Pace Project No.: 265795

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092	North Carolina Certification #: 381
Florida DOH Certification #: E87315	South Carolina Certification #: 98011001
Georgia DW Inorganics Certification #: 812	Texas Certification #: T104704397-08-TX
Georgia DW Microbiology Certification #: 812	Virginia Certification #: 460204

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601	Missouri Certification #: 235
ANAB DOD-ELAP Rad Accreditation #: L2417	Montana Certification #: Cert0082
Alabama Certification #: 41590	Nebraska Certification #: NE-OS-29-14
Arizona Certification #: AZ0734	Nevada Certification #: PA014572018-1
Arkansas Certification	New Hampshire/TNI Certification #: 297617
California Certification #: 04222CA	New Jersey/TNI Certification #: PA051
Colorado Certification #: PA01547	New Mexico Certification #: PA01457
Connecticut Certification #: PH-0694	New York/TNI Certification #: 10888
Delaware Certification	North Carolina Certification #: 42706
EPA Region 4 DW Rad	North Dakota Certification #: R-190
Florida/TNI Certification #: E87683	Ohio EPA Rad Approval: #41249
Georgia Certification #: C040	Oregon/TNI Certification #: PA200002-010
Guam Certification	Pennsylvania/TNI Certification #: 65-00282
Hawaii Certification	Puerto Rico Certification #: PA01457
Idaho Certification	Rhode Island Certification #: 65-00282
Illinois Certification	South Dakota Certification
Indiana Certification	Tennessee Certification #: 02867
Iowa Certification #: 391	Texas/TNI Certification #: T104704188-17-3
Kansas/TNI Certification #: E-10358	Utah/TNI Certification #: PA014572017-9
Kentucky Certification #: KY90133	USDA Soil Permit #: P330-17-00091
KY WW Permit #: KY0098221	Vermont Dept. of Health: ID# VT-0282
KY WW Permit #: KY0000221	Virgin Island/PADEP Certification
Louisiana DHH/TNI Certification #: LA180012	Virginia/VELAP Certification #: 9526
Louisiana DEQ/TNI Certification #: 4086	Washington Certification #: C868
Maine Certification #: 2017020	West Virginia DEP Certification #: 143
Maryland Certification #: 308	West Virginia DHHR Certification #: 9964C
Massachusetts Certification #: M-PA1457	Wisconsin Approve List for Rad
Michigan/PADEP Certification #: 9991	Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265795

Lab ID	Sample ID	Matrix	Date Collected	Date Received
265795001	FD-01	Water	06/05/18 00:00	06/06/18 10:45
265795002	HGWC-13	Water	06/05/18 15:45	06/06/18 10:45
265795003	HGWC-18	Water	06/05/18 17:58	06/06/18 10:45

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
265795001	FD-01	EPA 6020B	CSW	9	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA
265795002	HGWC-13	EPA 6020B	CSW	9	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA
265795003	HGWC-18	EPA 6020B	CSW	9	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	JLW	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C	JPT	1	PASI-GA
		EPA 300.0	MWB	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Sample: FD-01		Lab ID: 265795001		Collected: 06/05/18 00:00		Received: 06/06/18 10:45		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.41	mg/L	0.0050	0.00057	1	06/13/18 09:18	06/18/18 19:05	7440-38-2		
Barium	0.13	mg/L	0.010	0.00078	1	06/13/18 09:18	06/18/18 19:05	7440-39-3		
Boron	1.4	mg/L	0.040	0.0039	1	06/13/18 09:18	06/18/18 19:05	7440-42-8		
Calcium	117	mg/L	25.0	0.69	50	06/13/18 09:18	06/20/18 13:37	7440-70-2		
Cobalt	0.0022J	mg/L	0.010	0.00052	1	06/13/18 09:18	06/18/18 19:05	7440-48-4		
Lithium	0.033J	mg/L	0.050	0.00097	1	06/13/18 09:18	06/18/18 19:05	7439-93-2		
Molybdenum	0.027	mg/L	0.010	0.0019	1	06/13/18 09:18	06/18/18 19:05	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	06/13/18 09:18	06/18/18 19:05	7782-49-2		
Thallium	0.00035J	mg/L	0.0010	0.00014	1	06/13/18 09:18	06/18/18 19:05	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	540	mg/L	25.0	10.0	1		06/08/18 16:25			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	75.6	mg/L	1.2	0.12	5		06/22/18 00:12	16887-00-6		
Fluoride	0.49	mg/L	0.30	0.029	1		06/12/18 20:28	16984-48-8		
Sulfate	188	mg/L	5.0	0.085	5		06/22/18 00:12	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Sample: HGWC-13		Lab ID: 265795002		Collected: 06/05/18 15:45		Received: 06/06/18 10:45		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.38	mg/L	0.0050	0.00057	1	06/13/18 09:18	06/18/18 19:17	7440-38-2		
Barium	0.13	mg/L	0.010	0.00078	1	06/13/18 09:18	06/18/18 19:17	7440-39-3		
Boron	1.3	mg/L	0.040	0.0039	1	06/13/18 09:18	06/18/18 19:17	7440-42-8		
Calcium	110	mg/L	25.0	0.69	50	06/13/18 09:18	06/20/18 13:43	7440-70-2		
Cobalt	0.0023J	mg/L	0.010	0.00052	1	06/13/18 09:18	06/18/18 19:17	7440-48-4		
Lithium	0.031J	mg/L	0.050	0.00097	1	06/13/18 09:18	06/18/18 19:17	7439-93-2		
Molybdenum	0.027	mg/L	0.010	0.0019	1	06/13/18 09:18	06/18/18 19:17	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	06/13/18 09:18	06/18/18 19:17	7782-49-2		
Thallium	0.00035J	mg/L	0.0010	0.00014	1	06/13/18 09:18	06/18/18 19:17	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	528	mg/L	25.0	10.0	1		06/08/18 16:25			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	72.3	mg/L	1.2	0.12	5		06/22/18 01:55	16887-00-6		
Fluoride	0.47	mg/L	0.30	0.029	1		06/12/18 20:49	16984-48-8		
Sulfate	187	mg/L	5.0	0.085	5		06/22/18 01:55	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Sample: HGWC-18		Lab ID: 265795003		Collected: 06/05/18 17:58		Received: 06/06/18 10:45		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0080	mg/L	0.0050	0.00057	1	06/13/18 09:18	06/18/18 19:28	7440-38-2	
Barium	0.030	mg/L	0.010	0.00078	1	06/13/18 09:18	06/18/18 19:28	7440-39-3	
Boron	8.4	mg/L	0.040	0.0039	1	06/13/18 09:18	06/18/18 19:28	7440-42-8	
Cadmium	0.0022	mg/L	0.0010	0.000093	1	06/13/18 09:18	06/18/18 19:28	7440-43-9	
Calcium	425	mg/L	250	6.9	500	06/13/18 09:18	06/20/18 13:49	7440-70-2	
Cobalt	0.19	mg/L	0.010	0.00052	1	06/13/18 09:18	06/18/18 19:28	7440-48-4	
Lithium	0.013J	mg/L	0.050	0.00097	1	06/13/18 09:18	06/18/18 19:28	7439-93-2	
Selenium	0.038	mg/L	0.010	0.0014	1	06/13/18 09:18	06/18/18 19:28	7782-49-2	
Thallium	0.00016J	mg/L	0.0010	0.00014	1	06/13/18 09:18	06/18/18 19:28	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1880	mg/L	25.0	10.0	1		06/08/18 16:25		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	261	mg/L	12.5	1.2	50		06/22/18 02:16	16887-00-6	
Fluoride	0.66	mg/L	0.30	0.029	1		06/12/18 21:10	16984-48-8	
Sulfate	962	mg/L	50.0	0.85	50		06/22/18 02:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

QC Batch: 7923 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 265795001, 265795002, 265795003

METHOD BLANK: 36780 Matrix: Water

Associated Lab Samples: 265795001, 265795002, 265795003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00057	06/18/18 16:50	
Barium	mg/L	ND	0.010	0.00078	06/18/18 16:50	
Boron	mg/L	ND	0.040	0.0039	06/18/18 16:50	
Cadmium	mg/L	ND	0.0010	0.000093	06/18/18 16:50	
Calcium	mg/L	ND	0.50	0.014	06/18/18 16:50	
Cobalt	mg/L	ND	0.010	0.00052	06/18/18 16:50	
Lithium	mg/L	ND	0.050	0.00097	06/18/18 16:50	
Molybdenum	mg/L	ND	0.010	0.0019	06/18/18 16:50	
Selenium	mg/L	ND	0.010	0.0014	06/18/18 16:50	
Thallium	mg/L	ND	0.0010	0.00014	06/18/18 16:50	

LABORATORY CONTROL SAMPLE: 36781

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.1	0.10	104	80-120	
Barium	mg/L	.1	0.10	100	80-120	
Boron	mg/L	1	1.1	110	80-120	
Cadmium	mg/L	.1	0.10	103	80-120	
Calcium	mg/L	1	1.0	104	80-120	
Cobalt	mg/L	.1	0.10	104	80-120	
Lithium	mg/L	.1	0.11	106	80-120	
Molybdenum	mg/L	.1	0.10	100	80-120	
Selenium	mg/L	.1	0.10	100	80-120	
Thallium	mg/L	.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36825 36826

Parameter	Units	265792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.11	.1	.1	0.23	0.22	113	111	75-125	1	20	
Boron	mg/L	0.036J	1	1	1.1	1.1	108	102	75-125	6	20	
Cadmium	mg/L	0.00014J	.1	.1	0.10	0.099	101	99	75-125	2	20	
Calcium	mg/L	19.1	1	1	19.4	19.3	37	30	75-125	0	20	M6
Cobalt	mg/L	0.025	.1	.1	0.13	0.12	101	97	75-125	3	20	
Lithium	mg/L	0.0016J	.1	.1	0.11	0.099	103	98	75-125	6	20	
Molybdenum	mg/L	ND	.1	.1	0.10	0.10	101	100	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.10	0.10	101	99	75-125	1	20	

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2, 3&4
 Pace Project No.: 265795

Parameter	Units	36825		36826		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		265792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Thallium	mg/L	ND	.1	.1	0.10	0.098	100	98	75-125	2	20	

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2, 3&4
 Pace Project No.: 265795

QC Batch: 7599 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 265795001, 265795002, 265795003

LABORATORY CONTROL SAMPLE: 35647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	405	101	84-108	

SAMPLE DUPLICATE: 35648

Parameter	Units	265789026 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	62.0	65.0	5	10	

SAMPLE DUPLICATE: 35649

Parameter	Units	265791003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	723	714	1	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

QC Batch: 7772 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 265795001, 265795002, 265795003

METHOD BLANK: 36164 Matrix: Water

Associated Lab Samples: 265795001, 265795002, 265795003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/12/18 13:24	
Fluoride	mg/L	ND	0.30	0.029	06/12/18 13:24	
Sulfate	mg/L	ND	1.0	0.017	06/12/18 13:24	

LABORATORY CONTROL SAMPLE: 36165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	10.4	104	90-110	
Sulfate	mg/L	10	10.6	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 36166 36167

Parameter	Units	265790001		265790002		265790001		265790002		% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	2.6	10	10	12.7	12.8	101	101	90-110	0	15	
Fluoride	mg/L	0.032J	10	10	10.1	10.1	100	100	90-110	0	15	
Sulfate	mg/L	1.4	10	10	11.3	11.5	99	101	90-110	2	15	

MATRIX SPIKE SAMPLE: 36168

Parameter	Units	265790002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5.3	10	15.5	103	90-110	
Fluoride	mg/L	ND	10	10.4	104	90-110	
Sulfate	mg/L	0.73J	10	11.0	102	90-110	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Sample: FD-01 **Lab ID: 265795001** Collected: 06/05/18 00:00 Received: 06/06/18 10:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.349 ± 0.231 (0.349) C:92% T:NA	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	0.762 ± 0.462 (0.852) C:67% T:83%	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	1.11 ± 0.693 (1.20)	pCi/L	06/28/18 14:25	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	0.544 ± 0.283 (0.372) C:90% T:NA	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	0.555 ± 0.449 (0.896) C:71% T:81%	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	1.10 ± 0.732 (1.27)	pCi/L	06/28/18 14:25	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 9315	1.39 ± 0.447 (0.368) C:94% T:NA	pCi/L	06/14/18 08:33	13982-63-3	
Radium-228	EPA 9320	0.519 ± 0.458 (0.922) C:75% T:69%	pCi/L	06/27/18 15:07	15262-20-1	
Total Radium	Total Radium Calculation	1.91 ± 0.905 (1.29)	pCi/L	06/28/18 14:25	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

QC Batch: 301897 Analysis Method: EPA 9320
 QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
 Associated Lab Samples: 265795001, 265795002, 265795003

METHOD BLANK: 1477324 Matrix: Water

Associated Lab Samples: 265795001, 265795002, 265795003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.201 ± 0.377 (0.827) C:68% T:84%	pCi/L	06/27/18 15:05	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: Plant Hammond AP 1&2, 3&4

Pace Project No.: 265795

QC Batch: 301690 Analysis Method: EPA 9315
 QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
 Associated Lab Samples: 265795001, 265795002, 265795003

METHOD BLANK: 1476536 Matrix: Water

Associated Lab Samples: 265795001, 265795002, 265795003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.252 ± 0.215 (0.375) C:88% T:NA	pCi/L	06/14/18 08:33	

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QUALIFIERS

Project: Plant Hammond AP 1&2, 3&4
Pace Project No.: 265795

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-GA Pace Analytical Services - Atlanta, GA
PASI-PA Pace Analytical Services - Greensburg

ANALYTE QUALIFIERS

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP 1&2, 3&4
 Pace Project No.: 265795

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
265795001	FD-01	EPA 3005A	7923	EPA 6020B	8195
265795002	HGWC-13	EPA 3005A	7923	EPA 6020B	8195
265795003	HGWC-18	EPA 3005A	7923	EPA 6020B	8195
265795001	FD-01	EPA 9315	301690		
265795002	HGWC-13	EPA 9315	301690		
265795003	HGWC-18	EPA 9315	301690		
265795001	FD-01	EPA 9320	301897		
265795002	HGWC-13	EPA 9320	301897		
265795003	HGWC-18	EPA 9320	301897		
265795001	FD-01	Total Radium Calculation	304047		
265795002	HGWC-13	Total Radium Calculation	304047		
265795003	HGWC-18	Total Radium Calculation	304047		
265795001	FD-01	SM 2540C	7599		
265795002	HGWC-13	SM 2540C	7599		
265795003	HGWC-18	SM 2540C	7599		
265795001	FD-01	EPA 300.0	7772		
265795002	HGWC-13	EPA 300.0	7772		
265795003	HGWC-18	EPA 300.0	7772		

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CHAIN-OF-CUSTODY / Analytical Request Document

This Chain of Custody is a LOGS DOCUMENT. All relevant facts must be completed accurately.

Section A - Required Chain Information

Company: Cherry Creek Life Enhancement Services
 Address: 136 Maple Street
 City: Rocky Hill, CT
 State: CONNECTICUT
 Zip: 06067-1308
 Phone: (860) 234-1308
 Representative Name: ANTHONY J. FAY

Section B - Required Project Information

Report No.: 10000000000000000000
 Client Name: XXXXXXXXXXXXXXXXXXXX
 Address: XXXXXXXXXXXXXXXXXXXX
 City: XXXXXXXXXXXX
 State: XXXXXXXX
 Zip: XXXXXX
 Project Name: XXXXXXXXXXXX
 Project No.: 001

Section C - Analytical Request Information

Analysis Type: XXXXXXXXXXXX
 Analysis Date: XXXXXXXXXXXX
 Analysis Time: XXXXXXXXXXXX

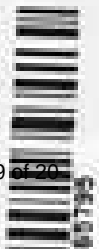
SAMPLE ID	COLLECTOR		DATE	TIME	PREPARATIONS	ANALYSIS INFORMATION															
	START	END				DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME						
1. FD-01	17:00	19:00	06/18/18	17:00	XXXXXXXXXXXX	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00
2. H6MC-13	17:00	19:00	06/18/18	17:00	XXXXXXXXXXXX	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00
3. H6MC-16	17:00	19:00	06/18/18	17:00	XXXXXXXXXXXX	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00	06/18/18	17:00	06/18/18	19:00
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
11.																					
12.																					

Lab Item #6 06-18-2018

Section D - Chain of Custody

ANALYST: XXXXXXXXXXXX DATE: 06/18/18 TIME: 19:00
 PREPARED BY: XXXXXXXXXXXX DATE: 06/18/18 TIME: 19:00
 COLLECTOR: XXXXXXXXXXXX DATE: 06/18/18 TIME: 19:00
 RECEIVED BY: XXXXXXXXXXXX DATE: 06/18/18 TIME: 19:00
 ANALYST SIGNATURE: XXXXXXXXXXXX
 PREPARED BY SIGNATURE: XXXXXXXXXXXX
 COLLECTOR SIGNATURE: XXXXXXXXXXXX
 RECEIVED BY SIGNATURE: XXXXXXXXXXXX

W0# : 265795





Sample Condition Upon Receipt

WO#: 265795

Client Name: GA Power

PR: BR Due Date: 07/05/18
CLIENT: GSPower-CCR

Courier: Fed Ex UPS USPS ~~Other~~ 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: IHR082 Type of Ice: None Samples on ice, cooling process has begun

Cooler Temperature: 2.6 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 5°C

Date and initials of person receiving contents: 6/16/18/CP

Item	Yes	No	DK	Comments
Chain of Custody Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
Chain of Custody Reinquished	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
Sampler Name & Signature on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Short Hold Time Analysis (<2hrs)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6
Rush Turn Around Time Requested	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7
Sufficient Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8
Correct Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9
-Pace Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10
Filtrated volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11
Sample Labels match COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12
-Includes Data/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>5-6</u>
All containers needing preservation have been checked	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13
All containers needing preservation are found to be in compliance with EPA recommendation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inspected: VOA, within, TOC, OAG, W-DRO (water)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed
Samples checked for dechlorination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14
Headspace in VOA Vials (if filled)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15
Trip Blank Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pace Trip Blank Lot # (if purchased)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Field Data Received? Y N

Comments/ Resolution: _____

Project Manager Review:

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina Department of Environment and Natural Resources, out of state, incorrect containers



October 17, 2018

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

RE: Project: Plant Hammond AP 1&2
Pace Project No.: 2610114

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Maria Padilla, Georgia Power
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Texas Certification #: T104704397-08-TX

Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: Plant Hammond AP 1&2
Pace Project No.: 2610114

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2610114001	HGWC-11	Water	10/03/18 10:20	10/04/18 12:30
2610114002	HGWC-12	Water	10/03/18 11:25	10/04/18 12:30
2610114003	HGWC-18	Water	10/03/18 13:57	10/04/18 12:30
2610114004	FD-02	Water	10/03/18 00:00	10/04/18 12:30

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2610114001	HGWC-11	EPA 6020B	CSW	9
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610114002	HGWC-12	EPA 6020B	CSW	9
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610114003	HGWC-18	EPA 6020B	CSW	9
		SM 2540C	JPT	1
		EPA 300.0	RLC	3
2610114004	FD-02	EPA 6020B	CSW	9
		SM 2540C	JPT	1
		EPA 300.0	MWB, RLC	3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Sample: HGWC-11 **Lab ID: 2610114001** Collected: 10/03/18 10:20 Received: 10/04/18 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 19:03	7440-38-2	
Barium	0.033	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 19:03	7440-39-3	
Boron	0.91	mg/L	0.040	0.0039	1	10/09/18 14:10	10/11/18 19:03	7440-42-8	
Calcium	89.0	mg/L	25.0	0.69	50	10/09/18 14:10	10/11/18 19:09	7440-70-2	
Cobalt	ND	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 19:03	7440-48-4	
Lithium	ND	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 19:03	7439-93-2	
Molybdenum	0.020	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 19:03	7439-98-7	
Selenium	0.0090J	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 19:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/09/18 14:10	10/11/18 19:03	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	449	mg/L	25.0	10.0	1		10/08/18 17:47		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	24.8	mg/L	0.25	0.024	1		10/09/18 04:45	16887-00-6	
Fluoride	0.31	mg/L	0.30	0.029	1		10/09/18 04:45	16984-48-8	
Sulfate	233	mg/L	5.0	0.085	5		10/09/18 04:22	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Sample: HGWC-12 **Lab ID: 2610114002** Collected: 10/03/18 11:25 Received: 10/04/18 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0037J	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 19:15	7440-38-2	
Barium	0.087	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 19:15	7440-39-3	
Boron	2.3	mg/L	0.040	0.0039	1	10/09/18 14:10	10/11/18 19:15	7440-42-8	
Calcium	125	mg/L	25.0	0.69	50	10/09/18 14:10	10/11/18 19:20	7440-70-2	
Cobalt	0.0011J	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 19:15	7440-48-4	
Lithium	0.0083J	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 19:15	7439-93-2	
Molybdenum	0.054	mg/L	0.010	0.0019	1	10/09/18 14:10	10/11/18 19:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 19:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/09/18 14:10	10/11/18 19:15	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	607	mg/L	25.0	10.0	1		10/08/18 17:47		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	88.4	mg/L	1.2	0.12	5		10/09/18 05:07	16887-00-6	
Fluoride	0.15J	mg/L	0.30	0.029	1		10/09/18 05:30	16984-48-8	
Sulfate	191	mg/L	5.0	0.085	5		10/09/18 05:07	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Sample: HGWC-18		Lab ID: 2610114003		Collected: 10/03/18 13:57		Received: 10/04/18 12:30		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0039J	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 19:26	7440-38-2		
Barium	0.032	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 19:26	7440-39-3		
Boron	9.3	mg/L	0.20	0.020	5	10/09/18 14:10	10/12/18 17:28	7440-42-8		
Cadmium	0.0027	mg/L	0.0010	0.000093	1	10/09/18 14:10	10/11/18 19:26	7440-43-9		
Calcium	421	mg/L	25.0	0.69	50	10/09/18 14:10	10/11/18 19:32	7440-70-2		
Cobalt	0.19	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 19:26	7440-48-4		
Lithium	0.015J	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 19:26	7439-93-2		
Selenium	0.017	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 19:26	7782-49-2		
Thallium	ND	mg/L	0.0050	0.00071	5	10/09/18 14:10	10/12/18 17:28	7440-28-0	D3	
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	2180	mg/L	25.0	10.0	1		10/08/18 17:48			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	302	mg/L	12.5	1.2	50		10/09/18 05:53	16887-00-6		
Fluoride	0.32	mg/L	0.30	0.029	1		10/09/18 06:15	16984-48-8		
Sulfate	1170	mg/L	50.0	0.85	50		10/09/18 05:53	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Sample: FD-02 **Lab ID: 2610114004** Collected: 10/03/18 00:00 Received: 10/04/18 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	0.0041J	mg/L	0.0050	0.00057	1	10/09/18 14:10	10/11/18 19:37	7440-38-2	
Barium	0.032	mg/L	0.010	0.00078	1	10/09/18 14:10	10/11/18 19:37	7440-39-3	
Boron	9.2	mg/L	0.20	0.020	5	10/09/18 14:10	10/12/18 17:34	7440-42-8	
Cadmium	0.0026	mg/L	0.0010	0.000093	1	10/09/18 14:10	10/11/18 19:37	7440-43-9	
Calcium	400	mg/L	25.0	0.69	50	10/09/18 14:10	10/11/18 19:43	7440-70-2	
Cobalt	0.19	mg/L	0.010	0.00052	1	10/09/18 14:10	10/11/18 19:37	7440-48-4	
Lithium	0.015J	mg/L	0.050	0.00097	1	10/09/18 14:10	10/11/18 19:37	7439-93-2	
Selenium	0.015	mg/L	0.010	0.0014	1	10/09/18 14:10	10/11/18 19:37	7782-49-2	
Thallium	ND	mg/L	0.0050	0.00071	5	10/09/18 14:10	10/12/18 17:34	7440-28-0	D3
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Total Dissolved Solids	1910	mg/L	25.0	10.0	1		10/08/18 17:48		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Chloride	312	mg/L	2.5	0.24	10		10/09/18 06:38	16887-00-6	
Fluoride	0.33	mg/L	0.30	0.029	1		10/09/18 07:01	16984-48-8	
Sulfate	1110	mg/L	25.0	0.42	25		10/16/18 13:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

QC Batch: 15013 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2610114001, 2610114002, 2610114003, 2610114004

METHOD BLANK: 67190 Matrix: Water
 Associated Lab Samples: 2610114001, 2610114002, 2610114003, 2610114004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00057	10/11/18 17:43	
Barium	mg/L	ND	0.010	0.00078	10/11/18 17:43	
Boron	mg/L	ND	0.040	0.0039	10/11/18 17:43	
Cadmium	mg/L	ND	0.0010	0.000093	10/11/18 17:43	
Calcium	mg/L	ND	0.50	0.014	10/11/18 17:43	
Cobalt	mg/L	ND	0.010	0.00052	10/11/18 17:43	
Lithium	mg/L	ND	0.050	0.00097	10/11/18 17:43	
Molybdenum	mg/L	ND	0.010	0.0019	10/11/18 17:43	
Selenium	mg/L	ND	0.010	0.0014	10/11/18 17:43	
Thallium	mg/L	ND	0.0010	0.00014	10/11/18 17:43	

LABORATORY CONTROL SAMPLE: 67191

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.1	0.098	98	80-120	
Barium	mg/L	.1	0.097	97	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	101	80-120	
Cobalt	mg/L	.1	0.097	97	80-120	
Lithium	mg/L	.1	0.097	97	80-120	
Molybdenum	mg/L	.1	0.10	100	80-120	
Selenium	mg/L	.1	0.098	98	80-120	
Thallium	mg/L	.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 67194 67195

Parameter	Units	2610117002 Result	MS Spike Conc.	MSD Spike Conc.	67194		67195		% Rec Limits	RPD	Max RPD	Qual
					MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic	mg/L	ND	.1	.1	0.11	0.11	106	108	75-125	2	20	
Barium	mg/L	0.028	.1	.1	0.13	0.13	101	103	75-125	1	20	
Boron	mg/L	6.9	1	1	9.9	8.0	295	107	75-125	21	20	R1
Cadmium	mg/L	ND	.1	.1	0.10	0.10	104	104	75-125	1	20	
Calcium	mg/L	286	1	1	348	284	6160	-242	75-125	20	20	M6
Cobalt	mg/L	0.016	.1	.1	0.12	0.12	102	99	75-125	2	20	
Lithium	mg/L	ND	.1	.1	0.099	0.097	98	97	75-125	1	20	
Molybdenum	mg/L	ND	.1	.1	0.11	0.11	109	108	75-125	1	20	
Selenium	mg/L	ND	.1	.1	0.11	0.11	105	105	75-125	0	20	

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

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Parameter	Units	67194		67195		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		2610117002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
Thallium	mg/L	ND	.1	.1	0.10	0.10	100	99	75-125	1	20	

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

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

QC Batch: 14910 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2610114001, 2610114002, 2610114003, 2610114004

LABORATORY CONTROL SAMPLE: 66856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	84-108	

SAMPLE DUPLICATE: 66857

Parameter	Units	2610112003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	232	3	10	

SAMPLE DUPLICATE: 66858

Parameter	Units	2610117001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	615	13	10	D6

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QUALITY CONTROL DATA

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

QC Batch: 14939 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2610114001, 2610114002, 2610114003, 2610114004

METHOD BLANK: 66933 Matrix: Water
 Associated Lab Samples: 2610114001, 2610114002, 2610114003, 2610114004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.078J	0.25	0.024	10/08/18 16:40	
Fluoride	mg/L	ND	0.30	0.029	10/08/18 16:40	
Sulfate	mg/L	ND	1.0	0.017	10/08/18 16:40	

LABORATORY CONTROL SAMPLE: 66934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.3	103	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	11.0	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 66935 66936

Parameter	Units	2610035001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.7	10	10	11.7	11.7	101	101	90-110	0	15	
Fluoride	mg/L	0.076J	10	10	10.0	10.0	99	100	90-110	0	15	
Sulfate	mg/L	38.5	10	10	44.7	44.8	62	63	90-110	0	15 M1	

MATRIX SPIKE SAMPLE: 66937

Parameter	Units	2610037001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3.1	10	13.4	103	90-110	
Fluoride	mg/L	0.22J	10	10.3	101	90-110	
Sulfate	mg/L	48.6	10	53.6	50	90-110 E	

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QUALIFIERS

Project: Plant Hammond AP 1&2
Pace Project No.: 2610114

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

- | | |
|----|---|
| 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. |
| E | Analyte concentration exceeded the calibration range. The reported result is estimated. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| M6 | Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution. |
| R1 | RPD value was outside control limits. |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP 1&2

Pace Project No.: 2610114

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2610114001	HGWC-11	EPA 3005A	15013	EPA 6020B	15073
2610114002	HGWC-12	EPA 3005A	15013	EPA 6020B	15073
2610114003	HGWC-18	EPA 3005A	15013	EPA 6020B	15073
2610114004	FD-02	EPA 3005A	15013	EPA 6020B	15073
2610114001	HGWC-11	SM 2540C	14910		
2610114002	HGWC-12	SM 2540C	14910		
2610114003	HGWC-18	SM 2540C	14910		
2610114004	FD-02	SM 2540C	14910		
2610114001	HGWC-11	EPA 300.0	14939		
2610114002	HGWC-12	EPA 300.0	14939		
2610114003	HGWC-18	EPA 300.0	14939		
2610114004	FD-02	EPA 300.0	14939		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Requestor/Client Information Agency: <u>Orange County - San Gertrude Parish</u> Address: <u>2400 Marine Blvd</u> <u>Alhambra, CA 91801</u> Email: <u>gtrud@orangeoc.com</u> Phone: <u>(949) 440-1100</u> Requested Date: <u>5/20/2018</u>		Section B Analytical Request Information Sample No: <u>2610114</u> City: <u>San Gertrude</u> Project Name: <u>ORANGE COUNTY - SAN GERTRUDE PARISH</u> Requested By: <u>John G. ...</u>		Section C Provider Information Name: <u>ANALYTICAL SERVICES</u> Company Name: <u>ANALYTICAL SERVICES</u> Address: <u>1000 ...</u> Phone: <u>...</u> Email: <u>...</u> Project Manager: <u>John G. ...</u> Project Number: <u>...</u>		Page: <u>1</u> of <u>1</u>		
SAMPLE ID One Character per box (A-Z, 0-9, -) Samples may need to be unique	COLLECTED START DATE TIME DATE TIME 1: <u>H6WC-11</u> <u>5/18/18</u> <u>10:00</u> <u>10:00</u> 2: <u>H6WC-12</u> <u>5/18/18</u> <u>11:00</u> <u>11:00</u> 3: <u>H6WC-18</u> <u>5/18/18</u> <u>13:00</u> <u>13:00</u> 4: <u>FD-02</u> <u>5/18/18</u> <u>---</u> <u>---</u>		ANALYZED DATE TIME DATE TIME 1: <u>5/18/18</u> <u>10:00</u> <u>10:00</u> <u>10:00</u> 2: <u>5/18/18</u> <u>11:00</u> <u>11:00</u> <u>11:00</u> 3: <u>5/18/18</u> <u>13:00</u> <u>13:00</u> <u>13:00</u> 4: <u>5/18/18</u> <u>---</u> <u>---</u> <u>---</u>		RECEIVED BY APPLICATOR DATE TIME 1: <u>5/18/18</u> <u>17:30</u> 2: <u>5/18/18</u> <u>17:45</u> 3: <u>5/18/18</u> <u>19:30</u> 4: <u>5/18/18</u> <u>19:45</u>		RECEIVED BY ANALYST DATE TIME 1: <u>5/18/18</u> <u>17:30</u> 2: <u>5/18/18</u> <u>17:45</u> 3: <u>5/18/18</u> <u>19:30</u> 4: <u>5/18/18</u> <u>19:45</u>	
	APPLICATOR COMMENTS <u>...</u>		ANALYST COMMENTS <u>...</u>		LABORATORY COMMENTS <u>...</u>		LABORATORY COMMENTS <u>...</u>	
	APPLICATOR SIGNATURE <u>John G. ...</u>		ANALYST SIGNATURE <u>...</u>		LABORATORY SIGNATURE <u>...</u>		LABORATORY SIGNATURE <u>...</u>	
	APPLICATOR PRINT NAME <u>John G. ...</u>		ANALYST PRINT NAME <u>...</u>		LABORATORY PRINT NAME <u>...</u>		LABORATORY PRINT NAME <u>...</u>	

WO#: 2610114

2610114



Sample Condition Upon Receipt

Client Name: GIA Power

Project # _____

WO# : 2610114
PH: SM Due Date: 10/11/18
CLIENT: CRPower-CCR

Courier: Fed Ex UPS USPS Client Commercial Face Other

Tracking #: _____

Custody Seal on Cooler/Box Present: Yes No Seal Intact: Yes No

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used 93 Type of Ice: Dry Blue None

Cooler Temperature 2°C

Biological Tissue is Frozen: Yes No

Samples on ice, cooling process just began

Date and Initials of person examining contents: 10/09/18 SM

	Yes	No	NA	Comments:
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Short Hold Time Analysis (<72hrs):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
-Face Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Filtered volume received for Described tests:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
-Includes date time/ID/Analysis Matrix:			<u>W</u>	
All containers needing preservation have been checked:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All containers needing preservation are found to be in compliance with EPA recommendations:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VDA, culture, TOC, Salt, W-COD (water)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed
Samples checked for deformation:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lot # if added preservative
Headspace in VDA Vials (<= 5mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Trip Blank Custody Seals Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Face Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: _____ Field Data Required? Yes No

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 ODHHS Certification Office (1-800-441-4646) out of field imported preservatives, list of types, incorrect containers.



March 25, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2616162

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

A handwritten signature in blue ink that reads "Betsy McDaniel".

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2616162

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

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SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2616162

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2616162001	HGWC-15	Water	03/14/19 09:58	03/15/19 13:00
2616162002	FD-2	Water	03/14/19 00:00	03/15/19 13:00
2616162003	HGWC-18	Water	03/14/19 14:53	03/15/19 13:00
2616162004	MW-23D	Water	03/14/19 16:42	03/15/19 13:00
2616162005	HGWC-14	Water	03/14/19 16:41	03/15/19 13:00

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2616162

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2616162001	HGWC-15	EPA 6020B	CSW	12
		EPA 7470A	DRB	1
		EPA 300.0	MWB	1
2616162002	FD-2	EPA 6020B	CSW	12
		EPA 7470A	DRB	1
		EPA 300.0	MWB	1
2616162003	HGWC-18	EPA 6020B	CSW	12
		EPA 7470A	DRB	1
		EPA 300.0	MWB	1
2616162004	MW-23D	EPA 6020B	CSW	12
		EPA 7470A	DRB	1
		EPA 300.0	MWB	1
2616162005	HGWC-14	EPA 6020B	CSW	12
		EPA 7470A	DRB	1
		EPA 300.0	MWB	1

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616162

Sample: HGWC-15		Lab ID: 2616162001		Collected: 03/14/19 09:58		Received: 03/15/19 13:00		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	03/19/19 12:14	03/21/19 13:35	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	03/19/19 12:14	03/21/19 13:35	7440-38-2		
Barium	0.021	mg/L	0.010	0.00078	1	03/19/19 12:14	03/21/19 13:35	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	03/19/19 12:14	03/21/19 13:35	7440-41-7		
Cadmium	0.0024	mg/L	0.0010	0.000093	1	03/19/19 12:14	03/21/19 13:35	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	03/19/19 12:14	03/21/19 13:35	7440-47-3		
Cobalt	0.038	mg/L	0.010	0.00052	1	03/19/19 12:14	03/21/19 13:35	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	03/19/19 12:14	03/21/19 13:35	7439-92-1		
Lithium	ND	mg/L	0.050	0.00097	1	03/19/19 12:14	03/21/19 13:35	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	03/19/19 12:14	03/21/19 13:35	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	03/19/19 12:14	03/21/19 13:35	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/19 12:14	03/21/19 13:35	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	03/18/19 10:52	03/19/19 16:39	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		03/22/19 02:16	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616162

Sample: FD-2		Lab ID: 2616162002		Collected: 03/14/19 00:00		Received: 03/15/19 13:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Antimony	ND	mg/L	0.0030	0.00078	1	03/19/19 12:14	03/21/19 13:41	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	03/19/19 12:14	03/21/19 13:41	7440-38-2	
Barium	0.021	mg/L	0.010	0.00078	1	03/19/19 12:14	03/21/19 13:41	7440-39-3	
Beryllium	0.000063J	mg/L	0.0030	0.000050	1	03/19/19 12:14	03/21/19 13:41	7440-41-7	
Cadmium	0.0023	mg/L	0.0010	0.000093	1	03/19/19 12:14	03/21/19 13:41	7440-43-9	
Chromium	ND	mg/L	0.010	0.0016	1	03/19/19 12:14	03/21/19 13:41	7440-47-3	
Cobalt	0.040	mg/L	0.010	0.00052	1	03/19/19 12:14	03/21/19 13:41	7440-48-4	
Lead	ND	mg/L	0.0050	0.00027	1	03/19/19 12:14	03/21/19 13:41	7439-92-1	
Lithium	0.00099J	mg/L	0.050	0.00097	1	03/19/19 12:14	03/21/19 13:41	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	03/19/19 12:14	03/21/19 13:41	7439-98-7	
Selenium	ND	mg/L	0.010	0.0014	1	03/19/19 12:14	03/21/19 13:41	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/19 12:14	03/21/19 13:41	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury	ND	mg/L	0.00050	0.000036	1	03/18/19 10:52	03/19/19 16:41	7439-97-6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Fluoride	ND	mg/L	0.30	0.029	1		03/22/19 04:18	16984-48-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616162

Sample: HGWC-18		Lab ID: 2616162003		Collected: 03/14/19 14:53		Received: 03/15/19 13:00		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	03/19/19 12:14	03/21/19 13:46	7440-36-0		
Arsenic	0.0036J	mg/L	0.0050	0.00057	1	03/19/19 12:14	03/21/19 13:46	7440-38-2		
Barium	0.029	mg/L	0.010	0.00078	1	03/19/19 12:14	03/21/19 13:46	7440-39-3		
Beryllium	0.0026J	mg/L	0.0030	0.000050	1	03/19/19 12:14	03/21/19 13:46	7440-41-7		
Cadmium	0.0019	mg/L	0.0010	0.000093	1	03/19/19 12:14	03/21/19 13:46	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	03/19/19 12:14	03/21/19 13:46	7440-47-3		
Cobalt	0.16	mg/L	0.010	0.00052	1	03/19/19 12:14	03/21/19 13:46	7440-48-4		
Lead	0.0015J	mg/L	0.0050	0.00027	1	03/19/19 12:14	03/21/19 13:46	7439-92-1		
Lithium	0.011J	mg/L	0.050	0.00097	1	03/19/19 12:14	03/21/19 13:46	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	03/19/19 12:14	03/21/19 13:46	7439-98-7		
Selenium	0.016	mg/L	0.010	0.0014	1	03/19/19 12:14	03/21/19 13:46	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/19 12:14	03/21/19 13:46	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	03/18/19 10:52	03/19/19 16:44	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	0.88	mg/L	0.30	0.029	1		03/22/19 04:43	16984-48-8		

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616162

Sample: MW-23D		Lab ID: 2616162004		Collected: 03/14/19 16:42		Received: 03/15/19 13:00		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	03/19/19 12:14	03/21/19 13:52	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00057	1	03/19/19 12:14	03/21/19 13:52	7440-38-2		
Barium	0.082	mg/L	0.010	0.00078	1	03/19/19 12:14	03/21/19 13:52	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	03/19/19 12:14	03/21/19 13:52	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	03/19/19 12:14	03/21/19 13:52	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	03/19/19 12:14	03/21/19 13:52	7440-47-3		
Cobalt	0.0013J	mg/L	0.010	0.00052	1	03/19/19 12:14	03/21/19 13:52	7440-48-4		
Lead	ND	mg/L	0.0050	0.00027	1	03/19/19 12:14	03/21/19 13:52	7439-92-1		
Lithium	0.0028J	mg/L	0.050	0.00097	1	03/19/19 12:14	03/21/19 13:52	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	03/19/19 12:14	03/21/19 13:52	7439-98-7		
Selenium	ND	mg/L	0.010	0.0014	1	03/19/19 12:14	03/21/19 13:52	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/19 12:14	03/21/19 13:52	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	03/18/19 10:52	03/19/19 16:46	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	ND	mg/L	0.30	0.029	1		03/22/19 05:32	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2616162

Sample: HGWC-14		Lab ID: 2616162005		Collected: 03/14/19 16:41		Received: 03/15/19 13:00		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00078	1	03/19/19 12:14	03/21/19 13:58	7440-36-0		
Arsenic	0.0029J	mg/L	0.0050	0.00057	1	03/19/19 12:14	03/21/19 13:58	7440-38-2		
Barium	0.019	mg/L	0.010	0.00078	1	03/19/19 12:14	03/21/19 13:58	7440-39-3		
Beryllium	0.00043J	mg/L	0.0030	0.000050	1	03/19/19 12:14	03/21/19 13:58	7440-41-7		
Cadmium	ND	mg/L	0.0010	0.000093	1	03/19/19 12:14	03/21/19 13:58	7440-43-9		
Chromium	ND	mg/L	0.010	0.0016	1	03/19/19 12:14	03/21/19 13:58	7440-47-3		
Cobalt	0.025	mg/L	0.010	0.00052	1	03/19/19 12:14	03/21/19 13:58	7440-48-4		
Lead	0.0014J	mg/L	0.0050	0.00027	1	03/19/19 12:14	03/21/19 13:58	7439-92-1		
Lithium	ND	mg/L	0.050	0.00097	1	03/19/19 12:14	03/21/19 13:58	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.0019	1	03/19/19 12:14	03/21/19 13:58	7439-98-7		
Selenium	0.0048J	mg/L	0.010	0.0014	1	03/19/19 12:14	03/21/19 13:58	7782-49-2		
Thallium	0.00028J	mg/L	0.0010	0.00014	1	03/19/19 12:14	03/21/19 13:58	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	03/18/19 10:52	03/19/19 16:49	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Fluoride	0.24J	mg/L	0.30	0.029	1		03/22/19 05:57	16984-48-8		

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2616162

QC Batch: 24464 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 109864 Matrix: Water
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	03/19/19 14:39	

LABORATORY CONTROL SAMPLE: 109865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0026	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 109866 109867

Parameter	Units	2616120001 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	0.0025	101	102	75-125	1	20	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2616162

QC Batch: 24597 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 110486 Matrix: Water
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	03/21/19 13:23	
Arsenic	mg/L	ND	0.0050	0.00057	03/21/19 13:23	
Barium	mg/L	ND	0.010	0.00078	03/21/19 13:23	
Beryllium	mg/L	ND	0.0030	0.000050	03/21/19 13:23	
Cadmium	mg/L	ND	0.0010	0.000093	03/21/19 13:23	
Chromium	mg/L	ND	0.010	0.0016	03/21/19 13:23	
Cobalt	mg/L	ND	0.010	0.00052	03/21/19 13:23	
Lead	mg/L	ND	0.0050	0.00027	03/21/19 13:23	
Lithium	mg/L	ND	0.050	0.00097	03/21/19 13:23	
Molybdenum	mg/L	ND	0.010	0.0019	03/21/19 13:23	
Selenium	mg/L	ND	0.010	0.0014	03/21/19 13:23	
Thallium	mg/L	ND	0.0010	0.00014	03/21/19 13:23	

LABORATORY CONTROL SAMPLE: 110487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	106	80-120	
Arsenic	mg/L	0.1	0.10	104	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Cadmium	mg/L	0.1	0.10	103	80-120	
Chromium	mg/L	0.1	0.11	106	80-120	
Cobalt	mg/L	0.1	0.10	102	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.11	109	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 110488 110489

Parameter	Units	2616179004 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Antimony	mg/L	ND	0.1	0.10	0.1	0.10	103	102	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.10	0.1	0.098	100	98	75-125	3	20	
Barium	mg/L	0.010	0.1	0.11	0.1	0.11	98	98	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.097	0.1	0.093	97	93	75-125	5	20	
Cadmium	mg/L	0.00015J	0.1	0.10	0.1	0.097	100	97	75-125	3	20	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2616162

Parameter	Units	2616179004		110488		110489		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
Chromium	mg/L	ND	0.1	0.1	0.099	0.10	98	100	75-125	2	20			
Cobalt	mg/L	ND	0.1	0.1	0.094	0.094	94	94	75-125	0	20			
Lead	mg/L	ND	0.1	0.1	0.097	0.093	97	93	75-125	4	20			
Lithium	mg/L	ND	0.1	0.1	0.099	0.095	98	94	75-125	4	20			
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20			
Selenium	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20			
Thallium	mg/L	ND	0.1	0.1	0.097	0.094	97	94	75-125	3	20			

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2616162

QC Batch: 24743 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

METHOD BLANK: 111327 Matrix: Water
 Associated Lab Samples: 2616162001, 2616162002, 2616162003, 2616162004, 2616162005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.30	0.029	03/21/19 21:46	

LABORATORY CONTROL SAMPLE: 111328

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 111329 111330

Parameter	Units	2616160010 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	10	10	11.5	11.2	115	112	90-110	2	15	M1

MATRIX SPIKE SAMPLE: 111331

Parameter	Units	2616160011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L		1.6	10	13.6	120	90-110 M1

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2616162

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2616162

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2616162001	HGWC-15	EPA 3005A	24597	EPA 6020B	24647
2616162002	FD-2	EPA 3005A	24597	EPA 6020B	24647
2616162003	HGWC-18	EPA 3005A	24597	EPA 6020B	24647
2616162004	MW-23D	EPA 3005A	24597	EPA 6020B	24647
2616162005	HGWC-14	EPA 3005A	24597	EPA 6020B	24647
2616162001	HGWC-15	EPA 7470A	24464	EPA 7470A	24540
2616162002	FD-2	EPA 7470A	24464	EPA 7470A	24540
2616162003	HGWC-18	EPA 7470A	24464	EPA 7470A	24540
2616162004	MW-23D	EPA 7470A	24464	EPA 7470A	24540
2616162005	HGWC-14	EPA 7470A	24464	EPA 7470A	24540
2616162001	HGWC-15	EPA 300.0	24743		
2616162002	FD-2	EPA 300.0	24743		
2616162003	HGWC-18	EPA 300.0	24743		
2616162004	MW-23D	EPA 300.0	24743		
2616162005	HGWC-14	EPA 300.0	24743		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 2616162

Client Name: GA Power - CLR

MO: 01 Day Date: 03/22/19

CLIENT: 000 - CLR

Cooler: Fed Ex UPS USPS Other Commercial Other

Tracking #: _____

Custody Seal on Cooler/Box Present: Type No Seal intact No

Packing Material: Bubble Wrap Bubble Bag None Other

Thermometer Used: 603 Type of Ice: Dry Wet None

Cooler Temperature: 4.5°C Biological Tissue is Frozen: Yes No

Samples on ice logging process has begun
Date and initials of person starting process: 3/22/19 JW

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2
Chain of Custody Returned	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3
Sample Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5
Short Hold Time Analysis (H2O2)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6
Rush Turn Around Time Requested	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9
-Place Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Marked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10
Federal forms returned for Dashed Ink	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	11
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12
-Includes date/time of Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
-Includes date/time of Receipt	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13
All materials needed (preservation and found to be in compliance with EPA recommendation)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14
includes: VOA, Volatile TOC, DOC, AT, DOC, etc.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples Analyzed for detection labor	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15
Invoiced in VOA (Vol) - (H2O2)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16
Top Blank Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17
Top Blank Custody Seal Present	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	18
Para Top Board Ink # (if applicable)		

Client Inability to Resolve: _____ Field Date Request: _____

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance sampling, a copy of this form will be sent to the North Carolina Department of Environment and Natural Resources.



May 01, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617150

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/15/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

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

Sincerely,

Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2617150

Atlanta Certification IDs

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2617150

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617150001	MW-22	Water	04/05/19 09:59	04/08/19 15:30
2617150002	MW-23D	Water	04/05/19 11:33	04/08/19 15:30
2617150003	HGWC-14	Water	04/05/19 12:52	04/08/19 15:30
2617150004	HGWC-17	Water	04/05/19 12:25	04/08/19 15:30
2617150005	HGWC-18	Water	04/05/19 14:25	04/08/19 15:30

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2617150

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617150001	MW-22	EPA 6020B	JMW1, SER	13	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617150002	MW-23D	EPA 6020B	JMW1, SER	13	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617150003	HGWC-14	EPA 6020B	JMW1, SER	13	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617150004	HGWC-17	EPA 6020B	JMW1, SER	13	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617150005	HGWC-18	EPA 6020B	JMW1	13	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
 Pace Project No.: 2617150

Sample: MW-22		Lab ID: 2617150001		Collected: 04/05/19 09:59		Received: 04/08/19 15:30		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Arsenic	ND	mg/L	0.10	0.0012	20	04/10/19 19:59	04/11/19 21:28	7440-38-2	D3	
Barium	0.036	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 07:51	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 07:51	7440-41-7		
Boron	2.1	mg/L	2.0	0.051	20	04/10/19 19:59	04/11/19 21:28	7440-42-8		
Cadmium	0.00064J	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 07:51	7440-43-9		
Calcium	178	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 21:28	7440-70-2		
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 07:51	7440-47-3		
Cobalt	0.022	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 07:51	7440-48-4		
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 07:51	7439-92-1	BC	
Lithium	0.0013J	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 07:51	7439-93-2		
Molybdenum	0.00013J	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 07:51	7439-98-7		
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 07:51	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 07:51	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	890	mg/L	25.0	10.0	1		04/11/19 20:53			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	131	mg/L	6.2	0.60	25		04/15/19 19:25	16887-00-6		
Fluoride	0.13J	mg/L	0.30	0.029	1		04/10/19 22:49	16984-48-8		
Sulfate	392	mg/L	25.0	0.42	25		04/15/19 19:25	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
 Pace Project No.: 2617150

Sample: MW-23D		Lab ID: 2617150002		Collected: 04/05/19 11:33		Received: 04/08/19 15:30		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Arsenic	ND	mg/L	0.10	0.0012	20	04/10/19 19:59	04/11/19 21:35	7440-38-2	D3	
Barium	0.061	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 07:58	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 07:58	7440-41-7		
Boron	3.0	mg/L	2.0	0.051	20	04/10/19 19:59	04/11/19 21:35	7440-42-8		
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 07:58	7440-43-9		
Calcium	352	mg/L	25.0	1.0	50	04/10/19 19:59	04/15/19 11:07	7440-70-2		
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 07:58	7440-47-3		
Cobalt	0.0012J	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 07:58	7440-48-4		
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 07:58	7439-92-1	BC	
Lithium	0.0021J	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 07:58	7439-93-2		
Molybdenum	0.0014J	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 07:58	7439-98-7		
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 07:58	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 07:58	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1400	mg/L	25.0	10.0	1		04/11/19 20:53			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	195	mg/L	6.2	0.60	25		04/15/19 19:48	16887-00-6		
Fluoride	0.14J	mg/L	0.30	0.029	1		04/10/19 23:10	16984-48-8		
Sulfate	585	mg/L	25.0	0.42	25		04/15/19 19:48	14808-79-8		

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ANALYTICAL RESULTS

Project: Plant Hammond
 Pace Project No.: 2617150

Sample: HGWC-14 Lab ID: 2617150003 Collected: 04/05/19 12:52 Received: 04/08/19 15:30 Matrix: Water									
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Arsenic	ND	mg/L	0.10	0.0012	20	04/10/19 19:59	04/11/19 21:42	7440-38-2	D3
Barium	0.016	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 08:05	7440-39-3	
Beryllium	0.00027J	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 08:05	7440-41-7	
Boron	12.5	mg/L	5.0	0.13	50	04/10/19 19:59	04/15/19 11:11	7440-42-8	
Cadmium	0.000079J	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 08:05	7440-43-9	
Calcium	606	mg/L	50.0	2.1	100	04/10/19 19:59	04/15/19 11:39	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 08:05	7440-47-3	
Cobalt	0.021	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 08:05	7440-48-4	
Lead	0.0012J	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 08:05	7439-92-1	BC
Lithium	ND	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 08:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 08:05	7439-98-7	
Selenium	0.00091J	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 08:05	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 08:05	7440-28-0	
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	2310	mg/L	25.0	10.0	1		04/11/19 20:53		
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	227	mg/L	5.0	0.48	20		04/15/19 20:11	16887-00-6	
Fluoride	0.66	mg/L	0.30	0.029	1		04/10/19 23:31	16984-48-8	
Sulfate	1520	mg/L	50.0	0.85	50		04/15/19 20:34	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2617150

Sample: HGWC-17 **Lab ID: 2617150004** Collected: 04/05/19 12:25 Received: 04/08/19 15:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A							
Arsenic	ND	mg/L	0.10	0.0012	20	04/10/19 19:59	04/11/19 21:49	7440-38-2	D3
Barium	0.022	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 08:12	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 08:12	7440-41-7	
Boron	5.9	mg/L	2.0	0.051	20	04/10/19 19:59	04/11/19 21:49	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 08:12	7440-43-9	
Calcium	340	mg/L	25.0	1.0	50	04/10/19 19:59	04/15/19 11:14	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 08:12	7440-47-3	
Cobalt	0.016	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 08:12	7440-48-4	
Lead	0.000076J	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 08:12	7439-92-1	BC
Lithium	0.00074J	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 08:12	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 08:12	7439-98-7	
Selenium	0.000093J	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 08:12	7782-49-2	
Thallium	0.00013J	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 08:12	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1260	mg/L	25.0	10.0	1		04/11/19 20:53		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	195	mg/L	6.2	0.60	25		04/15/19 20:56	16887-00-6	
Fluoride	0.16J	mg/L	0.30	0.029	1		04/10/19 23:52	16984-48-8	
Sulfate	642	mg/L	25.0	0.42	25		04/15/19 20:56	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond
 Pace Project No.: 2617150

Sample: HGWC-18		Lab ID: 2617150005		Collected: 04/05/19 14:25		Received: 04/08/19 15:30		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Arsenic	0.0015J	mg/L	0.10	0.0012	20	04/10/19 19:59	04/11/19 22:23	7440-38-2	D3	
Barium	0.021	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 08:20	7440-39-3		
Beryllium	0.0022J	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 08:20	7440-41-7		
Boron	6.4	mg/L	2.0	0.051	20	04/10/19 19:59	04/11/19 22:23	7440-42-8		
Cadmium	0.0017	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 08:20	7440-43-9		
Calcium	400	mg/L	25.0	1.0	50	04/10/19 19:59	04/15/19 11:18	7440-70-2		
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 08:20	7440-47-3		
Cobalt	0.14	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 08:20	7440-48-4		
Lead	0.0015J	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 08:20	7439-92-1	BC	
Lithium	0.0084J	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 08:20	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 08:20	7439-98-7		
Selenium	0.0018J	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 08:20	7782-49-2		
Thallium	0.00014J	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 08:20	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1610	mg/L	25.0	10.0	1		04/11/19 20:54			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0								
Chloride	217	mg/L	12.5	1.2	50		04/15/19 21:19	16887-00-6		
Fluoride	0.37	mg/L	0.30	0.029	1		04/11/19 00:12	16984-48-8		
Sulfate	1030	mg/L	50.0	0.85	50		04/15/19 21:19	14808-79-8		

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2617150

QC Batch: 468616 Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A Analysis Description: 6020 MET

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

METHOD BLANK: 2545217 Matrix: Water

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000060	04/11/19 20:31	
Barium	mg/L	ND	0.010	0.000060	04/11/19 20:31	
Beryllium	mg/L	ND	0.0030	0.000050	04/11/19 20:31	
Boron	mg/L	ND	0.10	0.0026	04/11/19 20:31	
Cadmium	mg/L	ND	0.0010	0.000070	04/11/19 20:31	
Calcium	mg/L	ND	0.50	0.021	04/11/19 20:31	
Chromium	mg/L	ND	0.010	0.00042	04/11/19 20:31	
Cobalt	mg/L	ND	0.010	0.000050	04/11/19 20:31	
Lead	mg/L	ND	0.0050	0.000050	04/11/19 20:31	
Lithium	mg/L	ND	0.050	0.00042	04/11/19 20:31	
Molybdenum	mg/L	ND	0.010	0.00010	04/11/19 20:31	
Selenium	mg/L	ND	0.010	0.000080	04/11/19 20:31	
Thallium	mg/L	ND	0.0010	0.000060	04/11/19 20:31	

LABORATORY CONTROL SAMPLE: 2545218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.049	97	80-120	
Beryllium	mg/L	0.01	0.010	103	80-120	
Boron	mg/L	0.05	0.052J	104	80-120	
Cadmium	mg/L	0.01	0.010	100	80-120	
Calcium	mg/L	0.62	0.64	102	80-120	
Chromium	mg/L	0.05	0.050	101	80-120	
Cobalt	mg/L	0.01	0.010	101	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Lithium	mg/L	0.05	0.052	105	80-120	
Molybdenum	mg/L	0.05	0.050	100	80-120	
Selenium	mg/L	0.05	0.050	100	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2545219 2545220

Parameter	Units	92424526001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	6.0 ug/L	0.05	0.05	0.053	0.054	95	95	75-125	0	20	
Beryllium	mg/L	0.34 ug/L	0.01	0.01	0.0098	0.0098	95	94	75-125	0	20	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2617150

Parameter	Units	2545219		2545220		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Boron	mg/L	4.0J ug/L	0.05	0.05	0.053J	0.055J	97	101	75-125	3	20	
Cadmium	mg/L	ND	0.01	0.01	0.010	0.0099	100	98	75-125	2	20	
Calcium	mg/L	5980 ug/L	0.62	0.62	6.5	6.5	87	81	75-125	1	20	
Chromium	mg/L	1.4 ug/L	0.05	0.05	0.050	0.050	98	98	75-125	0	20	
Cobalt	mg/L	0.91 ug/L	0.01	0.01	0.011	0.011	98	98	75-125	0	20	
Lead	mg/L	3.1 ug/L	0.05	0.05	0.050	0.049	93	92	75-125	1	20	
Lithium	mg/L	3.8 ug/L	0.05	0.05	0.048J	0.050	89	93	75-125	4	20	
Molybdenum	mg/L	0.14J ug/L	0.05	0.05	0.049	0.049	99	98	75-125	1	20	
Selenium	mg/L	ND	0.05	0.05	0.048	0.047	96	94	75-125	2	20	
Thallium	mg/L	ND	0.01	0.01	0.0099	0.0098	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2617150

QC Batch: 26252 Analysis Method: SM 2540C

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

Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

LABORATORY CONTROL SAMPLE: 118510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	408	102	84-108	

SAMPLE DUPLICATE: 118512

Parameter	Units	2617150003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2310	2380	3	10	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2617150

QC Batch: 26135 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

METHOD BLANK: 117979 Matrix: Water
 Associated Lab Samples: 2617150001, 2617150002, 2617150003, 2617150004, 2617150005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.064J	0.25	0.024	04/10/19 21:47	
Fluoride	mg/L	ND	0.30	0.029	04/10/19 21:47	
Sulfate	mg/L	ND	1.0	0.017	04/10/19 21:47	

LABORATORY CONTROL SAMPLE: 117980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.2	102	90-110	
Fluoride	mg/L	10	10.0	100	90-110	
Sulfate	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 117981 117982

Parameter	Units	2617207001 Result	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15		
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15		
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15		

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

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QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617150

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville
PASI-GA Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

BC The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.
D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond

Pace Project No.: 2617150

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617150001	MW-22	EPA 3010A	468616	EPA 6020B	468672
2617150002	MW-23D	EPA 3010A	468616	EPA 6020B	468672
2617150003	HGWC-14	EPA 3010A	468616	EPA 6020B	468672
2617150004	HGWC-17	EPA 3010A	468616	EPA 6020B	468672
2617150005	HGWC-18	EPA 3010A	468616	EPA 6020B	468672
2617150001	MW-22	SM 2540C	26252		
2617150002	MW-23D	SM 2540C	26252		
2617150003	HGWC-14	SM 2540C	26252		
2617150004	HGWC-17	SM 2540C	26252		
2617150005	HGWC-18	SM 2540C	26252		
2617150001	MW-22	EPA 300.0	26135		
2617150002	MW-23D	EPA 300.0	26135		
2617150003	HGWC-14	EPA 300.0	26135		
2617150004	HGWC-17	EPA 300.0	26135		
2617150005	HGWC-18	EPA 300.0	26135		

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CHAIN-OF-CUSTODY / Analytical Request Document
 This Chain-of-Custody is a U.S. MAINTENANCE RECORD. All entries are made; no entries completed subsequently.

Form # 1070 Page 1 of 2

Section 1 Regional Chain Information Agency: <u> </u> Report To: <u> </u> Date: <u> </u>	Section 2 Suspect/Prisoner Information Name: <u> </u> M.O.N.I.C.: <u> </u> Arrest/Entry: <u> </u>	Section 3 Location Information Facility: <u> </u> Address: <u> </u> City: <u> </u> State: <u> </u>	Section 4 Other Information Comments: <u> </u> Date: <u> </u>
--	---	--	---

SAMPLE ID One container per lot 1-4-14-14	COLECTED START DATE	ANALYSIS																
		COLECTED	DATE	TIME	BY	LAB	TEST	RESULT	TEST	RESULT	TEST	RESULT						
001	01/20/14	01/20/14	08:00	11:00														

NOA: 2617150

APPROVED: <u> </u> DATE: <u> </u>	SIGNATURE: <u> </u> DATE: <u> </u>
--	---



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a LEGAL DOCUMENT. All relevant fields must be completed in all respects.

Form 2 of 2

Section 1 - Requester Information

Company: Wright State - Ohio State University
 Contact: John Doe
 Address: 100 University Ave, Columbus, OH 43210
 Phone: 614-293-1234
 Request Date: 11/15/17

Section 2 - Analytical Request Information

Sample ID: 11111
 Sample Description: 100 mg of white powder
 Matrix: White Powder
 Quantity: 100 mg
 Container: 100 mg vial
 Date of Collection: 11/15/17

Section 3 - Laboratory Information

Lab Name: Wright State - Ohio State University
 Lab Address: 100 University Ave, Columbus, OH 43210
 Lab Phone: 614-293-1234
 Lab Fax: 614-293-1234
 Lab Email: lab@wrightstate.edu

SAMPLE ID	ANALYTES	METHODS	LABORATORY	ANALYST	DATE	CHAIN OF CUSTODY		REMARKS
						INITIALS	SIGNATURE	
11111	Cocaine	GC/MS	Wright State - Ohio State University	John Doe	11/15/17	1	John Doe	Sample received from client.
						2	John Doe	Sample stored in lab.
						3	John Doe	Sample analyzed.
						4	John Doe	Sample results confirmed.
						5	John Doe	Sample returned to client.
						6	John Doe	Sample destroyed.
						7	John Doe	Sample destroyed.
						8	John Doe	Sample destroyed.
						9	John Doe	Sample destroyed.
						10	John Doe	Sample destroyed.

Section 4 - Laboratory Information

Lab Name: Wright State - Ohio State University
 Lab Address: 100 University Ave, Columbus, OH 43210
 Lab Phone: 614-293-1234
 Lab Fax: 614-293-1234
 Lab Email: lab@wrightstate.edu

Section 5 - Analytical Request Information

Sample ID: 11111
 Sample Description: 100 mg of white powder
 Matrix: White Powder
 Quantity: 100 mg
 Container: 100 mg vial
 Date of Collection: 11/15/17

Section 6 - Chain of Custody

1. John Doe (Signature) - Date: 11/15/17

2. John Doe (Signature) - Date: 11/15/17

3. John Doe (Signature) - Date: 11/15/17

4. John Doe (Signature) - Date: 11/15/17

5. John Doe (Signature) - Date: 11/15/17

6. John Doe (Signature) - Date: 11/15/17

7. John Doe (Signature) - Date: 11/15/17

8. John Doe (Signature) - Date: 11/15/17

9. John Doe (Signature) - Date: 11/15/17

10. John Doe (Signature) - Date: 11/15/17

Sample Condition Upon Receipt

Face Analytical

Client Name: GT A POWER

Project # _____

WO# : 2617150

Counter Fed Ex UPS USPS Other Commercial Face Other
Tracking # _____

PH: 811 Due Date: 04/15/14

Custom Seal on Green Box Present Yes No Seal intact Yes No

CLIENT: GRP Power-COR

Packing Material Bubble Wrap Bubble Bag None Other _____

Thermometer Used 83 Type of Ice dry Blue None Other _____

Completion of cooling process 1410hr

Cooler Temperature 1.1 Biological Issues or Problems Yes No

Date and initials of person performing counts 4/8/14 MK

Temp should be above freezing 32°F

Comments:

Chain of Custody Present	<input checked="" type="checkbox"/>	Date	Time	1	
Chain of Custody Filled Out	<input checked="" type="checkbox"/>	Date	Time	2	
Chain of Custody, For request	<input checked="" type="checkbox"/>	Date	Time	3	
Sample Name & Signature of CDC	<input checked="" type="checkbox"/>	Date	Time	4	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	Date	Time	5	
Short Hold Time Analyzed (<2hrs)	<input type="checkbox"/>	Date	Time	6	
Run Turnaround Time Requested	<input type="checkbox"/>	Date	Time	7	
Sufficient Volume	<input checked="" type="checkbox"/>	Date	Time	8	
Control Containers Listed	<input checked="" type="checkbox"/>	Date	Time	9	
Face Containers Listed	<input checked="" type="checkbox"/>	Date	Time	9	
Containers Mined	<input checked="" type="checkbox"/>	Date	Time	10	
Enough Volume reserved for Unswayed Tests	<input type="checkbox"/>	Date	Time	11	
Service Labels match CDC	<input checked="" type="checkbox"/>	Date	Time	12	
Includes date/time of Analysis	<input checked="" type="checkbox"/>	Date	Time	12	
All containers labeled (person doing so has been checked)	<input checked="" type="checkbox"/>	Date	Time	13	
All containers meeting requirements with 100% compliance with EPA/MSHA regulation	<input checked="" type="checkbox"/>	Date	Time	14	
Excess VOA (more than 100) sent without issue	<input checked="" type="checkbox"/>	Date	Time	15	Initial when completed
Samples prepared for methanometer	<input type="checkbox"/>	Date	Time	16	Lot # of added preservative
Handbook in VOA Vials (>5mL)	<input checked="" type="checkbox"/>	Date	Time	17	
Top Blank Present	<input type="checkbox"/>	Date	Time	18	
Top Blank Custom Seal Present	<input type="checkbox"/>	Date	Time	19	
Face Top Blank Lot # (if purchased)	<input type="checkbox"/>	Date	Time	20	

Client Notification Resolution

Person Contacted _____ Date/Time _____

Company/Individual _____

Project Manager Review: _____ Date: _____

NOTE: Whenever there is a discrepancy affecting North Carolina compliance or samples, a copy of this form will be sent to the North Carolina DEHHS Certification Office for their review and/or corrective action. Do not write on this form.



December 13, 2019

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

RE: Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Kevin Herring for
Betsy McDaniel
betsy.mcdaniel@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Lauren Petty, Southern Company Services, Inc.
Rebecca Thornton, Pace Analytical Atlanta



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623636001	HGWC-16	Water	09/25/19 11:00	09/26/19 15:22
2623636002	HGWC-17	Water	09/25/19 12:35	09/26/19 15:22
2623636003	HGWC-18	Water	09/25/19 14:38	09/26/19 15:22
2623636004	MW-21d	Water	09/25/19 16:12	09/26/19 15:22

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623636001	HGWC-16	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636002	HGWC-17	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636003	HGWC-18	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623636004	MW-21d	EPA 6020B	CSW	13	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: **HGWC-16** Lab ID: **2623636001** Collected: 09/25/19 11:00 Received: 09/26/19 15:22 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 21:33	7440-38-2	
Barium	0.11	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 21:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 21:33	7440-41-7	
Boron	2.7	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 21:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 21:33	7440-43-9	
Calcium	185	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 21:39	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 21:33	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 21:33	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 21:33	7439-92-1	
Lithium	0.0038J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 21:33	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 21:33	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 21:33	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 21:33	7440-28-0	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	813	mg/L	10.0	10.0	1		10/02/19 12:05		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	84.4	mg/L	1.0	0.60	1		10/01/19 20:57	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 20:57	16984-48-8	
Sulfate	223	mg/L	5.0	2.5	5		10/02/19 09:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: HGWC-17		Lab ID: 2623636002		Collected: 09/25/19 12:35		Received: 09/26/19 15:22		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 21:44	7440-38-2		
Barium	0.025	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 21:44	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 21:44	7440-41-7		
Boron	8.1	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 21:50	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 21:44	7440-43-9		
Calcium	305	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 21:50	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 21:44	7440-47-3		
Cobalt	0.015	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 21:44	7440-48-4		
Lead	0.000089J	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 21:44	7439-92-1		
Lithium	0.0011J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 21:44	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 21:44	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 21:44	7782-49-2		
Thallium	0.00012J	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 21:44	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1280	mg/L	10.0	10.0	1		10/02/19 12:05			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	139	mg/L	10.0	6.0	10		10/02/19 10:09	16887-00-6		
Fluoride	0.081J	mg/L	0.30	0.050	1		10/01/19 21:12	16984-48-8		
Sulfate	434	mg/L	10.0	5.0	10		10/02/19 10:09	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: HGWC-18		Lab ID: 2623636003		Collected: 09/25/19 14:38		Received: 09/26/19 15:22		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0044J	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 22:07	7440-38-2		
Barium	0.030	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 22:07	7440-39-3		
Beryllium	0.0031	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 22:07	7440-41-7		
Boron	11.7	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 22:13	7440-42-8		
Cadmium	0.0023J	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 22:07	7440-43-9		
Calcium	437	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 22:13	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 22:07	7440-47-3		
Cobalt	0.18	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 22:07	7440-48-4		
Lead	0.0015J	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 22:07	7439-92-1		
Lithium	0.015J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 22:07	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 22:07	7439-98-7		
Selenium	0.020	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 22:07	7782-49-2		
Thallium	0.00019J	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 22:07	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1960	mg/L	10.0	10.0	1		10/02/19 12:05			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	181	mg/L	15.0	9.0	15		10/02/19 10:23	16887-00-6		
Fluoride	0.73	mg/L	0.30	0.050	1		10/01/19 21:26	16984-48-8		
Sulfate	920	mg/L	15.0	7.5	15		10/02/19 10:23	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Sample: MW-21d		Lab ID: 2623636004		Collected: 09/25/19 16:12		Received: 09/26/19 15:22		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	09/30/19 12:43	10/01/19 22:19	7440-38-2		
Barium	0.066	mg/L	0.010	0.00049	1	09/30/19 12:43	10/01/19 22:19	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	09/30/19 12:43	10/01/19 22:19	7440-41-7		
Boron	6.4	mg/L	2.0	0.25	50	09/30/19 12:43	10/01/19 22:24	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00011	1	09/30/19 12:43	10/01/19 22:19	7440-43-9		
Calcium	420	mg/L	5.0	0.55	50	09/30/19 12:43	10/01/19 22:24	7440-70-2		
Chromium	ND	mg/L	0.010	0.00039	1	09/30/19 12:43	10/01/19 22:19	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00030	1	09/30/19 12:43	10/01/19 22:19	7440-48-4		
Lead	ND	mg/L	0.0050	0.000046	1	09/30/19 12:43	10/01/19 22:19	7439-92-1		
Lithium	0.024J	mg/L	0.030	0.00078	1	09/30/19 12:43	10/01/19 22:19	7439-93-2		
Molybdenum	0.038	mg/L	0.010	0.00095	1	09/30/19 12:43	10/01/19 22:19	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	09/30/19 12:43	10/01/19 22:19	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	09/30/19 12:43	10/01/19 22:19	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1970	mg/L	10.0	10.0	1		10/02/19 12:05			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	245	mg/L	17.0	10.2	17		10/02/19 10:37	16887-00-6		
Fluoride	ND	mg/L	0.30	0.050	1		10/01/19 22:10	16984-48-8		
Sulfate	767	mg/L	17.0	8.5	17		10/02/19 10:37	14808-79-8		

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

QC Batch: 36170 Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A Analysis Description: 6020B MET

Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 163336 Matrix: Water

Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	10/01/19 18:14	
Barium	mg/L	ND	0.010	0.00049	10/01/19 18:14	
Beryllium	mg/L	ND	0.0030	0.000074	10/01/19 18:14	
Boron	mg/L	ND	0.040	0.0049	10/01/19 18:14	
Cadmium	mg/L	ND	0.0025	0.00011	10/01/19 18:14	
Calcium	mg/L	ND	0.10	0.011	10/01/19 18:14	
Chromium	mg/L	ND	0.010	0.00039	10/01/19 18:14	
Cobalt	mg/L	ND	0.0050	0.00030	10/01/19 18:14	
Lead	mg/L	ND	0.0050	0.000046	10/01/19 18:14	
Lithium	mg/L	ND	0.030	0.00078	10/01/19 18:14	
Molybdenum	mg/L	ND	0.010	0.00095	10/01/19 18:14	
Selenium	mg/L	ND	0.010	0.0013	10/01/19 18:14	
Thallium	mg/L	ND	0.0010	0.000052	10/01/19 18:14	

LABORATORY CONTROL SAMPLE: 163337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.97	97	80-120	
Cadmium	mg/L	0.1	0.10	101	80-120	
Calcium	mg/L	1	0.98	98	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163338 163339

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623623007 Result	Spike Conc.	Spike Conc.	Conc.								
Arsenic	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20		
Barium	mg/L	0.017	0.1	0.1	0.13	0.12	109	106	75-125	3	20		
Beryllium	mg/L	0.000084J	0.1	0.1	0.10	0.093	102	93	75-125	9	20		

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 163338		163339		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		2623623007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Boron	mg/L	0.0072J	1	1	1.0	0.95	100	94	75-125	6	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	2	20		
Calcium	mg/L	1.1	1	1	2.1	2.1	97	94	75-125	1	20		
Chromium	mg/L	0.00076J	0.1	0.1	0.10	0.10	101	101	75-125	1	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20		
Lead	mg/L	ND	0.1	0.1	0.10	0.098	99	98	75-125	2	20		
Lithium	mg/L	0.0029J	0.1	0.1	0.10	0.097	102	94	75-125	7	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.10	108	104	75-125	4	20		
Selenium	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	3	20		
Thallium	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20		

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623636

QC Batch: 36325 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

LABORATORY CONTROL SAMPLE: 164004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	421	105	84-108	

SAMPLE DUPLICATE: 164005

Parameter	Units	2623620005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	159	152	5	10	

SAMPLE DUPLICATE: 164006

Parameter	Units	2623623005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	81.0	83.0	2	10	

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QUALITY CONTROL DATA

Project: Plant Hammond AP GW6581
 Pace Project No.: 2623636

QC Batch: 500861 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

METHOD BLANK: 2694298 Matrix: Water
 Associated Lab Samples: 2623636001, 2623636002, 2623636003, 2623636004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/19 16:22	
Fluoride	mg/L	ND	0.10	0.050	10/01/19 16:22	
Sulfate	mg/L	ND	1.0	0.50	10/01/19 16:22	

LABORATORY CONTROL SAMPLE: 2694299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.2	98	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	50	50.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694300 2694301

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623559001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	1.7	50	50	53.7	53.7	104	104	90-110	0	10		
Fluoride	mg/L	0.058J	2.5	2.5	2.5	2.5	98	99	90-110	1	10		
Sulfate	mg/L	20.7	50	50	72.4	72.6	103	104	90-110	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2694302 2694303

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2623584001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	89.4	50	50	132	133	86	87	90-110	1	10	M1	
Fluoride	mg/L	0.42	2.5	2.5	4.2	4.3	152	153	90-110	1	10	M1	
Sulfate	mg/L	142	50	50	177	180	69	74	90-110	2	10	M1	

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QUALIFIERS

Project: Plant Hammond AP GW6581
Pace Project No.: 2623636

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

PASI-GA Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond AP GW6581

Pace Project No.: 2623636

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623636001	HGWC-16	EPA 3005A	36170	EPA 6020B	36202
2623636002	HGWC-17	EPA 3005A	36170	EPA 6020B	36202
2623636003	HGWC-18	EPA 3005A	36170	EPA 6020B	36202
2623636004	MW-21d	EPA 3005A	36170	EPA 6020B	36202
2623636001	HGWC-16	SM 2540C	36325		
2623636002	HGWC-17	SM 2540C	36325		
2623636003	HGWC-18	SM 2540C	36325		
2623636004	MW-21d	SM 2540C	36325		
2623636001	HGWC-16	EPA 300.0 Rev 2.1 1993	500861		
2623636002	HGWC-17	EPA 300.0 Rev 2.1 1993	500861		
2623636003	HGWC-18	EPA 300.0 Rev 2.1 1993	500861		
2623636004	MW-21d	EPA 300.0 Rev 2.1 1993	500861		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a critical document and its completion must be completed accurately.

Section A Requester Information		Section B Requester Contact Information		Section C Requester Information		Section D Requester Information	
Company Name	Requester Name	Requester Title	Requester Address	Requester Phone	Requester Email	Requester Fax	Requester Filing
Company Address	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Province	Requester District
Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact
Requester Name	Requester Title	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Filing
Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact
Requester Name	Requester Title	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Filing
Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact	Requester Contact

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Quantity	Sample Status	Sample Notes
HGN-16
HGN-17
HGN-18
HGN-19
HGN-20

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Quantity	Sample Status	Sample Notes
HGN-21
HGN-22
HGN-23
HGN-24

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Quantity	Sample Status	Sample Notes
HGN-25
HGN-26
HGN-27
HGN-28

NO# : 2623636



Date: 4-25-2014

Requester Name: JIAN GONG

Requester Address: ...

Requester City: ...

Requester State: ...



Sample Condition Upon Receipt

WON: 2623636

Client Name: G.A. Power

PR: 88 Due Date: 11/23/16

CLIENT: GSPower-GOR

Container: Fed Ex UPS USPS Other Commercial Private Carrier

Tracking #: _____

Proj. Build/Date
Proj. Name:

Packing Material: Bubble Wrap Styrofoam Bags Foam Other

Thermometer Used: 214 Type of Ice: Wet Dry None Samples on ice cooling process not begun

Cooler Temperature: 4.0 Biological Threats in Process: Yes No

Date and initials of person performing counts: 11/23/16

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2
Chain of Custody Requisitioned	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3
Signature Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5
Short Hold Time Analyzed (4-7 hrs)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6
Wash Turn Around Time Requested	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7
Sufficient Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9
- PACE Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Marked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10
Filtered volume returned for Observed tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12
- Includes date/time of analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
- Includes date/time of analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13
All containers needing preservation are found to be in compliance with EPA recommendation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
- Includes date/time of analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples checked for decontamination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14
Microbiological Media Vials (MVMs)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15
Trip Blank Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	16
Trip Blank Chain of Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Peace Trip Blank Lot # (if purchased):		

Client Notification/Resolution Time Data Required? Y N

Person Contacted: _____ Date/Time: _____

Comments- Resolution: _____

Project Manager Review: _____ Date: _____



February 04, 2020

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

RE: Project: Plant Hammond
Pace Project No.: 2628190

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on January 23, 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.



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CERTIFICATIONS

Project: Plant Hammond

Pace Project No.: 2628190

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

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SAMPLE SUMMARY

Project: Plant Hammond

Pace Project No.: 2628190

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628190001	MW-33	Water	01/22/20 14:06	01/23/20 13:58
2628190002	EB-01	Water	01/22/20 14:32	01/23/20 13:58
2628190003	FB-01	Water	01/22/20 14:48	01/23/20 13:58

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SAMPLE ANALYTE COUNT

Project: Plant Hammond

Pace Project No.: 2628190

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2628190001	MW-33	EPA 6010D	KLH	1	PASI-GA
		EPA 6020B	CSW	2	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2628190002	EB-01	EPA 6010D	KLH	1	PASI-GA
		EPA 6020B	CSW	2	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2628190003	FB-01	EPA 6010D	KLH	1	PASI-GA
		EPA 6020B	CSW	2	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A

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SUMMARY OF DETECTION

Project: Plant Hammond

Pace Project No.: 2628190

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628190001	MW-33					
EPA 6010D	Calcium	638	mg/L	100	01/28/20 14:49	
EPA 6020B	Boron	11.2	mg/L	0.50	02/03/20 13:58	
EPA 6020B	Cobalt	0.052	mg/L	0.025	02/03/20 13:58	
SM 2540C	Total Dissolved Solids	2310	mg/L	10.0	01/24/20 16:14	
EPA 300.0 Rev 2.1 1993	Chloride	231	mg/L	25.0	01/28/20 23:03	
EPA 300.0 Rev 2.1 1993	Fluoride	0.18J	mg/L	0.30	01/28/20 12:40	
EPA 300.0 Rev 2.1 1993	Sulfate	1250	mg/L	25.0	01/28/20 23:03	
2628190002	EB-01					
EPA 6020B	Boron	0.045J	mg/L	0.10	01/31/20 19:41	
2628190003	FB-01					
EPA 6020B	Boron	0.013J	mg/L	0.10	01/31/20 19:47	
SM 2540C	Total Dissolved Solids	17.0	mg/L	10.0	01/24/20 16:14	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2628190

Sample: MW-33		Lab ID: 2628190001		Collected: 01/22/20 14:06		Received: 01/23/20 13:58		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							
Calcium	638	mg/L	100	14.1	100	01/24/20 15:36	01/28/20 14:49	7440-70-2	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Boron	11.2	mg/L	0.50	0.025	5	01/30/20 17:00	02/03/20 13:58	7440-42-8	
Cobalt	0.052	mg/L	0.025	0.0015	5	01/30/20 17:00	02/03/20 13:58	7440-48-4	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	2310	mg/L	10.0	10.0	1		01/24/20 16:14		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	231	mg/L	25.0	15.0	25		01/28/20 23:03	16887-00-6	
Fluoride	0.18J	mg/L	0.30	0.050	1		01/28/20 12:40	16984-48-8	
Sulfate	1250	mg/L	25.0	12.5	25		01/28/20 23:03	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2628190

Sample: EB-01		Lab ID: 2628190002		Collected: 01/22/20 14:32		Received: 01/23/20 13:58		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							
Calcium	ND	mg/L	1.0	0.14	1	01/24/20 15:36	01/25/20 04:25	7440-70-2	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Boron	0.045J	mg/L	0.10	0.0049	1	01/30/20 17:00	01/31/20 19:41	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.00030	1	01/30/20 17:00	01/31/20 19:41	7440-48-4	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		01/24/20 16:14		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	ND	mg/L	1.0	0.60	1		01/28/20 12:55	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		01/28/20 12:55	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		01/28/20 12:55	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond

Pace Project No.: 2628190

Sample: FB-01		Lab ID: 2628190003		Collected: 01/22/20 14:48		Received: 01/23/20 13:58		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							
Calcium	ND	mg/L	1.0	0.14	1	01/24/20 15:36	01/25/20 04:30	7440-70-2	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Boron	0.013J	mg/L	0.10	0.0049	1	01/30/20 17:00	01/31/20 19:47	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.00030	1	01/30/20 17:00	01/31/20 19:47	7440-48-4	
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	17.0	mg/L	10.0	10.0	1		01/24/20 16:14		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Chloride	ND	mg/L	1.0	0.60	1		01/28/20 13:09	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		01/28/20 13:09	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		01/28/20 13:09	14808-79-8	

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2628190

QC Batch: 42376 Analysis Method: EPA 6010D

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

Associated Lab Samples: 2628190001, 2628190002, 2628190003

METHOD BLANK: 193287 Matrix: Water

Associated Lab Samples: 2628190001, 2628190002, 2628190003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	01/25/20 02:18	

LABORATORY CONTROL SAMPLE: 193288

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: 193289 193290

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628044001 Result	Spike Conc.	Spike Conc.	Conc.								
Calcium	mg/L	5540 ug/L	1	1	6.6	6.7	108	115	75-125	1	20		

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

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2628190

QC Batch: 42642 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628190001, 2628190002, 2628190003

METHOD BLANK: 194851 Matrix: Water
 Associated Lab Samples: 2628190001, 2628190002, 2628190003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.10	0.0049	01/31/20 19:24	
Cobalt	mg/L	ND	0.0050	0.00030	01/31/20 19:24	

LABORATORY CONTROL SAMPLE: 194852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	1	1.1	108	80-120	
Cobalt	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 194853 194854

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628247001 Result	Spike Conc.	Spike Conc.	Result						
Boron	mg/L	0.24J	1	1	1.2	1.2	94	94	75-125	0	20
Cobalt	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond

Pace Project No.: 2628190

QC Batch: 42383 Analysis Method: SM 2540C
 QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
 Associated Lab Samples: 2628190001, 2628190002, 2628190003

LABORATORY CONTROL SAMPLE: 193380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	397	99	84-108	

SAMPLE DUPLICATE: 193381

Parameter	Units	2628090001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	98.0	86.0	13	10	D6

SAMPLE DUPLICATE: 193382

Parameter	Units	2628247001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3280	3260	0	10	

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QUALITY CONTROL DATA

Project: Plant Hammond
 Pace Project No.: 2628190

QC Batch: 521472 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: 2628190001, 2628190002, 2628190003

METHOD BLANK: 2789708 Matrix: Water
 Associated Lab Samples: 2628190001, 2628190002, 2628190003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	01/28/20 05:14	
Fluoride	mg/L	ND	0.10	0.050	01/28/20 05:14	
Sulfate	mg/L	ND	1.0	0.50	01/28/20 05:14	

LABORATORY CONTROL SAMPLE: 2789709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.3	103	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	51.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2789710 2789711

Parameter	Units	92461867001		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result						
Chloride	mg/L	89.5	50	50	50	135	135	91	90	90-110	1	10	
Fluoride	mg/L	1.4	2.5	2.5	2.5	3.8	3.9	96	97	90-110	1	10	
Sulfate	mg/L	88.2	50	50	50	127	127	78	77	90-110	0	10 M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2789712 2789713

Parameter	Units	92461499040		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result						
Chloride	mg/L	3.0	50	50	50	52.8	53.0	100	100	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.3	2.3	89	91	90-110	2	10 M1	
Sulfate	mg/L	20.0	50	50	50	70.4	70.6	101	101	90-110	0	10	

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QUALIFIERS

Project: Plant Hammond

Pace Project No.: 2628190

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

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: Plant Hammond

Pace Project No.: 2628190

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628190001	MW-33	EPA 3010A	42376	EPA 6010D	42392
2628190002	EB-01	EPA 3010A	42376	EPA 6010D	42392
2628190003	FB-01	EPA 3010A	42376	EPA 6010D	42392
2628190001	MW-33	EPA 3005A	42642	EPA 6020B	42652
2628190002	EB-01	EPA 3005A	42642	EPA 6020B	42652
2628190003	FB-01	EPA 3005A	42642	EPA 6020B	42652
2628190001	MW-33	SM 2540C	42383		
2628190002	EB-01	SM 2540C	42383		
2628190003	FB-01	SM 2540C	42383		
2628190001	MW-33	EPA 300.0 Rev 2.1 1993	521472		
2628190002	EB-01	EPA 300.0 Rev 2.1 1993	521472		
2628190003	FB-01	EPA 300.0 Rev 2.1 1993	521472		

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CHAIN-OF-CUSTODY / Analytical Request Document

The University of Cambridge is a UK Data Protection Act 1998 compliant. All relevant data must be completed accurately.

Requester Information

Requester Name and address: [Blank]
Requester Contact Information: [Blank]
Requester Email: [Blank]
Requester Phone: [Blank]
Requester Fax: [Blank]
Requester Job Title: [Blank]
Requester Department: [Blank]
Requester Institution: [Blank]
Requester Address: [Blank]
Requester City: [Blank]
Requester State: [Blank]
Requester Zip: [Blank]
Requester Country: [Blank]

Requester Signature: [Blank]

Requester Date: [Blank]

Requester Title: [Blank]

Requester Institution: [Blank]

Requester Address: [Blank]

Requester City: [Blank]

Requester State: [Blank]

Requester Zip: [Blank]

Requester Country: [Blank]

Sample ID	Quantity	Description	Container	Date Collected	Collector	Property No.	Property Name	Analysis Type			Date	Time	Lab	Address (City/State/Zip)
								GC	MS	IR				
1	100	Sample 1	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
2	100	Sample 2	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
3	100	Sample 3	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
4	100	Sample 4	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
5	100	Sample 5	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
6	100	Sample 6	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
7	100	Sample 7	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
8	100	Sample 8	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
9	100	Sample 9	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
10	100	Sample 10	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
11	100	Sample 11	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip
12	100	Sample 12	100	10/10/10	J. Doe	1	Sample 1	GC	MS	IR	10/10/10	10:00	Lab 1	123 Main St, City, State, Zip

WCH#: 2628190
UNIVERSITY OF CAMBRIDGE

Requester Signature: [Blank]

Requester Date: [Blank]

Requester Title: [Blank]

Requester Institution: [Blank]

Requester Address: [Blank]

Requester City: [Blank]

Requester State: [Blank]

Requester Zip: [Blank]

Requester Country: [Blank]

Requester Signature: [Blank]

Requester Date: [Blank]

Requester Title: [Blank]

Requester Institution: [Blank]

Requester Address: [Blank]

Requester City: [Blank]

Requester State: [Blank]

Requester Zip: [Blank]

Requester Country: [Blank]

Pass Analyzed

Sample Condition Upon Receipt

WO#: 2628190

Client Name: Georgia Power

Est: 101 Due Date: 02/08/20
CLIENT: 26-01 Power

Counter: Fed Ex UPS USPS Clerk Commercial Private Other
Tracking #: _____

Custody Seal on Collection Vessel: Yes No Seal intact Yes No

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used THA 230 Type of Ice: Blue None Samples in ice cooling process for temp

Cooler Temperature 4.0 Biological Threat to Freon? Yes No

Date and Initial of person accepting custody: ASD 1/28/19

Chain of Custody Present	Yes	No	Other	1
Chain of Custody Filled Out	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
Chain of Custody Requisitioned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
Sample Name & Signature on COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Short Hold Time Analysis (<7hrs)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6
Watch Time Arrived Time Requested	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7
Collected Volume	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8
Correct Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9
-Pack Containers Used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10
Filled volume received for Disposed tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11
Sample Labels Match COC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12
-Includes date/time of Analysis Matrix: <u>W</u>				
All containers needing preservation have been checked	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13
All containers needing preservation are found to be in compliance with EPA recommendations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Analysis: <u>NO₃, nitrite, NO₂, pH, H-DPO (pH)</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed
Samples checked for dechlorination	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Let it of using preservative
Headspace in WCA Vials (> 5mm)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14
Trip Blank Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16
Procs Trip Blank Lot # (if purchased)				

Client Modification Resolution: _____
Person Conducted _____ Date/Time _____
Comments/Resolution _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting health Canada's compliance sampling a copy of this form will be sent to the North Carolina (2019) Collection Office (i.e. out of state, incorrect preservative, out of state, incorrect container)



March 17, 2020

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

RE: Project: PLANT HAMMOND APP IV AP-2
Pace Project No.: 2629701

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 03, 2020 and March 04, 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.



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CERTIFICATIONS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

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

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SAMPLE SUMMARY

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2629701001	HGWA-4	Water	03/02/20 14:25	03/03/20 12:20
2629701002	HGWA-5	Water	03/02/20 10:50	03/03/20 12:20
2629701003	HGWA-6	Water	03/02/20 12:00	03/03/20 12:20
2629701004	MW-23D	Water	03/02/20 13:40	03/03/20 12:20
2629701005	MW-22	Water	03/02/20 16:10	03/03/20 12:20
2629701006	HGWA-1	Water	03/02/20 11:39	03/03/20 12:20
2629701007	HGWA-2	Water	03/02/20 11:10	03/03/20 12:20
2629701008	HGWA-3	Water	03/02/20 13:15	03/03/20 12:20
2629701009	HGWC-16	Water	03/03/20 12:37	03/04/20 10:05
2629701010	HGWC-17	Water	03/03/20 14:20	03/04/20 10:05
2629701011	FB-02	Water	03/03/20 19:07	03/04/20 10:05
2629701012	HGWC-14	Water	03/03/20 11:20	03/04/20 10:05
2629701013	HGWC-15	Water	03/03/20 12:20	03/04/20 10:05
2629701014	HGWC-18	Water	03/03/20 09:10	03/04/20 10:05
2629701015	MW-21D	Water	03/03/20 10:15	03/04/20 10:05
2629701016	FD-01	Water	03/03/20 00:00	03/04/20 10:05

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SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2629701001	HGWA-4	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701002	HGWA-5	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701003	HGWA-6	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701004	MW-23D	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701005	MW-22	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	1	PASI-A
2629701006	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
2629701007	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
2629701008	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
2629701009	HGWC-16	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701010	HGWC-17	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701011	FB-02	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701012	HGWC-14	EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
2629701013	HGWC-15	EPA 6020B	CSW	12	PASI-GA

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SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2629701014	HGWC-18	EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
2629701015	MW-21D	EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
2629701016	FD-01	EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CSW	12	PASI-GA
		EPA 7470A	DRB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2629701001	HGWA-4					
	Field pH	5.63	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.023	mg/L	0.010	03/10/20 19:04	
EPA 6020B	Beryllium	0.00019J	mg/L	0.0030	03/10/20 19:04	
EPA 6020B	Chromium	0.00040J	mg/L	0.010	03/10/20 19:04	
EPA 6020B	Cobalt	0.00063J	mg/L	0.0050	03/10/20 19:04	
EPA 6020B	Lead	0.00026J	mg/L	0.0050	03/10/20 19:04	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	03/10/20 19:04	
2629701002	HGWA-5					
	Field pH	6.80	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.053	mg/L	0.010	03/10/20 19:10	
EPA 6020B	Chromium	0.00050J	mg/L	0.010	03/10/20 19:10	
EPA 6020B	Cobalt	0.00093J	mg/L	0.0050	03/10/20 19:10	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	03/10/20 19:10	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.30	03/07/20 07:19	
2629701003	HGWA-6					
	Field pH	7.67	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.19	mg/L	0.010	03/10/20 19:15	
EPA 6020B	Lithium	0.012J	mg/L	0.030	03/10/20 19:15	
2629701004	MW-23D					
	Field pH	7.05	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.060	mg/L	0.010	03/10/20 19:21	
EPA 6020B	Cobalt	0.0011J	mg/L	0.0050	03/10/20 19:21	
EPA 6020B	Lead	0.000051J	mg/L	0.0050	03/10/20 19:21	
EPA 6020B	Lithium	0.0025J	mg/L	0.030	03/10/20 19:21	
EPA 6020B	Molybdenum	0.0030J	mg/L	0.010	03/10/20 19:21	
2629701005	MW-22					
	Field pH	5.97	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.027	mg/L	0.010	03/10/20 19:27	
EPA 6020B	Cadmium	0.0021J	mg/L	0.0025	03/10/20 19:27	
EPA 6020B	Cobalt	0.043	mg/L	0.0050	03/10/20 19:27	
EPA 6020B	Lead	0.000094J	mg/L	0.0050	03/10/20 19:27	
EPA 6020B	Lithium	0.0015J	mg/L	0.030	03/10/20 19:27	
2629701006	HGWA-1					
	Field pH	7.10	Std. Units		03/16/20 16:29	
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	
2629701007	HGWA-2					
	Field pH	5.43	Std. Units		03/16/20 16:29	
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	

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2629701007	HGWA-2					
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	
2629701008	HGWA-3					
	Field pH	7.12	Std. Units		03/16/20 16:29	
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	
2629701009	HGWC-16					
	Field pH	7.1	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.12	mg/L	0.010	03/11/20 17:24	
EPA 6020B	Chromium	0.00071J	mg/L	0.010	03/11/20 17:24	
EPA 6020B	Cobalt	0.00037J	mg/L	0.0050	03/11/20 17:24	
EPA 6020B	Lead	0.00016J	mg/L	0.0050	03/11/20 17:24	
EPA 6020B	Lithium	0.0047J	mg/L	0.030	03/11/20 17:24	
2629701010	HGWC-17					
	Field pH	6.35	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.026	mg/L	0.010	03/11/20 17:30	
EPA 6020B	Chromium	0.0018J	mg/L	0.010	03/11/20 17:30	
EPA 6020B	Cobalt	0.016	mg/L	0.0050	03/11/20 17:30	
EPA 6020B	Lead	0.00013J	mg/L	0.0050	03/11/20 17:30	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	03/11/20 17:30	
EPA 6020B	Thallium	0.00011J	mg/L	0.0010	03/11/20 17:30	
2629701011	FB-02					
EPA 6020B	Chromium	0.00066J	mg/L	0.010	03/11/20 17:36	
2629701012	HGWC-14					
	Field pH	4.77	Std. Units		03/16/20 16:29	
EPA 6020B	Arsenic	0.0035J	mg/L	0.0050	03/11/20 17:41	
EPA 6020B	Barium	0.018	mg/L	0.010	03/11/20 17:41	
EPA 6020B	Beryllium	0.00043J	mg/L	0.0030	03/11/20 17:41	
EPA 6020B	Chromium	0.00042J	mg/L	0.010	03/11/20 17:41	
EPA 6020B	Cobalt	0.029	mg/L	0.0050	03/11/20 17:41	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	03/11/20 17:41	
EPA 6020B	Selenium	0.0045J	mg/L	0.010	03/12/20 16:58	
EPA 6020B	Thallium	0.00026J	mg/L	0.0010	03/11/20 17:41	
2629701013	HGWC-15					
	Field pH	6.00	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.018	mg/L	0.010	03/11/20 17:47	
EPA 6020B	Cadmium	0.0015J	mg/L	0.0025	03/11/20 17:47	
EPA 6020B	Cobalt	0.030	mg/L	0.0050	03/11/20 17:47	
EPA 6020B	Lead	0.000053J	mg/L	0.0050	03/11/20 17:47	
EPA 6020B	Lithium	0.0084J	mg/L	0.030	03/11/20 17:47	
EPA 300.0 Rev 2.1 1993	Fluoride	0.064J	mg/L	0.30	03/11/20 02:28	

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SUMMARY OF DETECTION

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2629701014	HGWC-18					
	Field pH	4.55	Std. Units		03/16/20 16:29	
EPA 6020B	Arsenic	0.0057	mg/L	0.0050	03/11/20 17:53	
EPA 6020B	Barium	0.026	mg/L	0.010	03/11/20 17:53	
EPA 6020B	Beryllium	0.0029J	mg/L	0.0030	03/11/20 17:53	
EPA 6020B	Cadmium	0.0021J	mg/L	0.0025	03/11/20 17:53	
EPA 6020B	Chromium	0.00040J	mg/L	0.010	03/11/20 17:53	
EPA 6020B	Cobalt	0.15	mg/L	0.0050	03/11/20 17:53	
EPA 6020B	Lead	0.0013J	mg/L	0.0050	03/11/20 17:53	
EPA 6020B	Lithium	0.012J	mg/L	0.030	03/11/20 17:53	
EPA 6020B	Selenium	0.014	mg/L	0.010	03/12/20 17:04	
EPA 6020B	Thallium	0.00013J	mg/L	0.0010	03/11/20 17:53	
EPA 300.0 Rev 2.1 1993	Fluoride	0.34	mg/L	0.30	03/11/20 02:42	
2629701015	MW-21D					
	Field pH	6.72	Std. Units		03/16/20 16:29	
EPA 6020B	Barium	0.058	mg/L	0.010	03/11/20 17:58	
EPA 6020B	Lead	0.000047J	mg/L	0.0050	03/11/20 17:58	
EPA 6020B	Lithium	0.026J	mg/L	0.030	03/11/20 17:58	
EPA 6020B	Molybdenum	0.025	mg/L	0.010	03/11/20 17:58	
2629701016	FD-01					
EPA 6020B	Arsenic	0.0055	mg/L	0.0050	03/11/20 18:14	
EPA 6020B	Barium	0.025	mg/L	0.010	03/11/20 18:14	
EPA 6020B	Beryllium	0.0029J	mg/L	0.0030	03/11/20 18:14	
EPA 6020B	Cadmium	0.0016J	mg/L	0.0025	03/11/20 18:14	
EPA 6020B	Chromium	0.037	mg/L	0.010	03/11/20 18:14	
EPA 6020B	Cobalt	0.15	mg/L	0.0050	03/11/20 18:14	
EPA 6020B	Lead	0.0013J	mg/L	0.0050	03/11/20 18:14	
EPA 6020B	Lithium	0.012J	mg/L	0.030	03/11/20 18:14	
EPA 6020B	Selenium	0.013	mg/L	0.010	03/12/20 17:09	
EPA 6020B	Thallium	0.00013J	mg/L	0.0010	03/11/20 18:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.42	mg/L	0.30	03/11/20 03:10	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWA-4		Lab ID: 2629701001		Collected: 03/02/20 14:25		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	5.63	Std. Units			1		03/16/20 16:29		
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 19:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:04	7440-38-2	
Barium	0.023	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:04	7440-39-3	
Beryllium	0.00019J	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:04	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:04	7440-43-9	
Chromium	0.00040J	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:04	7440-47-3	
Cobalt	0.00063J	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:04	7440-48-4	
Lead	0.00026J	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:04	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:04	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 15:40	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		03/07/20 07:05	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWA-5		Lab ID: 2629701002		Collected: 03/02/20 10:50		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	6.80	Std. Units			1		03/16/20 16:29		
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 19:10	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:10	7440-38-2	
Barium	0.053	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:10	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:10	7440-43-9	
Chromium	0.00050J	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:10	7440-47-3	
Cobalt	0.00093J	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:10	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:10	7439-92-1	
Lithium	0.0036J	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:10	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:10	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 15:43	7439-97-6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993							
Fluoride	0.053J	mg/L	0.30	0.050	1		03/07/20 07:19	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWA-6		Lab ID: 2629701003		Collected: 03/02/20 12:00		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	7.67	Std. Units			1		03/16/20 16:29		
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 19:15	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:15	7440-38-2	
Barium	0.19	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:15	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:15	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:15	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:15	7439-92-1	
Lithium	0.012J	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:15	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:15	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 15:45	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		03/07/20 08:17	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: MW-23D		Lab ID: 2629701004		Collected: 03/02/20 13:40		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	7.05	Std. Units			1		03/16/20 16:29		
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 19:21	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:21	7440-38-2	
Barium	0.060	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:21	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:21	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:21	7440-47-3	
Cobalt	0.0011J	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:21	7440-48-4	
Lead	0.000051J	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:21	7439-92-1	
Lithium	0.0025J	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:21	7439-93-2	
Molybdenum	0.0030J	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:21	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 15:52	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		03/07/20 08:32	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: MW-22		Lab ID: 2629701005		Collected: 03/02/20 16:10		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	5.97	Std. Units			1		03/16/20 16:29		
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 19:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/05/20 22:19	03/10/20 19:27	7440-38-2	
Barium	0.027	mg/L	0.010	0.00049	1	03/05/20 22:19	03/10/20 19:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/05/20 22:19	03/10/20 19:27	7440-41-7	
Cadmium	0.0021J	mg/L	0.0025	0.00011	1	03/05/20 22:19	03/10/20 19:27	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/05/20 22:19	03/10/20 19:27	7440-47-3	
Cobalt	0.043	mg/L	0.0050	0.00030	1	03/05/20 22:19	03/10/20 19:27	7440-48-4	
Lead	0.000094J	mg/L	0.0050	0.000046	1	03/05/20 22:19	03/10/20 19:27	7439-92-1	
Lithium	0.0015J	mg/L	0.030	0.00078	1	03/05/20 22:19	03/10/20 19:27	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/05/20 22:19	03/10/20 19:27	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/05/20 22:19	03/10/20 19:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/05/20 22:19	03/10/20 19:27	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 15:55	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		03/07/20 15:47	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWA-1		Lab ID: 2629701006		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 16:29		
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Antimony	ND	mg/L	0.0030	0.00027	1	03/06/20 09:39	03/10/20 20:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/06/20 09:39	03/10/20 20:07	7440-38-2	
Barium	0.034	mg/L	0.010	0.00049	1	03/06/20 09:39	03/10/20 20:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/06/20 09:39	03/10/20 20:07	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/06/20 09:39	03/10/20 20:07	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/06/20 09:39	03/10/20 20:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/06/20 09:39	03/10/20 20:07	7440-48-4	
Lead	0.000048J	mg/L	0.0050	0.000046	1	03/06/20 09:39	03/10/20 20:07	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00078	1	03/06/20 09:39	03/10/20 20:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/06/20 09:39	03/10/20 20:07	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/06/20 09:39	03/10/20 20:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/06/20 09:39	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	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

Sample: HGWA-2		Lab ID: 2629701007		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 16:29		
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	03/06/20 09:39	03/10/20 20:13	7440-36-0	
Arsenic	0.00043J	mg/L	0.0050	0.00035	1	03/06/20 09:39	03/10/20 20:13	7440-38-2	
Barium	0.11	mg/L	0.010	0.00049	1	03/06/20 09:39	03/10/20 20:13	7440-39-3	
Beryllium	0.00014J	mg/L	0.0030	0.000074	1	03/06/20 09:39	03/10/20 20:13	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/06/20 09:39	03/10/20 20:13	7440-43-9	
Chromium	0.00041J	mg/L	0.010	0.00039	1	03/06/20 09:39	03/10/20 20:13	7440-47-3	
Cobalt	0.019	mg/L	0.0050	0.00030	1	03/06/20 09:39	03/10/20 20:13	7440-48-4	
Lead	0.000095J	mg/L	0.0050	0.000046	1	03/06/20 09:39	03/10/20 20:13	7439-92-1	
Lithium	0.0017J	mg/L	0.030	0.00078	1	03/06/20 09:39	03/10/20 20:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/06/20 09:39	03/10/20 20:13	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/06/20 09:39	03/10/20 20:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/06/20 09:39	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	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWA-3		Lab ID: 2629701008		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 16:29		
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Antimony	ND	mg/L	0.0030	0.00027	1	03/06/20 09:39	03/10/20 20:18	7440-36-0	
Arsenic	0.00040J	mg/L	0.0050	0.00035	1	03/06/20 09:39	03/10/20 20:18	7440-38-2	
Barium	0.14	mg/L	0.010	0.00049	1	03/06/20 09:39	03/10/20 20:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/06/20 09:39	03/10/20 20:18	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/06/20 09:39	03/10/20 20:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/06/20 09:39	03/10/20 20:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/06/20 09:39	03/10/20 20:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/06/20 09:39	03/10/20 20:18	7439-92-1	
Lithium	0.0037J	mg/L	0.030	0.00078	1	03/06/20 09:39	03/10/20 20:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/06/20 09:39	03/10/20 20:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/06/20 09:39	03/10/20 20:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/06/20 09:39	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	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWC-16		Lab ID: 2629701009		Collected: 03/03/20 12:37		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	7.1	Std. Units			1		03/16/20 16:29		
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 17:24	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:24	7440-38-2	
Barium	0.12	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:24	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:24	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:24	7440-43-9	
Chromium	0.00071J	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:24	7440-47-3	
Cobalt	0.00037J	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:24	7440-48-4	
Lead	0.00016J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:24	7439-92-1	
Lithium	0.0047J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:24	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:24	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:24	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 17:58	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 01:32	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWC-17	Lab ID: 2629701010	Collected: 03/03/20 14:20		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	6.35	Std. Units			1		03/16/20 16:29		
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 17:30	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:30	7440-38-2	
Barium	0.026	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:30	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:30	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:30	7440-43-9	
Chromium	0.0018J	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:30	7440-47-3	
Cobalt	0.016	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:30	7440-48-4	
Lead	0.00013J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:30	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:30	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:30	7782-49-2	
Thallium	0.00011J	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:30	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 18:01	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 01:46	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: FB-02		Lab ID: 2629701011		Collected: 03/03/20 19:07		Received: 03/04/20 10:05		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
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 17:36	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:36	7440-38-2		
Barium	ND	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:36	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:36	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:36	7440-43-9		
Chromium	0.00066J	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:36	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:36	7440-48-4		
Lead	ND	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:36	7439-92-1		
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:36	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:36	7439-98-7		
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:36	7782-49-2		
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:36	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 18:10	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 02:00	16984-48-8		

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWC-14	Lab ID: 2629701012	Collected: 03/03/20 11:20	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	4.77	Std. Units			1		03/16/20 16:29		
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 17:41	7440-36-0	
Arsenic	0.0035J	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:41	7440-38-2	
Barium	0.018	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:41	7440-39-3	
Beryllium	0.00043J	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:41	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:41	7440-43-9	
Chromium	0.00042J	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:41	7440-47-3	
Cobalt	0.029	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:41	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:41	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:41	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:41	7439-98-7	
Selenium	0.0045J	mg/L	0.010	0.0013	1	03/10/20 14:34	03/12/20 16:58	7782-49-2	
Thallium	0.00026J	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:41	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 18:13	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 02:14	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: HGWC-15	Lab ID: 2629701013	Collected: 03/03/20 12:20		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	6.00	Std. Units			1		03/16/20 16:29		
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 17:47	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:47	7440-38-2	
Barium	0.018	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:47	7440-41-7	
Cadmium	0.0015J	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:47	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:47	7440-47-3	
Cobalt	0.030	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:47	7440-48-4	
Lead	0.000053J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:47	7439-92-1	
Lithium	0.0084J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:47	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:47	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:47	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:47	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 18:15	7439-97-6	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Fluoride	0.064J	mg/L	0.30	0.050	1		03/11/20 02:28	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: HGWC-18 Lab ID: 2629701014 Collected: 03/03/20 09:10 Received: 03/04/20 10:05 Matrix: Water									
Field Data Analytical Method:									
Field pH	4.55	Std. Units			1		03/16/20 16:29		
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 17:53	7440-36-0	
Arsenic	0.0057	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:53	7440-38-2	
Barium	0.026	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:53	7440-39-3	
Beryllium	0.0029J	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:53	7440-41-7	
Cadmium	0.0021J	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:53	7440-43-9	
Chromium	0.00040J	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:53	7440-47-3	
Cobalt	0.15	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:53	7440-48-4	
Lead	0.0013J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:53	7439-92-1	
Lithium	0.012J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:53	7439-98-7	
Selenium	0.014	mg/L	0.010	0.0013	1	03/10/20 14:34	03/12/20 17:04	7782-49-2	
Thallium	0.00013J	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:53	7440-28-0	
7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	ND	mg/L	0.00050	0.00014	1	03/12/20 11:45	03/13/20 13:08	7439-97-6	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0 Rev 2.1 1993									
Fluoride	0.34	mg/L	0.30	0.050	1		03/11/20 02:42	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: MW-21D	Lab ID: 2629701015		Collected: 03/03/20 10:15	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	6.72	Std. Units			1		03/16/20 16:29		
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 17:58	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 17:58	7440-38-2	
Barium	0.058	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 17:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 17:58	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 17:58	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 17:58	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 17:58	7440-48-4	
Lead	0.000047J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 17:58	7439-92-1	
Lithium	0.026J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 17:58	7439-93-2	
Molybdenum	0.025	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 17:58	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/10/20 14:34	03/11/20 17:58	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 17:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/12/20 11:45	03/13/20 13:18	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 02:56	16984-48-8	

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ANALYTICAL RESULTS

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Sample: FD-01		Lab ID: 2629701016		Collected: 03/03/20 00:00		Received: 03/04/20 10:05		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
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 18:14	7440-36-0		
Arsenic	0.0055	mg/L	0.0050	0.00035	1	03/10/20 14:34	03/11/20 18:14	7440-38-2		
Barium	0.025	mg/L	0.010	0.00049	1	03/10/20 14:34	03/11/20 18:14	7440-39-3		
Beryllium	0.0029J	mg/L	0.0030	0.000074	1	03/10/20 14:34	03/11/20 18:14	7440-41-7		
Cadmium	0.0016J	mg/L	0.0025	0.00011	1	03/10/20 14:34	03/11/20 18:14	7440-43-9		
Chromium	0.037	mg/L	0.010	0.00039	1	03/10/20 14:34	03/11/20 18:14	7440-47-3		
Cobalt	0.15	mg/L	0.0050	0.00030	1	03/10/20 14:34	03/11/20 18:14	7440-48-4		
Lead	0.0013J	mg/L	0.0050	0.000046	1	03/10/20 14:34	03/11/20 18:14	7439-92-1		
Lithium	0.012J	mg/L	0.030	0.00078	1	03/10/20 14:34	03/11/20 18:14	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00095	1	03/10/20 14:34	03/11/20 18:14	7439-98-7		
Selenium	0.013	mg/L	0.010	0.0013	1	03/10/20 14:34	03/12/20 17:09	7782-49-2		
Thallium	0.00013J	mg/L	0.0010	0.000052	1	03/10/20 14:34	03/11/20 18:14	7440-28-0		
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.00014	1	03/12/20 11:45	03/13/20 13:20	7439-97-6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993								
Fluoride	0.42	mg/L	0.30	0.050	1		03/11/20 03:10	16984-48-8		

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

QC Batch: 44210 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 2629701001, 2629701002, 2629701003, 2629701004, 2629701005

METHOD BLANK: 202602 Matrix: Water
 Associated Lab Samples: 2629701001, 2629701002, 2629701003, 2629701004, 2629701005

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2629719006 Result	Spike Conc.	Spike Conc.	Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0026	0.0026	106	106	75-125	0	20

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

QC Batch: 44366 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 2629701006, 2629701007, 2629701008, 2629701009, 2629701010, 2629701011, 2629701012, 2629701013

METHOD BLANK: 203475 Matrix: Water
 Associated Lab Samples: 2629701006, 2629701007, 2629701008, 2629701009, 2629701010, 2629701011, 2629701012, 2629701013

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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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

QC Batch: 44498 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Associated Lab Samples: 2629701014, 2629701015, 2629701016

METHOD BLANK: 204276 Matrix: Water

Associated Lab Samples: 2629701014, 2629701015, 2629701016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.00014	03/13/20 13:03	

LABORATORY CONTROL SAMPLE: 204277

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: 204278 204279

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2629701014 Result	Spike Conc.	Spike Conc.	Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0025	0.0024	99	97	75-125	2	20

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

QC Batch: 44279 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2629701001, 2629701002, 2629701003, 2629701004, 2629701005, 2629701006, 2629701007, 2629701008

METHOD BLANK: 202988 Matrix: Water
 Associated Lab Samples: 2629701001, 2629701002, 2629701003, 2629701004, 2629701005, 2629701006, 2629701007, 2629701008

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2629679001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
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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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Parameter	Units	202990		202991		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
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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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

QC Batch: 44398 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2629701009, 2629701010, 2629701011, 2629701012, 2629701013, 2629701014, 2629701015, 2629701016

METHOD BLANK: 203664 Matrix: Water
 Associated Lab Samples: 2629701009, 2629701010, 2629701011, 2629701012, 2629701013, 2629701014, 2629701015, 2629701016

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2629703008 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
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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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Parameter	Units	203666		203667		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
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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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

QC Batch: 528851 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: 2629701001, 2629701002, 2629701003, 2629701004

METHOD BLANK: 2824833 Matrix: Water
 Associated Lab Samples: 2629701001, 2629701002, 2629701003, 2629701004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/07/20 00:18	

LABORATORY CONTROL SAMPLE: 2824834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2824835 2824836

Parameter	Units	92467521066 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	99	103	90-110	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2824837 2824838

Parameter	Units	92467521076 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	98	98	90-110	0	10	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

QC Batch: 529130 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: 2629701005

METHOD BLANK: 2826277 Matrix: Water
 Associated Lab Samples: 2629701005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/07/20 11:50	

LABORATORY CONTROL SAMPLE: 2826278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	91	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826279 2826280

Parameter	Units	92468399001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.1	2.0	81	76	90-110	6	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2826281 2826282

Parameter	Units	2629733001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.1	2.1	82	85	90-110	3	10	M1

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

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: 2629701006, 2629701007, 2629701008

METHOD BLANK: 2826400 Matrix: Water
 Associated Lab Samples: 2629701006, 2629701007, 2629701008

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		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
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		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Fluoride	mg/L	ND	2.5	2.5	2.5	2.7	99	108	90-110	8	10	

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QUALITY CONTROL DATA

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

QC Batch: 529391 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: 2629701009, 2629701010, 2629701011, 2629701012, 2629701013, 2629701014, 2629701015, 2629701016

METHOD BLANK: 2827596 Matrix: Water
 Associated Lab Samples: 2629701009, 2629701010, 2629701011, 2629701012, 2629701013, 2629701014, 2629701015, 2629701016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	03/10/20 23:40	

LABORATORY CONTROL SAMPLE: 2827597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2827598 2827599

Parameter	Units	2629786007 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	100	103	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2827600 2827601

Parameter	Units	2629765002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	91	95	90-110	4	10	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PLANT HAMMOND APP IV AP-2
Pace Project No.: 2629701

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND APP IV AP-2
 Pace Project No.: 2629701

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2629701001	HGWA-4				
2629701002	HGWA-5				
2629701003	HGWA-6				
2629701004	MW-23D				
2629701005	MW-22				
2629701006	HGWA-1				
2629701007	HGWA-2				
2629701008	HGWA-3				
2629701009	HGWC-16				
2629701010	HGWC-17				
2629701012	HGWC-14				
2629701013	HGWC-15				
2629701014	HGWC-18				
2629701015	MW-21D				
2629701001	HGWA-4	EPA 3005A	44279	EPA 6020B	44313
2629701002	HGWA-5	EPA 3005A	44279	EPA 6020B	44313
2629701003	HGWA-6	EPA 3005A	44279	EPA 6020B	44313
2629701004	MW-23D	EPA 3005A	44279	EPA 6020B	44313
2629701005	MW-22	EPA 3005A	44279	EPA 6020B	44313
2629701006	HGWA-1	EPA 3005A	44279	EPA 6020B	44313
2629701007	HGWA-2	EPA 3005A	44279	EPA 6020B	44313
2629701008	HGWA-3	EPA 3005A	44279	EPA 6020B	44313
2629701009	HGWC-16	EPA 3005A	44398	EPA 6020B	44434
2629701010	HGWC-17	EPA 3005A	44398	EPA 6020B	44434
2629701011	FB-02	EPA 3005A	44398	EPA 6020B	44434
2629701012	HGWC-14	EPA 3005A	44398	EPA 6020B	44434
2629701013	HGWC-15	EPA 3005A	44398	EPA 6020B	44434
2629701014	HGWC-18	EPA 3005A	44398	EPA 6020B	44434
2629701015	MW-21D	EPA 3005A	44398	EPA 6020B	44434
2629701016	FD-01	EPA 3005A	44398	EPA 6020B	44434
2629701001	HGWA-4	EPA 7470A	44210	EPA 7470A	44266
2629701002	HGWA-5	EPA 7470A	44210	EPA 7470A	44266
2629701003	HGWA-6	EPA 7470A	44210	EPA 7470A	44266
2629701004	MW-23D	EPA 7470A	44210	EPA 7470A	44266
2629701005	MW-22	EPA 7470A	44210	EPA 7470A	44266
2629701006	HGWA-1	EPA 7470A	44366	EPA 7470A	44419
2629701007	HGWA-2	EPA 7470A	44366	EPA 7470A	44419
2629701008	HGWA-3	EPA 7470A	44366	EPA 7470A	44419
2629701009	HGWC-16	EPA 7470A	44366	EPA 7470A	44419
2629701010	HGWC-17	EPA 7470A	44366	EPA 7470A	44419
2629701011	FB-02	EPA 7470A	44366	EPA 7470A	44419
2629701012	HGWC-14	EPA 7470A	44366	EPA 7470A	44419
2629701013	HGWC-15	EPA 7470A	44366	EPA 7470A	44419
2629701014	HGWC-18	EPA 7470A	44498	EPA 7470A	44524
2629701015	MW-21D	EPA 7470A	44498	EPA 7470A	44524
2629701016	FD-01	EPA 7470A	44498	EPA 7470A	44524

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND APP IV AP-2

Pace Project No.: 2629701

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2629701001	HGWA-4	EPA 300.0 Rev 2.1 1993	528851		
2629701002	HGWA-5	EPA 300.0 Rev 2.1 1993	528851		
2629701003	HGWA-6	EPA 300.0 Rev 2.1 1993	528851		
2629701004	MW-23D	EPA 300.0 Rev 2.1 1993	528851		
2629701005	MW-22	EPA 300.0 Rev 2.1 1993	529130		
2629701006	HGWA-1	EPA 300.0 Rev 2.1 1993	529175		
2629701007	HGWA-2	EPA 300.0 Rev 2.1 1993	529175		
2629701008	HGWA-3	EPA 300.0 Rev 2.1 1993	529175		
2629701009	HGWC-16	EPA 300.0 Rev 2.1 1993	529391		
2629701010	HGWC-17	EPA 300.0 Rev 2.1 1993	529391		
2629701011	FB-02	EPA 300.0 Rev 2.1 1993	529391		
2629701012	HGWC-14	EPA 300.0 Rev 2.1 1993	529391		
2629701013	HGWC-15	EPA 300.0 Rev 2.1 1993	529391		
2629701014	HGWC-18	EPA 300.0 Rev 2.1 1993	529391		
2629701015	MW-21D	EPA 300.0 Rev 2.1 1993	529391		
2629701016	FD-01	EPA 300.0 Rev 2.1 1993	529391		

REPORT OF LABORATORY ANALYSIS

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Sample Condition upon Receipt

PCR Analytical

Client Name: GAT Power Project # _____

Carrier: Fed Ex UPS USPS Other Commercial Face Other _____

Tracking # _____

Carrier Seal on Container Present: Yes No Seal intact: Yes No

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used: 233 Type of Ice: Dry Blue None Samples on the cooling process has begun

Cooled Temperature: 1.0°C Biological Samples in Freezer: Yes No

Take photos of entire receipt to PC

Comments:

Date and time of receipt of samples: 3/31/2016

Color of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1
Color of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2
Color of Custody Rubber Stamped	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3
Sample Name & Signature of COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4
Sample Arrived within HOC Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5
Short Hold Time Analysis (OT/Mark)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6
High Temp. Injured Time Requested	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7
Sample Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8
Correct Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9
Other Containers Used	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13
Sample volume received for Directed Test	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11
Sample Labels match COC <small>-Includes date and CRANBY's Mark</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12
All containers meeting preservation mark label checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10
All containers meeting preservation mark are found to be in compliance with IFTA recommendation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Includes VQA, unless not used in-PCR assay	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Samples are bagged for decontamination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14
Handbook in VQA used (if any)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15
Top Bars Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	16
Top Bars Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Place Top Bars 1, if it is purchased.		

Client Notification Resolution: _____ Field Co's Present? 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 Criminal Justice Laboratory Office (11101 Old York Road, Raleigh, NC 27615) for their comments.

CHAIN OF CUSTODY / Analytical Request Document

The Chain of Custody and Analytical Request Document are required for all samples submitted for analysis.

Sample Analysis

Sample ID: _____
 Client: USAID
 Date: 01/13/2015
 Location: USAID - Department of State
 Contact: [Name]
 Phone: [Phone]
 Email: [Email]
 Analyst: [Name]
 Method: [Method]
 Volume: 10mL
 Matrix: [Matrix]
 Sample Description: [Description]
 Chain of Custody: [Signature]
 Date: [Date]

Sample ID	Description	Quantity	Volume	Chain of Custody		Date	Signature	Initials
				Collector	Receiver			
1	SAMPLE 510	10mL	10mL	[Signature]	[Signature]	01/13/2015	[Initials]	[Initials]
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Date of Collection: 01/13/2015
 Date of Analysis: 01/13/2015
 Analytical Method: [Method]
 Laboratory: [Lab Name]
 Analyst: [Name]
 Reviewer: [Name]
 Date of Review: 01/13/2015
 Signature: [Signature]

CHAIN OF CUSTODY / Analytical Request Document
 This document is used to document the custody and handling of evidence.

Handwritten signature

Case Information:
 Agency: LA Police
 Requester: RECEIVED LA
 Date: 12/15/2011
 Requested By: SA [Name]

Requester Information: [Name]
 Title: [Title]
 Agency: [Agency]

Request Description: [Description]

Requested Quantity: [Quantity]

Requested Analytical Method: [Method]

Requester Signature: [Signature]

Requester Title: [Title]

Requester Agency: [Agency]

Requester Address: [Address]

Requester Phone: [Phone]

Requester Email: [Email]

Item #	Description of Item	Quantity	Unit	Container #	Packaging		Remarks
					Material	Quantity	
1	Sample ID	1	1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Item #	Description of Item	Quantity	Unit	Container #	Packaging	Remarks	Signature	Date
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Chain of Custody:

Signature	Date	Signature	Date	Signature	Date
[Signature]	[Date]	[Signature]	[Date]	[Signature]	[Date]
[Signature]	[Date]	[Signature]	[Date]	[Signature]	[Date]
[Signature]	[Date]	[Signature]	[Date]	[Signature]	[Date]

Remarks: [Handwritten notes]

Analyst Signature: [Signature]

Analyst Title: [Title]

Analyst Agency: [Agency]

Analyst Address: [Address]

Analyst Phone: [Phone]

Analyst Email: [Email]

CHAIN-OF-CUSTODY Analytical Request Document
 The Forensic Laboratory of the Oklahoma Department of Criminal Justice



Section A Requester Information	Section B Requester Organization	Section C Requester Contact	Section D Requester Agency
Agency: <u>OK State</u>	Organization: <u>OK State</u>	Name: <u>John Doe</u>	Agency: <u>OK State</u>
Address: <u>State Capitol</u>	Address: <u>State Capitol</u>	Phone: <u>581-591-1111</u>	Case No: <u>12345</u>
City: <u>Oklahoma City</u>	City: <u>Oklahoma City</u>	Fax: <u>581-591-1111</u>	Request Date: <u>03/20/2008</u>
State: <u>OK</u>	State: <u>OK</u>	Requester Signature: <u>[Signature]</u>	Requester Title: <u>Analyst</u>
Requester: <u>John Doe</u>	Requester: <u>John Doe</u>	Requester Email: <u>john.doe@okstate.gov</u>	Requester Agency: <u>OK State</u>
Requester Address: <u>State Capitol</u>	Requester Address: <u>State Capitol</u>	Requester Agency: <u>OK State</u>	Requester Agency: <u>OK State</u>

Item #	Description	Quantity	Unit	Date	Time	Collection		Analysis		Remarks
						Method	Result	Method	Result	
1	Sample 1	1	g	03/20/08	10:00	GC/MS	0.1234	GC/MS	0.1234	Initial Sample
2	Sample 2	1	g	03/20/08	11:00	GC/MS	0.1234	GC/MS	0.1234	Reference Sample
3	Sample 3	1	g	03/20/08	12:00	GC/MS	0.1234	GC/MS	0.1234	Control Sample
4	Sample 4	1	g	03/20/08	13:00	GC/MS	0.1234	GC/MS	0.1234	Blank Sample
5	Sample 5	1	g	03/20/08	14:00	GC/MS	0.1234	GC/MS	0.1234	Standard Sample
6	Sample 6	1	g	03/20/08	15:00	GC/MS	0.1234	GC/MS	0.1234	Unknown Sample
7	Sample 7	1	g	03/20/08	16:00	GC/MS	0.1234	GC/MS	0.1234	Unknown Sample
8	Sample 8	1	g	03/20/08	17:00	GC/MS	0.1234	GC/MS	0.1234	Unknown Sample
9	Sample 9	1	g	03/20/08	18:00	GC/MS	0.1234	GC/MS	0.1234	Unknown Sample
10	Sample 10	1	g	03/20/08	19:00	GC/MS	0.1234	GC/MS	0.1234	Unknown Sample

Section E Chain of Custody	Section F Chain of Custody	Section G Chain of Custody	Section H Chain of Custody
Received by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Received by: <u>[Signature]</u>
Date: <u>03/20/08</u>	Date: <u>03/20/08</u>	Date: <u>03/20/08</u>	Date: <u>03/20/08</u>
Time: <u>10:00</u>	Time: <u>11:00</u>	Time: <u>12:00</u>	Time: <u>13:00</u>
Signature: <u>[Signature]</u>	Signature: <u>[Signature]</u>	Signature: <u>[Signature]</u>	Signature: <u>[Signature]</u>
Title: <u>Analyst</u>	Title: <u>Analyst</u>	Title: <u>Analyst</u>	Title: <u>Analyst</u>
Agency: <u>OK State</u>	Agency: <u>OK State</u>	Agency: <u>OK State</u>	Agency: <u>OK State</u>

FIELD ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document
 For Use by a Custodian or Officer of a Law Enforcement Agency

Page 2 of 2

Section I: Agency Information
 Agency Name: San Diego County Sheriff's Office
 Report Number: 100-100000000
 Date: 03/05/2012

Section II: Incident Information
 Incident Number: 100-100000000
 Date/Time: 03/05/2012 14:30
 Location: 100-100000000

Section III: Sample Information
 Sample ID: 100-100000000
 Description: 100-100000000
 Quantity: 100-100000000

Section IV: Chain of Custody

Name	Signature	Date	Time	Initials
Officer [Name]	[Signature]	03/05/2012	14:30	[Initials]
Officer [Name]	[Signature]	03/05/2012	14:30	[Initials]

Sample ID	Description	Quantity	Collector	Date	Time	Analysis Test		Initials	Signature	Date	Time	Signature
						Test Name	Result					
1	100-100000000	1	Officer [Name]	03/05/2012	14:30	GC/MS	Positive	[Initials]	[Signature]	03/05/2012	14:30	[Signature]
2	100-100000000	1	Officer [Name]	03/05/2012	14:30	GC/MS	Positive	[Initials]	[Signature]	03/05/2012	14:30	[Signature]

Section V: Laboratory Information
 Laboratory Name: San Diego County Sheriff's Office
 Analyst Name: [Name]
 Date: 03/05/2012

Section VI: Remarks
100-100000000

Request/Requester
 Date Received

CHALLENGE CUSTODY (Analytical Request Document)
 The Chain of Custody is a record document of evidence taken and its analytical handling.

Page 2 of 2

Requester Name	Requester Address	Requester Phone	Requester Email
Case No.	Case Name	Case Address	Case Phone
Request Date	Request Time	Request Location	Request Status

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Status	Sample Weight	Sample Volume	Sample Analysis	
								Sample Type	Sample Method
1	Sample 1	Location 1	2015	10:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
2	Sample 2	Location 2	2015	11:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
3	Sample 3	Location 3	2015	12:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
4	Sample 4	Location 4	2015	13:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
5	Sample 5	Location 5	2015	14:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
6	Sample 6	Location 6	2015	15:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
7	Sample 7	Location 7	2015	16:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
8	Sample 8	Location 8	2015	17:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
9	Sample 9	Location 9	2015	18:00	Completed	1.00g	10.00ml	GC/MS	GC/MS
10	Sample 10	Location 10	2015	19:00	Completed	1.00g	10.00ml	GC/MS	GC/MS

Requester Name	Requester Address	Requester Phone	Requester Email
Case No.	Case Name	Case Address	Case Phone
Request Date	Request Time	Request Location	Request Status



CHAIN OF CUSTODY / Analytical Request Document
 The Chain of Custody (COC) document is required for all samples submitted for analytical laboratory.

Project Name: Water Sampling
 Client: Sanjour Co
 Location: Sanjour Co

Requester: Sanjour Co
 Requester Address: Sanjour Co
 Requester Phone: Sanjour Co
 Requester Email: Sanjour Co
 Requester Signature: [Signature]
 Date: 2/15/2017

Sample ID	Sample Description	Date	Time	Location	Collector	Analyst	Sample Type		Analysis Test		Remarks
							Volume	Weight	Method	Result	
1	Water	2/15/2017	10:00	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
2	Water	2/15/2017	10:05	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
3	Water	2/15/2017	10:10	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
4	Water	2/15/2017	10:15	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
5	Water	2/15/2017	10:20	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
6	Water	2/15/2017	10:25	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
7	Water	2/15/2017	10:30	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
8	Water	2/15/2017	10:35	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
9	Water	2/15/2017	10:40	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
10	Water	2/15/2017	10:45	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
11	Water	2/15/2017	10:50	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
12	Water	2/15/2017	10:55	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
13	Water	2/15/2017	11:00	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
14	Water	2/15/2017	11:05	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
15	Water	2/15/2017	11:10	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
16	Water	2/15/2017	11:15	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
17	Water	2/15/2017	11:20	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
18	Water	2/15/2017	11:25	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
19	Water	2/15/2017	11:30	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
20	Water	2/15/2017	11:35	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
21	Water	2/15/2017	11:40	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
22	Water	2/15/2017	11:45	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
23	Water	2/15/2017	11:50	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
24	Water	2/15/2017	11:55	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co
25	Water	2/15/2017	12:00	Sanjour Co	[Signature]	[Signature]	100ml	100g	Lead	0.05	Water sample from Sanjour Co



July 08, 2020

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

RE: Project: HAMMOND AP-2 1ST SEMIANNUAL
Pace Project No.: 2630472

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 26, 2020 and April 02, 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.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

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

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SAMPLE SUMMARY

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2630472001	HGWA-1	Water	03/25/20 15:56	03/26/20 11:10
2630472002	HGWA-3	Water	03/25/20 15:17	03/26/20 11:10
2630472003	HGWA-2	Water	03/25/20 16:32	03/26/20 11:10
2630472004	HGWA-6	Water	03/25/20 17:15	03/26/20 11:10
2630472005	HGWA-5	Water	03/26/20 09:20	03/27/20 13:00
2630472006	HGWA-4	Water	03/26/20 12:55	03/27/20 13:00
2630472007	HGWC-15	Water	03/26/20 14:45	03/27/20 13:00
2630472008	MW-22	Water	03/27/20 16:10	03/30/20 10:20
2630472009	HGWC-14	Water	03/30/20 09:55	03/31/20 11:35
2630472010	FD-02	Water	03/30/20 00:00	03/31/20 11:35
2630472011	HGWC-16	Water	03/30/20 11:25	03/31/20 11:35
2630472012	FB-02	Water	03/30/20 17:35	03/31/20 11:35
2630472013	HGWC-17	Water	03/31/20 09:00	04/01/20 10:30
2630472014	HGWC-18	Water	03/31/20 13:30	04/01/20 10:30
2630472015	MW-21D	Water	04/01/20 12:04	04/02/20 10:25
2630472016	MW-33	Water	04/01/20 10:02	04/02/20 10:25
2630472017	MW-23D	Water	04/01/20 11:37	04/02/20 10:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630472001	HGWA-1	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472002	HGWA-3	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472003	HGWA-2	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472004	HGWA-6	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	VHB	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472005	HGWA-5	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472006	HGWA-4	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472007	HGWC-15	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472008	MW-22	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	TC1	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2630472009	HGWC-14	EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2630472010	FD-02	EPA 6010D	DRB	1	PASI-GA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2630472011	HGWC-16	EPA 6020B	CSW	12	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	ALW	1	PASI-GA
2630472012	FB-02	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	ALW	1	PASI-GA
2630472013	HGWC-17	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	JRS	1	PASI-GA
2630472014	HGWC-18	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	JRS	1	PASI-GA
2630472015	MW-21D	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	JRS	1	PASI-GA
2630472016	MW-33	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	JRS	1	PASI-GA
2630472017	MW-23D	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	DRB	1	PASI-GA
		EPA 6020B	CSW	12	PASI-GA
		SM 2540C	JRS	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-GA = Pace Analytical Services - Atlanta, GA

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2630472001	HGWA-1					
	Field pH	6.95	Std. Units		04/07/20 14:41	
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	M1
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	
2630472002	HGWA-3					
	Field pH	7.4	Std. Units		04/07/20 14:41	
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	
2630472003	HGWA-2					
	Field pH	5.36	Std. Units		04/07/20 14:41	
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	
2630472004	HGWA-6					
	Field pH	7.39	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	58.1	mg/L	1.0	04/02/20 14:08	
EPA 6020B	Barium	0.19	mg/L	0.010	04/03/20 13:16	
EPA 6020B	Boron	0.021J	mg/L	0.10	04/03/20 13:16	
EPA 6020B	Lithium	0.011J	mg/L	0.030	04/03/20 13:16	
EPA 6020B	Thallium	0.000057J	mg/L	0.0010	04/03/20 13:16	
SM 2540C	Total Dissolved Solids	240	mg/L	10.0	04/01/20 15:09	
EPA 300.0 Rev 2.1 1993	Chloride	1.2	mg/L	1.0	04/03/20 02:01	
EPA 300.0 Rev 2.1 1993	Sulfate	35.1	mg/L	1.0	04/03/20 02:01	
2630472005	HGWA-5					
	Field pH	6.38	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	27.8	mg/L	1.0	04/02/20 17:25	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2630472005	HGWA-5					
EPA 6020B	Barium	0.045	mg/L	0.010	04/02/20 22:12	
EPA 6020B	Boron	0.0072J	mg/L	0.10	04/02/20 22:12	
EPA 6020B	Cobalt	0.0013J	mg/L	0.0050	04/02/20 22:12	
EPA 6020B	Lithium	0.0029J	mg/L	0.030	04/02/20 22:12	
SM 2540C	Total Dissolved Solids	104	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	1.4	mg/L	1.0	04/02/20 21:49	
EPA 300.0 Rev 2.1 1993	Fluoride	0.066J	mg/L	0.30	04/02/20 21:49	
EPA 300.0 Rev 2.1 1993	Sulfate	21.6	mg/L	1.0	04/02/20 21:49	
2630472006	HGWA-4					
	Field pH	5.77	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	14.9	mg/L	1.0	04/03/20 14:51	
EPA 6020B	Barium	0.026	mg/L	0.010	04/02/20 22:18	
EPA 6020B	Beryllium	0.000076J	mg/L	0.0030	04/02/20 22:18	
EPA 6020B	Boron	0.012J	mg/L	0.10	04/02/20 22:18	
EPA 6020B	Cobalt	0.00058J	mg/L	0.0050	04/02/20 22:18	
EPA 6020B	Lead	0.000059J	mg/L	0.0050	04/02/20 22:18	
EPA 6020B	Lithium	0.00095J	mg/L	0.030	04/02/20 22:18	
SM 2540C	Total Dissolved Solids	69.0	mg/L	10.0	04/02/20 15:00	D6
EPA 300.0 Rev 2.1 1993	Chloride	3.4	mg/L	1.0	04/02/20 22:04	
2630472007	HGWC-15					
	Field pH	6.03	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	240	mg/L	1.0	04/02/20 17:56	
EPA 6020B	Barium	0.016	mg/L	0.010	04/02/20 22:24	
EPA 6020B	Boron	2.1	mg/L	0.10	04/02/20 22:24	
EPA 6020B	Cadmium	0.0016J	mg/L	0.0025	04/02/20 22:24	
EPA 6020B	Cobalt	0.022	mg/L	0.0050	04/02/20 22:24	
EPA 6020B	Lithium	0.0061J	mg/L	0.030	04/02/20 22:24	
SM 2540C	Total Dissolved Solids	1000	mg/L	10.0	04/02/20 15:00	
EPA 300.0 Rev 2.1 1993	Chloride	142	mg/L	9.0	04/03/20 09:30	
EPA 300.0 Rev 2.1 1993	Sulfate	438	mg/L	9.0	04/03/20 09:30	
2630472008	MW-22					
	Field pH	5.71	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	212	mg/L	1.0	04/03/20 22:36	
EPA 6020B	Barium	0.025	mg/L	0.010	04/03/20 16:59	
EPA 6020B	Boron	2.4	mg/L	0.10	04/03/20 16:59	
EPA 6020B	Cadmium	0.0019J	mg/L	0.0025	04/03/20 16:59	
EPA 6020B	Cobalt	0.025	mg/L	0.0050	04/03/20 16:59	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	04/03/20 16:59	
SM 2540C	Total Dissolved Solids	1100	mg/L	10.0	04/02/20 17:56	
EPA 300.0 Rev 2.1 1993	Chloride	141	mg/L	8.0	04/03/20 13:31	
EPA 300.0 Rev 2.1 1993	Sulfate	419	mg/L	8.0	04/03/20 13:31	
2630472009	HGWC-14					
	Field pH	4.57	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	600	mg/L	10.0	04/06/20 13:38	
EPA 6020B	Arsenic	0.0051	mg/L	0.0050	04/02/20 16:04	B

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2630472009	HGWC-14					
EPA 6020B	Barium	0.020	mg/L	0.010	04/02/20 16:04	
EPA 6020B	Beryllium	0.00043J	mg/L	0.0030	04/02/20 16:04	
EPA 6020B	Boron	11.7	mg/L	1.0	04/03/20 10:30	
EPA 6020B	Chromium	0.00066J	mg/L	0.010	04/02/20 16:04	
EPA 6020B	Cobalt	0.028	mg/L	0.0050	04/02/20 16:04	
EPA 6020B	Lead	0.0015J	mg/L	0.0050	04/02/20 16:04	
EPA 6020B	Selenium	0.0049J	mg/L	0.010	04/02/20 16:04	
EPA 6020B	Thallium	0.00028J	mg/L	0.0010	04/02/20 16:04	
SM 2540C	Total Dissolved Solids	2590	mg/L	10.0	04/06/20 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	236	mg/L	22.0	04/05/20 07:37	
EPA 300.0 Rev 2.1 1993	Fluoride	0.092J	mg/L	0.30	04/04/20 17:18	
EPA 300.0 Rev 2.1 1993	Sulfate	1150	mg/L	22.0	04/05/20 07:37	
2630472010	FD-02					
EPA 6010D	Calcium	607	mg/L	10.0	04/06/20 13:41	
EPA 6020B	Arsenic	0.0048J	mg/L	0.0050	04/02/20 16:10	B
EPA 6020B	Barium	0.019	mg/L	0.010	04/02/20 16:10	
EPA 6020B	Beryllium	0.00040J	mg/L	0.0030	04/02/20 16:10	
EPA 6020B	Boron	11.5	mg/L	1.0	04/03/20 10:36	
EPA 6020B	Cadmium	0.00012J	mg/L	0.0025	04/02/20 16:10	
EPA 6020B	Chromium	0.00041J	mg/L	0.010	04/02/20 16:10	
EPA 6020B	Cobalt	0.027	mg/L	0.0050	04/02/20 16:10	
EPA 6020B	Lead	0.0014J	mg/L	0.0050	04/02/20 16:10	
EPA 6020B	Selenium	0.0054J	mg/L	0.010	04/02/20 16:10	
EPA 6020B	Thallium	0.00027J	mg/L	0.0010	04/02/20 16:10	
SM 2540C	Total Dissolved Solids	2480	mg/L	10.0	04/06/20 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	233	mg/L	22.0	04/05/20 07:51	
EPA 300.0 Rev 2.1 1993	Fluoride	0.13J	mg/L	0.30	04/04/20 17:33	
EPA 300.0 Rev 2.1 1993	Sulfate	1130	mg/L	22.0	04/05/20 07:51	
2630472011	HGWC-16					
	Field pH	7.09	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	208	mg/L	1.0	04/03/20 20:33	
EPA 6020B	Arsenic	0.0011J	mg/L	0.0050	04/02/20 16:15	B
EPA 6020B	Barium	0.11	mg/L	0.010	04/02/20 16:15	
EPA 6020B	Boron	2.4	mg/L	0.10	04/02/20 16:15	
EPA 6020B	Chromium	0.00040J	mg/L	0.010	04/02/20 16:15	
EPA 6020B	Lead	0.000073J	mg/L	0.0050	04/02/20 16:15	
EPA 6020B	Lithium	0.0041J	mg/L	0.030	04/02/20 16:15	
SM 2540C	Total Dissolved Solids	787	mg/L	10.0	04/06/20 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	80.2	mg/L	1.0	04/04/20 17:47	
EPA 300.0 Rev 2.1 1993	Fluoride	0.059J	mg/L	0.30	04/04/20 17:47	
EPA 300.0 Rev 2.1 1993	Sulfate	223	mg/L	5.0	04/05/20 08:06	
2630472012	FB-02					
EPA 6020B	Boron	0.032J	mg/L	0.10	04/02/20 16:21	
EPA 6020B	Chromium	0.00059J	mg/L	0.010	04/02/20 16:21	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
2630472013	HGWC-17					
	Field pH	6.28	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	328	mg/L	10.0	04/03/20 17:12	
EPA 6020B	Arsenic	0.00080J	mg/L	0.0050	04/08/20 18:17	B
EPA 6020B	Barium	0.029	mg/L	0.010	04/08/20 18:17	
EPA 6020B	Boron	6.9	mg/L	0.50	04/09/20 10:45	
EPA 6020B	Cobalt	0.016	mg/L	0.0050	04/08/20 18:17	
EPA 6020B	Lead	0.000077J	mg/L	0.0050	04/08/20 18:17	
EPA 6020B	Lithium	0.00090J	mg/L	0.030	04/08/20 18:17	
EPA 6020B	Thallium	0.00014J	mg/L	0.0010	04/08/20 18:17	
SM 2540C	Total Dissolved Solids	1310	mg/L	10.0	04/07/20 12:18	
EPA 300.0 Rev 2.1 1993	Chloride	161	mg/L	10.0	04/05/20 09:34	
EPA 300.0 Rev 2.1 1993	Sulfate	484	mg/L	10.0	04/05/20 09:34	
2630472014	HGWC-18					
	Field pH	4.43	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	418	mg/L	10.0	04/03/20 17:15	
EPA 6020B	Arsenic	0.0056	mg/L	0.0050	04/08/20 18:22	B
EPA 6020B	Barium	0.029	mg/L	0.010	04/08/20 18:22	
EPA 6020B	Beryllium	0.0030	mg/L	0.0030	04/08/20 18:22	
EPA 6020B	Boron	9.4	mg/L	0.50	04/09/20 10:51	
EPA 6020B	Cadmium	0.0017J	mg/L	0.0025	04/08/20 18:22	
EPA 6020B	Cobalt	0.16	mg/L	0.0050	04/08/20 18:22	
EPA 6020B	Lead	0.0014J	mg/L	0.0050	04/08/20 18:22	
EPA 6020B	Lithium	0.012J	mg/L	0.030	04/08/20 18:22	
EPA 6020B	Selenium	0.019	mg/L	0.010	04/08/20 18:22	
EPA 6020B	Thallium	0.00015J	mg/L	0.0010	04/08/20 18:22	
SM 2540C	Total Dissolved Solids	1860	mg/L	10.0	04/07/20 12:18	
EPA 300.0 Rev 2.1 1993	Chloride	126	mg/L	19.0	04/05/20 10:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.45	mg/L	0.30	04/04/20 19:32	
EPA 300.0 Rev 2.1 1993	Sulfate	934	mg/L	19.0	04/05/20 10:15	
2630472015	MW-21D					
	Field pH	6.90	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	438	mg/L	10.0	04/07/20 16:20	
EPA 6020B	Arsenic	0.0013J	mg/L	0.0050	04/08/20 19:08	B
EPA 6020B	Barium	0.066	mg/L	0.010	04/08/20 19:08	
EPA 6020B	Boron	6.3	mg/L	0.50	04/09/20 11:08	
EPA 6020B	Lead	0.000048J	mg/L	0.0050	04/08/20 19:08	
EPA 6020B	Lithium	0.026J	mg/L	0.030	04/08/20 19:08	
EPA 6020B	Molybdenum	0.024	mg/L	0.010	04/08/20 19:08	
SM 2540C	Total Dissolved Solids	1940	mg/L	10.0	04/07/20 12:20	
EPA 300.0 Rev 2.1 1993	Chloride	236	mg/L	18.0	04/05/20 07:00	
EPA 300.0 Rev 2.1 1993	Sulfate	889	mg/L	18.0	04/05/20 07:00	
2630472016	MW-33					
	Field pH	4.35	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	567	mg/L	10.0	04/07/20 16:24	
EPA 6020B	Arsenic	0.0061	mg/L	0.0050	04/08/20 19:25	B
EPA 6020B	Barium	0.027	mg/L	0.010	04/08/20 19:25	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2630472016	MW-33					
EPA 6020B	Beryllium	0.0011J	mg/L	0.0030	04/08/20 19:25	
EPA 6020B	Boron	11.6	mg/L	1.0	04/09/20 11:14	
EPA 6020B	Cadmium	0.00022J	mg/L	0.0025	04/08/20 19:25	
EPA 6020B	Chromium	0.00069J	mg/L	0.010	04/08/20 19:25	
EPA 6020B	Cobalt	0.058	mg/L	0.0050	04/08/20 19:25	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	04/08/20 19:25	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	04/08/20 19:25	
EPA 6020B	Selenium	0.011	mg/L	0.010	04/08/20 19:25	
EPA 6020B	Thallium	0.00029J	mg/L	0.0010	04/08/20 19:25	
SM 2540C	Total Dissolved Solids	2590	mg/L	10.0	04/07/20 12:20	
EPA 300.0 Rev 2.1 1993	Chloride	242	mg/L	24.0	04/05/20 07:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15J	mg/L	0.30	04/04/20 16:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1210	mg/L	24.0	04/05/20 07:14	
2630472017	MW-23D					
	Field pH	6.80	Std. Units		04/07/20 14:41	
EPA 6010D	Calcium	342	mg/L	10.0	04/07/20 16:28	
EPA 6020B	Arsenic	0.00082J	mg/L	0.0050	04/08/20 19:31	B
EPA 6020B	Barium	0.065	mg/L	0.010	04/08/20 19:31	
EPA 6020B	Boron	3.5	mg/L	0.50	04/09/20 11:19	
EPA 6020B	Chromium	0.00086J	mg/L	0.010	04/08/20 19:31	
EPA 6020B	Cobalt	0.0011J	mg/L	0.0050	04/08/20 19:31	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	04/08/20 19:31	
EPA 6020B	Molybdenum	0.0032J	mg/L	0.010	04/08/20 19:31	
SM 2540C	Total Dissolved Solids	1530	mg/L	10.0	04/07/20 12:20	
EPA 300.0 Rev 2.1 1993	Chloride	166	mg/L	10.0	04/05/20 07:27	
EPA 300.0 Rev 2.1 1993	Sulfate	478	mg/L	10.0	04/05/20 07:27	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWA-1 **Lab ID: 2630472001** Collected: 03/25/20 15:56 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	6.95	Std. Units			1		04/07/20 14:41		
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									
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	M1
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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWA-3 **Lab ID: 2630472002** Collected: 03/25/20 15:17 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

Field Data

Analytical Method:
Pace Analytical Services - Atlanta, GA

Field pH **7.4** Std. Units 1 04/07/20 14:41

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

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

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWA-2 **Lab ID: 2630472003** Collected: 03/25/20 16:32 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

Field Data

Analytical Method:
Pace Analytical Services - Atlanta, GA

Field pH **5.36** Std. Units 1 04/07/20 14:41

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

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

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWA-6 **Lab ID: 2630472004** Collected: 03/25/20 17:15 Received: 03/26/20 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	7.39	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA									
Calcium	58.1	mg/L	1.0	0.14	1	03/31/20 20:57	04/02/20 14:08	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	03/31/20 21:07	04/03/20 13:16	7440-38-2	
Barium	0.19	mg/L	0.010	0.00049	1	03/31/20 21:07	04/03/20 13:16	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	03/31/20 21:07	04/03/20 13:16	7440-41-7	
Boron	0.021J	mg/L	0.10	0.0049	1	03/31/20 21:07	04/03/20 13:16	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	03/31/20 21:07	04/03/20 13:16	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	03/31/20 21:07	04/03/20 13:16	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	03/31/20 21:07	04/03/20 13:16	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	03/31/20 21:07	04/03/20 13:16	7439-92-1	
Lithium	0.011J	mg/L	0.030	0.00078	1	03/31/20 21:07	04/03/20 13:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	03/31/20 21:07	04/03/20 13:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	03/31/20 21:07	04/03/20 13:16	7782-49-2	
Thallium	0.000057J	mg/L	0.0010	0.000052	1	03/31/20 21:07	04/03/20 13:16	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	240	mg/L	10.0	10.0	1		04/01/20 15:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	1.2	mg/L	1.0	0.60	1		04/03/20 02:01	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/03/20 02:01	16984-48-8	
Sulfate	35.1	mg/L	1.0	0.50	1		04/03/20 02:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWA-5 **Lab ID: 2630472005** Collected: 03/26/20 09:20 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	6.38	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA									
Calcium	27.8	mg/L	1.0	0.14	1	04/01/20 15:36	04/02/20 17:25	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:12	7440-38-2	
Barium	0.045	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:12	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:12	7440-41-7	
Boron	0.0072J	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:12	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:12	7440-47-3	
Cobalt	0.0013J	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:12	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:12	7439-92-1	
Lithium	0.0029J	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:12	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:12	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	104	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	1.4	mg/L	1.0	0.60	1		04/02/20 21:49	16887-00-6	
Fluoride	0.066J	mg/L	0.30	0.050	1		04/02/20 21:49	16984-48-8	
Sulfate	21.6	mg/L	1.0	0.50	1		04/02/20 21:49	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: **HGWA-4** Lab ID: **2630472006** Collected: 03/26/20 12:55 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	5.77	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Atlanta, GA									
Calcium	14.9	mg/L	1.0	0.14	1	04/01/20 15:36	04/03/20 14:51	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:18	7440-38-2	
Barium	0.026	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:18	7440-39-3	
Beryllium	0.000076J	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:18	7440-41-7	
Boron	0.012J	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:18	7440-47-3	
Cobalt	0.00058J	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:18	7440-48-4	
Lead	0.000059J	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:18	7439-92-1	
Lithium	0.00095J	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:18	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	69.0	mg/L	10.0	10.0	1		04/02/20 15:00		D6
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	3.4	mg/L	1.0	0.60	1		04/02/20 22:04	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/02/20 22:04	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/02/20 22:04	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWC-15 **Lab ID: 2630472007** Collected: 03/26/20 14:45 Received: 03/27/20 13:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	6.03	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	240	mg/L	1.0	0.14	1	04/01/20 15:36	04/02/20 17:56	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 15:40	04/02/20 22:24	7440-38-2	
Barium	0.016	mg/L	0.010	0.00049	1	04/01/20 15:40	04/02/20 22:24	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 15:40	04/02/20 22:24	7440-41-7	
Boron	2.1	mg/L	0.10	0.0049	1	04/01/20 15:40	04/02/20 22:24	7440-42-8	
Cadmium	0.0016J	mg/L	0.0025	0.00011	1	04/01/20 15:40	04/02/20 22:24	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 15:40	04/02/20 22:24	7440-47-3	
Cobalt	0.022	mg/L	0.0050	0.00030	1	04/01/20 15:40	04/02/20 22:24	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 15:40	04/02/20 22:24	7439-92-1	
Lithium	0.0061J	mg/L	0.030	0.00078	1	04/01/20 15:40	04/02/20 22:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 15:40	04/02/20 22:24	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 15:40	04/02/20 22:24	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 15:40	04/02/20 22:24	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1000	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	142	mg/L	9.0	5.4	9		04/03/20 09:30	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/02/20 22:49	16984-48-8	
Sulfate	438	mg/L	9.0	4.5	9		04/03/20 09:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: MW-22 Lab ID: 2630472008 Collected: 03/27/20 16:10 Received: 03/30/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	5.71	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	212	mg/L	1.0	0.14	1	04/01/20 19:37	04/03/20 22:36	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:37	04/03/20 16:59	7440-38-2	
Barium	0.025	mg/L	0.010	0.00049	1	04/01/20 18:37	04/03/20 16:59	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:37	04/03/20 16:59	7440-41-7	
Boron	2.4	mg/L	0.10	0.0049	1	04/01/20 18:37	04/03/20 16:59	7440-42-8	
Cadmium	0.0019J	mg/L	0.0025	0.00011	1	04/01/20 18:37	04/03/20 16:59	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/01/20 18:37	04/03/20 16:59	7440-47-3	
Cobalt	0.025	mg/L	0.0050	0.00030	1	04/01/20 18:37	04/03/20 16:59	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 18:37	04/03/20 16:59	7439-92-1	
Lithium	0.0013J	mg/L	0.030	0.00078	1	04/01/20 18:37	04/03/20 16:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:37	04/03/20 16:59	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:37	04/03/20 16:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:37	04/03/20 16:59	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1100	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	141	mg/L	8.0	4.8	8		04/03/20 13:31	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/03/20 06:05	16984-48-8	
Sulfate	419	mg/L	8.0	4.0	8		04/03/20 13:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWC-14 **Lab ID: 2630472009** Collected: 03/30/20 09:55 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	4.57	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	600	mg/L	10.0	1.4	10	04/01/20 18:00	04/06/20 13:38	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.0051	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 16:04	7440-38-2	B
Barium	0.020	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 16:04	7440-39-3	
Beryllium	0.00043J	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 16:04	7440-41-7	
Boron	11.7	mg/L	1.0	0.049	10	04/01/20 18:00	04/03/20 10:30	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 16:04	7440-43-9	
Chromium	0.00066J	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 16:04	7440-47-3	
Cobalt	0.028	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 16:04	7440-48-4	
Lead	0.0015J	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 16:04	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 16:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 16:04	7439-98-7	
Selenium	0.0049J	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 16:04	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 16:04	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	2590	mg/L	10.0	10.0	1		04/06/20 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	236	mg/L	22.0	13.2	22		04/05/20 07:37	16887-00-6	
Fluoride	0.092J	mg/L	0.30	0.050	1		04/04/20 17:18	16984-48-8	
Sulfate	1150	mg/L	22.0	11.0	22		04/05/20 07:37	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: FD-02		Lab ID: 2630472010		Collected: 03/30/20 00:00		Received: 03/31/20 11:35		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	607	mg/L	10.0	1.4	10	04/01/20 18:00	04/06/20 13:41	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.0048J	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 16:10	7440-38-2	B
Barium	0.019	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 16:10	7440-39-3	
Beryllium	0.00040J	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 16:10	7440-41-7	
Boron	11.5	mg/L	1.0	0.049	10	04/01/20 18:00	04/03/20 10:36	7440-42-8	
Cadmium	0.00012J	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 16:10	7440-43-9	
Chromium	0.00041J	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 16:10	7440-47-3	
Cobalt	0.027	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 16:10	7440-48-4	
Lead	0.0014J	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 16:10	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 16:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 16:10	7439-98-7	
Selenium	0.0054J	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 16:10	7782-49-2	
Thallium	0.00027J	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 16:10	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	2480	mg/L	10.0	10.0	1		04/06/20 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	233	mg/L	22.0	13.2	22		04/05/20 07:51	16887-00-6	
Fluoride	0.13J	mg/L	0.30	0.050	1		04/04/20 17:33	16984-48-8	
Sulfate	1130	mg/L	22.0	11.0	22		04/05/20 07:51	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWC-16 **Lab ID: 2630472011** Collected: 03/30/20 11:25 Received: 03/31/20 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	7.09	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	208	mg/L	1.0	0.14	1	04/01/20 18:00	04/03/20 20:33	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.0011J	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 16:15	7440-38-2	B
Barium	0.11	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 16:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 16:15	7440-41-7	
Boron	2.4	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 16:15	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 16:15	7440-43-9	
Chromium	0.00040J	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 16:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 16:15	7440-48-4	
Lead	0.000073J	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 16:15	7439-92-1	
Lithium	0.0041J	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 16:15	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 16:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 16:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 16:15	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	787	mg/L	10.0	10.0	1		04/06/20 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	80.2	mg/L	1.0	0.60	1		04/04/20 17:47	16887-00-6	
Fluoride	0.059J	mg/L	0.30	0.050	1		04/04/20 17:47	16984-48-8	
Sulfate	223	mg/L	5.0	2.5	5		04/05/20 08:06	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: FB-02		Lab ID: 2630472012		Collected: 03/30/20 17:35		Received: 03/31/20 11:35		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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 20:36	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	04/01/20 18:00	04/02/20 16:21	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	04/01/20 18:00	04/02/20 16:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/01/20 18:00	04/02/20 16:21	7440-41-7	
Boron	0.032J	mg/L	0.10	0.0049	1	04/01/20 18:00	04/02/20 16:21	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/01/20 18:00	04/02/20 16:21	7440-43-9	
Chromium	0.00059J	mg/L	0.010	0.00039	1	04/01/20 18:00	04/02/20 16:21	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/01/20 18:00	04/02/20 16:21	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/01/20 18:00	04/02/20 16:21	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	04/01/20 18:00	04/02/20 16:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/01/20 18:00	04/02/20 16:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/01/20 18:00	04/02/20 16:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/01/20 18:00	04/02/20 16:21	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		04/06/20 18:47		
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		04/04/20 18:02	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 18:02	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		04/04/20 18:02	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: **HGWC-17** Lab ID: **2630472013** Collected: 03/31/20 09:00 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	6.28	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	328	mg/L	10.0	1.4	10	04/02/20 14:30	04/03/20 17:12	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.00080J	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 18:17	7440-38-2	B
Barium	0.029	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 18:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 18:17	7440-41-7	
Boron	6.9	mg/L	0.50	0.025	5	04/02/20 19:04	04/09/20 10:45	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 18:17	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 18:17	7440-47-3	
Cobalt	0.016	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 18:17	7440-48-4	
Lead	0.000077J	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 18:17	7439-92-1	
Lithium	0.00090J	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 18:17	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 18:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 18:17	7782-49-2	
Thallium	0.00014J	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 18:17	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1310	mg/L	10.0	10.0	1		04/07/20 12:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	161	mg/L	10.0	6.0	10		04/05/20 09:34	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 18:50	16984-48-8	M1
Sulfate	484	mg/L	10.0	5.0	10		04/05/20 09:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: HGWC-18 **Lab ID: 2630472014** Collected: 03/31/20 13:30 Received: 04/01/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

Field Data Analytical Method: Pace Analytical Services - Atlanta, GA

Field pH	4.43	Std. Units			1		04/07/20 14:41		
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6010D MET ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Atlanta, GA

Calcium	418	mg/L	10.0	1.4	10	04/02/20 14:30	04/03/20 17:15	7440-70-2	
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6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Atlanta, GA

Arsenic	0.0056	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 18:22	7440-38-2	B
Barium	0.029	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 18:22	7440-39-3	
Beryllium	0.0030	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 18:22	7440-41-7	
Boron	9.4	mg/L	0.50	0.025	5	04/02/20 19:04	04/09/20 10:51	7440-42-8	
Cadmium	0.0017J	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 18:22	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 18:22	7440-47-3	
Cobalt	0.16	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 18:22	7440-48-4	
Lead	0.0014J	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 18:22	7439-92-1	
Lithium	0.012J	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 18:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 18:22	7439-98-7	
Selenium	0.019	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 18:22	7782-49-2	
Thallium	0.00015J	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 18:22	7440-28-0	

2540C Total Dissolved Solids Analytical Method: SM 2540C
Pace Analytical Services - Atlanta, GA

Total Dissolved Solids	1860	mg/L	10.0	10.0	1		04/07/20 12:18		
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300.0 IC Anions 28 Days Analytical Method: EPA 300.0 Rev 2.1 1993
Pace Analytical Services - Asheville

Chloride	126	mg/L	19.0	11.4	19		04/05/20 10:15	16887-00-6	
Fluoride	0.45	mg/L	0.30	0.050	1		04/04/20 19:32	16984-48-8	
Sulfate	934	mg/L	19.0	9.5	19		04/05/20 10:15	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: MW-21D **Lab ID: 2630472015** Collected: 04/01/20 12:04 Received: 04/02/20 10:25 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	6.90	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	438	mg/L	10.0	1.4	10	04/03/20 15:15	04/07/20 16:20	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.0013J	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 19:08	7440-38-2	B
Barium	0.066	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 19:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 19:08	7440-41-7	
Boron	6.3	mg/L	0.50	0.025	5	04/02/20 19:04	04/09/20 11:08	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 19:08	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 19:08	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 19:08	7440-48-4	
Lead	0.000048J	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 19:08	7439-92-1	
Lithium	0.026J	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 19:08	7439-93-2	
Molybdenum	0.024	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 19:08	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 19:08	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 19:08	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	1940	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	236	mg/L	18.0	10.8	18		04/05/20 07:00	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		04/04/20 16:16	16984-48-8	
Sulfate	889	mg/L	18.0	9.0	18		04/05/20 07:00	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: MW-33 **Lab ID: 2630472016** Collected: 04/01/20 10:02 Received: 04/02/20 10:25 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Atlanta, GA									
Field pH	4.35	Std. Units			1		04/07/20 14:41		
6010D MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Atlanta, GA									
Calcium	567	mg/L	10.0	1.4	10	04/03/20 15:15	04/07/20 16:24	7440-70-2	
6020B MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Atlanta, GA									
Arsenic	0.0061	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 19:25	7440-38-2	B
Barium	0.027	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 19:25	7440-39-3	
Beryllium	0.0011J	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 19:25	7440-41-7	
Boron	11.6	mg/L	1.0	0.049	10	04/02/20 19:04	04/09/20 11:14	7440-42-8	
Cadmium	0.00022J	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 19:25	7440-43-9	
Chromium	0.00069J	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 19:25	7440-47-3	
Cobalt	0.058	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 19:25	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 19:25	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 19:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 19:25	7439-98-7	
Selenium	0.011	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 19:25	7782-49-2	
Thallium	0.00029J	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 19:25	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Pace Analytical Services - Atlanta, GA									
Total Dissolved Solids	2590	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	242	mg/L	24.0	14.4	24		04/05/20 07:14	16887-00-6	
Fluoride	0.15J	mg/L	0.30	0.050	1		04/04/20 16:30	16984-48-8	
Sulfate	1210	mg/L	24.0	12.0	24		04/05/20 07:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Sample: MW-23D **Lab ID: 2630472017** Collected: 04/01/20 11:37 Received: 04/02/20 10:25 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

Field Data Analytical Method: Pace Analytical Services - Atlanta, GA

Field pH **6.80** Std. Units 1 04/07/20 14:41

6010D MET ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Atlanta, GA

Calcium **342** mg/L 10.0 1.4 10 04/03/20 15:15 04/07/20 16:28 7440-70-2

6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Atlanta, GA

Arsenic	0.00082J	mg/L	0.0050	0.00035	1	04/02/20 19:04	04/08/20 19:31	7440-38-2	B
Barium	0.065	mg/L	0.010	0.00049	1	04/02/20 19:04	04/08/20 19:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	04/02/20 19:04	04/08/20 19:31	7440-41-7	
Boron	3.5	mg/L	0.50	0.025	5	04/02/20 19:04	04/09/20 11:19	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	04/02/20 19:04	04/08/20 19:31	7440-43-9	
Chromium	0.00086J	mg/L	0.010	0.00039	1	04/02/20 19:04	04/08/20 19:31	7440-47-3	
Cobalt	0.0011J	mg/L	0.0050	0.00030	1	04/02/20 19:04	04/08/20 19:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	04/02/20 19:04	04/08/20 19:31	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00078	1	04/02/20 19:04	04/08/20 19:31	7439-93-2	
Molybdenum	0.0032J	mg/L	0.010	0.00095	1	04/02/20 19:04	04/08/20 19:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	04/02/20 19:04	04/08/20 19:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	04/02/20 19:04	04/08/20 19:31	7440-28-0	

2540C Total Dissolved Solids Analytical Method: SM 2540C
Pace Analytical Services - Atlanta, GA

Total Dissolved Solids **1530** 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	166	mg/L	10.0	6.0	10	04/05/20 07:27	16887-00-6
Fluoride	ND	mg/L	0.30	0.050	1	04/04/20 16:44	16984-48-8
Sulfate	478	mg/L	10.0	5.0	10	04/05/20 07:27	14808-79-8

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45121	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472001, 2630472002, 2630472003, 2630472004

METHOD BLANK: 207982 Matrix: Water
 Associated Lab Samples: 2630472001, 2630472002, 2630472003, 2630472004

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	207984		207985		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630449007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	157	1	1	158	157	93	15	75-125	0	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45172	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472005, 2630472006, 2630472007

METHOD BLANK: 208108 Matrix: Water
 Associated Lab Samples: 2630472005, 2630472006, 2630472007

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	208110		208111		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	107	1	1	110	108	372	91	75-125	3	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45185	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472008

METHOD BLANK: 208195 Matrix: Water

Associated Lab Samples: 2630472008

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

QC Batch: 45190 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D MET
 Laboratory: Pace Analytical Services - Atlanta, GA
 Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

METHOD BLANK: 208222 Matrix: Water
 Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

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	208224		208225		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630623001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	7420 ug/L	1	1	8.7	8.6	124	119	75-125	1	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45218

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010D MET

Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472013, 2630472014

METHOD BLANK: 208341

Matrix: Water

Associated Lab Samples: 2630472013, 2630472014

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	208343		208344		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	124	1	1	128	131	368	710	75-125	3	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45249	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472015, 2630472016, 2630472017

METHOD BLANK: 208586 Matrix: Water

Associated Lab Samples: 2630472015, 2630472016, 2630472017

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	208588		208589		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	96.2	1	97.8	98.3	156	209	75-125	1	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch:	45112	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020B MET
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472001, 2630472002, 2630472003

METHOD BLANK: 207955 Matrix: Water

Associated Lab Samples: 2630472001, 2630472002, 2630472003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2630435012	Result	Conc.	Conc.							Result
Arsenic	mg/L	0.00070J	0.1	0.1	0.10	0.10	99	101	75-125	1	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Parameter	Units	207957		207958		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		2630435012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45113	Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A	Analysis Description: 6020B MET
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472004

METHOD BLANK: 207961 Matrix: Water

Associated Lab Samples: 2630472004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	04/03/20 13:05	
Barium	mg/L	ND	0.010	0.00049	04/03/20 13:05	
Beryllium	mg/L	ND	0.0030	0.000074	04/03/20 13:05	
Boron	mg/L	ND	0.10	0.0049	04/03/20 13:05	
Cadmium	mg/L	ND	0.0025	0.00011	04/03/20 13:05	
Chromium	mg/L	ND	0.010	0.00039	04/03/20 13:05	
Cobalt	mg/L	ND	0.0050	0.00030	04/03/20 13:05	
Lead	mg/L	ND	0.0050	0.000046	04/03/20 13:05	
Lithium	mg/L	ND	0.030	0.00078	04/03/20 13:05	
Molybdenum	mg/L	ND	0.010	0.00095	04/03/20 13:05	
Selenium	mg/L	ND	0.010	0.0013	04/03/20 13:05	
Thallium	mg/L	ND	0.0010	0.000052	04/03/20 13:05	

LABORATORY CONTROL SAMPLE: 207962

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.10	101	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.10	102	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	105	80-120	
Cobalt	mg/L	0.1	0.10	103	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.11	106	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 207963 207964

Parameter	Units	2630472004		207964		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.1	0.10	0.099	100	99	75-125	2	20	
Barium	mg/L	0.19	0.1	0.28	0.29	92	97	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.097	0.094	97	94	75-125	4	20	
Boron	mg/L	0.021J	1	1.0	0.99	102	97	75-125	5	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Parameter	Units	207963		207964		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Cadmium	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Lead	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20	
Lithium	mg/L	0.011J	0.1	0.1	0.11	0.10	97	94	75-125	4	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	0.099	0.097	99	97	75-125	2	20	
Thallium	mg/L	0.000057J	0.1	0.1	0.099	0.098	99	98	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45171 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472005, 2630472006, 2630472007

METHOD BLANK: 208104 Matrix: Water

Associated Lab Samples: 2630472005, 2630472006, 2630472007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	208106		208107		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2630449011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMI ANNUAL

Pace Project No.: 2630472

Parameter	Units	208106		208107		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

QC Batch: 45184 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472008

METHOD BLANK: 208191 Matrix: Water
 Associated Lab Samples: 2630472008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2630325039 Result	Spike Conc.	Spike Conc.	Result							Result
Arsenic	mg/L	0.00051J	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Parameter	Units	208193		208194		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch:	45189	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020B MET
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

METHOD BLANK: 208216 Matrix: Water
 Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	208218		208219		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Arsenic	mg/L	ND	0.1	0.1	0.099	0.098	98	96	75-125	2	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Parameter	Units	208218			208219			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		263060001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								MSD % Rec
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch:	45226	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020B MET
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472013, 2630472014, 2630472015, 2630472016, 2630472017

METHOD BLANK: 208424 Matrix: Water

Associated Lab Samples: 2630472013, 2630472014, 2630472015, 2630472016, 2630472017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		2630471018 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	0.0022J	0.1	0.1	0.10	0.10	101	101	75-125	0	20	
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	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

Parameter	Units	208426		208427		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		2630471018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45160	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472001, 2630472002, 2630472003, 2630472004

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	284	277	2	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45207	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472005, 2630472006, 2630472007

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-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 45209	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472008

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch:	45274	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

LABORATORY CONTROL SAMPLE: 208728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	385	96	84-108	

SAMPLE DUPLICATE: 208729

Parameter	Units	2630576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	6300	6560	4	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch:	45302	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Atlanta, GA

Associated Lab Samples: 2630472013, 2630472014, 2630472015, 2630472016, 2630472017

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

QC Batch: 533972 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 2630472008

METHOD BLANK: 2849817 Matrix: Water
 Associated Lab Samples: 2630472008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	04/02/20 23:19	
Fluoride	mg/L	ND	0.10	0.050	04/02/20 23:19	
Sulfate	mg/L	ND	1.0	0.50	04/02/20 23:19	

LABORATORY CONTROL SAMPLE: 2849818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.7	95	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849819 2849820

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630435024 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	5.4	50	50	56.3	57.7	102	105	90-110	2	10		
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	106	108	90-110	2	10		
Sulfate	mg/L	ND	50	50	51.2	52.1	102	104	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2849821 2849822

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630449009 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	1.6	50	50	54.0	53.9	105	105	90-110	0	10		
Fluoride	mg/L	0.13J	2.5	2.5	2.8	2.8	107	107	90-110	0	10		
Sulfate	mg/L	39.1	50	50	89.7	89.4	101	101	90-110	0	10		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 533983 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 2630472005, 2630472006, 2630472007

METHOD BLANK: 2849870 Matrix: Water

Associated Lab Samples: 2630472005, 2630472006, 2630472007

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630525010 Result	Spike Conc.	Spike Conc.	Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92471182001 Result	Spike Conc.	Spike Conc.	Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

QC Batch: 533985 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 2630472001, 2630472002, 2630472003, 2630472004

METHOD BLANK: 2849882 Matrix: Water
 Associated Lab Samples: 2630472001, 2630472002, 2630472003, 2630472004

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		2849884		2849885		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
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		2849886		2849887		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

QC Batch: 534237 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

METHOD BLANK: 2851088 Matrix: Water
 Associated Lab Samples: 2630472009, 2630472010, 2630472011, 2630472012

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2630471014 Result	Spike Conc.	Spike Conc.	Result								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92471612001 Result	Spike Conc.	Spike Conc.	Result								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

QC Batch: 534425 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 2630472013, 2630472014, 2630472015, 2630472016, 2630472017

METHOD BLANK: 2852105 Matrix: Water
 Associated Lab Samples: 2630472013, 2630472014, 2630472015, 2630472016, 2630472017

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		2852107		2852108		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
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		2852109		2852110		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
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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QUALIFIERS

Project: HAMMOND AP-2 1ST SEMIANNUAL

Pace Project No.: 2630472

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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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630472001	HGWA-1				
2630472002	HGWA-3				
2630472003	HGWA-2				
2630472004	HGWA-6				
2630472005	HGWA-5				
2630472006	HGWA-4				
2630472007	HGWC-15				
2630472008	MW-22				
2630472009	HGWC-14				
2630472011	HGWC-16				
2630472013	HGWC-17				
2630472014	HGWC-18				
2630472015	MW-21D				
2630472016	MW-33				
2630472017	MW-23D				
2630472001	HGWA-1	EPA 3010A	45121	EPA 6010D	45135
2630472002	HGWA-3	EPA 3010A	45121	EPA 6010D	45135
2630472003	HGWA-2	EPA 3010A	45121	EPA 6010D	45135
2630472004	HGWA-6	EPA 3010A	45121	EPA 6010D	45135
2630472005	HGWA-5	EPA 3010A	45172	EPA 6010D	45193
2630472006	HGWA-4	EPA 3010A	45172	EPA 6010D	45193
2630472007	HGWC-15	EPA 3010A	45172	EPA 6010D	45193
2630472008	MW-22	EPA 3010A	45185	EPA 6010D	45196
2630472009	HGWC-14	EPA 3010A	45190	EPA 6010D	45194
2630472010	FD-02	EPA 3010A	45190	EPA 6010D	45194
2630472011	HGWC-16	EPA 3010A	45190	EPA 6010D	45194
2630472012	FB-02	EPA 3010A	45190	EPA 6010D	45194
2630472013	HGWC-17	EPA 3010A	45218	EPA 6010D	45223
2630472014	HGWC-18	EPA 3010A	45218	EPA 6010D	45223
2630472015	MW-21D	EPA 3010A	45249	EPA 6010D	45263
2630472016	MW-33	EPA 3010A	45249	EPA 6010D	45263
2630472017	MW-23D	EPA 3010A	45249	EPA 6010D	45263
2630472001	HGWA-1	EPA 3005A	45112	EPA 6020B	45137
2630472002	HGWA-3	EPA 3005A	45112	EPA 6020B	45137
2630472003	HGWA-2	EPA 3005A	45112	EPA 6020B	45137
2630472004	HGWA-6	EPA 3005A	45113	EPA 6020B	45136
2630472005	HGWA-5	EPA 3005A	45171	EPA 6020B	45192
2630472006	HGWA-4	EPA 3005A	45171	EPA 6020B	45192
2630472007	HGWC-15	EPA 3005A	45171	EPA 6020B	45192
2630472008	MW-22	EPA 3005A	45184	EPA 6020B	45197
2630472009	HGWC-14	EPA 3005A	45189	EPA 6020B	45195
2630472010	FD-02	EPA 3005A	45189	EPA 6020B	45195
2630472011	HGWC-16	EPA 3005A	45189	EPA 6020B	45195

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 1ST SEMIANNUAL
 Pace Project No.: 2630472

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2630472012	FB-02	EPA 3005A	45189	EPA 6020B	45195
2630472013	HGWC-17	EPA 3005A	45226	EPA 6020B	45233
2630472014	HGWC-18	EPA 3005A	45226	EPA 6020B	45233
2630472015	MW-21D	EPA 3005A	45226	EPA 6020B	45233
2630472016	MW-33	EPA 3005A	45226	EPA 6020B	45233
2630472017	MW-23D	EPA 3005A	45226	EPA 6020B	45233
2630472001	HGWA-1	SM 2540C	45160		
2630472002	HGWA-3	SM 2540C	45160		
2630472003	HGWA-2	SM 2540C	45160		
2630472004	HGWA-6	SM 2540C	45160		
2630472005	HGWA-5	SM 2540C	45207		
2630472006	HGWA-4	SM 2540C	45207		
2630472007	HGWC-15	SM 2540C	45207		
2630472008	MW-22	SM 2540C	45209		
2630472009	HGWC-14	SM 2540C	45274		
2630472010	FD-02	SM 2540C	45274		
2630472011	HGWC-16	SM 2540C	45274		
2630472012	FB-02	SM 2540C	45274		
2630472013	HGWC-17	SM 2540C	45302		
2630472014	HGWC-18	SM 2540C	45302		
2630472015	MW-21D	SM 2540C	45302		
2630472016	MW-33	SM 2540C	45302		
2630472017	MW-23D	SM 2540C	45302		
2630472001	HGWA-1	EPA 300.0 Rev 2.1 1993	533985		
2630472002	HGWA-3	EPA 300.0 Rev 2.1 1993	533985		
2630472003	HGWA-2	EPA 300.0 Rev 2.1 1993	533985		
2630472004	HGWA-6	EPA 300.0 Rev 2.1 1993	533985		
2630472005	HGWA-5	EPA 300.0 Rev 2.1 1993	533983		
2630472006	HGWA-4	EPA 300.0 Rev 2.1 1993	533983		
2630472007	HGWC-15	EPA 300.0 Rev 2.1 1993	533983		
2630472008	MW-22	EPA 300.0 Rev 2.1 1993	533972		
2630472009	HGWC-14	EPA 300.0 Rev 2.1 1993	534237		
2630472010	FD-02	EPA 300.0 Rev 2.1 1993	534237		
2630472011	HGWC-16	EPA 300.0 Rev 2.1 1993	534237		
2630472012	FB-02	EPA 300.0 Rev 2.1 1993	534237		
2630472013	HGWC-17	EPA 300.0 Rev 2.1 1993	534425		
2630472014	HGWC-18	EPA 300.0 Rev 2.1 1993	534425		
2630472015	MW-21D	EPA 300.0 Rev 2.1 1993	534425		
2630472016	MW-33	EPA 300.0 Rev 2.1 1993	534425		
2630472017	MW-23D	EPA 300.0 Rev 2.1 1993	534425		

REPORT OF LABORATORY ANALYSIS

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LAB ANALYSIS

CHAIN OF CUSTODY / Analytical Request Document
 For Evidence Collected in a Crime Scene or Laboratory

Requested by: SO2 Criminal
 Requested for: SO2 Criminal
 Requested on: 01/11/2018
 Requested at: 01/11/2018
 Requested by: [Signature]
 Requested for: [Signature]
 Requested on: [Signature]
 Requested at: [Signature]

Evidence Agency: SO2 Criminal
 Name: [Signature]
 Title: [Signature]
 Date: [Signature]
 Location: [Signature]

Item #	Description of Item	Quantity	Container	Packaging	Analysis Type	Requester's Signature		Requester's Title	Requester's Agency
						Signature	Date		
1	SAMPLED	1	...	...	...	[Signature]	[Date]	[Signature]	[Agency]
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Chain of Custody: [Signature]
 Date: [Signature]
 Location: [Signature]
 Agency: [Signature]



CHAIN OF CUSTODY / Analytical Request Document

The Chain of Custody is a critical requirement in forensic science to ensure the integrity of evidence.

Page 2 of 3

Section A: Case Information

Case No.: 15-1234 Date: 10/26/2015

Officer: John Doe Station: 15th Precinct

Section B: Requesting Agency

Agency: San Francisco Police Department

Requesting Officer: John Doe Title: Officer

Address: 1234 Market St, San Francisco, CA 94102

Phone: 415-555-1234 Fax: 415-555-5678

Section C: Requested Analysis

Analysis Type: GC/MS

Reference: GC/MS

Quantity: 1 Unit: mg

Item No.	Description	Quantity	Unit	Date/Time	Signature	Analysis		Remarks
						GC/MS	GC/MS	
1	Sample ID: <u>15-1234-001</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
2	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
3	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
4	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
5	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
6	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
7	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
8	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
9	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>
10	<u>GC/MS</u>	1	mg	10/26/2015	<u>[Signature]</u>	<u>GC/MS</u>	<u>GC/MS</u>	<u>GC/MS</u>

Section D: Laboratory Information

Lab Name: San Francisco Police Department

Address: 1234 Market St, San Francisco, CA 94102

Phone: 415-555-1234 Fax: 415-555-5678

Section E: Signatures

Requesting Officer: John Doe Title: Officer

Signature: [Signature] Date: 10/26/2015

Laboratory Analyst: [Signature] Title: Analyst

Signature: [Signature] Date: 10/26/2015



CHAIN OF CUSTODY / Analytical Request Document

4 9 20 23

Section A: Analytical Request

Requester: State Analytical Lab
 Requested by: State Analytical Lab
 Requested for: State Analytical Lab
 Requested on: 03/17/20

Section B: Sample Information

Sample ID: 2600172
 Sample Name: 2600172
 Sample Description: 2600172

Section C: Chain of Custody

Name	Signature	Date	Initials
Requester	<i>[Signature]</i>	03/17/20	JA
Analyst	<i>[Signature]</i>	03/17/20	JA
Supervisor	<i>[Signature]</i>	03/17/20	JA

Sample ID	Sample Name	Sample Description	Requester	Analyst	Supervisor	Date	Initials
2600172	2600172	2600172	JA	JA	JA	03/17/20	JA

Section D: Laboratory Information

Requester: State Analytical Lab
 Requested by: State Analytical Lab
 Requested for: State Analytical Lab
 Requested on: 03/17/20

Section E: Analytical Results

Parameter	Result
...	...

CHAIN OF CUSTODY
 Analytical Document

CHAIN OF CUSTODY / Analytical Request Document
 The Form of Custody is a Full Association Agreement Form No. 4 to be completed manually

Page: 1 of 1

Section A Requesting Party Information	Section B Requesting Party Information	Section C Requesting Party Information
Requesting Party Name: <u>Lab 1000</u>	Requesting Party Name: <u>Lab 1000</u>	Requesting Party Name: <u>Lab 1000</u>
Requesting Party Address: <u>1234 Main St</u>	Requesting Party Address: <u>1234 Main St</u>	Requesting Party Address: <u>1234 Main St</u>
Requesting Party City: <u>Springfield</u>	Requesting Party City: <u>Springfield</u>	Requesting Party City: <u>Springfield</u>
Requesting Party State: <u>IL</u>	Requesting Party State: <u>IL</u>	Requesting Party State: <u>IL</u>
Requesting Party Zip: <u>62766</u>	Requesting Party Zip: <u>62766</u>	Requesting Party Zip: <u>62766</u>
Requesting Party Phone: <u>618-234-5678</u>	Requesting Party Phone: <u>618-234-5678</u>	Requesting Party Phone: <u>618-234-5678</u>
Requesting Party Fax: <u>618-234-5679</u>	Requesting Party Fax: <u>618-234-5679</u>	Requesting Party Fax: <u>618-234-5679</u>
Requesting Party Email: <u>lab1000@springfield.gov</u>	Requesting Party Email: <u>lab1000@springfield.gov</u>	Requesting Party Email: <u>lab1000@springfield.gov</u>
Requesting Party Website: <u>www.springfield.gov</u>	Requesting Party Website: <u>www.springfield.gov</u>	Requesting Party Website: <u>www.springfield.gov</u>

Section D Requesting Party Information	Section E Requesting Party Information
Requesting Party Name: <u>Lab 1000</u>	Requesting Party Name: <u>Lab 1000</u>
Requesting Party Address: <u>1234 Main St</u>	Requesting Party Address: <u>1234 Main St</u>
Requesting Party City: <u>Springfield</u>	Requesting Party City: <u>Springfield</u>
Requesting Party State: <u>IL</u>	Requesting Party State: <u>IL</u>
Requesting Party Zip: <u>62766</u>	Requesting Party Zip: <u>62766</u>
Requesting Party Phone: <u>618-234-5678</u>	Requesting Party Phone: <u>618-234-5678</u>
Requesting Party Fax: <u>618-234-5679</u>	Requesting Party Fax: <u>618-234-5679</u>
Requesting Party Email: <u>lab1000@springfield.gov</u>	Requesting Party Email: <u>lab1000@springfield.gov</u>
Requesting Party Website: <u>www.springfield.gov</u>	Requesting Party Website: <u>www.springfield.gov</u>

Sample ID	Sample Description	Sample Quantity	Sample Container	Sample Location	Sample Date	Sample Time	Sample Temperature	Sample Handling	Sample Storage	Sample Analysis		Sample Comments
										Sample Type	Sample Method	
1	Sample 1	100g	100g	Lab 1000	1/1/2020	10:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 1
2	Sample 2	100g	100g	Lab 1000	1/1/2020	11:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 2
3	Sample 3	100g	100g	Lab 1000	1/1/2020	12:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 3
4	Sample 4	100g	100g	Lab 1000	1/1/2020	13:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 4
5	Sample 5	100g	100g	Lab 1000	1/1/2020	14:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 5
6	Sample 6	100g	100g	Lab 1000	1/1/2020	15:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 6
7	Sample 7	100g	100g	Lab 1000	1/1/2020	16:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 7
8	Sample 8	100g	100g	Lab 1000	1/1/2020	17:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 8
9	Sample 9	100g	100g	Lab 1000	1/1/2020	18:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 9
10	Sample 10	100g	100g	Lab 1000	1/1/2020	19:00	25°C	Handwritten	Lab 1000	GC/MS	GC/MS	Sample 10

Section F Requesting Party Information	Section G Requesting Party Information
Requesting Party Name: <u>Lab 1000</u>	Requesting Party Name: <u>Lab 1000</u>
Requesting Party Address: <u>1234 Main St</u>	Requesting Party Address: <u>1234 Main St</u>
Requesting Party City: <u>Springfield</u>	Requesting Party City: <u>Springfield</u>
Requesting Party State: <u>IL</u>	Requesting Party State: <u>IL</u>
Requesting Party Zip: <u>62766</u>	Requesting Party Zip: <u>62766</u>
Requesting Party Phone: <u>618-234-5678</u>	Requesting Party Phone: <u>618-234-5678</u>
Requesting Party Fax: <u>618-234-5679</u>	Requesting Party Fax: <u>618-234-5679</u>
Requesting Party Email: <u>lab1000@springfield.gov</u>	Requesting Party Email: <u>lab1000@springfield.gov</u>
Requesting Party Website: <u>www.springfield.gov</u>	Requesting Party Website: <u>www.springfield.gov</u>



CHAIN OF CUSTODY / Analytical Request Document
 For Organics, Metals, Lead, Occurrence, A, Screen, Lead, Lead in Composite or Other

Page 1 of 1

Section 1: Requester Information
 Requester Name: CSI Group
 Requester Address: 10000 1st Street, Suite 100
 Requester Phone: 415 435 1234
 Requester Email: info@csigroup.com

Section 2: Sample Information
 Sample ID: CS1001
 Sample Description: Soil Sample
 Sample Location: 10000 1st Street, Suite 100
 Sample Date: 01/15/2010
 Sample Quantity: 100g

Section 3: Analytical Information
 Analytical Method: GC/MS
 Analytical Laboratory: Accu Analytical
 Analytical Date: 01/20/2010
 Analytical Results: See Report

Sample ID	Sample Description	Sample Location	Sample Date	Sample Quantity	Analytical Method	Analytical Laboratory	Analytical Date	Analytical Results	Requester Name	Requester Address	Requester Phone	Requester Email	Chain of Custody	
													Signature	Date
1	SAMPLE ID: CS1001	10000 1st Street, Suite 100	01/15/2010	100g	GC/MS	Accu Analytical	01/20/2010	See Report	CSI Group	10000 1st Street, Suite 100	415 435 1234	info@csigroup.com	[Signature]	01/20/2010
2														
3														
4														
5														
6														
7														
8														
9														
10														

Section 4: Additional Comments
Soil sample for lead and lead in composite analysis.

Section 5: Signatures
 Requester Signature: [Signature]
 Analytical Laboratory Signature: [Signature]

Section 6: Date and Time
 Date: 01/20/2010
 Time: 10:00 AM

Page Analytical

CHAIN OF CUSTODY / Analytical Request Document
 The Columbia County Sheriff's Office, Occasional Methamphetamine Seizures Case No. C-1020-2019

Section 1 Requesting Officer: [blank] Requesting Agency: [blank] Requesting Officer Name: [blank]	Section 2 Requesting Analyst: [blank] Requesting Analyst Name: [blank] Requesting Analyst Title: [blank]	Section 3 Requesting Analyst: [blank] Requesting Analyst Name: [blank] Requesting Analyst Title: [blank]
Section 4 Case No.: [blank] Requesting Agency: [blank]	Section 5 Requesting Agency: [blank]	Section 6 Requesting Agency: [blank]
Section 7 Requesting Agency: [blank]	Section 8 Requesting Agency: [blank]	Section 9 Requesting Agency: [blank]
Section 10 Requesting Agency: [blank]	Section 11 Requesting Agency: [blank]	Section 12 Requesting Agency: [blank]

SAMPLE ID	SAMPLING LOCATION	SAMPLING METHOD	SAMPLING TIME	SAMPLING DATE	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	SAMPLING TIME (H:M:S)	ANALYST SIGNATURE		DATE	TIME							
																						INITIALS	DATE									
1	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30		
2	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30		
3	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
4	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
5	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
6	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
7	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
8	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
9	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	
10	Highway 10	Hand	1:30	11/15/19	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30	1:30

CHAIN OF CUSTODY / Analytical Request Document
 By Order of Court's & Lab Director's Signature Hereafter

Section 1: Laboratory Name: UT Forensic Section 2: Requester Name: [Signature]

Case No: 19-03 Date Received: 11/13/19
 Requester: [Signature] Analyst: [Signature]
 Requested Test: [Signature] Date of Report: 11/13/19
 Requested Turnaround: 10 Business Days
 Fee: 1500.00

Item #	Description	Q.C. #	Q.C. Date	Collector	Date Collected	Time of Collection	Presumptive Analytical Results (Y/N)															
							1	2	3	4	5	6	7	8	9	10	11	12				
1	HAIR & 16																					
2	FR-OA																					
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Approved: [Signature]
 Date: 11/13/19
 Laboratory: UT Forensic
 Requested Turnaround: 10 Business Days
 Fee: 1500.00
 Contact: [Signature]
 Phone: [Number]
 Email: [Address]

Handwritten signature

CHAIN-OF-CUSTOMER ANALYTICAL REQUEST DOCUMENT
 This document is to be used by the customer to request an analytical request.

Page: 1 of 1

Section 1: Requester Information
 Requester Name: AT Power
 Requester Address: Atlanta, GA
 Requester Phone: 404-525-1234
 Requester Email: atpower@atpower.com

Section 2: Project Information
 Project Name: Project Phoenix
 Project Description: Investigation of power quality issues at a manufacturing facility.
 Project Start Date: 01/15/2024
 Project End Date: 03/31/2024

Section 3: Analytical Request Details
 Analytical Request: Power Quality Analysis
 Requested Date: 01/15/2024
 Requested Time: 08:00 AM
 Requested Location: 1234 Industrial Blvd, Atlanta, GA 30303

Request ID	Request Description	Request Date	Request Time	Request Location	Request Status		Requester Name	Requester Address	Requester Phone	Requester Email
					Requested	Completed				
001	Power Quality Analysis	01/15/2024	08:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
002	Power Quality Analysis	01/16/2024	09:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
003	Power Quality Analysis	01/17/2024	10:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
004	Power Quality Analysis	01/18/2024	11:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
005	Power Quality Analysis	01/19/2024	12:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
006	Power Quality Analysis	01/20/2024	01:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
007	Power Quality Analysis	01/21/2024	02:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
008	Power Quality Analysis	01/22/2024	03:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
009	Power Quality Analysis	01/23/2024	04:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
010	Power Quality Analysis	01/24/2024	05:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
011	Power Quality Analysis	01/25/2024	06:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
012	Power Quality Analysis	01/26/2024	07:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
013	Power Quality Analysis	01/27/2024	08:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
014	Power Quality Analysis	01/28/2024	09:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
015	Power Quality Analysis	01/29/2024	10:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
016	Power Quality Analysis	01/30/2024	11:00 PM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
017	Power Quality Analysis	01/31/2024	12:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com
018	Power Quality Analysis	02/01/2024	01:00 AM	1234 Industrial Blvd, Atlanta, GA 30303	Requested	Completed	AT Power	Atlanta, GA	404-525-1234	atpower@atpower.com

Section 4: Requester Comments
 Comments: Power quality issues observed during the analysis period. Requesting further investigation and remediation.

Section 5: Requester Signature
 Requester Name: AT Power
 Requester Address: Atlanta, GA
 Requester Phone: 404-525-1234
 Requester Email: atpower@atpower.com

Section 6: Requester Date
 Request Date: 01/15/2024

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 The Chain of Custody is a record established by written notes and/or computer software

Page 1 of 2

Section 1: Analytical Request

Requester: Police Dept
 Requested Analytical Laboratory: Police Dept
 Requested Analytical Method: GC/MS
 Requested Analytical Instrument: GC/MS
 Requested Analytical Reference: GC/MS

Section 2: Sample Information

Sample ID: 2012101
 Sample Description: GC/MS
 Sample Quantity: 100ug
 Sample Matrix: GC/MS
 Sample Container: GC/MS

Section 3: Chain of Custody

Name	Signature	Date	Initials
Requester	<i>[Signature]</i>	11/15/10	11/15/10
Analyst	<i>[Signature]</i>	11/15/10	11/15/10
Supervisor	<i>[Signature]</i>	11/15/10	11/15/10

ITEM #	Description of Sample	Quantity	Container	Matrix	Collection Method	Requested Analytical Reference (RIR)										Lot # (if applicable)	Date Analyzed	Result
						1	2	3	4	5	6	7	8	9	10			
1	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
2	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
3	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
4	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
5	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
6	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
7	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
8	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
9	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
10	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
11	GC/MS	100ug	GC/MS	GC/MS	GC/MS													
12	GC/MS	100ug	GC/MS	GC/MS	GC/MS													

Section 4: Laboratory Information

Requester: Police Dept
 Requested Analytical Laboratory: Police Dept
 Requested Analytical Method: GC/MS
 Requested Analytical Instrument: GC/MS
 Requested Analytical Reference: GC/MS

Section 5: Chain of Custody

Name	Signature	Date	Initials
Requester	<i>[Signature]</i>	11/15/10	11/15/10
Analyst	<i>[Signature]</i>	11/15/10	11/15/10
Supervisor	<i>[Signature]</i>	11/15/10	11/15/10

Handwritten signature
 Date Analytical
 10/10/2000

CHAIN OF CUSTODY / Analytical Request Document
 The Original Copy is a legal document. It should never be in possession of anyone

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Section A Requester City of ... Address ... City ... State ... Phone ... Fax ...	Section B Requester's Name Requester's Title Requester's Department Requester's Address Requester's City Requester's State Requester's Zip	Section C Requester's Name Requester's Title Requester's Department Requester's Address Requester's City Requester's State Requester's Zip	Section D Requester's Name Requester's Title Requester's Department Requester's Address Requester's City Requester's State Requester's Zip
--	---	---	---

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Volume	Sample Weight	Sample Temperature	Sample Condition	Sample Container	Sample Storage	Sample Handling	Sample Analysis	Sample Results	Sample Comments
1	Sample 1
2	Sample 2
3	Sample 3
4	Sample 4
5	Sample 5
6	Sample 6
7	Sample 7
8	Sample 8
9	Sample 9
10	Sample 10
11	Sample 11
12	Sample 12
13	Sample 13
14	Sample 14
15	Sample 15
16	Sample 16
17	Sample 17
18	Sample 18
19	Sample 19
20	Sample 20

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July 01, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 NON ROUTINE
Pace Project No.: 92482649

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between June 18, 2020 and June 19, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Pace Analytical Services Charlotte

9800 Kinsey 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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92482649001	MW-21D	Water	06/17/20 09:30	06/18/20 10:37
92482649002	MW-33	Water	06/17/20 16:34	06/18/20 10:37
92482649003	MW-35	Water	06/18/20 11:52	06/19/20 13:10
92482649004	FB-02	Water	06/18/20 17:50	06/19/20 13:10
92482649005	MW-34D	Water	06/18/20 18:05	06/19/20 13:10
92482649006	MW-36D	Water	06/18/20 10:05	06/19/20 13:10
92482649007	MW-37D	Water	06/18/20 13:15	06/19/20 13:10
92482649008	MW-37D, FILTERED	Water	06/18/20 13:30	06/19/20 13:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92482649001	MW-21D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649002	MW-33	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649003	MW-35	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649004	FB-02	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649005	MW-34D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649006	MW-36D	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92482649007	MW-37D	EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 6020B	CW1	12
		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
92482649008	MW-37D, FILTERED	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	LMS1	1
		EPA 300.0 Rev 2.1 1993	BRJ	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649001	MW-21D					
	pH	6.47	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	434	mg/L	10.0	06/23/20 12:37	
EPA 6010D	Iron	22.3	mg/L	0.040	06/22/20 16:02	
EPA 6010D	Magnesium	71.7	mg/L	0.050	06/22/20 16:02	
EPA 6010D	Manganese	1.3	mg/L	0.040	06/22/20 16:02	
EPA 6010D	Potassium	1.1	mg/L	0.20	06/22/20 16:02	
EPA 6010D	Sodium	15.8	mg/L	1.0	06/22/20 16:02	
EPA 6020B	Barium	0.054	mg/L	0.010	06/19/20 20:18	
EPA 6020B	Boron	5.8	mg/L	0.10	06/19/20 20:18	
EPA 6020B	Chromium	0.00057J	mg/L	0.010	06/19/20 20:18	
EPA 6020B	Lithium	0.023J	mg/L	0.030	06/19/20 20:18	
EPA 6020B	Molybdenum	0.019	mg/L	0.010	06/19/20 20:18	
SM 2450C-2011	Total Dissolved Solids	2100	mg/L	10.0	06/19/20 18:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	41.2	mg/L	5.0	06/29/20 18:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	41.2	mg/L	5.0	06/29/20 18:41	
EPA 300.0 Rev 2.1 1993	Chloride	223	mg/L	18.0	06/25/20 10:16	
EPA 300.0 Rev 2.1 1993	Sulfate	901	mg/L	18.0	06/25/20 10:16	
92482649002	MW-33					
	pH	4.36	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	561	mg/L	10.0	06/23/20 12:41	
EPA 6010D	Iron	1.2	mg/L	0.040	06/22/20 16:06	
EPA 6010D	Magnesium	55.9	mg/L	0.050	06/22/20 16:06	
EPA 6010D	Manganese	4.5	mg/L	0.040	06/22/20 16:06	
EPA 6010D	Potassium	11.1	mg/L	0.20	06/22/20 16:06	
EPA 6010D	Sodium	10.8	mg/L	1.0	06/22/20 16:06	
EPA 6020B	Arsenic	0.0031J	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Barium	0.024	mg/L	0.010	06/19/20 20:24	
EPA 6020B	Beryllium	0.00099J	mg/L	0.0030	06/19/20 20:24	
EPA 6020B	Boron	10.3	mg/L	1.0	06/23/20 12:44	
EPA 6020B	Cadmium	0.00021J	mg/L	0.0025	06/19/20 20:24	
EPA 6020B	Cobalt	0.053	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	06/19/20 20:24	
EPA 6020B	Lithium	0.00097J	mg/L	0.030	06/19/20 20:24	
EPA 6020B	Selenium	0.014	mg/L	0.010	06/19/20 20:24	
EPA 6020B	Thallium	0.00028J	mg/L	0.0010	06/19/20 20:24	
SM 2450C-2011	Total Dissolved Solids	2540	mg/L	10.0	06/19/20 18:09	
EPA 300.0 Rev 2.1 1993	Chloride	250	mg/L	24.0	06/25/20 10:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.25	mg/L	0.10	06/25/20 06:25	
EPA 300.0 Rev 2.1 1993	Sulfate	1210	mg/L	24.0	06/25/20 10:31	
92482649003	MW-35					
	pH	5.46	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	517	mg/L	10.0	06/23/20 12:46	M6
EPA 6010D	Iron	2.4	mg/L	0.040	06/22/20 17:10	
EPA 6010D	Magnesium	71.5	mg/L	0.050	06/22/20 17:10	M1
EPA 6010D	Manganese	10.6	mg/L	0.040	06/22/20 17:10	M1
EPA 6010D	Potassium	8.3	mg/L	0.20	06/22/20 17:10	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649003	MW-35					
EPA 6010D	Sodium	11.5	mg/L	1.0	06/22/20 17:10	
EPA 6020B	Arsenic	0.0050J	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Barium	0.029	mg/L	0.010	06/23/20 13:50	
EPA 6020B	Beryllium	0.00032J	mg/L	0.0030	06/23/20 13:50	
EPA 6020B	Boron	11.9	mg/L	1.0	06/23/20 16:53	
EPA 6020B	Cadmium	0.00053J	mg/L	0.0025	06/23/20 13:50	
EPA 6020B	Cobalt	0.091	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Lead	0.00016J	mg/L	0.0050	06/23/20 13:50	
EPA 6020B	Lithium	0.0046J	mg/L	0.030	06/23/20 13:50	
EPA 6020B	Selenium	0.014	mg/L	0.010	06/23/20 13:50	
EPA 6020B	Thallium	0.00013J	mg/L	0.0010	06/23/20 13:50	
SM 2450C-2011	Total Dissolved Solids	2310	mg/L	10.0	06/22/20 17:35	
EPA 300.0 Rev 2.1 1993	Chloride	229	mg/L	23.0	06/25/20 10:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	06/25/20 06:39	
EPA 300.0 Rev 2.1 1993	Sulfate	1160	mg/L	23.0	06/25/20 10:45	
92482649004	FB-02					
EPA 6010D	Calcium	0.16J	mg/L	1.0	06/22/20 17:26	
EPA 6010D	Magnesium	0.026J	mg/L	0.050	06/22/20 17:26	B
EPA 6020B	Boron	0.041J	mg/L	0.10	06/23/20 13:55	
92482649005	MW-34D					
	pH	7.35	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	584	mg/L	10.0	06/23/20 12:58	
EPA 6010D	Iron	1.8	mg/L	0.040	06/22/20 17:31	
EPA 6010D	Magnesium	59.3	mg/L	0.050	06/22/20 17:31	
EPA 6010D	Manganese	4.7	mg/L	0.040	06/22/20 17:31	
EPA 6010D	Potassium	10.8	mg/L	0.20	06/22/20 17:31	
EPA 6010D	Sodium	16.0	mg/L	1.0	06/22/20 17:31	
EPA 6020B	Arsenic	0.0032J	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Barium	0.044	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Beryllium	0.00015J	mg/L	0.0030	06/23/20 14:22	
EPA 6020B	Boron	9.4	mg/L	0.10	06/23/20 14:22	
EPA 6020B	Chromium	0.0059J	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Cobalt	0.011	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Lead	0.00087J	mg/L	0.0050	06/23/20 14:22	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	06/23/20 14:22	
EPA 6020B	Selenium	0.0025J	mg/L	0.010	06/23/20 14:22	
EPA 6020B	Thallium	0.00015J	mg/L	0.0010	06/23/20 14:22	
SM 2450C-2011	Total Dissolved Solids	2320	mg/L	10.0	06/22/20 17:36	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	96.5	mg/L	5.0	06/30/20 15:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	96.5	mg/L	5.0	06/30/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	259	mg/L	22.0	06/26/20 08:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.10	06/25/20 22:36	
EPA 300.0 Rev 2.1 1993	Sulfate	1100	mg/L	22.0	06/26/20 08:16	
92482649006	MW-36D					
	pH	6.45	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	65.2	mg/L	1.0	06/22/20 17:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92482649006	MW-36D					
EPA 6010D	Iron	0.58	mg/L	0.040	06/22/20 17:43	
EPA 6010D	Magnesium	7.7	mg/L	0.050	06/22/20 17:43	
EPA 6010D	Manganese	0.055	mg/L	0.040	06/22/20 17:43	
EPA 6010D	Potassium	0.47	mg/L	0.20	06/22/20 17:43	
EPA 6010D	Sodium	7.2	mg/L	1.0	06/22/20 17:43	
EPA 6020B	Arsenic	0.00046J	mg/L	0.0050	06/23/20 14:28	
EPA 6020B	Barium	0.15	mg/L	0.010	06/23/20 14:28	
EPA 6020B	Boron	0.067J	mg/L	0.10	06/23/20 14:28	
EPA 6020B	Chromium	0.00045J	mg/L	0.010	06/23/20 14:28	
EPA 6020B	Lithium	0.0087J	mg/L	0.030	06/23/20 14:28	
SM 2450C-2011	Total Dissolved Solids	237	mg/L	10.0	06/22/20 17:37	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	164	mg/L	5.0	06/30/20 16:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	164	mg/L	5.0	06/30/20 16:02	
EPA 300.0 Rev 2.1 1993	Chloride	2.3	mg/L	1.0	06/25/20 22:50	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	06/25/20 22:50	
EPA 300.0 Rev 2.1 1993	Sulfate	50.5	mg/L	1.0	06/25/20 22:50	
92482649007	MW-37D					
	pH	7.78	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	165	mg/L	1.0	06/22/20 17:48	
EPA 6010D	Iron	3.4	mg/L	0.040	06/22/20 17:48	
EPA 6010D	Magnesium	30.5	mg/L	0.050	06/22/20 17:48	
EPA 6010D	Manganese	0.15	mg/L	0.040	06/22/20 17:48	
EPA 6010D	Potassium	2.9	mg/L	0.20	06/22/20 17:48	
EPA 6010D	Sodium	59.6	mg/L	1.0	06/22/20 17:48	
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Barium	0.19	mg/L	0.010	06/23/20 14:33	
EPA 6020B	Beryllium	0.00012J	mg/L	0.0030	06/23/20 14:33	
EPA 6020B	Boron	0.14	mg/L	0.10	06/23/20 14:33	
EPA 6020B	Chromium	0.0048J	mg/L	0.010	06/23/20 14:33	
EPA 6020B	Cobalt	0.0015J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	06/23/20 14:33	
EPA 6020B	Lithium	0.038J	mg/L	0.030	06/23/20 14:33	
EPA 6020B	Molybdenum	0.023	mg/L	0.010	06/23/20 14:33	
SM 2450C-2011	Total Dissolved Solids	888	mg/L	10.0	06/22/20 17:37	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	06/30/20 16:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	06/30/20 16:22	
EPA 300.0 Rev 2.1 1993	Chloride	151	mg/L	6.0	06/26/20 08:31	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	06/25/20 23:05	
EPA 300.0 Rev 2.1 1993	Sulfate	286	mg/L	6.0	06/26/20 08:31	
92482649008	MW-37D, FILTERED					
	pH	7.78	Std. Units		06/30/20 17:11	
EPA 6010D	Calcium	168	mg/L	1.0	06/22/20 17:52	
EPA 6010D	Iron	0.087	mg/L	0.040	06/22/20 17:52	
EPA 6010D	Magnesium	30.6	mg/L	0.050	06/22/20 17:52	
EPA 6010D	Manganese	0.12	mg/L	0.040	06/22/20 17:52	
EPA 6010D	Potassium	2.0	mg/L	0.20	06/22/20 17:52	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92482649008	MW-37D, FILTERED					
EPA 6010D	Sodium	60.9	mg/L	1.0	06/22/20 17:52	
EPA 6020B	Arsenic	0.0016J	mg/L	0.0050	06/23/20 14:39	
EPA 6020B	Barium	0.17	mg/L	0.010	06/23/20 14:39	
EPA 6020B	Boron	0.14	mg/L	0.10	06/23/20 14:39	
EPA 6020B	Chromium	0.00040J	mg/L	0.010	06/23/20 14:39	
EPA 6020B	Lead	0.000051J	mg/L	0.0050	06/23/20 14:39	
EPA 6020B	Lithium	0.036J	mg/L	0.030	06/23/20 14:39	
EPA 6020B	Molybdenum	0.022	mg/L	0.010	06/23/20 14:39	
SM 2450C-2011	Total Dissolved Solids	879	mg/L	10.0	06/22/20 17:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	06/30/20 16:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	06/30/20 16:32	
EPA 300.0 Rev 2.1 1993	Chloride	160	mg/L	6.0	06/29/20 12:12	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	06/27/20 15:38	
EPA 300.0 Rev 2.1 1993	Sulfate	292	mg/L	6.0	06/29/20 12:12	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: MW-21D **Lab ID: 92482649001** Collected: 06/17/20 09:30 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.47	Std. Units			1		06/30/20 17:11		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	434	mg/L	10.0	1.4	10	06/19/20 14:00	06/23/20 12:37	7440-70-2	
Iron	22.3	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 16:02	7439-89-6	
Magnesium	71.7	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 16:02	7439-95-4	
Manganese	1.3	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 16:02	7439-96-5	
Potassium	1.1	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 16:02	7440-09-7	
Sodium	15.8	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 16:02	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	06/19/20 12:30	06/19/20 20:18	7440-38-2	
Barium	0.054	mg/L	0.010	0.00049	1	06/19/20 12:30	06/19/20 20:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/19/20 12:30	06/19/20 20:18	7440-41-7	
Boron	5.8	mg/L	0.10	0.0049	1	06/19/20 12:30	06/19/20 20:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/19/20 12:30	06/19/20 20:18	7440-43-9	
Chromium	0.00057J	mg/L	0.010	0.00039	1	06/19/20 12:30	06/19/20 20:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/19/20 12:30	06/19/20 20:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/19/20 12:30	06/19/20 20:18	7439-92-1	
Lithium	0.023J	mg/L	0.030	0.00078	1	06/19/20 12:30	06/19/20 20:18	7439-93-2	
Molybdenum	0.019	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/19/20 12:30	06/19/20 20:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/19/20 12:30	06/19/20 20:18	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2100	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)	41.2	mg/L	5.0	5.0	1		06/29/20 18:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/29/20 18:41		
Alkalinity, Total as CaCO3	41.2	mg/L	5.0	5.0	1		06/29/20 18:41		
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 18:54	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	223	mg/L	18.0	10.8	18		06/25/20 10:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/25/20 05:41	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-21D		Lab ID: 92482649001		Collected: 06/17/20 09:30	Received: 06/18/20 10:37	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							
Sulfate	901	mg/L	18.0	9.0	18		06/25/20 10:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: MW-33 **Lab ID: 92482649002** Collected: 06/17/20 16:34 Received: 06/18/20 10:37 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.36	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	561	mg/L	10.0	1.4	10	06/19/20 14:00	06/23/20 12:41	7440-70-2	
Iron	1.2	mg/L	0.040	0.015	1	06/19/20 14:00	06/22/20 16:06	7439-89-6	
Magnesium	55.9	mg/L	0.050	0.011	1	06/19/20 14:00	06/22/20 16:06	7439-95-4	
Manganese	4.5	mg/L	0.040	0.0061	1	06/19/20 14:00	06/22/20 16:06	7439-96-5	
Potassium	11.1	mg/L	0.20	0.026	1	06/19/20 14:00	06/22/20 16:06	7440-09-7	
Sodium	10.8	mg/L	1.0	0.19	1	06/19/20 14:00	06/22/20 16:06	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0031J	mg/L	0.0050	0.00035	1	06/19/20 12:30	06/19/20 20:24	7440-38-2	
Barium	0.024	mg/L	0.010	0.00049	1	06/19/20 12:30	06/19/20 20:24	7440-39-3	
Beryllium	0.00099J	mg/L	0.0030	0.000074	1	06/19/20 12:30	06/19/20 20:24	7440-41-7	
Boron	10.3	mg/L	1.0	0.049	10	06/19/20 12:30	06/23/20 12:44	7440-42-8	
Cadmium	0.00021J	mg/L	0.0025	0.00011	1	06/19/20 12:30	06/19/20 20:24	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/19/20 12:30	06/19/20 20:24	7440-47-3	
Cobalt	0.053	mg/L	0.0050	0.00030	1	06/19/20 12:30	06/19/20 20:24	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000046	1	06/19/20 12:30	06/19/20 20:24	7439-92-1	
Lithium	0.00097J	mg/L	0.030	0.00078	1	06/19/20 12:30	06/19/20 20:24	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/19/20 12:30	06/19/20 20:24	7439-98-7	
Selenium	0.014	mg/L	0.010	0.0013	1	06/19/20 12:30	06/19/20 20:24	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.000052	1	06/19/20 12:30	06/19/20 20:24	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2540	mg/L	10.0	10.0	1		06/19/20 18:09		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/29/20 18:47		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/29/20 18:47		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		06/29/20 18:47		

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 18:57	18496-25-8	M1
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300.0 IC Anions 28 Days

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

Chloride	250	mg/L	24.0	14.4	24		06/25/20 10:31	16887-00-6	
Fluoride	0.25	mg/L	0.10	0.050	1		06/25/20 06:25	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-33 Lab ID: 92482649002 Collected: 06/17/20 16:34 Received: 06/18/20 10:37 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									
Sulfate	1210	mg/L	24.0	12.0	24		06/25/20 10:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-35 **Lab ID: 92482649003** Collected: 06/18/20 11:52 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.46	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	517	mg/L	10.0	1.4	10	06/22/20 14:08	06/23/20 12:46	7440-70-2	M6
Iron	2.4	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:10	7439-89-6	
Magnesium	71.5	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:10	7439-95-4	M1
Manganese	10.6	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:10	7439-96-5	M1
Potassium	8.3	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:10	7440-09-7	
Sodium	11.5	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:10	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0050J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 13:50	7440-38-2	
Barium	0.029	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 13:50	7440-39-3	
Beryllium	0.00032J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 13:50	7440-41-7	
Boron	11.9	mg/L	1.0	0.049	10	06/22/20 17:17	06/23/20 16:53	7440-42-8	
Cadmium	0.00053J	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 13:50	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 13:50	7440-47-3	
Cobalt	0.091	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 13:50	7440-48-4	
Lead	0.00016J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 13:50	7439-92-1	
Lithium	0.0046J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 13:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 13:50	7439-98-7	
Selenium	0.014	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 13:50	7782-49-2	
Thallium	0.00013J	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 13:50	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2310	mg/L	10.0	10.0	1		06/22/20 17:35		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:33		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:33		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		06/30/20 15:33		

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 18:58	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	229	mg/L	23.0	13.8	23		06/25/20 10:45	16887-00-6	
Fluoride	0.053J	mg/L	0.10	0.050	1		06/25/20 06:39	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-35 Lab ID: 92482649003 Collected: 06/18/20 11:52 Received: 06/19/20 13:10 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									
Sulfate	1160	mg/L	23.0	11.5	23		06/25/20 10:45	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: FB-02 **Lab ID: 92482649004** Collected: 06/18/20 17:50 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	0.16J	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:26	7440-70-2	
Iron	ND	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:26	7439-89-6	
Magnesium	0.026J	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:26	7439-95-4	B
Manganese	ND	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:26	7439-96-5	
Potassium	ND	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:26	7440-09-7	
Sodium	ND	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:26	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 13:55	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 13:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 13:55	7440-41-7	
Boron	0.041J	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 13:55	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 13:55	7440-43-9	
Chromium	ND	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 13:55	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 13:55	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 13:55	7439-92-1	
Lithium	ND	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 13:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 13:55	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 13:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 13:55	7440-28-0	
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		06/22/20 17:35		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		06/30/20 15:48		
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 18:59	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 22:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/25/20 22:21	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		06/25/20 22:21	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-34D **Lab ID: 92482649005** Collected: 06/18/20 18:05 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	7.35	Std. Units			1		06/30/20 17:11		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	584	mg/L	10.0	1.4	10	06/22/20 14:08	06/23/20 12:58	7440-70-2	
Iron	1.8	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:31	7439-89-6	
Magnesium	59.3	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:31	7439-95-4	
Manganese	4.7	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:31	7439-96-5	
Potassium	10.8	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:31	7440-09-7	
Sodium	16.0	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:31	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	0.0032J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:22	7440-38-2	
Barium	0.044	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:22	7440-39-3	
Beryllium	0.00015J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:22	7440-41-7	
Boron	9.4	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:22	7440-43-9	
Chromium	0.0059J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:22	7440-47-3	
Cobalt	0.011	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:22	7440-48-4	
Lead	0.00087J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:22	7439-92-1	
Lithium	0.0021J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:22	7439-98-7	
Selenium	0.0025J	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:22	7782-49-2	
Thallium	0.00015J	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:22	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2320	mg/L	10.0	10.0	1		06/22/20 17:36		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	96.5	mg/L	5.0	5.0	1		06/30/20 15:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 15:52		
Alkalinity, Total as CaCO3	96.5	mg/L	5.0	5.0	1		06/30/20 15:52		
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 18:59	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	259	mg/L	22.0	13.2	22		06/26/20 08:16	16887-00-6	
Fluoride	0.082J	mg/L	0.10	0.050	1		06/25/20 22:36	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-34D **Lab ID: 92482649005** Collected: 06/18/20 18:05 Received: 06/19/20 13:10 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									
Sulfate	1100	mg/L	22.0	11.0	22		06/26/20 08:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-36D **Lab ID: 92482649006** Collected: 06/18/20 10:05 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.45	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	65.2	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:43	7440-70-2	
Iron	0.58	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:43	7439-89-6	
Magnesium	7.7	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:43	7439-95-4	
Manganese	0.055	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:43	7439-96-5	
Potassium	0.47	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:43	7440-09-7	
Sodium	7.2	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:43	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.00046J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:28	7440-38-2	
Barium	0.15	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:28	7440-41-7	
Boron	0.067J	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:28	7440-43-9	
Chromium	0.00045J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:28	7439-92-1	
Lithium	0.0087J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:28	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	237	mg/L	10.0	10.0	1		06/22/20 17:37		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	164	mg/L	5.0	5.0	1		06/30/20 16:02		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 16:02		
Alkalinity, Total as CaCO3	164	mg/L	5.0	5.0	1		06/30/20 16:02		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	ND	mg/L	0.10	0.050	1		06/24/20 19:00	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	2.3	mg/L	1.0	0.60	1		06/25/20 22:50	16887-00-6	
Fluoride	0.053J	mg/L	0.10	0.050	1		06/25/20 22:50	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-36D	Lab ID: 92482649006	Collected: 06/18/20 10:05	Received: 06/19/20 13:10	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									
Sulfate	50.5	mg/L	1.0	0.50	1		06/25/20 22:50	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D **Lab ID: 92482649007** Collected: 06/18/20 13:15 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.78	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	165	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:48	7440-70-2
Iron	3.4	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:48	7439-89-6
Magnesium	30.5	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:48	7439-95-4
Manganese	0.15	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:48	7439-96-5
Potassium	2.9	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:48	7440-09-7
Sodium	59.6	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:48	7440-23-5

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0021J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:33	7440-38-2
Barium	0.19	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:33	7440-39-3
Beryllium	0.00012J	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:33	7440-41-7
Boron	0.14	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:33	7440-42-8
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:33	7440-43-9
Chromium	0.0048J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:33	7440-47-3
Cobalt	0.0015J	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:33	7440-48-4
Lead	0.0017J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:33	7439-92-1
Lithium	0.038J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:33	7439-93-2
Molybdenum	0.023	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:33	7439-98-7
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:33	7782-49-2
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:33	7440-28-0

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	888	mg/L	10.0	10.0	1		06/22/20 17:37	
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	116	mg/L	5.0	5.0	1		06/30/20 16:22	
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		06/30/20 16:22	
Alkalinity, Total as CaCO ₃	116	mg/L	5.0	5.0	1		06/30/20 16:22	

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 19:00	18496-25-8
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300.0 IC Anions 28 Days

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

Chloride	151	mg/L	6.0	3.6	6		06/26/20 08:31	16887-00-6
Fluoride	0.10	mg/L	0.10	0.050	1		06/25/20 23:05	16984-48-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D		Lab ID: 92482649007		Collected: 06/18/20 13:15	Received: 06/19/20 13:10	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							
Sulfate	286	mg/L	6.0	3.0	6		06/26/20 08:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Sample Project No.: 92482649

Sample: MW-37D, FILTERED **Lab ID: 92482649008** Collected: 06/18/20 13:30 Received: 06/19/20 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.78	Std. Units			1		06/30/20 17:11		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	168	mg/L	1.0	0.14	1	06/22/20 14:08	06/22/20 17:52	7440-70-2
Iron	0.087	mg/L	0.040	0.015	1	06/22/20 14:08	06/22/20 17:52	7439-89-6
Magnesium	30.6	mg/L	0.050	0.011	1	06/22/20 14:08	06/22/20 17:52	7439-95-4
Manganese	0.12	mg/L	0.040	0.0061	1	06/22/20 14:08	06/22/20 17:52	7439-96-5
Potassium	2.0	mg/L	0.20	0.026	1	06/22/20 14:08	06/22/20 17:52	7440-09-7
Sodium	60.9	mg/L	1.0	0.19	1	06/22/20 14:08	06/22/20 17:52	7440-23-5

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0016J	mg/L	0.0050	0.00035	1	06/22/20 17:17	06/23/20 14:39	7440-38-2
Barium	0.17	mg/L	0.010	0.00049	1	06/22/20 17:17	06/23/20 14:39	7440-39-3
Beryllium	ND	mg/L	0.0030	0.000074	1	06/22/20 17:17	06/23/20 14:39	7440-41-7
Boron	0.14	mg/L	0.10	0.0049	1	06/22/20 17:17	06/23/20 14:39	7440-42-8
Cadmium	ND	mg/L	0.0025	0.00011	1	06/22/20 17:17	06/23/20 14:39	7440-43-9
Chromium	0.00040J	mg/L	0.010	0.00039	1	06/22/20 17:17	06/23/20 14:39	7440-47-3
Cobalt	ND	mg/L	0.0050	0.00030	1	06/22/20 17:17	06/23/20 14:39	7440-48-4
Lead	0.000051J	mg/L	0.0050	0.000046	1	06/22/20 17:17	06/23/20 14:39	7439-92-1
Lithium	0.036J	mg/L	0.030	0.00078	1	06/22/20 17:17	06/23/20 14:39	7439-93-2
Molybdenum	0.022	mg/L	0.010	0.00095	1	06/22/20 17:17	06/23/20 14:39	7439-98-7
Selenium	ND	mg/L	0.010	0.0013	1	06/22/20 17:17	06/23/20 14:39	7782-49-2
Thallium	ND	mg/L	0.0010	0.000052	1	06/22/20 17:17	06/23/20 14:39	7440-28-0

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	879	mg/L	10.0	10.0	1		06/22/20 17:38
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	5.0	1		06/30/20 16:32
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		06/30/20 16:32
Alkalinity, Total as CaCO3	116	mg/L	5.0	5.0	1		06/30/20 16:32

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 19:00	18496-25-8
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300.0 IC Anions 28 Days

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

Chloride	160	mg/L	6.0	3.6	6		06/29/20 12:12	16887-00-6
Fluoride	0.10	mg/L	0.10	0.050	1		06/27/20 15:38	16984-48-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Sample: MW-37D, FILTERED Lab ID: 92482649008 Collected: 06/18/20 13:30 Received: 06/19/20 13:10 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									
Sulfate	292	mg/L	6.0	3.0	6		06/29/20 12:12	14808-79-8	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548539	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D ATL
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2918225 Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482346005 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548844 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919468 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.14	06/22/20 16:52	
Iron	mg/L	ND	0.040	0.015	06/22/20 16:52	
Magnesium	mg/L	0.011J	0.050	0.011	06/22/20 16:52	
Manganese	mg/L	ND	0.040	0.0061	06/22/20 16:52	
Potassium	mg/L	ND	0.20	0.026	06/22/20 16:52	
Sodium	mg/L	ND	1.0	0.19	06/22/20 16:52	

LABORATORY CONTROL SAMPLE: 2919473

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	100	80-120	
Magnesium	mg/L	1	1.0	102	80-120	
Manganese	mg/L	1	0.96	96	80-120	
Potassium	mg/L	1	0.86	86	80-120	
Sodium	mg/L	1	1.0	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919474 2919475

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92482649003 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Calcium	mg/L	517	1	1	511	511	-681	-642	75-125	0	20	M6	
Iron	mg/L	2.4	1	1	3.3	3.3	92	93	75-125	0	20		
Magnesium	mg/L	71.5	1	1	71.4	71.6	-16	5	75-125	0	20	M1	
Manganese	mg/L	10.6	1	1	11.3	11.2	67	58	75-125	1	20	M1	
Potassium	mg/L	8.3	1	1	9.2	9.2	89	91	75-125	0	20		
Sodium	mg/L	11.5	1	1	12.3	12.3	79	81	75-125	0	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch:	548509	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2918043 Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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	
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	
Selenium	mg/L	ND	0.010	0.0013	06/19/20 17:32	
Thallium	mg/L	ND	0.0010	0.000052	06/19/20 17:32	

LABORATORY CONTROL SAMPLE: 2918044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	
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	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2918045 2918046

Parameter	Units	2918045		2918046		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Parameter	Units	2918045			2918046			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		92482427001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								MSD % Rec
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			
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			
Selenium	mg/L	ND	0.1	0.1	0.097	0.092	97	92	75-125	5	20			
Thallium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20			

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch:	548895	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919709 Matrix: Water

Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	06/23/20 13:04	
Barium	mg/L	ND	0.010	0.00049	06/23/20 13:04	
Beryllium	mg/L	ND	0.0030	0.000074	06/23/20 13:04	
Boron	mg/L	ND	0.10	0.0049	06/23/20 13:04	
Cadmium	mg/L	ND	0.0025	0.00011	06/23/20 13:04	
Chromium	mg/L	ND	0.010	0.00039	06/23/20 13:04	
Cobalt	mg/L	ND	0.0050	0.00030	06/23/20 13:04	
Lead	mg/L	ND	0.0050	0.000046	06/23/20 13:04	
Lithium	mg/L	ND	0.030	0.00078	06/23/20 13:04	
Molybdenum	mg/L	ND	0.010	0.00095	06/23/20 13:04	
Selenium	mg/L	ND	0.010	0.0013	06/23/20 13:04	
Thallium	mg/L	ND	0.0010	0.000052	06/23/20 13:04	

LABORATORY CONTROL SAMPLE: 2919710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	0.10	101	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	100	80-120	
Cobalt	mg/L	0.1	0.096	96	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	0.099	99	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2919711 2919712

Parameter	Units	2919711		2919712		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	99	102	75-125	3	20	
Barium	mg/L	0.17	0.1	0.1	0.26	0.28	92	109	75-125	6	20	
Beryllium	mg/L	ND	0.1	0.1	0.095	0.095	95	95	75-125	0	20	
Boron	mg/L	0.045J	1	1	1.0	0.98	95	94	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Parameter	Units	2919711			2919712			% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		9248280001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								MSD % Rec
Cadmium	mg/L	ND	0.1	0.1	0.099	0.10	99	100	75-125	1	20			
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	1	20			
Cobalt	mg/L	ND	0.1	0.1	0.096	0.10	96	101	75-125	5	20			
Lead	mg/L	ND	0.1	0.1	0.096	0.096	96	96	75-125	1	20			
Lithium	mg/L	0.019J	0.1	0.1	0.12	0.12	99	98	75-125	0	20			
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.10	98	100	75-125	2	20			
Selenium	mg/L	ND	0.1	0.1	0.097	0.099	97	99	75-125	2	20			
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20			

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

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: 92482649001, 92482649002

METHOD BLANK: 2918729

Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 548907 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: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2919762 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 549851

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92482649001, 92482649002

METHOD BLANK: 2923886

Matrix: Water

Associated Lab Samples: 92482649001, 92482649002

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		2923889		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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		2923891		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	8.3	50	50	63.0	63.9	109	111	80-120	2	25

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 550396 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2926273 Matrix: Water
 Associated Lab Samples: 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

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		2926276		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		2926278		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 549382 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649001, 92482649002, 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

METHOD BLANK: 2921743 Matrix: Water
 Associated Lab Samples: 92482649001, 92482649002, 92482649003, 92482649004, 92482649005, 92482649006, 92482649007, 92482649008

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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 549186 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649001, 92482649002, 92482649003

METHOD BLANK: 2920985 Matrix: Water
 Associated Lab Samples: 92482649001, 92482649002, 92482649003

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

Results presented on 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-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch: 549584 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92482649004, 92482649005, 92482649006, 92482649007

METHOD BLANK: 2922593 Matrix: Water
 Associated Lab Samples: 92482649004, 92482649005, 92482649006, 92482649007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/25/20 15:50	
Fluoride	mg/L	ND	0.10	0.050	06/25/20 15:50	
Sulfate	mg/L	ND	1.0	0.50	06/25/20 15:50	

LABORATORY CONTROL SAMPLE: 2922594

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922595 2922596

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92483318001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	6.6	50	50	55.6	55.0	98	97	90-110	1	10		
Fluoride	mg/L	0.090J	2.5	2.5	2.7	2.6	103	102	90-110	1	10		
Sulfate	mg/L	5.5	50	50	55.0	54.4	99	98	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2922597 2922598

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92482981002 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	21.7	50	50	70.6	71.0	98	99	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	98	90-110	0	10		
Sulfate	mg/L	8.0	50	50	58.0	58.1	100	100	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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

QC Batch:	550052	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92482649008

METHOD BLANK: 2925000 Matrix: Water

Associated Lab Samples: 92482649008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	06/27/20 15:08	
Fluoride	mg/L	ND	0.10	0.050	06/27/20 15:08	
Sulfate	mg/L	ND	1.0	0.50	06/27/20 15:08	

LABORATORY CONTROL SAMPLE: 2925001

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.5	103	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	50.9	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2925002 2925003

Parameter	Units	92482649008		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							% Rec	% Rec
Chloride	mg/L	160	50	50	206	206	91	92	90-110	0	10		
Fluoride	mg/L	0.10	2.5	2.5	2.5	2.5	95	97	90-110	2	10		
Sulfate	mg/L	292	50	50	337	339	91	94	90-110	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2925004 2925005

Parameter	Units	92483686007		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result							% Rec	% Rec
Chloride	mg/L	33.3	50	50	84.9	86.5	103	106	90-110	2	10		
Fluoride	mg/L	0.28	2.5	2.5	2.7	2.9	97	103	90-110	5	10		
Sulfate	mg/L	1960	50	50	2020	2020	119	118	90-110	0	10 M6		

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

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QUALIFIERS

Project: HAMMOND AP-2 NON ROUTINE
Pace Project No.: 92482649

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.
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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 NON ROUTINE
 Pace Project No.: 92482649

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482649001	MW-21D				
92482649002	MW-33				
92482649003	MW-35				
92482649005	MW-34D				
92482649006	MW-36D				
92482649007	MW-37D				
92482649008	MW-37D, FILTERED				
92482649001	MW-21D	EPA 3010A	548539	EPA 6010D	548601
92482649002	MW-33	EPA 3010A	548539	EPA 6010D	548601
92482649003	MW-35	EPA 3010A	548844	EPA 6010D	548861
92482649004	FB-02	EPA 3010A	548844	EPA 6010D	548861
92482649005	MW-34D	EPA 3010A	548844	EPA 6010D	548861
92482649006	MW-36D	EPA 3010A	548844	EPA 6010D	548861
92482649007	MW-37D	EPA 3010A	548844	EPA 6010D	548861
92482649008	MW-37D, FILTERED	EPA 3010A	548844	EPA 6010D	548861
92482649001	MW-21D	EPA 3005A	548509	EPA 6020B	548546
92482649002	MW-33	EPA 3005A	548509	EPA 6020B	548546
92482649003	MW-35	EPA 3005A	548895	EPA 6020B	548915
92482649004	FB-02	EPA 3005A	548895	EPA 6020B	548915
92482649005	MW-34D	EPA 3005A	548895	EPA 6020B	548915
92482649006	MW-36D	EPA 3005A	548895	EPA 6020B	548915
92482649007	MW-37D	EPA 3005A	548895	EPA 6020B	548915
92482649008	MW-37D, FILTERED	EPA 3005A	548895	EPA 6020B	548915
92482649001	MW-21D	SM 2450C-2011	548606		
92482649002	MW-33	SM 2450C-2011	548606		
92482649003	MW-35	SM 2450C-2011	548907		
92482649004	FB-02	SM 2450C-2011	548907		
92482649005	MW-34D	SM 2450C-2011	548907		
92482649006	MW-36D	SM 2450C-2011	548907		
92482649007	MW-37D	SM 2450C-2011	548907		
92482649008	MW-37D, FILTERED	SM 2450C-2011	548907		
92482649001	MW-21D	SM 2320B-2011	549851		
92482649002	MW-33	SM 2320B-2011	549851		
92482649003	MW-35	SM 2320B-2011	550396		
92482649004	FB-02	SM 2320B-2011	550396		
92482649005	MW-34D	SM 2320B-2011	550396		
92482649006	MW-36D	SM 2320B-2011	550396		
92482649007	MW-37D	SM 2320B-2011	550396		
92482649008	MW-37D, FILTERED	SM 2320B-2011	550396		
92482649001	MW-21D	SM 4500-S2D-2011	549382		
92482649002	MW-33	SM 4500-S2D-2011	549382		
92482649003	MW-35	SM 4500-S2D-2011	549382		
92482649004	FB-02	SM 4500-S2D-2011	549382		
92482649005	MW-34D	SM 4500-S2D-2011	549382		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 NON ROUTINE

Pace Project No.: 92482649

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92482649006	MW-36D	SM 4500-S2D-2011	549382		
92482649007	MW-37D	SM 4500-S2D-2011	549382		
92482649008	MW-37D, FILTERED	SM 4500-S2D-2011	549382		
92482649001	MW-21D	EPA 300.0 Rev 2.1 1993	549186		
92482649002	MW-33	EPA 300.0 Rev 2.1 1993	549186		
92482649003	MW-35	EPA 300.0 Rev 2.1 1993	549186		
92482649004	FB-02	EPA 300.0 Rev 2.1 1993	549584		
92482649005	MW-34D	EPA 300.0 Rev 2.1 1993	549584		
92482649006	MW-36D	EPA 300.0 Rev 2.1 1993	549584		
92482649007	MW-37D	EPA 300.0 Rev 2.1 1993	549584		
92482649008	MW-37D, FILTERED	EPA 300.0 Rev 2.1 1993	550052		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Doc
The Documenting a Sample, Document, or Instrument with the required

W0#: 92482649
92482649

Section 1 Requester Name Company Address City State Zip		Section 2 Requester Contact Information Requester Name Requester Title Requester Phone Requester Email		Section 3 Sample Location City State Zip		Section 4 Regulatory Agency Agency Name Agency Address Agency City Agency State Agency Zip	
Requester Name: [Blank]		Requester Name: [Blank]		City: [Blank]		Agency Name: [Blank]	
Company: [Blank]		Requester Title: [Blank]		State: [Blank]		Agency Address: [Blank]	
Address: [Blank]		Requester Phone: [Blank]		Zip: [Blank]		Agency City: [Blank]	
City: [Blank]		Requester Email: [Blank]		[Blank]		Agency State: [Blank]	
State: [Blank]		[Blank]		[Blank]		Agency Zip: [Blank]	
Zip: [Blank]		[Blank]		[Blank]		[Blank]	

ID	Description of Sample	Matrix Code	Sample Type	Collected		Sample Temp at Collection	# of Containers	Preservation		Analysis Test	Regulatory Agency Reference (Y/N)		Residual Volume (Y/N)
				Container	Volume			Temperature	Time		Agency	Reference	
1	Water 110	W1	Water 110	Y	100	4	1	1	1	1	1	1	Y
2	Water 200	W2	Water 200	Y	100	4	1	1	1	1	1	1	Y
3	Water 300	W3	Water 300	Y	100	4	1	1	1	1	1	1	Y
4	Water 400	W4	Water 400	Y	100	4	1	1	1	1	1	1	Y
5	Water 500	W5	Water 500	Y	100	4	1	1	1	1	1	1	Y
6	Water 600	W6	Water 600	Y	100	4	1	1	1	1	1	1	Y
7	Water 700	W7	Water 700	Y	100	4	1	1	1	1	1	1	Y
8	Water 800	W8	Water 800	Y	100	4	1	1	1	1	1	1	Y
9	Water 900	W9	Water 900	Y	100	4	1	1	1	1	1	1	Y
10	Water 1000	W10	Water 1000	Y	100	4	1	1	1	1	1	1	Y

Additional Comments	Relinquished by / Application	Date	Time	Signature by / Application	Date	Time	Signature by / Application	Date	Time	Signature by / Application
There are 10 water samples collected on 6/17/2020. The samples are for the purpose of testing for lead and copper. The samples are being collected from the same location.	Shawn Lin, 610-200-1111	6/17/2020	11:15	Shawn Lin, 610-200-1111	6/17/2020	11:15	Shawn Lin, 610-200-1111	6/17/2020	11:15	Shawn Lin, 610-200-1111

Requester Name	Requester Title	Date	Time	Signature
Shawn Lin	Shawn Lin	6/17/2020	11:15	Shawn Lin



CHAIN-OF-CUSTODY / Analytical Request ID
 The Chain-of-Custody No. is 83538. 00000001. All received data will be saved.

W0# : 92482649
 FBI ALH Date Date: 8/7/20
 CLIENT : GR-CA Power

Section A Requestor's Contact Information Agency: CA Power Contact: Angela, CA Address: 1010 Phone: 760 Email:				Section B Requestor's Contact Information Request by: GREGORY COOPER Title:				Section C Requestor's Address Address: City: State: Zip: Country:			
Section D Requestor's Analysis Information Request for: GREGORY COOPER Date of Collection: Location: Description: Quantity: Packaging: Comments:				Section E Requestor's Agency Agency: Title: Address: City: State: Zip: Country: Phone: Email:							

SAMPLE ID	ANALYSIS TYPE	COLLECTED				SAMPLE TIME AT COLLECTION	# OF CONTAINERS	ANALYSIS TEST	REQUESTED ANALYSIS (PASS/FAIL/NT)												RESIDUAL CHARGE (%)	FROM REQUESTOR (LSD LIB)								
		DATE	TIME	LOCATION	BY				DRUGS	COUNCIL	WARRANT	SEARCH	LAB	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER											
01-0010	CA-CA Power						1	CA-CA Power																						
01-0011	CA-CA Power						1	CA-CA Power																						
01-0012	CA-CA Power						1	CA-CA Power																						
01-0013	CA-CA Power						1	CA-CA Power																						
01-0014	CA-CA Power						1	CA-CA Power																						
01-0015	CA-CA Power						1	CA-CA Power																						
01-0016	CA-CA Power						1	CA-CA Power																						
01-0017	CA-CA Power						1	CA-CA Power																						
01-0018	CA-CA Power						1	CA-CA Power																						
01-0019	CA-CA Power						1	CA-CA Power																						
01-0020	CA-CA Power						1	CA-CA Power																						

ADDITIONAL COMMENTS
 The sample was collected on 8/7/20 at 10:37 AM in the CA-CA Power building. The sample was collected by CA-CA Power. The sample was analyzed on 8/7/20 at 10:37 AM. The results are as follows:
 ANALYSIS TYPE: CA-CA Power
 ANALYSIS TEST: CA-CA Power
 RESIDUAL CHARGE (%): 0.00
 FROM REQUESTOR (LSD LIB): Y

1-800-455-2813 FAX: 402-333-7000

CHAIN-OF-CUSTODY / Analytical Request Document
This Document-Covering Analysis, SECUREMENT, and related data must be completed accurately.

Page 2

Section A Requester's Information Company: <u>GA People</u>	Section B Requester's Contact Information Requester's Name: <u>John D. ...</u>	Section C Requester's Information Requester's Title: <u>...</u>	REGULATORY AGENCY Agency Name: <u>...</u>	Requester's State: <u>GA</u>
Requester's Address: <u>...</u>	Requester's Phone: <u>...</u>	Requester's Email: <u>...</u>	Agency Address: <u>...</u>	Requester's Fax: <u>...</u>

Sample ID	Type of Sample	Date Collected	Time Collected	Collector	Analysis Test	Retention Analysis (Standard Form)												Retention Chain (Y/N)	Final Retention Location ID			
						1	2	3	4	5	6	7	8	9	10	11	12					
GA-101
GA-102
GA-103
GA-104
GA-105
GA-106
GA-107
GA-108
GA-109
GA-110
GA-111
GA-112
GA-113
GA-114
GA-115
GA-116
GA-117
GA-118
GA-119
GA-120

LABORATORY NAME AND SIGNATURE		Requester's Name: <u>...</u>		Requester's Title: <u>...</u>		Requester's Signature: <u>...</u>		Requester's Date: <u>...</u>		Requester's State: <u>...</u>		Requester's City: <u>...</u>		Requester's Zip: <u>...</u>		Requester's Phone: <u>...</u>		Requester's Fax: <u>...</u>		Requester's Email: <u>...</u>		Requester's Address: <u>...</u>	
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CHAIN-OF-CUSTODY / Analytical Request Document
 This Chain-of-Custody is a legal document. All spaces shall need to be completed accurately.

Page 2 of 2

Section A Requestor Information Agency: <u>CA Power</u> Contact: <u>Allyssa CA</u>		Section B Requested Analyte Information Request To: <u>SCS Controls</u> Request From: <u>Associated Controls</u>		Section C Request Location Location: <u>Southwest CA</u> Property Name: _____ Address: _____ City/State: <u>San Francisco CA 94103</u> Requesting Agency: <u>Associated Controls</u> Requesting Agency Address: _____ City/State: _____	
Section D Requested Analyte (Federal Code) Analyte: <u>Asbestos</u> Matrix: <u>air</u> Sampling Method: <u>Personal</u> Sampling Period: _____ Sampling Frequency: _____		Section E Regulatory Agency Agency: <u>California</u> Title: <u>Asbestos</u> Sampling Method: <u>Personal</u> Sampling Period: _____ Sampling Frequency: _____		Section F Date of Collection: _____ Time of Collection: _____ Location: <u>CA</u>	

Item #	Requestor Chain of Custody	Date of Collection	Sample ID	Sample Type	Sample Temp at Collection	# of Containers	Collected		Analysis Test	Requester Analyte Federal Code	Result (Date/Time)
							Container	Volume			
1	Asbestos	07/12/20	MA-188A-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos	42482649	
2	Asbestos	07/12/20	MA-188B-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
3	Asbestos	07/12/20	MA-188C-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
4	Asbestos	07/12/20	MA-188D-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
5	Asbestos	07/12/20	MA-188E-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
6	Asbestos	07/12/20	MA-188F-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
7	Asbestos	07/12/20	MA-188G-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
8	Asbestos	07/12/20	MA-188H-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
9	Asbestos	07/12/20	MA-188I-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
10	Asbestos	07/12/20	MA-188J-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
11	Asbestos	07/12/20	MA-188K-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		
12	Asbestos	07/12/20	MA-188L-CO2P	Asbestos-CO2P	70°F	5	5	5	Asbestos		

Additional Comments	Witnessed by (Signature)	Date	Time	Accepted by (Signature)	Date	Time	Sample Collection
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y
Asbestos - Personal Sampling - 100% Recovery	[Signature]	07/12/20	18:00	[Signature]	07/12/20	18:00	Y

Requester Name (Printed)	Requester Title	Requester Signature	Date Requested
[Signature]	[Signature]	[Signature]	6/18/2020



October 19, 2020

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92495900

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 16, 2020 and September 24, 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

This report was revised 10/19/20 to correct a field pH typo.

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

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CERTIFICATIONS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Pace Analytical Services Charlotte

9800 Kinsey 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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92495900

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92495900001	HGWA-1	Water	09/15/20 14:01	09/16/20 11:14
92495900002	HGWA-2	Water	09/15/20 10:58	09/16/20 11:14
92495900003	HGWA-3	Water	09/15/20 11:45	09/16/20 11:14
92495900004	HGWA-4	Water	09/15/20 14:35	09/16/20 11:14
92495900005	HGWA-5	Water	09/15/20 10:54	09/16/20 11:14
92495900006	HGWA-6	Water	09/15/20 12:40	09/16/20 11:14
92495900007	HGWC-18	Water	09/15/20 16:17	09/16/20 11:14
92495900008	HGWC-17	Water	09/16/20 17:30	09/17/20 09:45
92495900009	HGWA-43D	Water	09/16/20 11:58	09/17/20 09:45
92495900010	HGWA-44D	Water	09/16/20 15:18	09/17/20 09:45
92495900011	HGWC-15	Water	09/17/20 14:25	09/18/20 10:20
92495900012	HGWC-16	Water	09/17/20 11:52	09/18/20 10:20
92495900013	MW-22	Water	09/17/20 17:00	09/18/20 10:20
92495900014	MW-23D	Water	09/17/20 17:18	09/18/20 10:20
92495900015	HGWA-42D	Water	09/17/20 13:45	09/18/20 10:20
92495900016	FB-02	Water	09/17/20 18:46	09/18/20 10:20
92495900017	FD-02	Water	09/17/20 00:00	09/18/20 10:20
92495900018	HGWC-14	Water	09/18/20 09:20	09/21/20 09:25
92495900019	MW-21D	Water	09/21/20 10:30	09/22/20 09:25
92495900020	MW-33	Water	09/21/20 13:00	09/22/20 09:25
92495900021	MW-35	Water	09/21/20 12:55	09/22/20 09:25
92495900022	MW-34D	Water	09/23/20 16:30	09/24/20 10:25
92495900023	MW-36D	Water	09/23/20 11:15	09/24/20 10:25
92495900024	MW-37D	Water	09/23/20 08:50	09/24/20 10:25
92495900025	MW-34D FILTERED	Water	09/23/20 17:00	09/24/20 10:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900001	HGWA-1	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900002	HGWA-2	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900003	HGWA-3	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900004	HGWA-4	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900005	HGWA-5	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900006	HGWA-6	EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		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
92495900007	HGWC-18	EPA 6010D	DRB	6

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900008	HGWC-17	EPA 6020B	CW1	12
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900009	HGWA-43D	EPA 300.0 Rev 2.1 1993	BRJ	3
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
92495900010	HGWA-44D	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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
92495900011	HGWC-15	SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
92495900012	HGWC-16	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
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900013	MW-22	EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
92495900014	MW-23D	EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		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
92495900015	HGWA-42D	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
92495900016	FB-02	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
92495900017	FD-02	SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
92495900018	HGWC-14	SM 4500-S2D-2011	NAL	1
		EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB, KH	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900019	MW-21D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900020	MW-33	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900021	MW-35	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1	12
		SM 2450C-2011	AW1	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900022	MW-34D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900023	MW-36D	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	KH	12
		SM 2450C-2011	JRS	1
		SM 2320B-2011	ECH	3
		SM 4500-S2D-2011	NAL	1
92495900024	MW-37D	EPA 300.0 Rev 2.1 1993	BRJ	3
		EPA 6010D	DRB	6
		EPA 6020B	KH	12
		SM 2450C-2011	JRS	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-2 SEMIANNUAL

Pace Project No.: 92495900

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92495900025	MW-34D FILTERED	EPA 6010D	DRB	6
		EPA 6020B	CW1, KH	12
		SM 2450C-2011	JRS	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

PASI-C = Pace Analytical Services - Charlotte

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900001	HGWA-1					
	pH	7.15	Std. Units		09/25/20 09:56	
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	
92495900002	HGWA-2					
	pH	5.22	Std. Units		09/25/20 09:56	
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	
92495900003	HGWA-3					
	pH	7.29	Std. Units		09/25/20 09:56	
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-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900003	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	
92495900004	HGWA-4					
	pH	5.75	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	20.4	mg/L	1.0	09/23/20 18:02	M1
EPA 6010D	Iron	0.028J	mg/L	0.040	09/23/20 18:02	
EPA 6010D	Magnesium	0.88	mg/L	0.050	09/23/20 18:02	
EPA 6010D	Manganese	0.0083J	mg/L	0.040	09/23/20 18:02	
EPA 6010D	Potassium	0.28	mg/L	0.20	09/23/20 18:02	B
EPA 6010D	Sodium	7.7	mg/L	1.0	09/23/20 18:02	
EPA 6020B	Barium	0.024	mg/L	0.010	09/23/20 17:51	
EPA 6020B	Boron	0.013J	mg/L	0.10	09/23/20 17:51	
EPA 6020B	Lead	0.000049J	mg/L	0.0050	09/23/20 17:51	
SM 2450C-2011	Total Dissolved Solids	93.0	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	70.2	mg/L	5.0	09/24/20 13:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	70.2	mg/L	5.0	09/24/20 13:54	
EPA 300.0 Rev 2.1 1993	Chloride	3.3	mg/L	1.0	09/18/20 22:46	
92495900005	HGWA-5					
	pH	6.33	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	27.9	mg/L	1.0	09/23/20 18:27	
EPA 6010D	Iron	1.6	mg/L	0.040	09/23/20 18:27	
EPA 6010D	Magnesium	5.3	mg/L	0.050	09/23/20 18:27	
EPA 6010D	Manganese	0.071	mg/L	0.040	09/23/20 18:27	
EPA 6010D	Potassium	0.72	mg/L	0.20	09/23/20 18:27	B
EPA 6010D	Sodium	5.7	mg/L	1.0	09/23/20 18:27	
EPA 6020B	Barium	0.045	mg/L	0.010	09/23/20 18:14	
EPA 6020B	Boron	0.012J	mg/L	0.10	09/23/20 18:14	
EPA 6020B	Cobalt	0.00047J	mg/L	0.0050	09/23/20 18:14	
EPA 6020B	Lithium	0.0030J	mg/L	0.030	09/23/20 18:14	
SM 2450C-2011	Total Dissolved Solids	116	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	94.0	mg/L	5.0	09/24/20 14:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	94.0	mg/L	5.0	09/24/20 14:02	
EPA 300.0 Rev 2.1 1993	Chloride	1.7	mg/L	1.0	09/18/20 23:01	
EPA 300.0 Rev 2.1 1993	Fluoride	0.061J	mg/L	0.10	09/18/20 23:01	
EPA 300.0 Rev 2.1 1993	Sulfate	21.2	mg/L	1.0	09/18/20 23:01	
92495900006	HGWA-6					
	pH	7.37	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	49.9	mg/L	1.0	09/23/20 18:32	
EPA 6010D	Iron	0.32	mg/L	0.040	09/23/20 18:32	
EPA 6010D	Magnesium	9.0	mg/L	0.050	09/23/20 18:32	
EPA 6010D	Manganese	0.071	mg/L	0.040	09/23/20 18:32	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900006	HGWA-6					
EPA 6010D	Potassium	0.61	mg/L	0.20	09/23/20 18:32	B
EPA 6010D	Sodium	6.8	mg/L	1.0	09/23/20 18:32	
EPA 6020B	Barium	0.19	mg/L	0.010	09/23/20 18:31	
EPA 6020B	Boron	0.016J	mg/L	0.10	09/23/20 18:31	
EPA 6020B	Lithium	0.0095J	mg/L	0.030	09/23/20 18:31	
SM 2450C-2011	Total Dissolved Solids	217	mg/L	10.0	09/17/20 15:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	09/24/20 14:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	166	mg/L	5.0	09/24/20 14:10	
EPA 300.0 Rev 2.1 1993	Chloride	1.2	mg/L	1.0	09/18/20 23:16	
EPA 300.0 Rev 2.1 1993	Sulfate	35.3	mg/L	1.0	09/18/20 23:16	
92495900007	HGWC-18					
	pH	4.47	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	430	mg/L	10.0	09/30/20 13:56	
EPA 6010D	Iron	0.82	mg/L	0.040	09/23/20 18:36	
EPA 6010D	Magnesium	47.0	mg/L	0.050	09/23/20 18:36	
EPA 6010D	Manganese	3.4	mg/L	0.040	09/23/20 18:36	
EPA 6010D	Potassium	10.3	mg/L	0.20	09/23/20 18:36	
EPA 6010D	Sodium	12.2	mg/L	1.0	09/23/20 18:36	
EPA 6020B	Arsenic	0.0074	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Barium	0.030	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Beryllium	0.0033	mg/L	0.0030	09/23/20 18:37	
EPA 6020B	Boron	9.4	mg/L	1.0	09/24/20 12:24	
EPA 6020B	Cadmium	0.0019J	mg/L	0.0025	09/23/20 18:37	
EPA 6020B	Chromium	0.00063J	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Cobalt	0.16	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Lead	0.0014J	mg/L	0.0050	09/23/20 18:37	
EPA 6020B	Lithium	0.014J	mg/L	0.030	09/23/20 18:37	
EPA 6020B	Selenium	0.059	mg/L	0.010	09/23/20 18:37	
EPA 6020B	Thallium	0.00016J	mg/L	0.0010	09/23/20 18:37	
SM 2450C-2011	Total Dissolved Solids	1890	mg/L	10.0	09/17/20 15:19	
EPA 300.0 Rev 2.1 1993	Chloride	150	mg/L	15.0	09/19/20 09:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.31	mg/L	0.10	09/18/20 23:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1080	mg/L	15.0	09/19/20 09:40	
92495900008	HGWC-17					
	pH	6.35	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	277	mg/L	1.0	09/23/20 18:40	
EPA 6010D	Iron	0.11	mg/L	0.040	09/23/20 18:40	
EPA 6010D	Magnesium	30.0	mg/L	0.050	09/23/20 18:40	
EPA 6010D	Manganese	3.3	mg/L	0.040	09/23/20 18:40	
EPA 6010D	Potassium	2.6	mg/L	0.20	09/23/20 18:40	
EPA 6010D	Sodium	13.8	mg/L	1.0	09/23/20 18:40	
EPA 6020B	Barium	0.025	mg/L	0.010	09/23/20 18:43	
EPA 6020B	Boron	6.7	mg/L	1.0	09/24/20 12:29	
EPA 6020B	Cobalt	0.013	mg/L	0.0050	09/23/20 18:43	
EPA 6020B	Lead	0.000065J	mg/L	0.0050	09/23/20 18:43	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	09/23/20 18:43	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900008	HGWC-17					
SM 2450C-2011	Total Dissolved Solids	1220	mg/L	10.0	09/18/20 10:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	205	mg/L	5.0	09/24/20 15:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	205	mg/L	5.0	09/24/20 15:05	
EPA 300.0 Rev 2.1 1993	Chloride	156	mg/L	10.0	09/20/20 07:13	
EPA 300.0 Rev 2.1 1993	Fluoride	0.058J	mg/L	0.10	09/19/20 21:21	
EPA 300.0 Rev 2.1 1993	Sulfate	467	mg/L	10.0	09/20/20 07:13	
92495900009	HGWA-43D					
	pH	7.52	Std. Units		09/25/20 09:56	
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	09/18/20 10:00	
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	
92495900010	HGWA-44D					
	pH	7.83	Std. Units		09/25/20 09:56	
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	
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	09/18/20 10:00	
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	M1
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	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900010	HGWA-44D					
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	
92495900011	HGWC-15					
	pH	6.11	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	188	mg/L	1.0	09/25/20 19:30	
EPA 6010D	Iron	0.017J	mg/L	0.040	09/25/20 19:30	
EPA 6010D	Magnesium	30.3	mg/L	0.050	09/25/20 19:30	
EPA 6010D	Manganese	18.2	mg/L	0.40	09/28/20 21:58	
EPA 6010D	Potassium	1.0	mg/L	0.20	09/25/20 19:30	
EPA 6010D	Sodium	12.1	mg/L	1.0	09/25/20 19:30	
EPA 6020B	Barium	0.017	mg/L	0.010	09/28/20 17:34	
EPA 6020B	Boron	2.2	mg/L	1.0	09/30/20 10:38	
EPA 6020B	Cadmium	0.0016J	mg/L	0.0025	09/28/20 17:34	
EPA 6020B	Cobalt	0.026	mg/L	0.0050	09/28/20 17:34	
EPA 6020B	Lithium	0.0094J	mg/L	0.030	09/28/20 17:34	
SM 2450C-2011	Total Dissolved Solids	956	mg/L	20.0	09/22/20 14:21	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	5.0	09/24/20 18:03	
SM 2320B-2011	Alkalinity, Total as CaCO3	92.0	mg/L	5.0	09/24/20 18:03	
EPA 300.0 Rev 2.1 1993	Chloride	108	mg/L	9.0	09/22/20 17:41	
EPA 300.0 Rev 2.1 1993	Sulfate	416	mg/L	9.0	09/22/20 17:41	
92495900012	HGWC-16					
	pH	7.11	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	190	mg/L	1.0	09/25/20 19:35	
EPA 6010D	Iron	1.0	mg/L	0.040	09/25/20 19:35	
EPA 6010D	Magnesium	15.4	mg/L	0.050	09/25/20 19:35	
EPA 6010D	Manganese	0.036J	mg/L	0.040	09/25/20 19:35	
EPA 6010D	Potassium	0.92	mg/L	0.20	09/25/20 19:35	
EPA 6010D	Sodium	9.9	mg/L	1.0	09/25/20 19:35	
EPA 6020B	Barium	0.11	mg/L	0.010	09/28/20 17:40	
EPA 6020B	Boron	2.4	mg/L	1.0	09/30/20 10:44	
EPA 6020B	Lead	0.000078J	mg/L	0.0050	09/28/20 17:40	
EPA 6020B	Lithium	0.0043J	mg/L	0.030	09/28/20 17:40	
SM 2450C-2011	Total Dissolved Solids	804	mg/L	20.0	09/22/20 14:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	213	mg/L	5.0	09/24/20 18:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	213	mg/L	5.0	09/24/20 18:12	
EPA 300.0 Rev 2.1 1993	Chloride	99.3	mg/L	1.0	09/22/20 10:02	
EPA 300.0 Rev 2.1 1993	Sulfate	254	mg/L	5.0	09/22/20 17:56	
92495900013	MW-22					
	pH	5.66	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	203	mg/L	1.0	09/25/20 19:39	
EPA 6010D	Iron	0.026J	mg/L	0.040	09/25/20 19:39	
EPA 6010D	Magnesium	42.6	mg/L	0.050	09/25/20 19:39	
EPA 6010D	Manganese	17.6	mg/L	0.40	09/28/20 22:02	
EPA 6010D	Potassium	0.87	mg/L	0.20	09/25/20 19:39	
EPA 6010D	Sodium	13.9	mg/L	1.0	09/25/20 19:39	
EPA 6020B	Barium	0.020	mg/L	0.010	09/28/20 17:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900013	MW-22					
EPA 6020B	Beryllium	0.000047J	mg/L	0.0030	09/28/20 17:45	
EPA 6020B	Boron	2.3	mg/L	1.0	09/30/20 10:50	
EPA 6020B	Cadmium	0.0021J	mg/L	0.0025	09/28/20 17:45	
EPA 6020B	Cobalt	0.029	mg/L	0.0050	09/28/20 17:45	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	09/28/20 17:45	
EPA 6020B	Selenium	0.0020J	mg/L	0.010	09/28/20 17:45	
SM 2450C-2011	Total Dissolved Solids	1090	mg/L	20.0	09/22/20 14:22	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	61.4	mg/L	5.0	09/24/20 18:24	
SM 2320B-2011	Alkalinity, Total as CaCO3	61.4	mg/L	5.0	09/24/20 18:24	
EPA 300.0 Rev 2.1 1993	Chloride	153	mg/L	10.0	09/22/20 18:10	
EPA 300.0 Rev 2.1 1993	Sulfate	468	mg/L	10.0	09/22/20 18:10	
92495900014	MW-23D					
	pH	6.71	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	361	mg/L	10.0	09/28/20 22:07	
EPA 6010D	Iron	0.34	mg/L	0.040	09/25/20 19:44	
EPA 6010D	Magnesium	31.6	mg/L	0.050	09/25/20 19:44	
EPA 6010D	Manganese	7.9	mg/L	0.040	09/25/20 19:44	
EPA 6010D	Potassium	2.3	mg/L	0.20	09/25/20 19:44	
EPA 6010D	Sodium	13.5	mg/L	1.0	09/25/20 19:44	
EPA 6020B	Barium	0.057	mg/L	0.010	09/28/20 17:51	
EPA 6020B	Boron	2.7	mg/L	1.0	09/30/20 10:56	
EPA 6020B	Cadmium	0.00060J	mg/L	0.0025	09/28/20 17:51	
EPA 6020B	Cobalt	0.00096J	mg/L	0.0050	09/28/20 17:51	
EPA 6020B	Lead	0.00016J	mg/L	0.0050	09/28/20 17:51	
EPA 6020B	Lithium	0.0021J	mg/L	0.030	09/28/20 17:51	
EPA 6020B	Molybdenum	0.0026J	mg/L	0.010	09/28/20 17:51	
SM 2450C-2011	Total Dissolved Solids	1360	mg/L	40.0	09/22/20 14:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	249	mg/L	5.0	09/28/20 15:58	
SM 2320B-2011	Alkalinity, Total as CaCO3	249	mg/L	5.0	09/28/20 15:58	
EPA 300.0 Rev 2.1 1993	Chloride	171	mg/L	10.0	09/22/20 18:25	
EPA 300.0 Rev 2.1 1993	Sulfate	490	mg/L	10.0	09/22/20 18:25	
92495900015	HGWA-42D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	43.8	mg/L	1.0	09/25/20 19:48	
EPA 6010D	Iron	0.21	mg/L	0.040	09/25/20 19:48	
EPA 6010D	Magnesium	5.9	mg/L	0.050	09/25/20 19:48	
EPA 6010D	Manganese	0.062	mg/L	0.040	09/25/20 19:48	
EPA 6010D	Potassium	1.4	mg/L	0.20	09/25/20 19:48	
EPA 6010D	Sodium	7.9	mg/L	1.0	09/25/20 19:48	
EPA 6020B	Antimony	0.00055J	mg/L	0.0030	09/28/20 17:57	
EPA 6020B	Barium	0.13	mg/L	0.010	09/28/20 17:57	
EPA 6020B	Boron	0.098J	mg/L	0.10	09/28/20 17:57	
EPA 6020B	Lead	0.000062J	mg/L	0.0050	09/28/20 17:57	
EPA 6020B	Lithium	0.0039J	mg/L	0.030	09/28/20 17:57	
EPA 6020B	Molybdenum	0.0037J	mg/L	0.010	09/28/20 17:57	
SM 2450C-2011	Total Dissolved Solids	188	mg/L	10.0	09/22/20 14:22	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900015	HGWA-42D					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	158	mg/L	5.0	09/24/20 18:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	158	mg/L	5.0	09/24/20 18:51	
SM 4500-S2D-2011	Sulfide	0.082J	mg/L	0.10	09/22/20 14:36	
EPA 300.0 Rev 2.1 1993	Chloride	5.8	mg/L	1.0	09/22/20 11:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.20	mg/L	0.10	09/22/20 11:16	
EPA 300.0 Rev 2.1 1993	Sulfate	10.9	mg/L	1.0	09/22/20 11:16	
92495900016	FB-02					
EPA 6010D	Potassium	0.062J	mg/L	0.20	09/25/20 19:52	
EPA 6020B	Boron	0.0078J	mg/L	0.10	09/28/20 18:03	
92495900017	FD-02					
EPA 6010D	Calcium	185	mg/L	1.0	09/25/20 20:05	
EPA 6010D	Magnesium	29.8	mg/L	0.050	09/25/20 20:05	
EPA 6010D	Manganese	18.5	mg/L	0.40	09/28/20 22:11	
EPA 6010D	Potassium	1.1	mg/L	0.20	09/25/20 20:05	
EPA 6010D	Sodium	11.9	mg/L	1.0	09/25/20 20:05	
EPA 6020B	Barium	0.017	mg/L	0.010	09/28/20 18:21	
EPA 6020B	Boron	2.0	mg/L	1.0	09/30/20 11:01	
EPA 6020B	Cadmium	0.0015J	mg/L	0.0025	09/28/20 18:21	
EPA 6020B	Cobalt	0.027	mg/L	0.0050	09/28/20 18:21	
EPA 6020B	Lithium	0.0080J	mg/L	0.030	09/28/20 18:21	
SM 2450C-2011	Total Dissolved Solids	956	mg/L	20.0	09/22/20 14:22	MW
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	89.8	mg/L	5.0	09/24/20 19:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	89.8	mg/L	5.0	09/24/20 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	107	mg/L	9.0	09/22/20 18:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.050J	mg/L	0.10	09/22/20 12:16	
EPA 300.0 Rev 2.1 1993	Sulfate	416	mg/L	9.0	09/22/20 18:40	
92495900018	HGWC-14					
	pH	4.88	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	623	mg/L	10.0	09/28/20 22:15	
EPA 6010D	Iron	0.90	mg/L	0.040	09/25/20 20:14	
EPA 6010D	Magnesium	49.2	mg/L	0.050	09/25/20 20:14	
EPA 6010D	Manganese	5.0	mg/L	0.040	09/25/20 20:14	
EPA 6010D	Potassium	12.6	mg/L	0.20	09/25/20 20:14	
EPA 6010D	Sodium	10.9	mg/L	1.0	09/25/20 20:14	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Barium	0.019	mg/L	0.010	09/25/20 19:39	
EPA 6020B	Beryllium	0.00043J	mg/L	0.0030	09/25/20 19:39	
EPA 6020B	Boron	11.0	mg/L	1.0	09/29/20 17:08	
EPA 6020B	Cobalt	0.027	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Lead	0.0012J	mg/L	0.0050	09/25/20 19:39	
EPA 6020B	Selenium	0.0045J	mg/L	0.010	09/25/20 19:39	
EPA 6020B	Thallium	0.00028J	mg/L	0.0010	09/25/20 19:39	
SM 2450C-2011	Total Dissolved Solids	2440	mg/L	50.0	09/23/20 13:16	
EPA 300.0 Rev 2.1 1993	Chloride	288	mg/L	17.0	09/25/20 10:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1260	mg/L	17.0	09/25/20 10:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900019	MW-21D					
	pH	6.92	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	428	mg/L	10.0	09/29/20 13:39	
EPA 6010D	Iron	23.0	mg/L	0.040	09/25/20 21:37	
EPA 6010D	Magnesium	63.3	mg/L	0.050	09/25/20 21:37	
EPA 6010D	Manganese	1.4	mg/L	0.040	09/25/20 21:37	
EPA 6010D	Potassium	1.2	mg/L	0.20	09/25/20 21:37	
EPA 6010D	Sodium	15.1	mg/L	1.0	09/25/20 21:37	
EPA 6020B	Barium	0.049	mg/L	0.010	09/30/20 18:40	
EPA 6020B	Boron	5.6	mg/L	0.10	09/30/20 18:40	
EPA 6020B	Lithium	0.022J	mg/L	0.030	09/30/20 18:40	
EPA 6020B	Molybdenum	0.017	mg/L	0.010	09/30/20 18:40	
SM 2450C-2011	Total Dissolved Solids	2060	mg/L	50.0	09/24/20 10:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	32.8	mg/L	5.0	09/30/20 18:31	
SM 2320B-2011	Alkalinity, Total as CaCO3	32.8	mg/L	5.0	09/30/20 18:31	
EPA 300.0 Rev 2.1 1993	Chloride	236	mg/L	14.0	09/25/20 11:57	
EPA 300.0 Rev 2.1 1993	Sulfate	1010	mg/L	14.0	09/25/20 11:57	M6
92495900020	MW-33					
	pH	4.48	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	562	mg/L	10.0	09/29/20 13:43	
EPA 6010D	Iron	1.3	mg/L	0.040	09/25/20 21:41	
EPA 6010D	Magnesium	50.2	mg/L	0.050	09/25/20 21:41	
EPA 6010D	Manganese	4.5	mg/L	0.040	09/25/20 21:41	
EPA 6010D	Potassium	12.4	mg/L	0.20	09/25/20 21:41	
EPA 6010D	Sodium	10.8	mg/L	1.0	09/25/20 21:41	
EPA 6020B	Arsenic	0.0083	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Barium	0.024	mg/L	0.010	09/30/20 18:46	
EPA 6020B	Beryllium	0.00090J	mg/L	0.0030	09/30/20 18:46	
EPA 6020B	Boron	9.0	mg/L	0.10	09/30/20 18:46	
EPA 6020B	Cadmium	0.00016J	mg/L	0.0025	09/30/20 18:46	
EPA 6020B	Cobalt	0.047	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Lead	0.0017J	mg/L	0.0050	09/30/20 18:46	
EPA 6020B	Lithium	0.00086J	mg/L	0.030	09/30/20 18:46	
EPA 6020B	Selenium	0.041	mg/L	0.010	09/30/20 18:46	
EPA 6020B	Thallium	0.00029J	mg/L	0.0010	09/30/20 18:46	
SM 2450C-2011	Total Dissolved Solids	2340	mg/L	50.0	09/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	273	mg/L	18.0	09/25/20 13:08	
EPA 300.0 Rev 2.1 1993	Fluoride	0.14	mg/L	0.10	09/24/20 19:15	
EPA 300.0 Rev 2.1 1993	Sulfate	1290	mg/L	18.0	09/25/20 13:08	
92495900021	MW-35					
	pH	5.40	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	503	mg/L	10.0	09/29/20 13:47	
EPA 6010D	Iron	2.3	mg/L	0.040	09/25/20 21:46	
EPA 6010D	Magnesium	61.6	mg/L	0.050	09/25/20 21:46	
EPA 6010D	Manganese	10.8	mg/L	0.040	09/25/20 21:46	
EPA 6010D	Potassium	9.2	mg/L	0.20	09/25/20 21:46	
EPA 6010D	Sodium	11.7	mg/L	1.0	09/25/20 21:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900021	MW-35					
EPA 6020B	Arsenic	0.0059	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Barium	0.028	mg/L	0.010	09/30/20 18:52	
EPA 6020B	Beryllium	0.00040J	mg/L	0.0030	09/30/20 18:52	
EPA 6020B	Boron	12.3	mg/L	1.0	10/02/20 15:43	
EPA 6020B	Cadmium	0.0010J	mg/L	0.0025	09/30/20 18:52	
EPA 6020B	Chromium	0.00079J	mg/L	0.010	09/30/20 18:52	
EPA 6020B	Cobalt	0.084	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Lead	0.00099J	mg/L	0.0050	09/30/20 18:52	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	09/30/20 18:52	
EPA 6020B	Selenium	0.037	mg/L	0.010	09/30/20 18:52	
SM 2450C-2011	Total Dissolved Solids	2210	mg/L	50.0	09/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	257	mg/L	17.0	09/25/20 13:23	
EPA 300.0 Rev 2.1 1993	Sulfate	1220	mg/L	17.0	09/25/20 13:23	
92495900022	MW-34D					
	pH	7.05	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	556	mg/L	10.0	10/01/20 13:15	
EPA 6010D	Iron	0.023J	mg/L	0.040	09/30/20 21:54	
EPA 6010D	Magnesium	49.7	mg/L	0.050	09/30/20 21:54	
EPA 6010D	Manganese	3.7	mg/L	0.040	09/30/20 21:54	
EPA 6010D	Potassium	9.6	mg/L	0.20	09/30/20 21:54	
EPA 6010D	Sodium	15.4	mg/L	1.0	09/30/20 21:54	
EPA 6020B	Arsenic	0.0010J	mg/L	0.0050	10/01/20 16:04	
EPA 6020B	Barium	0.038	mg/L	0.010	10/01/20 16:04	
EPA 6020B	Boron	10.2	mg/L	1.0	10/07/20 12:17	
EPA 6020B	Cobalt	0.0056	mg/L	0.0050	10/01/20 16:04	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	10/01/20 16:04	
SM 2450C-2011	Total Dissolved Solids	2430	mg/L	100	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	94.5	mg/L	5.0	10/02/20 19:08	
SM 2320B-2011	Alkalinity, Total as CaCO3	94.5	mg/L	5.0	10/02/20 19:08	
EPA 300.0 Rev 2.1 1993	Chloride	294	mg/L	23.0	09/29/20 23:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1080	mg/L	23.0	09/29/20 23:30	
92495900023	MW-36D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	62.1	mg/L	1.0	09/30/20 21:59	
EPA 6010D	Iron	0.62	mg/L	0.040	09/30/20 21:59	
EPA 6010D	Magnesium	7.1	mg/L	0.050	09/30/20 21:59	
EPA 6010D	Manganese	0.045	mg/L	0.040	09/30/20 21:59	
EPA 6010D	Potassium	0.44	mg/L	0.20	09/30/20 21:59	
EPA 6010D	Sodium	6.8	mg/L	1.0	09/30/20 21:59	
EPA 6020B	Barium	0.17	mg/L	0.010	10/01/20 16:10	
EPA 6020B	Boron	0.055J	mg/L	0.10	10/01/20 16:10	
EPA 6020B	Lead	0.000088J	mg/L	0.0050	10/01/20 16:10	
EPA 6020B	Lithium	0.0084J	mg/L	0.030	10/01/20 16:10	
SM 2450C-2011	Total Dissolved Solids	256	mg/L	10.0	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	159	mg/L	5.0	10/02/20 19:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	159	mg/L	5.0	10/02/20 19:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92495900023	MW-36D					
SM 4500-S2D-2011	Sulfide	0.055J	mg/L	0.10	09/29/20 13:25	
EPA 300.0 Rev 2.1 1993	Chloride	2.2	mg/L	1.0	09/29/20 18:12	
EPA 300.0 Rev 2.1 1993	Sulfate	56.0	mg/L	1.0	09/29/20 18:12	
92495900024	MW-37D					
	pH	7.62	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	158	mg/L	1.0	09/30/20 22:03	
EPA 6010D	Iron	0.74	mg/L	0.040	09/30/20 22:03	
EPA 6010D	Magnesium	28.1	mg/L	0.050	09/30/20 22:03	
EPA 6010D	Manganese	0.12	mg/L	0.040	09/30/20 22:03	
EPA 6010D	Potassium	1.4	mg/L	0.20	09/30/20 22:03	
EPA 6010D	Sodium	53.6	mg/L	1.0	09/30/20 22:03	
EPA 6020B	Arsenic	0.00095J	mg/L	0.0050	10/01/20 16:15	
EPA 6020B	Barium	0.14	mg/L	0.010	10/01/20 16:15	
EPA 6020B	Boron	0.12	mg/L	0.10	10/01/20 16:15	
EPA 6020B	Lead	0.000082J	mg/L	0.0050	10/01/20 16:15	
EPA 6020B	Lithium	0.031	mg/L	0.030	10/01/20 16:15	
EPA 6020B	Molybdenum	0.015	mg/L	0.010	10/01/20 16:15	
SM 2450C-2011	Total Dissolved Solids	894	mg/L	20.0	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	133	mg/L	5.0	10/02/20 19:26	
SM 2320B-2011	Alkalinity, Total as CaCO3	133	mg/L	5.0	10/02/20 19:26	
SM 4500-S2D-2011	Sulfide	0.26	mg/L	0.10	09/29/20 13:25	
EPA 300.0 Rev 2.1 1993	Chloride	166	mg/L	6.0	09/29/20 23:44	
EPA 300.0 Rev 2.1 1993	Fluoride	0.065J	mg/L	0.10	09/29/20 18:26	
EPA 300.0 Rev 2.1 1993	Sulfate	256	mg/L	6.0	09/29/20 23:44	
92495900025	MW-34D FILTERED					
	pH	7.05	Std. Units		09/25/20 09:56	
EPA 6010D	Calcium	616	mg/L	10.0	10/01/20 13:19	
EPA 6010D	Iron	2.0	mg/L	0.040	09/30/20 22:08	
EPA 6010D	Magnesium	53.6	mg/L	0.050	09/30/20 22:08	
EPA 6010D	Manganese	4.1	mg/L	0.040	09/30/20 22:08	
EPA 6010D	Potassium	10.6	mg/L	0.20	09/30/20 22:08	
EPA 6010D	Sodium	16.8	mg/L	1.0	09/30/20 22:08	
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Barium	0.044	mg/L	0.010	10/01/20 16:21	
EPA 6020B	Beryllium	0.00018J	mg/L	0.0030	10/01/20 16:21	
EPA 6020B	Boron	9.8	mg/L	1.0	10/05/20 13:54	
EPA 6020B	Cadmium	0.00019J	mg/L	0.0025	10/01/20 16:21	
EPA 6020B	Chromium	0.0027J	mg/L	0.010	10/01/20 16:21	
EPA 6020B	Cobalt	0.0070	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Lead	0.0010J	mg/L	0.0050	10/01/20 16:21	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	10/01/20 16:21	
SM 2450C-2011	Total Dissolved Solids	2550	mg/L	100	09/28/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	119	mg/L	5.0	10/02/20 19:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	119	mg/L	5.0	10/02/20 19:36	
SM 4500-S2D-2011	Sulfide	0.086J	mg/L	0.10	09/29/20 13:27	
EPA 300.0 Rev 2.1 1993	Chloride	295	mg/L	22.0	09/29/20 16:35	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92495900025	MW-34D FILTERED					
EPA 300.0 Rev 2.1 1993	Fluoride	0.086J	mg/L	0.10	09/29/20 02:08	
EPA 300.0 Rev 2.1 1993	Sulfate	1100	mg/L	22.0	09/29/20 16:35	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-1 **Lab ID: 92495900001** 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
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.15	Std. Units			1		09/25/20 09:56		
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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

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		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	307	mg/L	5.0	5.0	1		09/24/20 19:36		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/24/20 19:36		
Alkalinity, Total as CaCO ₃	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	
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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	
Fluoride	0.082J	mg/L	0.10	0.050	1		09/18/20 21:31	16984-48-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-1 **Lab ID: 92495900001** 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									
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-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-2 **Lab ID: 92495900002** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.22	Std. Units			1		09/25/20 09:56		
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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

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		
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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	M1
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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	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 21:46	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-2		Lab ID: 92495900002		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							
Sulfate	51.5	mg/L	1.0	0.50	1		09/18/20 21:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-3 **Lab ID: 92495900003** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.29	Std. Units			1		09/25/20 09:56		
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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

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		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	187	mg/L	5.0	5.0	1		09/24/20 13:43		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/24/20 13:43		
Alkalinity, Total as CaCO ₃	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	
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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	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 22:01	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWA-3** Lab ID: **92495900003** 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									
Sulfate	44.7	mg/L	1.0	0.50	1		09/18/20 22:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-4 **Lab ID: 92495900004** Collected: 09/15/20 14:35 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.75	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	20.4	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:02	7440-70-2	M1
Iron	0.028J	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:02	7439-89-6	
Magnesium	0.88	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:02	7439-95-4	
Manganese	0.0083J	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:02	7439-96-5	
Potassium	0.28	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:02	7440-09-7	B
Sodium	7.7	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:02	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 17:51	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 17:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 17:51	7440-41-7	
Boron	0.013J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 17:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 17:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 17:51	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 17:51	7440-48-4	
Lead	0.000049J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 17:51	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 17:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 17:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 17:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 17:51	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	93.0	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	70.2	mg/L	5.0	5.0	1		09/24/20 13:54		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/24/20 13:54		
Alkalinity, Total as CaCO ₃	70.2	mg/L	5.0	5.0	1		09/24/20 13:54		

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 14:14	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	3.3	mg/L	1.0	0.60	1		09/18/20 22:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 22:46	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWA-4** Lab ID: **92495900004** Collected: 09/15/20 14:35 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									
Sulfate	ND	mg/L	1.0	0.50	1		09/18/20 22:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-5 **Lab ID: 92495900005** Collected: 09/15/20 10:54 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.33	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	27.9	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:27	7440-70-2	
Iron	1.6	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:27	7439-89-6	
Magnesium	5.3	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:27	7439-95-4	
Manganese	0.071	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:27	7439-96-5	
Potassium	0.72	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:27	7440-09-7	B
Sodium	5.7	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:27	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:14	7440-38-2	
Barium	0.045	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:14	7440-41-7	
Boron	0.012J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 18:14	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:14	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:14	7440-47-3	
Cobalt	0.00047J	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:14	7439-92-1	
Lithium	0.0030J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:14	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	116	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	94.0	mg/L	5.0	5.0	1		09/24/20 14:02		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/24/20 14:02		
Alkalinity, Total as CaCO ₃	94.0	mg/L	5.0	5.0	1		09/24/20 14:02		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	1.7	mg/L	1.0	0.60	1		09/18/20 23:01	16887-00-6	
Fluoride	0.061J	mg/L	0.10	0.050	1		09/18/20 23:01	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-5	Lab ID: 92495900005	Collected: 09/15/20 10:54	Received: 09/16/20 11:14	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<hr/>									
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Sulfate	21.2	mg/L	1.0	0.50	1		09/18/20 23:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-6 **Lab ID: 92495900006** Collected: 09/15/20 12:40 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.37	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	49.9	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:32	7440-70-2	
Iron	0.32	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:32	7439-89-6	
Magnesium	9.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:32	7439-95-4	
Manganese	0.071	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:32	7439-96-5	
Potassium	0.61	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:32	7440-09-7	B
Sodium	6.8	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:32	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:31	7440-38-2	
Barium	0.19	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:31	7440-41-7	
Boron	0.016J	mg/L	0.10	0.0052	1	09/22/20 20:07	09/23/20 18:31	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:31	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:31	7439-92-1	
Lithium	0.0095J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:31	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:31	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	217	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		09/24/20 14:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:10		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		09/24/20 14:10		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	1.2	mg/L	1.0	0.60	1		09/18/20 23:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/20 23:16	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWA-6** Lab ID: **92495900006** Collected: 09/15/20 12:40 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									
Sulfate	35.3	mg/L	1.0	0.50	1		09/18/20 23:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-18 **Lab ID: 92495900007** Collected: 09/15/20 16:17 Received: 09/16/20 11:14 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.47	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	430	mg/L	10.0	0.70	10	09/22/20 20:12	09/30/20 13:56	7440-70-2	
Iron	0.82	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:36	7439-89-6	
Magnesium	47.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:36	7439-95-4	
Manganese	3.4	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:36	7439-96-5	
Potassium	10.3	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:36	7440-09-7	
Sodium	12.2	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:36	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0074	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:37	7440-38-2	
Barium	0.030	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:37	7440-39-3	
Beryllium	0.0033	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:37	7440-41-7	
Boron	9.4	mg/L	1.0	0.052	10	09/22/20 20:07	09/24/20 12:24	7440-42-8	
Cadmium	0.0019J	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:37	7440-43-9	
Chromium	0.00063J	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:37	7440-47-3	
Cobalt	0.16	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:37	7440-48-4	
Lead	0.0014J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:37	7439-92-1	
Lithium	0.014J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:37	7439-98-7	
Selenium	0.059	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:37	7782-49-2	
Thallium	0.00016J	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:37	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1890	mg/L	10.0	10.0	1		09/17/20 15:19		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 14:31		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/20 14:31		

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 14:15	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	150	mg/L	15.0	9.0	15		09/19/20 09:40	16887-00-6	
Fluoride	0.31	mg/L	0.10	0.050	1		09/18/20 23:30	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWC-18** Lab ID: **92495900007** Collected: 09/15/20 16:17 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									
Sulfate	1080	mg/L	15.0	7.5	15		09/19/20 09:40	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: HGWC-17 **Lab ID: 92495900008** Collected: 09/16/20 17:30 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	6.35	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	277	mg/L	1.0	0.070	1	09/22/20 20:12	09/23/20 18:40	7440-70-2	
Iron	0.11	mg/L	0.040	0.016	1	09/22/20 20:12	09/23/20 18:40	7439-89-6	
Magnesium	30.0	mg/L	0.050	0.0076	1	09/22/20 20:12	09/23/20 18:40	7439-95-4	
Manganese	3.3	mg/L	0.040	0.0017	1	09/22/20 20:12	09/23/20 18:40	7439-96-5	
Potassium	2.6	mg/L	0.20	0.056	1	09/22/20 20:12	09/23/20 18:40	7440-09-7	
Sodium	13.8	mg/L	1.0	0.26	1	09/22/20 20:12	09/23/20 18:40	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/22/20 20:07	09/23/20 18:43	7440-38-2	
Barium	0.025	mg/L	0.010	0.00071	1	09/22/20 20:07	09/23/20 18:43	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/22/20 20:07	09/23/20 18:43	7440-41-7	
Boron	6.7	mg/L	1.0	0.052	10	09/22/20 20:07	09/24/20 12:29	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/22/20 20:07	09/23/20 18:43	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/22/20 20:07	09/23/20 18:43	7440-47-3	
Cobalt	0.013	mg/L	0.0050	0.00038	1	09/22/20 20:07	09/23/20 18:43	7440-48-4	
Lead	0.000065J	mg/L	0.0050	0.000036	1	09/22/20 20:07	09/23/20 18:43	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	09/22/20 20:07	09/23/20 18:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/22/20 20:07	09/23/20 18:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/22/20 20:07	09/23/20 18:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/22/20 20:07	09/23/20 18:43	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1220	mg/L	10.0	10.0	1		09/18/20 10:00		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	205	mg/L	5.0	5.0	1		09/24/20 15:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 15:05		
Alkalinity, Total as CaCO3	205	mg/L	5.0	5.0	1		09/24/20 15:05		

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	
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300.0 IC Anions 28 Days

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

Chloride	156	mg/L	10.0	6.0	10		09/20/20 07:13	16887-00-6	
Fluoride	0.058J	mg/L	0.10	0.050	1		09/19/20 21:21	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-17 Lab ID: 92495900008 Collected: 09/16/20 17:30 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									
Sulfate	467	mg/L	10.0	5.0	10		09/20/20 07:13	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-43D **Lab ID: 92495900009** 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
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.52	Std. Units			1		09/25/20 09:56		
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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 12:43	7439-97-6	
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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		09/18/20 10:00		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	251	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/28/20 15:11		
Alkalinity, Total as CaCO ₃	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	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-43D **Lab ID: 92495900009** 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
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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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-44D **Lab ID: 92495900010** 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
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.83	Std. Units			1		09/25/20 09:56		
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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 12:45	7439-97-6	
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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		09/18/20 10:00		
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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		M1

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	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-44D **Lab ID: 92495900010** Collected: 09/16/20 15:18 Received: 09/17/20 09:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-15 **Lab ID: 92495900011** Collected: 09/17/20 14:25 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.11	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	188	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:30	7440-70-2	
Iron	0.017J	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:30	7439-89-6	
Magnesium	30.3	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:30	7439-95-4	
Manganese	18.2	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 21:58	7439-96-5	
Potassium	1.0	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:30	7440-09-7	
Sodium	12.1	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:30	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:34	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:34	7440-41-7	
Boron	2.2	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:38	7440-42-8	
Cadmium	0.0016J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:34	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:34	7440-47-3	
Cobalt	0.026	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:34	7439-92-1	
Lithium	0.0094J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:34	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	956	mg/L	20.0	20.0	1		09/22/20 14:21		MW
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	5.0	5.0	1		09/24/20 18:03		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:03		
Alkalinity, Total as CaCO3	92.0	mg/L	5.0	5.0	1		09/24/20 18:03		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	ND	mg/L	0.10	0.050	1		09/22/20 14:32	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	108	mg/L	9.0	5.4	9		09/22/20 17:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 09:47	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-15 Lab ID: 92495900011 Collected: 09/17/20 14:25 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									
Sulfate	416	mg/L	9.0	4.5	9		09/22/20 17:41	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: HGWC-16 **Lab ID: 92495900012** Collected: 09/17/20 11:52 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	7.11	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	190	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:35	7440-70-2	
Iron	1.0	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:35	7439-89-6	
Magnesium	15.4	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:35	7439-95-4	
Manganese	0.036J	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:35	7439-96-5	
Potassium	0.92	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:35	7440-09-7	
Sodium	9.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:35	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:40	7440-38-2	
Barium	0.11	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:40	7440-41-7	
Boron	2.4	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:44	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:40	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:40	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:40	7440-48-4	
Lead	0.000078J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:40	7439-92-1	
Lithium	0.0043J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:40	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:40	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	804	mg/L	20.0	20.0	1		09/22/20 14:22		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	213	mg/L	5.0	5.0	1		09/24/20 18:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:12		
Alkalinity, Total as CaCO3	213	mg/L	5.0	5.0	1		09/24/20 18:12		

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 14:34	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	99.3	mg/L	1.0	0.60	1		09/22/20 10:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 10:02	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWC-16** Lab ID: **92495900012** Collected: 09/17/20 11:52 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									
Sulfate	254	mg/L	5.0	2.5	5		09/22/20 17:56	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: MW-22 **Lab ID: 92495900013** Collected: 09/17/20 17:00 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

pH	5.66	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	203	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:39	7440-70-2	
Iron	0.026J	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:39	7439-89-6	
Magnesium	42.6	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:39	7439-95-4	
Manganese	17.6	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 22:02	7439-96-5	
Potassium	0.87	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:39	7440-09-7	
Sodium	13.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:39	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:45	7440-38-2	
Barium	0.020	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:45	7440-39-3	
Beryllium	0.000047J	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:45	7440-41-7	
Boron	2.3	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:50	7440-42-8	
Cadmium	0.0021J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:45	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:45	7440-47-3	
Cobalt	0.029	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:45	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:45	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:45	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:45	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1090	mg/L	20.0	20.0	1		09/22/20 14:22		MW
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2320B Alkalinity

Analytical Method: SM 2320B-2011
 Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	61.4	mg/L	5.0	5.0	1		09/24/20 18:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:24		
Alkalinity, Total as CaCO3	61.4	mg/L	5.0	5.0	1		09/24/20 18:24		

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 14:35	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	153	mg/L	10.0	6.0	10		09/22/20 18:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 10:16	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-22		Lab ID: 92495900013		Collected: 09/17/20 17:00	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							
Sulfate	468	mg/L	10.0	5.0	10		09/22/20 18:10	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-23D **Lab ID: 92495900014** Collected: 09/17/20 17:18 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.71	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	361	mg/L	10.0	0.70	10	09/24/20 14:17	09/28/20 22:07	7440-70-2
Iron	0.34	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:44	7439-89-6
Magnesium	31.6	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:44	7439-95-4
Manganese	7.9	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:44	7439-96-5
Potassium	2.3	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:44	7440-09-7
Sodium	13.5	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:44	7440-23-5

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:51	7440-38-2
Barium	0.057	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:51	7440-39-3
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:51	7440-41-7
Boron	2.7	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 10:56	7440-42-8
Cadmium	0.00060J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:51	7440-43-9
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:51	7440-47-3
Cobalt	0.00096J	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:51	7440-48-4
Lead	0.00016J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:51	7439-92-1
Lithium	0.0021J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:51	7439-93-2
Molybdenum	0.0026J	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:51	7439-98-7
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:51	7782-49-2
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:51	7440-28-0

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1360	mg/L	40.0	40.0	1		09/22/20 14:22
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	249	mg/L	5.0	5.0	1		09/28/20 15:58
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/28/20 15:58
Alkalinity, Total as CaCO3	249	mg/L	5.0	5.0	1		09/28/20 15:58

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 14:36	18496-25-8
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300.0 IC Anions 28 Days

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

Chloride	171	mg/L	10.0	6.0	10		09/22/20 18:25	16887-00-6
Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 11:01	16984-48-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-23D Lab ID: 92495900014 Collected: 09/17/20 17:18 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									
Sulfate	490	mg/L	10.0	5.0	10		09/22/20 18:25	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWA-42D **Lab ID: 92495900015** Collected: 09/17/20 13:45 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.62	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	43.8	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:48	7440-70-2	
Iron	0.21	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:48	7439-89-6	
Magnesium	5.9	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:48	7439-95-4	
Manganese	0.062	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:48	7439-96-5	
Potassium	1.4	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:48	7440-09-7	
Sodium	7.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:48	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00055J	mg/L	0.0030	0.00028	1	09/24/20 08:45	09/28/20 17:57	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 17:57	7440-38-2	
Barium	0.13	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 17:57	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 17:57	7440-41-7	
Boron	0.098J	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 17:57	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 17:57	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 17:57	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 17:57	7440-48-4	
Lead	0.000062J	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 17:57	7439-92-1	
Lithium	0.0039J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 17:57	7439-93-2	
Molybdenum	0.0037J	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 17:57	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 17:57	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 17:57	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 12:48	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	188	mg/L	10.0	10.0	1		09/22/20 14:22		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	158	mg/L	5.0	5.0	1		09/24/20 18:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 18:51		
Alkalinity, Total as CaCO3	158	mg/L	5.0	5.0	1		09/24/20 18:51		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.082J	mg/L	0.10	0.050	1		09/22/20 14:36	18496-25-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: **HGWA-42D** Lab ID: **92495900015** Collected: 09/17/20 13:45 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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		09/22/20 11:16	16887-00-6	
Fluoride	0.20	mg/L	0.10	0.050	1		09/22/20 11:16	16984-48-8	
Sulfate	10.9	mg/L	1.0	0.50	1		09/22/20 11:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Sample: FB-02		Lab ID: 92495900016		Collected: 09/17/20 18:46	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	ND	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 19:52	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 19:52	7439-89-6	
Magnesium	ND	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 19:52	7439-95-4	
Manganese	ND	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 19:52	7439-96-5	
Potassium	0.062J	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 19:52	7440-09-7	
Sodium	ND	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 19:52	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 18:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:03	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:03	7440-41-7	
Boron	0.0078J	mg/L	0.10	0.0052	1	09/24/20 08:45	09/28/20 18:03	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:03	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:03	7440-28-0	
7470 Mercury		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00050	0.000078	1	10/13/20 08:00	10/13/20 12:50	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		09/22/20 14:22		
2320B Alkalinity		Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/20 19:01		
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 14:37	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		09/22/20 11:31	16887-00-6	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: FB-02 **Lab ID: 92495900016** Collected: 09/17/20 18:46 Received: 09/18/20 10:20 Matrix: Water

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

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

Fluoride	ND	mg/L	0.10	0.050	1		09/22/20 11:31	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/22/20 11:31	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: FD-02 **Lab ID: 92495900017** Collected: 09/17/20 00:00 Received: 09/18/20 10:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	185	mg/L	1.0	0.070	1	09/24/20 14:17	09/25/20 20:05	7440-70-2	
Iron	ND	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:05	7439-89-6	
Magnesium	29.8	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:05	7439-95-4	
Manganese	18.5	mg/L	0.40	0.017	10	09/24/20 14:17	09/28/20 22:11	7439-96-5	
Potassium	1.1	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:05	7440-09-7	
Sodium	11.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:05	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	09/24/20 08:45	09/28/20 18:21	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	09/24/20 08:45	09/28/20 18:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/24/20 08:45	09/28/20 18:21	7440-41-7	
Boron	2.0	mg/L	1.0	0.052	10	09/24/20 08:45	09/30/20 11:01	7440-42-8	
Cadmium	0.0015J	mg/L	0.0025	0.00012	1	09/24/20 08:45	09/28/20 18:21	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 08:45	09/28/20 18:21	7440-47-3	
Cobalt	0.027	mg/L	0.0050	0.00038	1	09/24/20 08:45	09/28/20 18:21	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/24/20 08:45	09/28/20 18:21	7439-92-1	
Lithium	0.0080J	mg/L	0.030	0.00081	1	09/24/20 08:45	09/28/20 18:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 08:45	09/28/20 18:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/24/20 08:45	09/28/20 18:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/24/20 08:45	09/28/20 18:21	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	956	mg/L	20.0	20.0	1		09/22/20 14:22		MW
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	89.8	mg/L	5.0	5.0	1		09/24/20 19:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/20 19:05		
Alkalinity, Total as CaCO3	89.8	mg/L	5.0	5.0	1		09/24/20 19:05		
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 14:37	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	107	mg/L	9.0	5.4	9		09/22/20 18:40	16887-00-6	
Fluoride	0.050J	mg/L	0.10	0.050	1		09/22/20 12:16	16984-48-8	
Sulfate	416	mg/L	9.0	4.5	9		09/22/20 18:40	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-14 **Lab ID: 92495900018** Collected: 09/18/20 09:20 Received: 09/21/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.88	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	623	mg/L	10.0	0.70	10	09/24/20 14:17	09/28/20 22:15	7440-70-2	
Iron	0.90	mg/L	0.040	0.016	1	09/24/20 14:17	09/25/20 20:14	7439-89-6	
Magnesium	49.2	mg/L	0.050	0.0076	1	09/24/20 14:17	09/25/20 20:14	7439-95-4	
Manganese	5.0	mg/L	0.040	0.0017	1	09/24/20 14:17	09/25/20 20:14	7439-96-5	
Potassium	12.6	mg/L	0.20	0.056	1	09/24/20 14:17	09/25/20 20:14	7440-09-7	
Sodium	10.9	mg/L	1.0	0.26	1	09/24/20 14:17	09/25/20 20:14	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0029J	mg/L	0.0050	0.00078	1	09/24/20 14:23	09/25/20 19:39	7440-38-2	
Barium	0.019	mg/L	0.010	0.00071	1	09/24/20 14:23	09/25/20 19:39	7440-39-3	
Beryllium	0.00043J	mg/L	0.0030	0.000046	1	09/24/20 14:23	09/25/20 19:39	7440-41-7	
Boron	11.0	mg/L	1.0	0.052	10	09/24/20 14:23	09/29/20 17:08	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/24/20 14:23	09/25/20 19:39	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/24/20 14:23	09/25/20 19:39	7440-47-3	
Cobalt	0.027	mg/L	0.0050	0.00038	1	09/24/20 14:23	09/25/20 19:39	7440-48-4	
Lead	0.0012J	mg/L	0.0050	0.000036	1	09/24/20 14:23	09/25/20 19:39	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	09/24/20 14:23	09/25/20 19:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/24/20 14:23	09/25/20 19:39	7439-98-7	
Selenium	0.0045J	mg/L	0.010	0.0016	1	09/24/20 14:23	09/25/20 19:39	7782-49-2	
Thallium	0.00028J	mg/L	0.0010	0.00014	1	09/24/20 14:23	09/25/20 19:39	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2440	mg/L	50.0	50.0	1		09/23/20 13:16		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/30/20 14:26		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		09/30/20 14:26		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		09/30/20 14:26		

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	
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300.0 IC Anions 28 Days

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

Chloride	288	mg/L	17.0	10.2	17		09/25/20 10:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 10:06	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: HGWC-14		Lab ID: 92495900018		Collected: 09/18/20 09:20	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							
Sulfate	1260	mg/L	17.0	8.5	17		09/25/20 10:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-21D **Lab ID: 92495900019** Collected: 09/21/20 10:30 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	6.92	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	428	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:39	7440-70-2	
Iron	23.0	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:37	7439-89-6	
Magnesium	63.3	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:37	7439-95-4	
Manganese	1.4	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:37	7439-96-5	
Potassium	1.2	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:37	7440-09-7	
Sodium	15.1	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:37	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:40	7440-38-2	
Barium	0.049	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:40	7440-41-7	
Boron	5.6	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:40	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:40	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:40	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:40	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:40	7439-92-1	
Lithium	0.022J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:40	7439-93-2	
Molybdenum	0.017	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:40	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:40	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2060	mg/L	50.0	50.0	1		09/24/20 10:27		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	32.8	mg/L	5.0	5.0	1		09/30/20 18:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:31		
Alkalinity, Total as CaCO3	32.8	mg/L	5.0	5.0	1		09/30/20 18:31		

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 11:46	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	236	mg/L	14.0	8.4	14		09/25/20 11:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 18:31	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-21D		Lab ID: 92495900019		Collected: 09/21/20 10:30	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							
Sulfate	1010	mg/L	14.0	7.0	14		09/25/20 11:57	14808-79-8	M6

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-33 **Lab ID: 92495900020** Collected: 09/21/20 13:00 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	4.48	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	562	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:43	7440-70-2	
Iron	1.3	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:41	7439-89-6	
Magnesium	50.2	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:41	7439-95-4	
Manganese	4.5	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:41	7439-96-5	
Potassium	12.4	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:41	7440-09-7	
Sodium	10.8	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:41	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0083	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:46	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:46	7440-39-3	
Beryllium	0.00090J	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:46	7440-41-7	
Boron	9.0	mg/L	0.10	0.0052	1	09/29/20 14:13	09/30/20 18:46	7440-42-8	
Cadmium	0.00016J	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:46	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:46	7440-47-3	
Cobalt	0.047	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:46	7440-48-4	
Lead	0.0017J	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:46	7439-92-1	
Lithium	0.00086J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:46	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:46	7439-98-7	
Selenium	0.041	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:46	7782-49-2	
Thallium	0.00029J	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:46	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2340	mg/L	50.0	50.0	1		09/24/20 10:28		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:37		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/30/20 18:37		

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 11:46	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	273	mg/L	18.0	10.8	18		09/25/20 13:08	16887-00-6	
Fluoride	0.14	mg/L	0.10	0.050	1		09/24/20 19:15	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-33		Lab ID: 92495900020		Collected: 09/21/20 13:00	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							
Sulfate	1290	mg/L	18.0	9.0	18		09/25/20 13:08	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-35 **Lab ID: 92495900021** Collected: 09/21/20 12:55 Received: 09/22/20 09:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	5.40	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	503	mg/L	10.0	0.70	10	09/24/20 14:20	09/29/20 13:47	7440-70-2	
Iron	2.3	mg/L	0.040	0.016	1	09/24/20 14:20	09/25/20 21:46	7439-89-6	
Magnesium	61.6	mg/L	0.050	0.0076	1	09/24/20 14:20	09/25/20 21:46	7439-95-4	
Manganese	10.8	mg/L	0.040	0.0017	1	09/24/20 14:20	09/25/20 21:46	7439-96-5	
Potassium	9.2	mg/L	0.20	0.056	1	09/24/20 14:20	09/25/20 21:46	7440-09-7	
Sodium	11.7	mg/L	1.0	0.26	1	09/24/20 14:20	09/25/20 21:46	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0059	mg/L	0.0050	0.00078	1	09/29/20 14:13	09/30/20 18:52	7440-38-2	
Barium	0.028	mg/L	0.010	0.00071	1	09/29/20 14:13	09/30/20 18:52	7440-39-3	
Beryllium	0.00040J	mg/L	0.0030	0.000046	1	09/29/20 14:13	09/30/20 18:52	7440-41-7	
Boron	12.3	mg/L	1.0	0.052	10	09/29/20 14:13	10/02/20 15:43	7440-42-8	
Cadmium	0.0010J	mg/L	0.0025	0.00012	1	09/29/20 14:13	09/30/20 18:52	7440-43-9	
Chromium	0.00079J	mg/L	0.010	0.00055	1	09/29/20 14:13	09/30/20 18:52	7440-47-3	
Cobalt	0.084	mg/L	0.0050	0.00038	1	09/29/20 14:13	09/30/20 18:52	7440-48-4	
Lead	0.00099J	mg/L	0.0050	0.000036	1	09/29/20 14:13	09/30/20 18:52	7439-92-1	
Lithium	0.0036J	mg/L	0.030	0.00081	1	09/29/20 14:13	09/30/20 18:52	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/29/20 14:13	09/30/20 18:52	7439-98-7	
Selenium	0.037	mg/L	0.010	0.0016	1	09/29/20 14:13	09/30/20 18:52	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/29/20 14:13	09/30/20 18:52	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2210	mg/L	50.0	50.0	1		09/24/20 10:28		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/20 18:39		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/30/20 18:39		

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 11:47	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	257	mg/L	17.0	10.2	17		09/25/20 13:23	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/20 19:29	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-35 Lab ID: 92495900021 Collected: 09/21/20 12:55 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									
Sulfate	1220	mg/L	17.0	8.5	17		09/25/20 13:23	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D **Lab ID: 92495900022** Collected: 09/23/20 16:30 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.05	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	556	mg/L	10.0	0.70	10	09/28/20 15:51	10/01/20 13:15	7440-70-2	
Iron	0.023J	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 21:54	7439-89-6	
Magnesium	49.7	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 21:54	7439-95-4	
Manganese	3.7	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 21:54	7439-96-5	
Potassium	9.6	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 21:54	7440-09-7	
Sodium	15.4	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 21:54	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0010J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:04	7440-38-2	
Barium	0.038	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:04	7440-41-7	
Boron	10.2	mg/L	1.0	0.052	10	09/30/20 14:00	10/07/20 12:17	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:04	7440-47-3	
Cobalt	0.0056	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:04	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:04	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2430	mg/L	100	100	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	94.5	mg/L	5.0	5.0	1		10/02/20 19:08		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		10/02/20 19:08		
Alkalinity, Total as CaCO ₃	94.5	mg/L	5.0	5.0	1		10/02/20 19:08		

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 13:24	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	294	mg/L	23.0	13.8	23		09/29/20 23:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 17:57	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D		Lab ID: 92495900022		Collected: 09/23/20 16:30	Received: 09/24/20 10:25	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							
Sulfate	1080	mg/L	23.0	11.5	23		09/29/20 23:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-36D **Lab ID: 92495900023** Collected: 09/23/20 11:15 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.62	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	62.1	mg/L	1.0	0.070	1	09/28/20 15:51	09/30/20 21:59	7440-70-2	
Iron	0.62	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 21:59	7439-89-6	
Magnesium	7.1	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 21:59	7439-95-4	
Manganese	0.045	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 21:59	7439-96-5	
Potassium	0.44	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 21:59	7440-09-7	
Sodium	6.8	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 21:59	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	ND	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:10	7440-38-2	
Barium	0.17	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:10	7440-41-7	
Boron	0.055J	mg/L	0.10	0.0052	1	09/30/20 14:00	10/01/20 16:10	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:10	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:10	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:10	7440-48-4	
Lead	0.000088J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:10	7439-92-1	
Lithium	0.0084J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:10	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:10	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	256	mg/L	10.0	10.0	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO ₃)	159	mg/L	5.0	5.0	1		10/02/20 19:16		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		10/02/20 19:16		
Alkalinity, Total as CaCO ₃	159	mg/L	5.0	5.0	1		10/02/20 19:16		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.055J	mg/L	0.10	0.050	1		09/29/20 13:25	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	2.2	mg/L	1.0	0.60	1		09/29/20 18:12	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/20 18:12	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-36D		Lab ID: 92495900023		Collected: 09/23/20 11:15	Received: 09/24/20 10:25	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							
Sulfate	56.0	mg/L	1.0	0.50	1		09/29/20 18:12	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-37D **Lab ID: 92495900024** Collected: 09/23/20 08:50 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	7.62	Std. Units			1		09/25/20 09:56		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	158	mg/L	1.0	0.070	1	09/28/20 15:51	09/30/20 22:03	7440-70-2	
Iron	0.74	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 22:03	7439-89-6	
Magnesium	28.1	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 22:03	7439-95-4	
Manganese	0.12	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 22:03	7439-96-5	
Potassium	1.4	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 22:03	7440-09-7	
Sodium	53.6	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 22:03	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	0.00095J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:15	7440-38-2	
Barium	0.14	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:15	7440-41-7	
Boron	0.12	mg/L	0.10	0.0052	1	09/30/20 14:00	10/01/20 16:15	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:15	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:15	7440-48-4	
Lead	0.000082J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:15	7439-92-1	
Lithium	0.031	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:15	7439-93-2	
Molybdenum	0.015	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:15	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	894	mg/L	20.0	20.0	1		09/28/20 11:54		
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	133	mg/L	5.0	5.0	1		10/02/20 19:26		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/02/20 19:26		
Alkalinity, Total as CaCO3	133	mg/L	5.0	5.0	1		10/02/20 19:26		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.26	mg/L	0.10	0.050	1		09/29/20 13:25	18496-25-8	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	166	mg/L	6.0	3.6	6		09/29/20 23:44	16887-00-6	
Fluoride	0.065J	mg/L	0.10	0.050	1		09/29/20 18:26	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-37D Lab ID: 92495900024 Collected: 09/23/20 08:50 Received: 09/24/20 10:25 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									
Sulfate	256	mg/L	6.0	3.0	6		09/29/20 23:44	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D FILTERED **Lab ID: 92495900025** Collected: 09/23/20 17:00 Received: 09/24/20 10:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

pH	7.05	Std. Units			1		09/25/20 09:56		
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6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	616	mg/L	10.0	0.70	10	09/28/20 15:51	10/01/20 13:19	7440-70-2	
Iron	2.0	mg/L	0.040	0.016	1	09/28/20 15:51	09/30/20 22:08	7439-89-6	
Magnesium	53.6	mg/L	0.050	0.0076	1	09/28/20 15:51	09/30/20 22:08	7439-95-4	
Manganese	4.1	mg/L	0.040	0.0017	1	09/28/20 15:51	09/30/20 22:08	7439-96-5	
Potassium	10.6	mg/L	0.20	0.056	1	09/28/20 15:51	09/30/20 22:08	7440-09-7	
Sodium	16.8	mg/L	1.0	0.26	1	09/28/20 15:51	09/30/20 22:08	7440-23-5	

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Arsenic	0.0017J	mg/L	0.0050	0.00078	1	09/30/20 14:00	10/01/20 16:21	7440-38-2	
Barium	0.044	mg/L	0.010	0.00071	1	09/30/20 14:00	10/01/20 16:21	7440-39-3	
Beryllium	0.00018J	mg/L	0.0030	0.000046	1	09/30/20 14:00	10/01/20 16:21	7440-41-7	
Boron	9.8	mg/L	1.0	0.052	10	09/30/20 14:00	10/05/20 13:54	7440-42-8	
Cadmium	0.00019J	mg/L	0.0025	0.00012	1	09/30/20 14:00	10/01/20 16:21	7440-43-9	
Chromium	0.0027J	mg/L	0.010	0.00055	1	09/30/20 14:00	10/01/20 16:21	7440-47-3	
Cobalt	0.0070	mg/L	0.0050	0.00038	1	09/30/20 14:00	10/01/20 16:21	7440-48-4	
Lead	0.0010J	mg/L	0.0050	0.000036	1	09/30/20 14:00	10/01/20 16:21	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00081	1	09/30/20 14:00	10/01/20 16:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	09/30/20 14:00	10/01/20 16:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	09/30/20 14:00	10/01/20 16:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	09/30/20 14:00	10/01/20 16:21	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2450C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2550	mg/L	100	100	1		09/28/20 11:54		
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2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	119	mg/L	5.0	5.0	1		10/02/20 19:36		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/02/20 19:36		
Alkalinity, Total as CaCO3	119	mg/L	5.0	5.0	1		10/02/20 19:36		

4500S2D Sulfide Water

Analytical Method: SM 4500-S2D-2011
Pace Analytical Services - Asheville

Sulfide	0.086J	mg/L	0.10	0.050	1		09/29/20 13:27	18496-25-8	
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300.0 IC Anions 28 Days

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

Chloride	295	mg/L	22.0	13.2	22		09/29/20 16:35	16887-00-6	
Fluoride	0.086J	mg/L	0.10	0.050	1		09/29/20 02:08	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Sample: MW-34D FILTERED **Lab ID: 92495900025** Collected: 09/23/20 17:00 Received: 09/24/20 10:25 Matrix: Water

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

Sulfate	1100	mg/L	22.0	11.0	22		09/29/20 16:35	14808-79-8	
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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568201 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

METHOD BLANK: 3010803 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

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	3010805		3010806		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568747 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017, 92495900018

METHOD BLANK: 3013294 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017, 92495900018

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495904004	Spike Conc.	Spike Conc.	Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568748 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3013298 Matrix: Water

Associated Lab Samples: 92495900019, 92495900020, 92495900021

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495894022 Result	Spike Conc.	Spike Conc.	Result							Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	569461	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples:	92495900022, 92495900023, 92495900024, 92495900025		

METHOD BLANK: 3017167 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	09/30/20 20:54	
Iron	mg/L	ND	0.040	0.016	09/30/20 20:54	
Magnesium	mg/L	ND	0.050	0.0076	09/30/20 20:54	
Manganese	mg/L	ND	0.040	0.0017	09/30/20 20:54	
Potassium	mg/L	ND	0.20	0.056	09/30/20 20:54	
Sodium	mg/L	ND	1.0	0.26	09/30/20 20:54	

LABORATORY CONTROL SAMPLE: 3017168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.94J	94	80-120	
Iron	mg/L	1	0.97	97	80-120	
Magnesium	mg/L	1	0.97	97	80-120	
Manganese	mg/L	1	0.93	93	80-120	
Potassium	mg/L	1	0.95	95	80-120	
Sodium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017169 3017170

Parameter	Units	3017169		3017170		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	1.8	1	2.8	2.8	94	95	75-125	1	20	
Iron	mg/L	0.050	1	1.0	1.0	99	100	75-125	1	20	
Magnesium	mg/L	1.4	1	2.4	2.4	97	100	75-125	1	20	
Manganese	mg/L	0.014J	1	0.97	0.96	95	95	75-125	0	20	
Potassium	mg/L	2.2	1	3.2	3.2	97	94	75-125	1	20	
Sodium	mg/L	5.8	1	6.8	6.8	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	568198	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

METHOD BLANK: 3010799 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009, 92495900010

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	MS Result	MSD Result						
Antimony	mg/L	92495900004		0.10	0.10				1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3010801		3010802		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495900004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Arsenic	mg/L	ND	0.1	0.1	0.098	0.097	97	97	75-125	1	20		
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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568430 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3011696 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3012194		3012195		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92495870011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568749

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900018

METHOD BLANK: 3013302

Matrix: Water

Associated Lab Samples: 92495900018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	3013304		3013305		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.1	0.10	0.11	101	106	75-125	5	20	
Barium	mg/L	0.099	0.1	0.18	0.19	85	89	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.096	0.099	96	99	75-125	4	20	
Boron	mg/L	2.0	1	3.0	3.1	102	106	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3013304		3013305		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92495894014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 569670 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3017842 Matrix: Water

Associated Lab Samples: 92495900019, 92495900020, 92495900021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
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
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	3017844		3017845		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	0.39	0.1	0.48	0.48	88	90	75-125	1	20	
Barium	mg/L	0.052	0.1	0.15	0.15	98	101	75-125	2	20	
Beryllium	mg/L	0.00011J	0.1	0.087	0.090	87	90	75-125	4	20	
Boron	mg/L	1.6	1	2.4	2.5	79	89	75-125	4	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3017844		3017845		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92495894020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								MSD Result
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	570000	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3019421 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00078	10/01/20 14:21	
Barium	mg/L	ND	0.010	0.00071	10/01/20 14:21	
Beryllium	mg/L	ND	0.0030	0.000046	10/01/20 14:21	
Boron	mg/L	ND	0.10	0.0052	10/01/20 14:21	
Cadmium	mg/L	ND	0.0025	0.00012	10/01/20 14:21	
Chromium	mg/L	ND	0.010	0.00055	10/01/20 14:21	
Cobalt	mg/L	ND	0.0050	0.00038	10/01/20 14:21	
Lead	mg/L	ND	0.0050	0.000036	10/01/20 14:21	
Lithium	mg/L	ND	0.030	0.00081	10/01/20 14:21	
Molybdenum	mg/L	ND	0.010	0.00069	10/01/20 14:21	
Selenium	mg/L	ND	0.010	0.0016	10/01/20 14:21	
Thallium	mg/L	ND	0.0010	0.00014	10/01/20 14:21	

LABORATORY CONTROL SAMPLE: 3019422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
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	0.098	98	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	0.10	102	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3019423 3019424

Parameter	Units	3019423		3019424		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Arsenic	mg/L	ND	0.1	0.1	0.098	0.10	98	99	75-125	1	20	
Barium	mg/L	0.043	0.1	0.1	0.15	0.15	102	102	75-125	0	20	
Beryllium	mg/L	0.000058J	0.1	0.1	0.098	0.099	98	99	75-125	1	20	
Boron	mg/L	1.6	1	1	2.6	2.7	98	111	75-125	5	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

Parameter	Units	3019423		3019424		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92496941015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Cadmium	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	1	20		
Cobalt	mg/L	0.0018J	0.1	0.1	0.10	0.10	99	101	75-125	2	20		
Lead	mg/L	0.000082J	0.1	0.1	0.097	0.10	97	100	75-125	3	20		
Lithium	mg/L	0.0060J	0.1	0.1	0.11	0.11	101	101	75-125	1	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	101	101	75-125	0	20		
Selenium	mg/L	ND	0.1	0.1	0.096	0.098	96	98	75-125	2	20		
Thallium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	572608	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92495900009, 92495900010, 92495900015, 92495900016

METHOD BLANK: 3032633 Matrix: Water
 Associated Lab Samples: 92495900009, 92495900010, 92495900015, 92495900016

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	3032635		3032636		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0026	97	102	75-125	5	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	567147	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: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

METHOD BLANK: 3005362 Matrix: Water

Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

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: 3005363

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	384	96	84-108	

SAMPLE DUPLICATE: 3005364

Parameter	Units	92495870005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 3005365

Parameter	Units	92495900007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1890	1860	2	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

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: 92495900008, 92495900009, 92495900010

METHOD BLANK: 3006601 Matrix: Water
 Associated Lab Samples: 92495900008, 92495900009, 92495900010

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3010068 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

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: 92495900018

METHOD BLANK: 3011476 Matrix: Water
 Associated Lab Samples: 92495900018

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3012738 Matrix: Water

Associated Lab Samples: 92495900019, 92495900020, 92495900021

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	569350	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: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3016719 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	09/28/20 11:53	

LABORATORY CONTROL SAMPLE: 3016720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	427	107	84-108	

SAMPLE DUPLICATE: 3016721

Parameter	Units	92496925001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	215	218	1	10	

SAMPLE DUPLICATE: 3016722

Parameter	Units	92495900024 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	894	864	3	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568673

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009

METHOD BLANK: 3012830

Matrix: Water

Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007, 92495900008, 92495900009

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	3012832		3012833		% Rec	% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.								
Alkalinity, Total as CaCO3	mg/L	307	50	358	50	102	104	80-120	0	25			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012834 3012835

Parameter	Units	3012834		3012835		% Rec	% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.								
Alkalinity, Total as CaCO3	mg/L	ND	50	42.7	50	85	84	80-120	1	25			

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	568674	Analysis Method:	SM 2320B-2011
QC Batch Method:	SM 2320B-2011	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92495900010, 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017		

METHOD BLANK:	3012844	Matrix:	Water
Associated Lab Samples:	92495900010, 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017		

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
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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
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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
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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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568970

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900018

METHOD BLANK: 3014490

Matrix: Water

Associated Lab Samples: 92495900018

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		3014493		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	231	50	274	50	86	100	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3014494 3014495

Parameter	Units	92495894018		3014495		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	288	50	343	50	111	100	80-120	2	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 569912 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3018962 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/30/20 15:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 15:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/20 15:43	

LABORATORY CONTROL SAMPLE: 3018963

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018964 3018965

Parameter	Units	92497388001		3018965		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	2670	50	50	2540	2630	-256	-85	80-120	3	25 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3018966 3018967

Parameter	Units	92496574002		3018967		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	66.3	50	50	117	119	101	105	80-120	2	25

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 570520

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3022216

Matrix: Water

Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/02/20 16:32	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/02/20 16:32	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/02/20 16:32	

LABORATORY CONTROL SAMPLE: 3022217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.9	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022218 3022219

Parameter	Units	92497530009		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	22.8	50	50	50	72.9	73.8	100	102	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3022220 3022221

Parameter	Units	92497916010		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	15.2	50	50	50	69.2	69.6	108	109	80-120	1	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 568020 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007,
 92495900008, 92495900009, 92495900010

METHOD BLANK: 3009676 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007,
 92495900008, 92495900009, 92495900010

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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568021 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3009682 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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		3009685		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
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		3009687		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
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-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568022

Analysis Method: SM 4500-S2D-2011

QC Batch Method: SM 4500-S2D-2011

Analysis Description: 4500S2D Sulfide Water

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900018

METHOD BLANK: 3009689

Matrix: Water

Associated Lab Samples: 92495900018

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		3009692		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
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		3009694		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Sulfide	mg/L	ND	0.5	0.5	0.51	0.51	98	98	80-120	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568633 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3012716 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

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	3012718		3012719		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Sulfide	mg/L	92496675001 ND	MS Spike Conc. 0.5	MSD Spike Conc. 0.5	MS Result 0.49	MSD Result 0.49	96	96	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3012720 3012721

Parameter	Units	3012720		3012721		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.							
Sulfide	mg/L	92496675002 ND	MS Spike Conc. 0.5	MSD Spike Conc. 0.5	MS Result 0.45	MSD Result 0.45	83	83	80-120	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

QC Batch: 569576 Analysis Method: SM 4500-S2D-2011
 QC Batch Method: SM 4500-S2D-2011 Analysis Description: 4500S2D Sulfide Water
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

METHOD BLANK: 3017560 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024, 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	09/29/20 13:11	

LABORATORY CONTROL SAMPLE: 3017561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.51	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017562 3017563

Parameter	Units	92497358001		3017563		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	0.5	0.5	0.53	0.53	104	104	80-120	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017564 3017565

Parameter	Units	92497241004		3017565		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	0.5	0.5	0.37	0.37	74	75	80-120	0	10 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	567529	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007		

METHOD BLANK: 3007534 Matrix: Water
 Associated Lab Samples: 92495900001, 92495900002, 92495900003, 92495900004, 92495900005, 92495900006, 92495900007

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92496029001	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495653005	Result	Spike Conc.	Spike Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch:	567607	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92495900008, 92495900009, 92495900010

METHOD BLANK: 3008004 Matrix: Water
 Associated Lab Samples: 92495900008, 92495900009, 92495900010

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495964005	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495653007	Result	Spike Conc.	Spike Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 567943 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

METHOD BLANK: 3009484 Matrix: Water
 Associated Lab Samples: 92495900011, 92495900012, 92495900013, 92495900014, 92495900015, 92495900016, 92495900017

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495894011 Result	Spike Conc.	Spike Conc.	Result								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495900016 Result	Spike Conc.	Spike Conc.	Result								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568377 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900018

METHOD BLANK: 3011350 Matrix: Water

Associated Lab Samples: 92495900018

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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92495656005	Result	Spike Conc.	Spike Conc.								
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92496524001	Result	Spike Conc.	Spike Conc.								
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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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 568379 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

METHOD BLANK: 3011360 Matrix: Water
 Associated Lab Samples: 92495900019, 92495900020, 92495900021

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

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 569514 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92495900022, 92495900023, 92495900024

METHOD BLANK: 3017398 Matrix: Water
 Associated Lab Samples: 92495900022, 92495900023, 92495900024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 11:26	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 11:26	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 11:26	

LABORATORY CONTROL SAMPLE: 3017399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.9	108	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	52.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017400 3017401

Parameter	Units	92496941018		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result								% Rec	% Rec
Chloride	mg/L	ND	50	50	50	52.4	51.8	105	104	100	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.3	2.4	93	94	95	90-110	0	10	
Sulfate	mg/L	ND	50	50	50	51.0	50.1	101	100	100	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017402 3017403

Parameter	Units	92496941019		MS		MSD		% Rec	% Rec	% Rec	Limits	RPD	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result								% Rec	% Rec
Chloride	mg/L	ND	50	50	50	51.7	51.7	103	103	100	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.3	2.4	91	95	95	90-110	5	10	
Sulfate	mg/L	ND	50	50	50	50.0	49.9	100	100	100	90-110	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

QC Batch: 569515	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92495900025

METHOD BLANK: 3017404 Matrix: Water

Associated Lab Samples: 92495900025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/20 01:40	
Fluoride	mg/L	ND	0.10	0.050	09/29/20 01:40	
Sulfate	mg/L	ND	1.0	0.50	09/29/20 01:40	

LABORATORY CONTROL SAMPLE: 3017405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.1	108	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	54.2	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017406 3017407

Parameter	Units	92496914009		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	ND	50	50	52.3	52.6	105	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	106	90-110	1	10		
Sulfate	mg/L	ND	50	50	51.9	52.3	104	105	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3017408 3017409

Parameter	Units	92496914010		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	ND	50	50	51.9	52.4	104	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	105	90-110	1	10		
Sulfate	mg/L	ND	50	50	51.6	52.0	103	104	90-110	1	10		

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QUALIFIERS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92495900

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.

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-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900001	HGWA-1				
92495900002	HGWA-2				
92495900003	HGWA-3				
92495900004	HGWA-4				
92495900005	HGWA-5				
92495900006	HGWA-6				
92495900007	HGWC-18				
92495900008	HGWC-17				
92495900009	HGWA-43D				
92495900010	HGWA-44D				
92495900011	HGWC-15				
92495900012	HGWC-16				
92495900013	MW-22				
92495900014	MW-23D				
92495900015	HGWA-42D				
92495900018	HGWC-14				
92495900019	MW-21D				
92495900020	MW-33				
92495900021	MW-35				
92495900022	MW-34D				
92495900023	MW-36D				
92495900024	MW-37D				
92495900025	MW-34D FILTERED				
92495900001	HGWA-1	EPA 3010A	568201	EPA 6010D	568230
92495900002	HGWA-2	EPA 3010A	568201	EPA 6010D	568230
92495900003	HGWA-3	EPA 3010A	568201	EPA 6010D	568230
92495900004	HGWA-4	EPA 3010A	568201	EPA 6010D	568230
92495900005	HGWA-5	EPA 3010A	568201	EPA 6010D	568230
92495900006	HGWA-6	EPA 3010A	568201	EPA 6010D	568230
92495900007	HGWC-18	EPA 3010A	568201	EPA 6010D	568230
92495900008	HGWC-17	EPA 3010A	568201	EPA 6010D	568230
92495900009	HGWA-43D	EPA 3010A	568201	EPA 6010D	568230
92495900010	HGWA-44D	EPA 3010A	568201	EPA 6010D	568230
92495900011	HGWC-15	EPA 3010A	568747	EPA 6010D	568813
92495900012	HGWC-16	EPA 3010A	568747	EPA 6010D	568813
92495900013	MW-22	EPA 3010A	568747	EPA 6010D	568813
92495900014	MW-23D	EPA 3010A	568747	EPA 6010D	568813
92495900015	HGWA-42D	EPA 3010A	568747	EPA 6010D	568813
92495900016	FB-02	EPA 3010A	568747	EPA 6010D	568813
92495900017	FD-02	EPA 3010A	568747	EPA 6010D	568813
92495900018	HGWC-14	EPA 3010A	568747	EPA 6010D	568813
92495900019	MW-21D	EPA 3010A	568748	EPA 6010D	568812
92495900020	MW-33	EPA 3010A	568748	EPA 6010D	568812
92495900021	MW-35	EPA 3010A	568748	EPA 6010D	568812
92495900022	MW-34D	EPA 3010A	569461	EPA 6010D	569503
92495900023	MW-36D	EPA 3010A	569461	EPA 6010D	569503
92495900024	MW-37D	EPA 3010A	569461	EPA 6010D	569503

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900025	MW-34D FILTERED	EPA 3010A	569461	EPA 6010D	569503
92495900001	HGWA-1	EPA 3005A	568198	EPA 6020B	568229
92495900002	HGWA-2	EPA 3005A	568198	EPA 6020B	568229
92495900003	HGWA-3	EPA 3005A	568198	EPA 6020B	568229
92495900004	HGWA-4	EPA 3005A	568198	EPA 6020B	568229
92495900005	HGWA-5	EPA 3005A	568198	EPA 6020B	568229
92495900006	HGWA-6	EPA 3005A	568198	EPA 6020B	568229
92495900007	HGWC-18	EPA 3005A	568198	EPA 6020B	568229
92495900008	HGWC-17	EPA 3005A	568198	EPA 6020B	568229
92495900009	HGWA-43D	EPA 3005A	568198	EPA 6020B	568229
92495900010	HGWA-44D	EPA 3005A	568198	EPA 6020B	568229
92495900011	HGWC-15	EPA 3005A	568430	EPA 6020B	568663
92495900012	HGWC-16	EPA 3005A	568430	EPA 6020B	568663
92495900013	MW-22	EPA 3005A	568430	EPA 6020B	568663
92495900014	MW-23D	EPA 3005A	568430	EPA 6020B	568663
92495900015	HGWA-42D	EPA 3005A	568430	EPA 6020B	568663
92495900016	FB-02	EPA 3005A	568430	EPA 6020B	568663
92495900017	FD-02	EPA 3005A	568430	EPA 6020B	568663
92495900018	HGWC-14	EPA 3005A	568749	EPA 6020B	568811
92495900019	MW-21D	EPA 3005A	569670	EPA 6020B	569718
92495900020	MW-33	EPA 3005A	569670	EPA 6020B	569718
92495900021	MW-35	EPA 3005A	569670	EPA 6020B	569718
92495900022	MW-34D	EPA 3005A	570000	EPA 6020B	570049
92495900023	MW-36D	EPA 3005A	570000	EPA 6020B	570049
92495900024	MW-37D	EPA 3005A	570000	EPA 6020B	570049
92495900025	MW-34D FILTERED	EPA 3005A	570000	EPA 6020B	570049
92495900009	HGWA-43D	EPA 7470A	572608	EPA 7470A	572822
92495900010	HGWA-44D	EPA 7470A	572608	EPA 7470A	572822
92495900015	HGWA-42D	EPA 7470A	572608	EPA 7470A	572822
92495900016	FB-02	EPA 7470A	572608	EPA 7470A	572822
92495900001	HGWA-1	SM 2450C-2011	567147		
92495900002	HGWA-2	SM 2450C-2011	567147		
92495900003	HGWA-3	SM 2450C-2011	567147		
92495900004	HGWA-4	SM 2450C-2011	567147		
92495900005	HGWA-5	SM 2450C-2011	567147		
92495900006	HGWA-6	SM 2450C-2011	567147		
92495900007	HGWC-18	SM 2450C-2011	567147		
92495900008	HGWC-17	SM 2450C-2011	567372		
92495900009	HGWA-43D	SM 2450C-2011	567372		
92495900010	HGWA-44D	SM 2450C-2011	567372		
92495900011	HGWC-15	SM 2450C-2011	568080		
92495900012	HGWC-16	SM 2450C-2011	568080		
92495900013	MW-22	SM 2450C-2011	568080		
92495900014	MW-23D	SM 2450C-2011	568080		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900015	HGWA-42D	SM 2450C-2011	568080		
92495900016	FB-02	SM 2450C-2011	568080		
92495900017	FD-02	SM 2450C-2011	568080		
92495900018	HGWC-14	SM 2450C-2011	568395		
92495900019	MW-21D	SM 2450C-2011	568648		
92495900020	MW-33	SM 2450C-2011	568648		
92495900021	MW-35	SM 2450C-2011	568648		
92495900022	MW-34D	SM 2450C-2011	569350		
92495900023	MW-36D	SM 2450C-2011	569350		
92495900024	MW-37D	SM 2450C-2011	569350		
92495900025	MW-34D FILTERED	SM 2450C-2011	569350		
92495900001	HGWA-1	SM 2320B-2011	568673		
92495900002	HGWA-2	SM 2320B-2011	568673		
92495900003	HGWA-3	SM 2320B-2011	568673		
92495900004	HGWA-4	SM 2320B-2011	568673		
92495900005	HGWA-5	SM 2320B-2011	568673		
92495900006	HGWA-6	SM 2320B-2011	568673		
92495900007	HGWC-18	SM 2320B-2011	568673		
92495900008	HGWC-17	SM 2320B-2011	568673		
92495900009	HGWA-43D	SM 2320B-2011	568673		
92495900010	HGWA-44D	SM 2320B-2011	568674		
92495900011	HGWC-15	SM 2320B-2011	568674		
92495900012	HGWC-16	SM 2320B-2011	568674		
92495900013	MW-22	SM 2320B-2011	568674		
92495900014	MW-23D	SM 2320B-2011	568674		
92495900015	HGWA-42D	SM 2320B-2011	568674		
92495900016	FB-02	SM 2320B-2011	568674		
92495900017	FD-02	SM 2320B-2011	568674		
92495900018	HGWC-14	SM 2320B-2011	568970		
92495900019	MW-21D	SM 2320B-2011	569912		
92495900020	MW-33	SM 2320B-2011	569912		
92495900021	MW-35	SM 2320B-2011	569912		
92495900022	MW-34D	SM 2320B-2011	570520		
92495900023	MW-36D	SM 2320B-2011	570520		
92495900024	MW-37D	SM 2320B-2011	570520		
92495900025	MW-34D FILTERED	SM 2320B-2011	570520		
92495900001	HGWA-1	SM 4500-S2D-2011	568020		
92495900002	HGWA-2	SM 4500-S2D-2011	568020		
92495900003	HGWA-3	SM 4500-S2D-2011	568020		
92495900004	HGWA-4	SM 4500-S2D-2011	568020		
92495900005	HGWA-5	SM 4500-S2D-2011	568020		
92495900006	HGWA-6	SM 4500-S2D-2011	568020		
92495900007	HGWC-18	SM 4500-S2D-2011	568020		
92495900008	HGWC-17	SM 4500-S2D-2011	568020		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92495900

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92495900009	HGWA-43D	SM 4500-S2D-2011	568020		
92495900010	HGWA-44D	SM 4500-S2D-2011	568020		
92495900011	HGWC-15	SM 4500-S2D-2011	568021		
92495900012	HGWC-16	SM 4500-S2D-2011	568021		
92495900013	MW-22	SM 4500-S2D-2011	568021		
92495900014	MW-23D	SM 4500-S2D-2011	568021		
92495900015	HGWA-42D	SM 4500-S2D-2011	568021		
92495900016	FB-02	SM 4500-S2D-2011	568021		
92495900017	FD-02	SM 4500-S2D-2011	568021		
92495900018	HGWC-14	SM 4500-S2D-2011	568022		
92495900019	MW-21D	SM 4500-S2D-2011	568633		
92495900020	MW-33	SM 4500-S2D-2011	568633		
92495900021	MW-35	SM 4500-S2D-2011	568633		
92495900022	MW-34D	SM 4500-S2D-2011	569576		
92495900023	MW-36D	SM 4500-S2D-2011	569576		
92495900024	MW-37D	SM 4500-S2D-2011	569576		
92495900025	MW-34D FILTERED	SM 4500-S2D-2011	569576		
92495900001	HGWA-1	EPA 300.0 Rev 2.1 1993	567529		
92495900002	HGWA-2	EPA 300.0 Rev 2.1 1993	567529		
92495900003	HGWA-3	EPA 300.0 Rev 2.1 1993	567529		
92495900004	HGWA-4	EPA 300.0 Rev 2.1 1993	567529		
92495900005	HGWA-5	EPA 300.0 Rev 2.1 1993	567529		
92495900006	HGWA-6	EPA 300.0 Rev 2.1 1993	567529		
92495900007	HGWC-18	EPA 300.0 Rev 2.1 1993	567529		
92495900008	HGWC-17	EPA 300.0 Rev 2.1 1993	567607		
92495900009	HGWA-43D	EPA 300.0 Rev 2.1 1993	567607		
92495900010	HGWA-44D	EPA 300.0 Rev 2.1 1993	567607		
92495900011	HGWC-15	EPA 300.0 Rev 2.1 1993	567943		
92495900012	HGWC-16	EPA 300.0 Rev 2.1 1993	567943		
92495900013	MW-22	EPA 300.0 Rev 2.1 1993	567943		
92495900014	MW-23D	EPA 300.0 Rev 2.1 1993	567943		
92495900015	HGWA-42D	EPA 300.0 Rev 2.1 1993	567943		
92495900016	FB-02	EPA 300.0 Rev 2.1 1993	567943		
92495900017	FD-02	EPA 300.0 Rev 2.1 1993	567943		
92495900018	HGWC-14	EPA 300.0 Rev 2.1 1993	568377		
92495900019	MW-21D	EPA 300.0 Rev 2.1 1993	568379		
92495900020	MW-33	EPA 300.0 Rev 2.1 1993	568379		
92495900021	MW-35	EPA 300.0 Rev 2.1 1993	568379		
92495900022	MW-34D	EPA 300.0 Rev 2.1 1993	569514		
92495900023	MW-36D	EPA 300.0 Rev 2.1 1993	569514		
92495900024	MW-37D	EPA 300.0 Rev 2.1 1993	569514		
92495900025	MW-34D FILTERED	EPA 300.0 Rev 2.1 1993	569515		

REPORT OF LABORATORY ANALYSIS

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Sample Retrieval and Chain of Custody

MO# : 92495900

Client Name: GA Power



Count: Fuel Ex. UPS VPPS Diesel Commercial Fuel Tank

Capacity Seal on Container Present Yes No Seal used Yes No

Pool Number: 00000000000000000000

Packing Material: Super Wrap Bubble Bags T-Tops Other

Temperature of Used 21.4 Type of fuel Gas Fuel Name Samples or fuel cooling process not begun

Cooler Temperature 0.4 Biologicial Protection FASBPA Yes No Comments: (Date and initials of person performing container) 4/16/2004

Chain of Custody Present:	Yes	No	Other	1
Chain of Custody Filled Out	Yes	No	Other	2
Chain of Custody Not Requested	Yes	No	Other	3
Sampler Name & Signature on COC	Yes	No	Other	4
Samples Arrived within Hold Time	Yes	No	Other	5
Short Hold Time Analysis (RTI's)	Yes	No	Other	6
Flush Spill Around Tank Requested	Yes	No	Other	7
Container Volume	Yes	No	Other	8
Correct Container Used	Yes	No	Other	9
Proper Container Label	Yes	No	Other	10
Company ID/CI	Yes	No	Other	11
Failure to use the labeling for Disposed tanks	Yes	No	Other	12
Sample Label - Accr. COC	Yes	No	Other	13
Indicates Site/Time/Quantity/ID/Status	Yes	No	Other	14
All containers meeting program hold are listed in COC in compliance with EPA recommendation	Yes	No	Other	15
Additional COC contains TOC, DMG or DMG (none)	Yes	No	Other	16
Samples are tags for degradation	Yes	No	Other	17
Handprints of NQA Users (40mm)	Yes	No	Other	18
Try Blank Present	Yes	No	Other	19
Try Blank Control Same Present	Yes	No	Other	20
State Reg. 15.02 (if applicable)				

Client Notification Resolution: Call Call Requested Y N

Person Contacted: _____ Date/Time: _____

Comments Resolution: _____

Project Manager Review: _____ City: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance sampling, a copy of this form will be kept in the North Carolina (2) (b)(6) Confidentiality file in the quality assurance management system (QMS) (being reviewed condition)

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 This document serves as a legal record of the custody and handling of evidence from the time of seizure to the time of analysis.

Date: 3 Jan 23

Section A: Requesting Agency
 Agency Name: San Diego County Sheriff's Department
 Case No.: 23-00000000
 Requested By: [Signature]
 Date of Request: 12/29/22
 Requested For: Forensic Chemistry

Section B: Requesting Agency Contact Information
 Agency Address: 1234 Main St, San Diego, CA 92101
 Phone: (619) 555-1234
 Fax: (619) 555-5678
 Email: forensics@sdcsd.com

Sample ID	Description	Collection		Transportation		Analysis		Storage	
		Date	Time	Date	Time	Date	Time	Date	Time
1	1000001	12/29/22	10:00	12/29/22	11:00	12/29/22	14:00	12/29/22	18:00
2	1000002	12/29/22	10:00	12/29/22	11:00	12/29/22	14:00	12/29/22	18:00

Sample ID	Description	Collection		Transportation		Analysis		Storage	
		Date	Time	Date	Time	Date	Time	Date	Time
3	1000003	12/29/22	10:00	12/29/22	11:00	12/29/22	14:00	12/29/22	18:00
4	1000004	12/29/22	10:00	12/29/22	11:00	12/29/22	14:00	12/29/22	18:00

Signature	Date	Signature	Date
[Signature]	12/29/22	[Signature]	12/29/22
[Signature]	12/29/22	[Signature]	12/29/22

Form 1000-001-001-001

LABORATORY

CHAIN-OF-CUSTODY / Analytical Request Document
 The Chain of Custody is a record of all custody of the sample from the collection site.

Page **2** of **3**

Section A: Requesting Agency Information

Requesting Agency: San Diego County Sheriff's Office
 Requesting Agency Address: San Diego County Sheriff's Office
 Requesting Agency Phone: 619-441-3000
 Requesting Agency Contact: John Brown

Section B: Sample Information

Sample ID: 100-000001
 Sample Description: Handwritten note
 Sample Location: Handwritten note

Section C: Collection Information

Collector: Handwritten name
 Date Collected: Handwritten date
 Time Collected: Handwritten time

Section D: Analytical Request

Requesting Agency: San Diego County Sheriff's Office
 Requesting Agency Address: San Diego County Sheriff's Office
 Requesting Agency Phone: 619-441-3000
 Requesting Agency Contact: John Brown

Item #	Description of Item	Quantity	Unit	Date/Time	Collector	Location	Chain of Custody		Signature	Date
							From	To		
1	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
2	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
3	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
4	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
5	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
6	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
7	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
8	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
9	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
10	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
11	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date
12	Handwritten description	1	Handwritten unit	Handwritten date	Handwritten name	Handwritten location	Handwritten from	Handwritten to	Handwritten signature	Handwritten date

San Diego County Sheriff's Office - Laboratory Section

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
For Chemical Analysis of Seizure, Evidences in Criminal Investigations and Laboratory Analysis

Section A: Requesting Party Information
Requesting Party Name: Police Department
Address: 1234 Main St
City: Los Angeles, CA
State: CA Zip: 90001

Section B: Requesting Party Contact Information
Name: Det. Smith
Title: Detective
Phone: (555) 555-1234
Email: smith@dps.com

Section C: Sample Information
Sample ID: PC-12345
Quantity: 100 mg
Packaging: 100 mg/100 mg

Section D: Analytical Request
Requester: PC-12345
Request Date: 01/15/2024
Request Description: Identify the substance in the sample.

Section E: Laboratory Information
Laboratory Name: Police Department Laboratory
Address: 1234 Main St
City: Los Angeles, CA
State: CA Zip: 90001

Section F: Chain of Custody Log

No.	Date	Time	Initials	Signature	Retention Period (Days)	
					From	To
1	01/15/2024	09:00	[Signature]	[Signature]	100	100
2	01/15/2024	09:15	[Signature]	[Signature]	100	100
3	01/15/2024	09:30	[Signature]	[Signature]	100	100
4	01/15/2024	09:45	[Signature]	[Signature]	100	100
5	01/15/2024	10:00	[Signature]	[Signature]	100	100
6	01/15/2024	10:15	[Signature]	[Signature]	100	100
7	01/15/2024	10:30	[Signature]	[Signature]	100	100
8	01/15/2024	10:45	[Signature]	[Signature]	100	100
9	01/15/2024	11:00	[Signature]	[Signature]	100	100
10	01/15/2024	11:15	[Signature]	[Signature]	100	100

Section G: Laboratory Analysis Results

Test Results:
1. Positive for Cocaine
2. Positive for Marijuana
3. Positive for Heroin
4. Positive for Fentanyl
5. Positive for Methamphetamine

Section H: Laboratory Information
Laboratory Name: Police Department Laboratory
Address: 1234 Main St
City: Los Angeles, CA
State: CA Zip: 90001

Handwritten signature/initials

CHAIN-OF-CUSTODY / Analytical Request Document
 An Unbroken Chain of Custody is Essential for the Reliability of Analytical Results. Please Do Not Sign Until Completed.

Section 1: Requestor Information
 Name: City of Orange
 Address: Orange, CA
 Phone: _____

Section 2: Request Details
 Date of Request: _____
 Requested by: [Signature]
 Requested for: [Signature]
 Requested for analysis of: _____

Section 3: Sample Information
 Sample ID: _____
 Date of Collection: _____
 Location of Collection: _____
 Name of Collector: _____

Section 4: Analysis Request
 Analytical Agency: _____
 Requested Analysis: _____
 Reference Material: _____

Sample ID	Date of Collection	Location of Collection	Name of Collector	Requestor Information			Request Details			Date of Analysis	Status
				Name	Address	Phone	Date of Request	Requested by	Requested for		
1	11/10/2020	Orange, CA	[Signature]	City of Orange	Orange, CA	[Phone]	11/10/2020	[Signature]	[Signature]	Analysis Requested	
2	11/10/2020	Orange, CA	[Signature]	City of Orange	Orange, CA	[Phone]	11/10/2020	[Signature]	[Signature]	Analysis Requested	
3	11/10/2020	Orange, CA	[Signature]	City of Orange	Orange, CA	[Phone]	11/10/2020	[Signature]	[Signature]	Analysis Requested	
4	11/10/2020	Orange, CA	[Signature]	City of Orange	Orange, CA	[Phone]	11/10/2020	[Signature]	[Signature]	Analysis Requested	
5	11/10/2020	Orange, CA	[Signature]	City of Orange	Orange, CA	[Phone]	11/10/2020	[Signature]	[Signature]	Analysis Requested	

Section 5: Chain of Custody

Date	Signature	Signature	Signature
11/10/2020	[Signature]	[Signature]	[Signature]
11/10/2020	[Signature]	[Signature]	[Signature]
11/10/2020	[Signature]	[Signature]	[Signature]
11/10/2020	[Signature]	[Signature]	[Signature]

Section 6: Additional Information

Remarks: _____

Analyst: _____

Date: _____

CHALLENGE
 CHALLENGE ID: 123456789
 CHALLENGE DATE: 10/10/2011

CHALLENGE CUSTOMER Analytical Request Document
 The Customer hereby certifies that the information provided in this document is true and correct to the best of their knowledge.

Page 2 of 2

Section 1: Customer Information

Customer Name: ABC COMPANY
 Address: 123 Main St, Anytown, CA 90210
 Phone: (555) 123-4567
 Email: info@abc.com

Section 2: Request Details

Request ID: 123456789
 Request Date: 10/10/2011
 Request Description: Request for analysis of sample 123456789

Section 3: Sample Information

Sample ID: 123456789
 Sample Description: Sample 123456789
 Sample Quantity: 100g

Sample ID	Sample Description	Sample Quantity	Sample Date	Sample Location	Collection		Analysis		Analysis Date	Analysis Location
					Collected	Received	Analysis Type	Analysis Method		
1	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
2	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
3	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
4	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
5	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
6	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
7	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
8	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
9	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA
10	123456789	100g	10/10/2011	Anytown, CA	Collected	Received	Analysis Type	Analysis Method	10/10/2011	Anytown, CA

Section 4: Signature and Date

Customer Signature: [Signature]
 Date: 10/10/2011

Section 5: Laboratory Information

Laboratory Name: ABC LABORATORY
 Address: 123 Main St, Anytown, CA 90210
 Phone: (555) 123-4567
 Email: info@abc.com

Handwritten signature
REVISIONS

CHAIN OF CUSTODY / Analytical Request Document
The Document Forming a Part of (Lab/Instrumentation) Identification Data used for compliance purposes

1 of 4
Handwritten initials

Section 1: Sample Information
Date of Sample: 12/15/2010
Sample ID: 1000-1100
Case No: 1000-1100
Client: [Handwritten]
Requester: [Handwritten]

Section 2: Sample Description
Sample Name: [Handwritten]
Sample Weight: [Handwritten]
Sample Volume: [Handwritten]

Section 3: Sampling Location
Location: [Handwritten]
Coordinates: [Handwritten]

Sample ID	Description	Date	Sample Weight (g)		Sample Volume (L)		Temperature (°C)		Requester
			Actual	Net	Actual	Net	Initial	Final	
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

Sample ID	Description	Date	Sample Weight (g)		Sample Volume (L)		Temperature (°C)		Requester
			Actual	Net	Actual	Net	Initial	Final	
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

Section 4: Laboratory Information
Lab Name: [Handwritten]
Lab Address: [Handwritten]
Lab Phone: [Handwritten]
Lab Fax: [Handwritten]

Section 5: Additional Notes
[Handwritten notes]

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CHAIN-OF-CUSTODY / Analytical Request Document
 This document serves as a record of custody of evidence and is considered confidential.

Page 2 of 2

Section 1: Case Information
 Case No: 2017-001
 Date: 01/15/18
 Location: 1234 Main St, Anytown, CA

Section 2: Requesting Agency
 Agency: Anytown Police Dept
 Requested By: Officer J. Doe
 Date: 01/15/18

Section 3: Requested Items
 Item Description: 1x Blue Jacket
 Quantity: 1
 Requested By: Officer J. Doe
 Date: 01/15/18

Section 4: Evidence Description
 Description: Blue jacket, size M, found at scene.
 Location: 1234 Main St, Anytown, CA
 Date: 01/15/18

Item No.	Description	Quantity	Date	Time	Location	By	Chain of Custody													
							1	2	3	4	5	6	7	8	9	10				
1	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
2	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
3	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
4	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
5	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
6	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
7	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
8	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
9	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														
10	Blue Jacket	1	01/15/18	10:00	1234 Main St	J. Doe														

Printed name of Investigator: J. Doe Date: 01/15/18

Printed name of Analyst: J. Doe Date: 01/15/18

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CHAIN OF CUSTODY / Analytical Request Document
 The chain of custody is a record documenting all persons having access to samples for analysis purposes.

3 of 6

Submitted From: CA Police Submitted To: San Joaquin County Superior Court
 Name: James W. ... Project Name: ...
 Date: ... Location: ...
 Submitted By: ... Submitted On: ...
 Submitted For: ... Submitted At: ...

Item #	Description	Quantity	Unit	Date	By	Signature	Analysis		Remarks
							Method	Result	
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RECEIVED 11/14/2017

CHAIN OF CUSTODY / Analytical Request Document
 This document serves as a record of the handling of evidence from the time of collection to the time of analysis.

4 of 6

Case # 2018-00000000

Section 1: Requesting Agency Information Agency Name: <u>City of San Diego</u> Requested By: <u>[Signature]</u> Date: <u>04/11/2018</u>		Section 2: Requesting Agency Contact Information Contact Name: <u>[Signature]</u> Title: <u>Officer</u> Phone: <u>[Number]</u> Email: <u>[Email]</u>	
Section 3: Laboratory Information Laboratory Name: <u>San Diego County Sheriff's Office</u> Laboratory Address: <u>[Address]</u> Laboratory Phone: <u>[Number]</u> Laboratory Email: <u>[Email]</u>		Section 4: Requesting Agency Representative Name: <u>[Signature]</u> Title: <u>Officer</u> Agency: <u>San Diego County Sheriff's Office</u>	

Item #	Description of Item	Quantity	Container	Packaging	Collection		Storage		Transportation		Analysis	
					Where	When	Where	When	Where	When	Where	When
1	Sample 1	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
2	Sample 2	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
3	Sample 3	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
4	Sample 4	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
5	Sample 5	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
6	Sample 6	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
7	Sample 7	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
8	Sample 8	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
9	Sample 9	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018
10	Sample 10	1	Sealed Bag	Sealed Bag	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018	San Diego	04/11/2018

Section 5: Additional Information Comments: <u>[Handwritten notes]</u>	Section 6: Signatures Requesting Agency Representative: <u>[Signature]</u> Date: <u>04/11/2018</u>	Section 7: Laboratory Representative Name: <u>[Signature]</u> Title: <u>Officer</u> Agency: <u>San Diego County Sheriff's Office</u>
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CHAIN-OF-CUSTODY / Analytical Request Document
 For Chain of Custody in a Laboratory, For Quality Assurance Purposes Only. Do Not Remove or Destroy.

Page 5 of 6

Section 1 Requester Name <u>John Doe</u>	Section 2 Requester Title <u>John Doe</u>	Section 3 Requester Address <u>123 Main St</u>	Section 4 Requester Phone <u>555-1234</u>
Section 5 Requester Email <u>john.doe@corp.com</u>	Section 6 Requester Fax <u>555-5678</u>	Section 7 Requester City <u>Anytown, CA</u>	Section 8 Requester State <u>CA</u>
Section 9 Requester Zip <u>90210</u>	Section 10 Requester Country <u>USA</u>	Section 11 Requester Business <u>ABC Corp</u>	Section 12 Requester Industry <u>Manufacturing</u>
Section 13 Requester Product <u>Product X</u>	Section 14 Requester Quantity <u>100 units</u>	Section 15 Requester Date <u>10/26/2010</u>	Section 16 Requester Time <u>10:00 AM</u>
Section 17 Requester Signature <u>[Signature]</u>	Section 18 Requester Title <u>John Doe</u>	Section 19 Requester Company <u>ABC Corp</u>	Section 20 Requester Address <u>123 Main St</u>
Section 21 Requester City <u>Anytown, CA</u>	Section 22 Requester State <u>CA</u>	Section 23 Requester Zip <u>90210</u>	Section 24 Requester Country <u>USA</u>

Sample ID	Sample Description	Sample Quantity	Sample Date	Sample Time	Sample Location	Sample Container	Sample Condition	Sample Storage	Sample Handling	Sample Analysis	Sample Results	Sample Comments	Sample Collection	
													Collector	Collector Title
1	Sample 1	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
2	Sample 2	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
3	Sample 3	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
4	Sample 4	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
5	Sample 5	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
6	Sample 6	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
7	Sample 7	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
8	Sample 8	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
9	Sample 9	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
10	Sample 10	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
11	Sample 11	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe
12	Sample 12	100g	10/26/2010	10:00 AM	123 Main St	100g bag	Good	Room 101	John Doe	John Doe	100g	10/26/2010	John Doe	John Doe

Section 25: Laboratory Information

Section 26: Laboratory Name
ABC Lab

Section 27: Laboratory Address
123 Main St

Section 28: Laboratory City
Anytown, CA

Section 29: Laboratory State
CA

Section 30: Laboratory Zip
90210

Section 31: Laboratory Country
USA

Section 32: Laboratory Phone
555-1234

Section 33: Laboratory Fax
555-5678

Section 34: Laboratory Email
info@abc.com

Section 35: Laboratory Website
www.abc.com

Section 36: Laboratory Manager
John Doe

Section 37: Laboratory Analyst
John Doe

Section 38: Laboratory Date
10/26/2010

Section 39: Laboratory Time
10:00 AM

Section 40: Laboratory Location
Room 101

Section 41: Laboratory Container
100g bag

Section 42: Laboratory Condition
Good

Section 43: Laboratory Storage
Room 101

Section 44: Laboratory Handling
John Doe

Section 45: Laboratory Analysis
John Doe

Section 46: Laboratory Results
100g

Section 47: Laboratory Comments
10/26/2010

[Handwritten Signature]
ANALYSIS

CHAIN OF CUSTODY / Analytical Request Document
 The Federal Bureau of Investigation, Department of Justice

6 of 6

Case Information:
 Agency: Atlanta, GA
 Requested by: Special Agent [Name]
 Requested for: [Name]
 Requested for: [Name]
 Requested for: [Name]
 Requested for: [Name]

Case Information:
 Case No.: [Number]
 Date: [Date]
 Location: [Location]
 Analyst: [Name]
 Date: [Date]
 Location: [Location]

ANALYTICAL REQUESTS:
 Request 1: [Request]
 Request 2: [Request]
 Request 3: [Request]
 Request 4: [Request]
 Request 5: [Request]

ANALYST SIGNATURE:
 Signature: [Signature]
 Date: [Date]

Item	Description	Quantity	Location	Signature	Date	Signature	Date
1
2
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4
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7
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10

Item	Description	Quantity	Location	Signature	Date	Signature	Date
1
2
3
4
5
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7
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10

Atlanta, GA - 11/13/03

Research Analyst

CHAIN-OF-CUSTODY / Analytical Request Document
 For Chain of Custody and Laboratory Use Only. This form is to be completed by the analyst.

Page 1 of 1

Section 1: Analytical Request Information

Requester: DEPT OF JUSTICE

Requester Address: 1000 Pennsylvania Avenue NW

Requester Phone: (202) 452-5000

Requester Email: doj@doj.gov

Requester Title: Director

Requester Department: Department of Justice

Requester Division: Office of Inspector General

Requester Contact Person: Mr. [Name]

Requester Contact Phone: [Phone]

Requester Contact Email: [Email]

Requester Signature: [Signature]

Requester Date: [Date]

Section 2: Sample Information

Sample ID: 100-443333-100

Sample Description: 100-443333-100

Sample Location: [Location]

Sample Date: [Date]

Sample Time: [Time]

Sample Quantity: [Quantity]

Sample Type: [Type]

Sample Source: [Source]

Sample Container: [Container]

Sample Packaging: [Packaging]

Sample Storage: [Storage]

Sample Handling: [Handling]

Sample Analysis: [Analysis]

Sample Results: [Results]

Item	Description	Chain of Custody		Analysis		Retention	
		Initial	Final	Initial	Final	Initial	Final
1	100-443333-100	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
2	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
3	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
4	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
5	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
6	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
7	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
8	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
9	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
10	[Description]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]

Section 3: Laboratory Information

Requester Name: [Name]

Requester Address: [Address]

Requester Phone: [Phone]

Requester Email: [Email]

Requester Title: [Title]

Requester Department: [Department]

Requester Division: [Division]

Requester Contact Person: [Person]

Requester Contact Phone: [Phone]

Requester Contact Email: [Email]

Requester Signature: [Signature]

Requester Date: [Date]

Approved Form 10-2004 (Rev. 10-2004) Form 10-2004 (Rev. 10-2004)



CHAIN-OF-CUSTODY / Analytical Request Document
 The Owner of this document is the U.S. Environmental Protection Agency. All information contained herein is subject to change without notice.

Requester: U.S. EPA Requester Address: U.S. EPA, Office of Research and Development, Environmental Systems Laboratory, Washington, DC

Requester Phone: 202-566-0100 Requester Email: epa@epa.gov

Requester Signature: [Signature] Date: 11/21/00

Sample ID: 11-11-00-01 Sample Description: Water from the 11-11-00-01

Sample Location: 11-11-00-01 Sample Date: 11/21/00

Sample Quantity: 100 mL Sample Container: 100 mL

Sample Matrix: Water Sample Matrix Code: 100

Sample Number: 01 Sample Date: 11/21/00

Sample ID	Sample Description	Sample Location	Sample Date	Sample Quantity	Sample Container	Sample Matrix	Sample Matrix Code	Sample Number	Sample Date	Collection		Analysis		Analysis Date	Analysis Location	Analysis Method	Analysis Result	Analysis Unit	Analysis Comment
										Method	Time	Method	Time						
11-11-00-01	Water from the 11-11-00-01	11-11-00-01	11/21/00	100 mL	100 mL	Water	100	01	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00
11-11-00-02	Water from the 11-11-00-01	11-11-00-01	11/21/00	100 mL	100 mL	Water	100	02	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00
11-11-00-03	Water from the 11-11-00-01	11-11-00-01	11/21/00	100 mL	100 mL	Water	100	03	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00	11/21/00

Requester Signature: [Signature] Date: 11-21-00

Requester Title: Requester

Requester Address: U.S. EPA, Office of Research and Development, Environmental Systems Laboratory, Washington, DC

Requester Phone: 202-566-0100 Requester Email: epa@epa.gov

Requester Signature: [Signature] Date: 11-21-00

Requester Title: Requester

Requester Address: U.S. EPA, Office of Research and Development, Environmental Systems Laboratory, Washington, DC

Requester Phone: 202-566-0100 Requester Email: epa@epa.gov

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CHAIN-OF-QUESTION / Analytical Request Document
 For (insert sample name, collection date, quantity of material submitted for analysis) (insert sample ID)

Page 2 of 3

Section A: Requester Name: _____ Requester Address: _____ Requester Phone: _____ Requester Email: _____		Section B: Requested Sample Name: _____ Requested Sample ID: _____ Requested Sample Quantity: _____ Requested Sample Location: _____		Section C: Requester Contact Person: _____ Requester Title: _____ Requester Organization: _____	
Section D: Requested Analysis: _____ Requested Analysis Method: _____ Requested Analysis Laboratory: _____			Section E: Requested Analysis Method: _____ Requested Analysis Laboratory: _____		

Sample ID	Sample Name	Sample Location	Sample Quantity	Sample Date	Sample Description	Collection		Analysis		Analysis Method	Analysis Laboratory	Analysis Date	Analysis Results
						Collected	Analyzed	Requested	Completed				
1	BALTIMORE	MD	1	02/14/12	Sample for lead in water								
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APPLYING AGENCY: _____
APPLYING AGENCY ADDRESS: _____
APPLYING AGENCY PHONE: _____
APPLYING AGENCY FAX: _____
APPLYING AGENCY EMAIL: _____
APPLYING AGENCY CONTACT PERSON: _____
APPLYING AGENCY CONTACT TITLE: _____

APPLYING AGENCY SIGNATURE: _____
APPLYING AGENCY DATE: _____

ANALYST SIGNATURE: _____
ANALYST DATE: _____

LABORATORY SIGNATURE: _____
LABORATORY DATE: _____

LABORATORY ADDRESS: _____
LABORATORY PHONE: _____
LABORATORY FAX: _____
LABORATORY EMAIL: _____
LABORATORY CONTACT PERSON: _____
LABORATORY CONTACT TITLE: _____

LABORATORY SIGNATURE: _____
LABORATORY DATE: _____

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 Date Analyzed: _____

CHAIN-OF-CUSTODY / Analytical Request Document
 An instrumentally verified document of record used to ensure integrity

Page 128 of 128

Section 1: Case Information

Case No: 18-1000
 Project Name: 18-1000
 Requested By: 18-1000
 Requested For: 18-1000
 Requested On: 18-1000
 Requested At: 18-1000

Section 2: Sample Information

Sample ID: 18-1000
 Sample Description: 18-1000
 Sample Location: 18-1000
 Sample Quantity: 18-1000
 Sample Date: 18-1000
 Sample Time: 18-1000

Section 3: Chain of Custody

No.	Name	Signature	Date	Initials
1	Requester			
2	Analyst			
3	Supervisor			
4	Witness			
5	Receiver			

No.	Description	Date		Time		Signature	Initials
		Start	End	Start	End		
1	Sample received						
2	Sample analyzed						
3	Sample stored						
4	Sample returned						
5	Sample disposed						

Section 4: Laboratory Information

Laboratory Name: 18-1000
 Laboratory Address: 18-1000
 Laboratory Phone: 18-1000
 Laboratory Fax: 18-1000
 Laboratory Email: 18-1000
 Laboratory Website: 18-1000
 Laboratory Accredited: 18-1000
 Laboratory Accredited To: 18-1000
 Laboratory Accredited By: 18-1000
 Laboratory Accredited Date: 18-1000
 Laboratory Accredited Until: 18-1000
 Laboratory Accredited For: 18-1000
 Laboratory Accredited By: 18-1000
 Laboratory Accredited Date: 18-1000
 Laboratory Accredited Until: 18-1000
 Laboratory Accredited For: 18-1000



March 04, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 APP IV
Pace Project No.: 92521143

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between February 09, 2021 and February 17, 2021. 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.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Pace Analytical Services Charlotte

9800 Kinsey 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

North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92521143001	HGWA-1	Water	02/08/21 16:13	02/09/21 12:33
92521143002	HGWA-4	Water	02/08/21 15:54	02/09/21 12:33
92521143003	HGWA-42D	Water	02/08/21 17:36	02/09/21 12:33
92521143004	HGWA-2	Water	02/09/21 10:38	02/10/21 09:56
92521143005	HGWA-3	Water	02/09/21 11:56	02/10/21 09:56
92521143006	HGWA-5	Water	02/09/21 10:46	02/10/21 09:56
92521143007	HGWA-6	Water	02/09/21 12:00	02/10/21 09:56
92521143008	HGWA-43D	Water	02/09/21 17:58	02/10/21 09:56
92521143009	HGWA-44D	Water	02/09/21 13:09	02/10/21 09:56
92521143010	HGWC-16	Water	02/10/21 15:02	02/11/21 09:19
92521143011	HGWC-18	Water	02/11/21 12:57	02/12/21 09:36
92521143012	MW-21D	Water	02/11/21 14:53	02/12/21 09:36
92521143013	DUP-2	Water	02/11/21 00:00	02/12/21 09:36
92521143014	HGWC-14	Water	02/11/21 15:12	02/12/21 09:36
92521143015	HGWC-17	Water	02/11/21 11:30	02/12/21 09:36
92521143016	MW-37D	Water	02/11/21 13:09	02/12/21 09:36
92521143017	FB-2	Water	02/11/21 08:45	02/12/21 09:36
92521143018	HGWC-15	Water	02/12/21 15:01	02/15/21 09:45
92521143019	MW-23D	Water	02/12/21 13:54	02/15/21 09:45
92521143020	MW-33	Water	02/12/21 10:32	02/15/21 09:45
92521143021	EB-1	Water	02/12/21 15:35	02/15/21 09:45
92521143022	MW-22	Water	02/15/21 15:43	02/17/21 11:54
92521143023	MW-35	Water	02/15/21 11:35	02/17/21 11:54

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92521143001	HGWA-1	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143002	HGWA-4	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143003	HGWA-42D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143004	HGWA-2	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143005	HGWA-3	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143006	HGWA-5	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143007	HGWA-6	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143008	HGWA-43D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143009	HGWA-44D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143010	HGWC-16	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
92521143011	HGWC-18	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143012	MW-21D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143013	DUP-2	EPA 6020B	CW1	12

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92521143014	HGWC-14	EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
92521143015	HGWC-17	EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143016	MW-37D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
92521143017	FB-2	EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
92521143018	HGWC-15	EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143019	MW-23D	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
92521143020	MW-33	EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
92521143021	EB-1	EPA 300.0 Rev 2.1 1993	JLH	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	JLH	1
92521143022	MW-22	EPA 6020B	CW1	12
		EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
		EPA 6020B	CW1	12
92521143023	MW-35	EPA 7470A	VB	1
		EPA 300.0 Rev 2.1 1993	CDC	1
		EPA 6020B	CW1	12
		EPA 7470A	VB	1

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

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521143001	HGWA-1					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	7.11	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.032	mg/L	0.010	02/23/21 18:06	
EPA 6020B	Lead	0.00058J	mg/L	0.0050	02/23/21 18:06	
EPA 6020B	Lithium	0.00086J	mg/L	0.030	02/23/21 18:06	
EPA 300.0 Rev 2.1 1993	Fluoride	0.078J	mg/L	0.10	02/10/21 17:59	
92521143002	HGWA-4					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	4.94	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.040	mg/L	0.010	02/23/21 18:12	
EPA 6020B	Beryllium	0.00023J	mg/L	0.0030	02/23/21 18:12	
EPA 6020B	Cobalt	0.00074J	mg/L	0.0050	02/23/21 18:12	
EPA 6020B	Lead	0.00024J	mg/L	0.0050	02/23/21 18:12	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	02/23/21 18:12	
92521143003	HGWA-42D					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	7.64	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.0019J	mg/L	0.0030	02/23/21 18:35	B
EPA 6020B	Barium	0.19	mg/L	0.010	02/23/21 18:35	
EPA 6020B	Chromium	0.00078J	mg/L	0.010	02/23/21 18:35	
EPA 6020B	Lead	0.000081J	mg/L	0.0050	02/23/21 18:35	
EPA 6020B	Lithium	0.0098J	mg/L	0.030	02/23/21 18:35	
EPA 300.0 Rev 2.1 1993	Fluoride	0.096J	mg/L	0.10	02/10/21 18:14	
92521143004	HGWA-2					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	5.42	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00062J	mg/L	0.0030	02/23/21 18:41	B
EPA 6020B	Barium	0.12	mg/L	0.010	02/23/21 18:41	
EPA 6020B	Beryllium	0.00014J	mg/L	0.0030	02/23/21 18:41	
EPA 6020B	Cadmium	0.00016J	mg/L	0.0025	02/23/21 18:41	
EPA 6020B	Cobalt	0.020	mg/L	0.0050	02/23/21 18:41	
EPA 6020B	Lead	0.000094J	mg/L	0.0050	02/23/21 18:41	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	02/23/21 18:41	
92521143005	HGWA-3					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	7.23	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00031J	mg/L	0.0030	02/23/21 18:46	B
EPA 6020B	Barium	0.13	mg/L	0.010	02/23/21 18:46	
EPA 6020B	Lithium	0.0032J	mg/L	0.030	02/23/21 18:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.074J	mg/L	0.10	02/11/21 18:16	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521143006	HGWA-5					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	6.35	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.046	mg/L	0.010	02/23/21 19:04	
EPA 6020B	Cobalt	0.00071J	mg/L	0.0050	02/23/21 19:04	
EPA 6020B	Lithium	0.0030J	mg/L	0.030	02/23/21 19:04	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	02/11/21 18:32	
92521143007	HGWA-6					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	7.40	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.21	mg/L	0.010	02/23/21 19:09	
EPA 6020B	Lithium	0.010J	mg/L	0.030	02/23/21 19:09	
92521143008	HGWA-43D					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	7.44	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00037J	mg/L	0.0030	02/23/21 19:15	B
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	02/23/21 19:15	B
EPA 6020B	Barium	0.34	mg/L	0.010	02/23/21 19:15	
EPA 6020B	Chromium	0.00095J	mg/L	0.010	02/23/21 19:15	
EPA 6020B	Lead	0.00029J	mg/L	0.0050	02/23/21 19:15	
EPA 6020B	Lithium	0.0026J	mg/L	0.030	02/23/21 19:15	
EPA 6020B	Molybdenum	0.0045J	mg/L	0.010	02/23/21 19:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	02/11/21 19:36	
92521143009	HGWA-44D					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	7.84	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00042J	mg/L	0.0030	02/23/21 19:21	B
EPA 6020B	Arsenic	0.00083J	mg/L	0.0050	02/23/21 19:21	B
EPA 6020B	Barium	0.46	mg/L	0.010	02/23/21 19:21	
EPA 6020B	Chromium	0.00066J	mg/L	0.010	02/23/21 19:21	
EPA 6020B	Lead	0.00010J	mg/L	0.0050	02/23/21 19:21	
EPA 6020B	Lithium	0.026J	mg/L	0.030	02/23/21 19:21	
EPA 6020B	Molybdenum	0.0038J	mg/L	0.010	02/23/21 19:21	
EPA 300.0 Rev 2.1 1993	Fluoride	0.44	mg/L	0.10	02/11/21 19:52	
92521143010	HGWC-16					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	7.08	Std. Units		02/24/21 07:43	
EPA 6020B	Arsenic	0.0012J	mg/L	0.0050	02/23/21 19:27	B
EPA 6020B	Barium	0.11	mg/L	0.010	02/23/21 19:27	
EPA 6020B	Lead	0.000094J	mg/L	0.0050	02/23/21 19:27	
EPA 6020B	Lithium	0.0038J	mg/L	0.030	02/23/21 19:27	
EPA 300.0 Rev 2.1 1993	Fluoride	0.21	mg/L	0.10	02/12/21 22:35	M1

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521143011	HGWC-18					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	4.53	Std. Units		02/24/21 07:43	
EPA 6020B	Arsenic	0.0069	mg/L	0.0050	02/23/21 19:32	B
EPA 6020B	Barium	0.030	mg/L	0.010	02/23/21 19:32	
EPA 6020B	Beryllium	0.0036	mg/L	0.0030	02/23/21 19:32	
EPA 6020B	Cadmium	0.0016J	mg/L	0.0025	02/23/21 19:32	
EPA 6020B	Cobalt	0.14	mg/L	0.0050	02/23/21 19:32	
EPA 6020B	Lead	0.00098J	mg/L	0.0050	02/23/21 19:32	
EPA 6020B	Lithium	0.011J	mg/L	0.030	02/23/21 19:32	
EPA 6020B	Selenium	0.023	mg/L	0.010	02/23/21 19:32	
EPA 300.0 Rev 2.1 1993	Fluoride	0.71	mg/L	0.10	02/16/21 11:21	
92521143012	MW-21D					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	6.87	Std. Units		02/24/21 07:43	
EPA 6020B	Arsenic	0.0010J	mg/L	0.0050	02/23/21 19:38	B
EPA 6020B	Barium	0.044	mg/L	0.010	02/23/21 19:38	
EPA 6020B	Lead	0.00066J	mg/L	0.0050	02/23/21 19:38	
EPA 6020B	Lithium	0.021J	mg/L	0.030	02/23/21 19:38	
EPA 6020B	Molybdenum	0.016	mg/L	0.010	02/23/21 19:38	
92521143013	DUP-2					
EPA 6020B	Arsenic	0.00095J	mg/L	0.0050	02/23/21 19:44	B
EPA 6020B	Barium	0.043	mg/L	0.010	02/23/21 19:44	
EPA 6020B	Lithium	0.022J	mg/L	0.030	02/23/21 19:44	
EPA 6020B	Molybdenum	0.016	mg/L	0.010	02/23/21 19:44	
92521143014	HGWC-14					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	4.84	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00043J	mg/L	0.0030	02/23/21 19:49	B
EPA 6020B	Arsenic	0.0062	mg/L	0.0050	02/23/21 19:49	B
EPA 6020B	Barium	0.020	mg/L	0.010	02/23/21 19:49	
EPA 6020B	Beryllium	0.00044J	mg/L	0.0030	02/23/21 19:49	
EPA 6020B	Cobalt	0.033	mg/L	0.0050	02/23/21 19:49	
EPA 6020B	Lead	0.0015J	mg/L	0.0050	02/23/21 19:49	
EPA 6020B	Selenium	0.0072J	mg/L	0.010	02/23/21 19:49	
EPA 6020B	Thallium	0.00026J	mg/L	0.0010	02/23/21 19:49	
EPA 300.0 Rev 2.1 1993	Fluoride	0.059J	mg/L	0.10	02/16/21 12:04	
92521143015	HGWC-17					
	Performed by	CUSTOME			02/24/21 07:43	
		R				
	pH	6.31	Std. Units		02/24/21 07:43	
EPA 6020B	Arsenic	0.0012J	mg/L	0.0050	02/23/21 19:55	B
EPA 6020B	Barium	0.025	mg/L	0.010	02/23/21 19:55	
EPA 6020B	Beryllium	0.000067J	mg/L	0.0030	02/23/21 19:55	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521143015	HGWC-17					
EPA 6020B	Chromium	0.00074J	mg/L	0.010	02/23/21 19:55	
EPA 6020B	Cobalt	0.012	mg/L	0.0050	02/23/21 19:55	
EPA 6020B	Lead	0.00018J	mg/L	0.0050	02/23/21 19:55	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	02/23/21 19:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.058J	mg/L	0.10	02/16/21 12:47	
92521143016	MW-37D					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	7.42	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00079J	mg/L	0.0030	02/24/21 15:16	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	02/24/21 15:16	
EPA 6020B	Barium	0.14	mg/L	0.010	02/24/21 15:16	
EPA 6020B	Chromium	0.0014J	mg/L	0.010	02/24/21 15:16	
EPA 6020B	Cobalt	0.00048J	mg/L	0.0050	02/24/21 15:16	
EPA 6020B	Lead	0.00039J	mg/L	0.0050	02/24/21 15:16	
EPA 6020B	Lithium	0.034	mg/L	0.030	02/24/21 15:16	
EPA 6020B	Molybdenum	0.019	mg/L	0.010	02/24/21 15:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.077J	mg/L	0.10	02/16/21 13:02	
92521143017	FB-2					
EPA 6020B	Arsenic	0.00091J	mg/L	0.0050	02/24/21 15:22	
92521143018	HGWC-15					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	5.99	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.014	mg/L	0.010	02/24/21 15:45	
EPA 6020B	Cadmium	0.0014J	mg/L	0.0025	02/24/21 15:45	
EPA 6020B	Cobalt	0.019	mg/L	0.0050	02/24/21 15:45	
EPA 6020B	Lithium	0.036	mg/L	0.030	02/24/21 15:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	02/16/21 20:31	
92521143019	MW-23D					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	6.80	Std. Units		02/24/21 07:43	
EPA 6020B	Arsenic	0.0010J	mg/L	0.0050	02/24/21 15:51	
EPA 6020B	Barium	0.056	mg/L	0.010	02/24/21 15:51	
EPA 6020B	Cadmium	0.00045J	mg/L	0.0025	02/24/21 15:51	
EPA 6020B	Cobalt	0.0010J	mg/L	0.0050	02/24/21 15:51	
EPA 6020B	Lithium	0.0023J	mg/L	0.030	02/24/21 15:51	
EPA 6020B	Molybdenum	0.0039J	mg/L	0.010	02/24/21 15:51	
92521143020	MW-33					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	4.40	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00046J	mg/L	0.0030	02/24/21 15:57	
EPA 6020B	Arsenic	0.0059	mg/L	0.0050	02/24/21 15:57	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92521143020	MW-33					
EPA 6020B	Barium	0.025	mg/L	0.010	02/24/21 15:57	
EPA 6020B	Beryllium	0.0010J	mg/L	0.0030	02/24/21 15:57	
EPA 6020B	Cadmium	0.00017J	mg/L	0.0025	02/24/21 15:57	
EPA 6020B	Cobalt	0.055	mg/L	0.0050	02/24/21 15:57	
EPA 6020B	Lead	0.0018J	mg/L	0.0050	02/24/21 15:57	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	02/24/21 15:57	
EPA 6020B	Selenium	0.011	mg/L	0.010	02/24/21 15:57	
EPA 6020B	Thallium	0.00025J	mg/L	0.0010	02/24/21 15:57	
EPA 300.0 Rev 2.1 1993	Fluoride	0.25	mg/L	0.10	02/16/21 21:00	
92521143022	MW-22					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	5.48	Std. Units		02/24/21 07:43	
EPA 6020B	Barium	0.017	mg/L	0.010	02/24/21 17:26	
EPA 6020B	Beryllium	0.000062J	mg/L	0.0030	02/24/21 17:26	
EPA 6020B	Cadmium	0.0020J	mg/L	0.0025	02/24/21 17:26	
EPA 6020B	Cobalt	0.038	mg/L	0.0050	02/24/21 17:26	
EPA 6020B	Lead	0.000036J	mg/L	0.0050	02/24/21 17:26	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	02/24/21 17:26	
92521143023	MW-35					
	Performed by	CUSTOMER			02/24/21 07:43	
	pH	4.82	Std. Units		02/24/21 07:43	
EPA 6020B	Antimony	0.00041J	mg/L	0.0030	02/24/21 17:32	
EPA 6020B	Arsenic	0.0050	mg/L	0.0050	02/24/21 17:32	
EPA 6020B	Barium	0.026	mg/L	0.010	02/24/21 17:32	
EPA 6020B	Beryllium	0.00060J	mg/L	0.0030	02/24/21 17:32	
EPA 6020B	Cadmium	0.0017J	mg/L	0.0025	02/24/21 17:32	
EPA 6020B	Cobalt	0.095	mg/L	0.0050	02/24/21 17:32	
EPA 6020B	Lead	0.00055J	mg/L	0.0050	02/24/21 17:32	
EPA 6020B	Lithium	0.0043J	mg/L	0.030	02/24/21 17:32	
EPA 6020B	Selenium	0.010	mg/L	0.010	02/24/21 17:32	
EPA 300.0 Rev 2.1 1993	Fluoride	0.093J	mg/L	0.10	02/20/21 17:59	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-1		Lab ID: 92521143001		Collected: 02/08/21 16:13		Received: 02/09/21 12:33		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		02/24/21 07:43		
pH	7.11	Std. Units			1		02/24/21 07:43		
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	02/23/21 11:55	02/23/21 18:06	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 18:06	7440-38-2	
Barium	0.032	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 18:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 18:06	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 18:06	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 18:06	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 18:06	7440-48-4	
Lead	0.00058J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 18:06	7439-92-1	
Lithium	0.00086J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 18:06	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 18:06	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 18:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 18:06	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 12:38	7439-97-6	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	0.078J	mg/L	0.10	0.050	1		02/10/21 17:59	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-4 **Lab ID: 92521143002** Collected: 02/08/21 15:54 Received: 02/09/21 12:33 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	4.94	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 18:12	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 18:12	7440-38-2	
Barium	0.040	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 18:12	7440-39-3	
Beryllium	0.00023J	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 18:12	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 18:12	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 18:12	7440-47-3	
Cobalt	0.00074J	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 18:12	7440-48-4	
Lead	0.00024J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 18:12	7439-92-1	
Lithium	0.0013J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 18:12	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 18:12	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 18:12	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 18:12	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	02/17/21 15:30	02/18/21 12:52	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/16/21 01:29	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-42D **Lab ID: 92521143003** Collected: 02/08/21 17:36 Received: 02/09/21 12:33 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.64	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.0019J	mg/L	0.0030	0.00028	1	02/23/21 11:55	02/23/21 18:35	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 18:35	7440-38-2	
Barium	0.19	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 18:35	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 18:35	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 18:35	7440-43-9	
Chromium	0.00078J	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 18:35	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 18:35	7440-48-4	
Lead	0.000081J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 18:35	7439-92-1	
Lithium	0.0098J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 18:35	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 18:35	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 18:35	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 18:35	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 12:54	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.096J	mg/L	0.10	0.050	1		02/10/21 18:14	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-2 **Lab ID: 92521143004** Collected: 02/09/21 10:38 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	5.42	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00062J	mg/L	0.0030	0.00028	1	02/23/21 11:55	02/23/21 18:41	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 18:41	7440-38-2	
Barium	0.12	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 18:41	7440-39-3	
Beryllium	0.00014J	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 18:41	7440-41-7	
Cadmium	0.00016J	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 18:41	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 18:41	7440-47-3	
Cobalt	0.020	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 18:41	7440-48-4	
Lead	0.000094J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 18:41	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 18:41	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 18:41	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 18:41	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 18:41	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 12:57	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/11/21 17:28	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-3 **Lab ID: 92521143005** Collected: 02/09/21 11:56 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.23	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 18:46	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 18:46	7440-38-2	
Barium	0.13	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 18:46	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 18:46	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 18:46	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 18:46	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 18:46	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 18:46	7439-92-1	
Lithium	0.0032J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 18:46	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 18:46	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 18:46	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 18:46	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	02/17/21 15:30	02/18/21 12:59	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.074J	mg/L	0.10	0.050	1		02/11/21 18:16	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-5 **Lab ID: 92521143006** Collected: 02/09/21 10:46 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	6.35	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:04	7440-38-2	
Barium	0.046	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:04	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:04	7440-47-3	
Cobalt	0.00071J	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:04	7439-92-1	
Lithium	0.0030J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 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	02/17/21 15:30	02/18/21 13:02	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.053J	mg/L	0.10	0.050	1		02/11/21 18:32	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-6 **Lab ID: 92521143007** Collected: 02/09/21 12:00 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.40	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:09	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:09	7440-38-2	
Barium	0.21	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:09	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:09	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:09	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:09	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:09	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:09	7439-92-1	
Lithium	0.010J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:09	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:09	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:09	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:09	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	02/17/21 15:30	02/18/21 13:04	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/11/21 18:48	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-43D **Lab ID: 92521143008** Collected: 02/09/21 17:58 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.44	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00037J	mg/L	0.0030	0.00028	1	02/23/21 11:55	02/23/21 19:15	7440-36-0	B
Arsenic	0.0017J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:15	7440-38-2	B
Barium	0.34	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:15	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:15	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:15	7440-43-9	
Chromium	0.00095J	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:15	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:15	7440-48-4	
Lead	0.00029J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:15	7439-92-1	
Lithium	0.0026J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:15	7439-93-2	
Molybdenum	0.0045J	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:15	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:15	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:15	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	02/17/21 15:30	02/18/21 13:06	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.19	mg/L	0.10	0.050	1		02/11/21 19:36	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWA-44D **Lab ID: 92521143009** Collected: 02/09/21 13:09 Received: 02/10/21 09:56 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.84	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00042J	mg/L	0.0030	0.00028	1	02/23/21 11:55	02/23/21 19:21	7440-36-0	B
Arsenic	0.00083J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:21	7440-38-2	B
Barium	0.46	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:21	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:21	7440-43-9	
Chromium	0.00066J	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:21	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:21	7440-48-4	
Lead	0.00010J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:21	7439-92-1	
Lithium	0.026J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:21	7439-93-2	
Molybdenum	0.0038J	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:21	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:21	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:21	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	02/17/21 15:30	02/18/21 13:09	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.44	mg/L	0.10	0.050	1		02/11/21 19:52	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWC-16 **Lab ID: 92521143010** Collected: 02/10/21 15:02 Received: 02/11/21 09:19 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.08	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:27	7440-36-0	
Arsenic	0.0012J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:27	7440-38-2	B
Barium	0.11	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:27	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:27	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:27	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:27	7440-48-4	
Lead	0.000094J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:27	7439-92-1	
Lithium	0.0038J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:27	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:27	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:27	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	02/17/21 15:30	02/18/21 13:11	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.21	mg/L	0.10	0.050	1		02/12/21 22:35	16984-48-8	M1
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWC-18 **Lab ID: 92521143011** Collected: 02/11/21 12:57 Received: 02/12/21 09:36 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	4.53	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:32	7440-36-0	
Arsenic	0.0069	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:32	7440-38-2	B
Barium	0.030	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:32	7440-39-3	
Beryllium	0.0036	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:32	7440-41-7	
Cadmium	0.0016J	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:32	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:32	7440-47-3	
Cobalt	0.14	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:32	7440-48-4	
Lead	0.00098J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:32	7439-92-1	
Lithium	0.011J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:32	7439-98-7	
Selenium	0.023	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:32	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 13:18	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.71	mg/L	0.10	0.050	1		02/16/21 11:21	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Sample: MW-21D **Lab ID: 92521143012** Collected: 02/11/21 14:53 Received: 02/12/21 09:36 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	6.87	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:38	7440-36-0	
Arsenic	0.0010J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:38	7440-38-2	B
Barium	0.044	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:38	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:38	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:38	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:38	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:38	7440-48-4	
Lead	0.00066J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:38	7439-92-1	
Lithium	0.021J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:38	7439-93-2	
Molybdenum	0.016	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:38	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:38	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:38	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
 Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 13:21	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/16/21 11:35	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Sample: DUP-2 Lab ID: 92521143013 Collected: 02/11/21 00:00 Received: 02/12/21 09:36 Matrix: Water									
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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	02/23/21 11:55	02/23/21 19:44	7440-36-0	
Arsenic	0.00095J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:44	7440-38-2	B
Barium	0.043	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:44	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:44	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:44	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:44	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:44	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:44	7439-92-1	
Lithium	0.022J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:44	7439-93-2	
Molybdenum	0.016	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:44	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:44	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:44	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 13:23	7439-97-6	
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		02/16/21 11:49	16984-48-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWC-14 **Lab ID: 92521143014** Collected: 02/11/21 15:12 Received: 02/12/21 09:36 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	4.84	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:49	7440-36-0	B
Arsenic	0.0062	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:49	7440-38-2	B
Barium	0.020	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:49	7440-39-3	
Beryllium	0.00044J	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:49	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:49	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:49	7440-47-3	
Cobalt	0.033	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:49	7440-48-4	
Lead	0.0015J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:49	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:49	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:49	7439-98-7	
Selenium	0.0072J	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:49	7782-49-2	
Thallium	0.00026J	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:49	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	02/17/21 15:30	02/18/21 13:25	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.059J	mg/L	0.10	0.050	1		02/16/21 12:04	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWC-17 **Lab ID: 92521143015** Collected: 02/11/21 11:30 Received: 02/12/21 09:36 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	6.31	Std. Units			1		02/24/21 07:43		

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	02/23/21 11:55	02/23/21 19:55	7440-36-0	
Arsenic	0.0012J	mg/L	0.0050	0.00078	1	02/23/21 11:55	02/23/21 19:55	7440-38-2	B
Barium	0.025	mg/L	0.010	0.00071	1	02/23/21 11:55	02/23/21 19:55	7440-39-3	
Beryllium	0.00067J	mg/L	0.0030	0.000046	1	02/23/21 11:55	02/23/21 19:55	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 11:55	02/23/21 19:55	7440-43-9	
Chromium	0.00074J	mg/L	0.010	0.00055	1	02/23/21 11:55	02/23/21 19:55	7440-47-3	
Cobalt	0.012	mg/L	0.0050	0.00038	1	02/23/21 11:55	02/23/21 19:55	7440-48-4	
Lead	0.00018J	mg/L	0.0050	0.000036	1	02/23/21 11:55	02/23/21 19:55	7439-92-1	
Lithium	0.0013J	mg/L	0.030	0.00081	1	02/23/21 11:55	02/23/21 19:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 11:55	02/23/21 19:55	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 11:55	02/23/21 19:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 11:55	02/23/21 19:55	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/17/21 15:30	02/18/21 13:28	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.058J	mg/L	0.10	0.050	1		02/16/21 12:47	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: MW-37D **Lab ID: 92521143016** Collected: 02/11/21 13:09 Received: 02/12/21 09:36 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	7.42	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00079J	mg/L	0.0030	0.00028	1	02/23/21 13:13	02/24/21 15:16	7440-36-0	
Arsenic	0.0023J	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 15:16	7440-38-2	
Barium	0.14	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 15:16	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 15:16	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 15:16	7440-43-9	
Chromium	0.0014J	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 15:16	7440-47-3	
Cobalt	0.00048J	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 15:16	7440-48-4	
Lead	0.00039J	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 15:16	7439-92-1	
Lithium	0.034	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 15:16	7439-93-2	
Molybdenum	0.019	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 15:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 15:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 15:16	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	02/22/21 02:15	02/23/21 14:11	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.077J	mg/L	0.10	0.050	1		02/16/21 13:02	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: FB-2		Lab ID: 92521143017		Collected: 02/11/21 08:45	Received: 02/12/21 09:36	Matrix: Water				
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
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	02/23/21 13:13	02/24/21 15:22	7440-36-0		
Arsenic	0.00091J	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 15:22	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 15:22	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 15:22	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 15:22	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 15:22	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 15:22	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 15:22	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 15:22	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 15:22	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 15:22	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 15:22	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	02/22/21 02:15	02/23/21 14:14	7439-97-6		
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		02/16/21 17:46	16984-48-8		

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: HGWC-15 **Lab ID: 92521143018** Collected: 02/12/21 15:01 Received: 02/15/21 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	5.99	Std. Units			1		02/24/21 07:43		

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	02/23/21 13:13	02/24/21 15:45	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 15:45	7440-38-2	
Barium	0.014	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 15:45	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 15:45	7440-41-7	
Cadmium	0.0014J	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 15:45	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 15:45	7440-47-3	
Cobalt	0.019	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 15:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 15:45	7439-92-1	
Lithium	0.036	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 15:45	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 15:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 15:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 15:45	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	02/22/21 02:15	02/23/21 14:16	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.053J	mg/L	0.10	0.050	1		02/16/21 20:31	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: MW-23D **Lab ID: 92521143019** Collected: 02/12/21 13:54 Received: 02/15/21 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	6.80	Std. Units			1		02/24/21 07:43		

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	02/23/21 13:13	02/24/21 15:51	7440-36-0	
Arsenic	0.0010J	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 15:51	7440-38-2	
Barium	0.056	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 15:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 15:51	7440-41-7	
Cadmium	0.00045J	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 15:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 15:51	7440-47-3	
Cobalt	0.0010J	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 15:51	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 15:51	7439-92-1	
Lithium	0.0023J	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 15:51	7439-93-2	
Molybdenum	0.0039J	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 15:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 15:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 15:51	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	02/22/21 02:15	02/23/21 14:19	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/16/21 20:45	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: MW-33 **Lab ID: 92521143020** Collected: 02/12/21 10:32 Received: 02/15/21 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	4.40	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00046J	mg/L	0.0030	0.00028	1	02/23/21 13:13	02/24/21 15:57	7440-36-0	
Arsenic	0.0059	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 15:57	7440-38-2	
Barium	0.025	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 15:57	7440-39-3	
Beryllium	0.0010J	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 15:57	7440-41-7	
Cadmium	0.00017J	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 15:57	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 15:57	7440-47-3	
Cobalt	0.055	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 15:57	7440-48-4	
Lead	0.0018J	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 15:57	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 15:57	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 15:57	7439-98-7	
Selenium	0.011	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 15:57	7782-49-2	
Thallium	0.00025J	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 15:57	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	02/22/21 02:15	02/23/21 14:21	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.25	mg/L	0.10	0.050	1		02/16/21 21:00	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: EB-1		Lab ID: 92521143021		Collected: 02/12/21 15:35		Received: 02/15/21 09:45		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
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	02/23/21 13:13	02/24/21 16:02	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 16:02	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 16:02	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 16:02	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 16:02	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 16:02	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 16:02	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 16:02	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 16:02	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 16:02	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 16:02	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 16:02	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	02/22/21 09:50	02/22/21 13:46	7439-97-6		
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		02/16/21 21:15	16984-48-8		

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: MW-22 **Lab ID: 92521143022** Collected: 02/15/21 15:43 Received: 02/17/21 11:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	5.48	Std. Units			1		02/24/21 07:43		

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	02/23/21 13:13	02/24/21 17:26	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 17:26	7440-38-2	
Barium	0.017	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 17:26	7440-39-3	
Beryllium	0.00062J	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 17:26	7440-41-7	
Cadmium	0.0020J	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 17:26	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 17:26	7440-47-3	
Cobalt	0.038	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 17:26	7440-48-4	
Lead	0.000036J	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 17:26	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 17:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 17:26	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 17:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 17:26	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/22/21 09:50	02/22/21 14:01	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	ND	mg/L	0.10	0.050	1		02/20/21 17:14	16984-48-8	
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ANALYTICAL RESULTS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Sample: MW-35 **Lab ID: 92521143023** Collected: 02/15/21 11:35 Received: 02/17/21 11:54 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/24/21 07:43		
pH	4.82	Std. Units			1		02/24/21 07:43		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.00041J	mg/L	0.0030	0.00028	1	02/23/21 13:13	02/24/21 17:32	7440-36-0	
Arsenic	0.0050	mg/L	0.0050	0.00078	1	02/23/21 13:13	02/24/21 17:32	7440-38-2	
Barium	0.026	mg/L	0.010	0.00071	1	02/23/21 13:13	02/24/21 17:32	7440-39-3	
Beryllium	0.00060J	mg/L	0.0030	0.000046	1	02/23/21 13:13	02/24/21 17:32	7440-41-7	
Cadmium	0.0017J	mg/L	0.0025	0.00012	1	02/23/21 13:13	02/24/21 17:32	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	02/23/21 13:13	02/24/21 17:32	7440-47-3	
Cobalt	0.095	mg/L	0.0050	0.00038	1	02/23/21 13:13	02/24/21 17:32	7440-48-4	
Lead	0.00055J	mg/L	0.0050	0.000036	1	02/23/21 13:13	02/24/21 17:32	7439-92-1	
Lithium	0.0043J	mg/L	0.030	0.00081	1	02/23/21 13:13	02/24/21 17:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	02/23/21 13:13	02/24/21 17:32	7439-98-7	
Selenium	0.010	mg/L	0.010	0.0016	1	02/23/21 13:13	02/24/21 17:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	02/23/21 13:13	02/24/21 17:32	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00050	0.000078	1	02/22/21 09:50	02/22/21 14:03	7439-97-6	
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300.0 IC Anions 28 Days

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

Fluoride	0.093J	mg/L	0.10	0.050	1		02/20/21 17:59	16984-48-8	
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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

QC Batch: 601892 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92521143001, 92521143002, 92521143003, 92521143004, 92521143005, 92521143006, 92521143007, 92521143008, 92521143009, 92521143010, 92521143011, 92521143012, 92521143013, 92521143014, 92521143015

METHOD BLANK: 3171327 Matrix: Water
 Associated Lab Samples: 92521143001, 92521143002, 92521143003, 92521143004, 92521143005, 92521143006, 92521143007, 92521143008, 92521143009, 92521143010, 92521143011, 92521143012, 92521143013, 92521143014, 92521143015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00030J	0.0030	0.00028	02/23/21 17:55	
Arsenic	mg/L	0.00094J	0.0050	0.00078	02/23/21 17:55	
Barium	mg/L	ND	0.010	0.00071	02/23/21 17:55	
Beryllium	mg/L	ND	0.0030	0.000046	02/23/21 17:55	
Cadmium	mg/L	ND	0.0025	0.00012	02/23/21 17:55	
Chromium	mg/L	ND	0.010	0.00055	02/23/21 17:55	
Cobalt	mg/L	ND	0.0050	0.00038	02/23/21 17:55	
Lead	mg/L	ND	0.0050	0.000036	02/23/21 17:55	
Lithium	mg/L	ND	0.030	0.00081	02/23/21 17:55	
Molybdenum	mg/L	ND	0.010	0.00069	02/23/21 17:55	
Selenium	mg/L	ND	0.010	0.0016	02/23/21 17:55	
Thallium	mg/L	ND	0.0010	0.00014	02/23/21 17:55	

LABORATORY CONTROL SAMPLE: 3171328

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	0.096	96	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Cadmium	mg/L	0.1	0.10	102	80-120	
Chromium	mg/L	0.1	0.10	102	80-120	
Cobalt	mg/L	0.1	0.10	101	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.097	97	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3171329 3171330

Parameter	Units	MS Result	MSD 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	108	104	75-125	3	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Parameter	Units	3171329		3171330		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92521143002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Arsenic	mg/L	ND	0.1	0.1	0.097	0.093	97	93	75-125	5	20		
Barium	mg/L	0.040	0.1	0.1	0.14	0.14	99	96	75-125	2	20		
Beryllium	mg/L	0.00023J	0.1	0.1	0.095	0.090	95	90	75-125	6	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Cobalt	mg/L	0.00074J	0.1	0.1	0.10	0.098	100	97	75-125	3	20		
Lead	mg/L	0.00024J	0.1	0.1	0.10	0.098	101	98	75-125	3	20		
Lithium	mg/L	0.0013J	0.1	0.1	0.094	0.091	93	89	75-125	4	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.099	103	99	75-125	4	20		
Selenium	mg/L	ND	0.1	0.1	0.093	0.091	93	91	75-125	3	20		
Thallium	mg/L	ND	0.1	0.1	0.098	0.095	98	95	75-125	3	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

QC Batch: 601924 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92521143016, 92521143017, 92521143018, 92521143019, 92521143020, 92521143021, 92521143022, 92521143023

METHOD BLANK: 3171451 Matrix: Water
 Associated Lab Samples: 92521143016, 92521143017, 92521143018, 92521143019, 92521143020, 92521143021, 92521143022, 92521143023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	02/24/21 14:31	
Arsenic	mg/L	ND	0.0050	0.00078	02/24/21 14:31	
Barium	mg/L	ND	0.010	0.00071	02/24/21 14:31	
Beryllium	mg/L	ND	0.0030	0.000046	02/24/21 14:31	
Cadmium	mg/L	ND	0.0025	0.00012	02/24/21 14:31	
Chromium	mg/L	ND	0.010	0.00055	02/24/21 14:31	
Cobalt	mg/L	ND	0.0050	0.00038	02/24/21 14:31	
Lead	mg/L	ND	0.0050	0.000036	02/24/21 14:31	
Lithium	mg/L	ND	0.030	0.00081	02/24/21 14:31	
Molybdenum	mg/L	ND	0.010	0.00069	02/24/21 14:31	
Selenium	mg/L	ND	0.010	0.0016	02/24/21 14:31	
Thallium	mg/L	ND	0.0010	0.00014	02/24/21 14:31	

LABORATORY CONTROL SAMPLE: 3171452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.11	107	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.097	97	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	101	80-120	
Molybdenum	mg/L	0.1	0.10	102	80-120	
Selenium	mg/L	0.1	0.093	93	80-120	
Thallium	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3171453 3171454

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521151006 Result	Spike Conc.	Spike Conc.	Conc.								
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	102	104	75-125	2	20		
Arsenic	mg/L	ND	0.1	0.1	0.098	0.10	98	101	75-125	3	20		
Barium	mg/L	0.069	0.1	0.1	0.16	0.17	95	96	75-125	1	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

Parameter	Units	3171453		3171454		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92521151006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Beryllium	mg/L	0.000081J	0.1	0.1	0.093	0.096	93	96	75-125	4	20		
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	101	75-125	4	20		
Chromium	mg/L	0.0014J	0.1	0.1	0.099	0.10	98	99	75-125	1	20		
Cobalt	mg/L	0.00081J	0.1	0.1	0.096	0.099	95	98	75-125	2	20		
Lead	mg/L	0.00056J	0.1	0.1	0.095	0.096	95	95	75-125	1	20		
Lithium	mg/L	0.0032J	0.1	0.1	0.098	0.10	95	98	75-125	3	20		
Molybdenum	mg/L	0.051	0.1	0.1	0.15	0.15	101	99	75-125	1	20		
Selenium	mg/L	ND	0.1	0.1	0.093	0.098	92	98	75-125	6	20		
Thallium	mg/L	ND	0.1	0.1	0.093	0.094	93	94	75-125	2	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch:	601295	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92521143016, 92521143017, 92521143018, 92521143019, 92521143020

METHOD BLANK: 3168813 Matrix: Water

Associated Lab Samples: 92521143016, 92521143017, 92521143018, 92521143019, 92521143020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	02/23/21 13:14	

LABORATORY CONTROL SAMPLE: 3168814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3168815 3168816

Parameter	Units	3168815		3168816		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0022	0.0022	88	89	75-125	1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch: 601590	Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A	Analysis Description: 7470 Mercury
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92521143021, 92521143022, 92521143023

METHOD BLANK: 3170068 Matrix: Water
 Associated Lab Samples: 92521143021, 92521143022, 92521143023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000078	02/22/21 13:27	

LABORATORY CONTROL SAMPLE: 3170069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3170070 3170071

Parameter	Units	3170070		3170071		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0022	0.0023	85	90	75-125	6	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch: 598903	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521143001, 92521143003

METHOD BLANK: 3157390 Matrix: Water

Associated Lab Samples: 92521143001, 92521143003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/10/21 16:04	

LABORATORY CONTROL SAMPLE: 3157391

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: 3157392 3157393

Parameter	Units	92520887002		3157392		3157393		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Fluoride	mg/L	0.42	0.42	2.5	2.5	2.9	2.9	100	98	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3157394 3157395

Parameter	Units	92521223018		3157394		3157395		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Fluoride	mg/L	ND	ND	2.5	2.5	2.2	2.2	85	88	90-110	2	10 M1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

QC Batch: 599257 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521143004, 92521143005, 92521143006, 92521143007, 92521143008, 92521143009

METHOD BLANK: 3159217 Matrix: Water
 Associated Lab Samples: 92521143004, 92521143005, 92521143006, 92521143007, 92521143008, 92521143009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/11/21 13:11	

LABORATORY CONTROL SAMPLE: 3159218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159221 3159222

Parameter	Units	3159221		3159222		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Fluoride	mg/L	92521143004 ND	2.5	2.5	2.3	2.4	93	96	90-110	4	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3159223 3159224

Parameter	Units	3159223		3159224		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Fluoride	mg/L	92521359001 2.1	2.5	2.5	4.4	4.4	92	91	90-110	0	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

QC Batch: 599664 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521143010

METHOD BLANK: 3161257 Matrix: Water
 Associated Lab Samples: 92521143010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/12/21 15:24	

LABORATORY CONTROL SAMPLE: 3161258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3161259 3161260

Parameter	Units	92521578009		3161259		3161260		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Fluoride	mg/L	0.066J	0.066J	2.5	2.5	2.4	2.5	93	99	90-110	6	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3161575 3161576

Parameter	Units	92521143010		3161575		3161576		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Fluoride	mg/L	0.21	0.21	2.5	2.5	2.3	2.5	84	91	90-110	7	10 M1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch: 599863	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521143002

METHOD BLANK: 3162426 Matrix: Water

Associated Lab Samples: 92521143002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/15/21 22:21	

LABORATORY CONTROL SAMPLE: 3162427

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162428 3162429

Parameter	Units	3162428		3162429		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Fluoride	mg/L	0.41	2.5	2.5	2.7	2.8	93	95	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162430 3162431

Parameter	Units	3162430		3162431		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Fluoride	mg/L	0.15	2.5	2.5	2.7	2.6	102	97	90-110	5	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch: 599864 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92521143011, 92521143012, 92521143013, 92521143014, 92521143015, 92521143016

METHOD BLANK: 3162432 Matrix: Water
 Associated Lab Samples: 92521143011, 92521143012, 92521143013, 92521143014, 92521143015, 92521143016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/16/21 05:34	

LABORATORY CONTROL SAMPLE: 3162433

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: 3162434 3162435

Parameter	Units	3162434		3162435		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92521875004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	104	104	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3162436 3162437

Parameter	Units	3162436		3162437		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92522062001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Fluoride	mg/L	219 ug/L	2.5	2.5	3.2	3.2	119	121	90-110	1	10 M1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

QC Batch: 600235 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92521143017, 92521143018, 92521143019, 92521143020, 92521143021

METHOD BLANK: 3164171 Matrix: Water
 Associated Lab Samples: 92521143017, 92521143018, 92521143019, 92521143020, 92521143021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/16/21 14:16	

LABORATORY CONTROL SAMPLE: 3164172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164173 3164174

Parameter	Units	92522138001		3164173		3164174		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Fluoride	mg/L	ND	2.5	2.5	2.4	2.5	95	97	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3164175 3164176

Parameter	Units	92521578011		3164175		3164176		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Fluoride	mg/L	0.068J	2.5	2.5	2.6	2.6	100	100	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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

QC Batch: 601397 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92521143022, 92521143023

METHOD BLANK: 3169354 Matrix: Water

Associated Lab Samples: 92521143022, 92521143023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	02/20/21 16:44	

LABORATORY CONTROL SAMPLE: 3169355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3169356 3169357

Parameter	Units	92521143022		3169356		3169357		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
Fluoride	mg/L	ND	2.5	2.5	2.6	2.7	104	105	90-110	1	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3169358 3169359

Parameter	Units	92521151025		3169358		3169359		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS % Rec	MSD % Rec				
Fluoride	mg/L	0.071J	2.5	2.5	2.4	2.4	95	95	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

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QUALIFIERS

Project: HAMMOND AP-2 APP IV

Pace Project No.: 92521143

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521143001	HGWA-1				
92521143002	HGWA-4				
92521143003	HGWA-42D				
92521143004	HGWA-2				
92521143005	HGWA-3				
92521143006	HGWA-5				
92521143007	HGWA-6				
92521143008	HGWA-43D				
92521143009	HGWA-44D				
92521143010	HGWC-16				
92521143011	HGWC-18				
92521143012	MW-21D				
92521143014	HGWC-14				
92521143015	HGWC-17				
92521143016	MW-37D				
92521143018	HGWC-15				
92521143019	MW-23D				
92521143020	MW-33				
92521143022	MW-22				
92521143023	MW-35				
92521143001	HGWA-1	EPA 3005A	601892	EPA 6020B	601999
92521143002	HGWA-4	EPA 3005A	601892	EPA 6020B	601999
92521143003	HGWA-42D	EPA 3005A	601892	EPA 6020B	601999
92521143004	HGWA-2	EPA 3005A	601892	EPA 6020B	601999
92521143005	HGWA-3	EPA 3005A	601892	EPA 6020B	601999
92521143006	HGWA-5	EPA 3005A	601892	EPA 6020B	601999
92521143007	HGWA-6	EPA 3005A	601892	EPA 6020B	601999
92521143008	HGWA-43D	EPA 3005A	601892	EPA 6020B	601999
92521143009	HGWA-44D	EPA 3005A	601892	EPA 6020B	601999
92521143010	HGWC-16	EPA 3005A	601892	EPA 6020B	601999
92521143011	HGWC-18	EPA 3005A	601892	EPA 6020B	601999
92521143012	MW-21D	EPA 3005A	601892	EPA 6020B	601999
92521143013	DUP-2	EPA 3005A	601892	EPA 6020B	601999
92521143014	HGWC-14	EPA 3005A	601892	EPA 6020B	601999
92521143015	HGWC-17	EPA 3005A	601892	EPA 6020B	601999
92521143016	MW-37D	EPA 3005A	601924	EPA 6020B	602022
92521143017	FB-2	EPA 3005A	601924	EPA 6020B	602022
92521143018	HGWC-15	EPA 3005A	601924	EPA 6020B	602022
92521143019	MW-23D	EPA 3005A	601924	EPA 6020B	602022
92521143020	MW-33	EPA 3005A	601924	EPA 6020B	602022
92521143021	EB-1	EPA 3005A	601924	EPA 6020B	602022
92521143022	MW-22	EPA 3005A	601924	EPA 6020B	602022
92521143023	MW-35	EPA 3005A	601924	EPA 6020B	602022
92521143001	HGWA-1	EPA 7470A	600377	EPA 7470A	600865
92521143002	HGWA-4	EPA 7470A	600377	EPA 7470A	600865
92521143003	HGWA-42D	EPA 7470A	600377	EPA 7470A	600865
92521143004	HGWA-2	EPA 7470A	600377	EPA 7470A	600865

REPORT OF LABORATORY ANALYSIS

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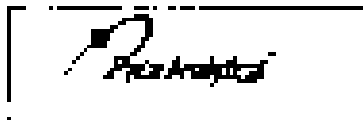
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 APP IV
 Pace Project No.: 92521143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92521143005	HGWA-3	EPA 7470A	600377	EPA 7470A	600865
92521143006	HGWA-5	EPA 7470A	600377	EPA 7470A	600865
92521143007	HGWA-6	EPA 7470A	600377	EPA 7470A	600865
92521143008	HGWA-43D	EPA 7470A	600377	EPA 7470A	600865
92521143009	HGWA-44D	EPA 7470A	600377	EPA 7470A	600865
92521143010	HGWC-16	EPA 7470A	600377	EPA 7470A	600865
92521143011	HGWC-18	EPA 7470A	600377	EPA 7470A	600865
92521143012	MW-21D	EPA 7470A	600377	EPA 7470A	600865
92521143013	DUP-2	EPA 7470A	600377	EPA 7470A	600865
92521143014	HGWC-14	EPA 7470A	600377	EPA 7470A	600865
92521143015	HGWC-17	EPA 7470A	600377	EPA 7470A	600865
92521143016	MW-37D	EPA 7470A	601295	EPA 7470A	601814
92521143017	FB-2	EPA 7470A	601295	EPA 7470A	601814
92521143018	HGWC-15	EPA 7470A	601295	EPA 7470A	601814
92521143019	MW-23D	EPA 7470A	601295	EPA 7470A	601814
92521143020	MW-33	EPA 7470A	601295	EPA 7470A	601814
92521143021	EB-1	EPA 7470A	601590	EPA 7470A	601621
92521143022	MW-22	EPA 7470A	601590	EPA 7470A	601621
92521143023	MW-35	EPA 7470A	601590	EPA 7470A	601621
92521143001	HGWA-1	EPA 300.0 Rev 2.1 1993	598903		
92521143002	HGWA-4	EPA 300.0 Rev 2.1 1993	599863		
92521143003	HGWA-42D	EPA 300.0 Rev 2.1 1993	598903		
92521143004	HGWA-2	EPA 300.0 Rev 2.1 1993	599257		
92521143005	HGWA-3	EPA 300.0 Rev 2.1 1993	599257		
92521143006	HGWA-5	EPA 300.0 Rev 2.1 1993	599257		
92521143007	HGWA-6	EPA 300.0 Rev 2.1 1993	599257		
92521143008	HGWA-43D	EPA 300.0 Rev 2.1 1993	599257		
92521143009	HGWA-44D	EPA 300.0 Rev 2.1 1993	599257		
92521143010	HGWC-16	EPA 300.0 Rev 2.1 1993	599664		
92521143011	HGWC-18	EPA 300.0 Rev 2.1 1993	599864		
92521143012	MW-21D	EPA 300.0 Rev 2.1 1993	599864		
92521143013	DUP-2	EPA 300.0 Rev 2.1 1993	599864		
92521143014	HGWC-14	EPA 300.0 Rev 2.1 1993	599864		
92521143015	HGWC-17	EPA 300.0 Rev 2.1 1993	599864		
92521143016	MW-37D	EPA 300.0 Rev 2.1 1993	599864		
92521143017	FB-2	EPA 300.0 Rev 2.1 1993	600235		
92521143018	HGWC-15	EPA 300.0 Rev 2.1 1993	600235		
92521143019	MW-23D	EPA 300.0 Rev 2.1 1993	600235		
92521143020	MW-33	EPA 300.0 Rev 2.1 1993	600235		
92521143021	EB-1	EPA 300.0 Rev 2.1 1993	600235		
92521143022	MW-22	EPA 300.0 Rev 2.1 1993	601397		
92521143023	MW-35	EPA 300.0 Rev 2.1 1993	601397		

REPORT OF LABORATORY ANALYSIS

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Customer Name
Example Corporation Upper Maryland (2025)
 Location of site
1000 Old 2025 Ave SE

Document Revised: October 12, 2020
 Page 1 of 2
 Issuing Authority
Quality Control Office

Laboratory receiving samples:

Baltimore Elbert Greenwood Huntleyville Raleigh Mechanicsville Atlanta Kernersville

1000 Old 2025 Ave SE
 1000 Old 2025 Ave SE

Client Name: PICA Project #:

WO#: **92521143**



Cooler: Sunlight Shade Dark Other
 Shade

Secondary Seal Preserved: Yes No Seal Intact? Yes No

Deliverable Person (to bring to you) WLF 8/27/21 10:1

Packaging Material: Bubble Wrap Bubble Bag None Other

Biological Spores Present

Temperature: Ambient 23.3 Other Other
 Type of box: Insulated Other

Cooler Temp: 4.6 Correction Factor: 0.00011°C 5.0°C

Temp should be above freezing to 5°C
 Temperature of media above temperature of cooling agent
 No

Cooler Temp Corrected (°C) 4.0

(Media temperature below 1°C will render samples)
 Get samples shipped out of lab in time zone within the United States (A, M, P, or C) after receipt?

Get samples shipped from a foreign country (international), including Alaska and Hawaii receipt? Yes No

Country of Origin:

Class of Contamination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	1
Shipping to Recipient Held Temp?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	2
Shrink hold Time (Analysis Time)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	3
Shrink Time Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	4
Surface Contamination	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	5
Control Container Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	6
Other Container Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	7
Container Label?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	8
Diagnostic analysis Sample (Pica Mail-out)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	9
Sample Label (Pica Mail-out)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	10
Includes Pica Mail-out (Pica Mail-out) Matrix	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> No <input type="checkbox"/> No	11
Send back to Pica Mail-out (Pica Mail-out)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12
Free Back Project?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13
Free Back (Control) Seal Preserved?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14

Control Sample/Blank: Yes No

Use Data Reported: Yes No

Client Signature: _____

Date of test containers: _____

Project Manager: _____

Date: _____

Project Manager: _____

Date: _____



CHALLENGE FILE - DV / Analytical Request Document
The purpose of Challenge File is to collect and analyze information that is not available through the normal course of business.

Page 1 of 3

Requester Information
 Requester: [Name] Requester Title: [Title]
 Requester Organization: [Organization]
 Requester Address: [Address]
 Requester Phone: [Phone] Requester Email: [Email]

Request Information
 Request Title: [Title]
 Request Description: [Description]
 Request Start Date: [Date] Request End Date: [Date]
 Request Status: [Status]

Requester Contact Information
 Requester Name: [Name] Requester Title: [Title]
 Requester Address: [Address]
 Requester Phone: [Phone] Requester Email: [Email]

Requester Organization
 Organization Name: [Name] Organization Address: [Address]
 Organization Phone: [Phone] Organization Email: [Email]

Requester Signature
 Requester Name: [Name] Requester Title: [Title]
 Requester Address: [Address]
 Requester Phone: [Phone] Requester Email: [Email]

Requester	Requester Title	Requester Organization	Requester Address	Requester Phone	Requester Email	Requester Signature	Requester Name	Requester Title	Requester Address	Requester Phone	Requester Email	Requester Signature	Requester Name	Requester Title	Requester Address	Requester Phone	Requester Email	Requester Signature	
1	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
2	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
3	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
4	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
5	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
6	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
7	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
8	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
9	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester
10	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester	Requester



CHALLENGE OF DATA OF Analytical Request Document



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Section 4: Analytical Request Information

Request ID: 2018-001
 Request Title: Environmental Contaminants
 Requester: State of California
 Request Date: 02/08/2018

Section 5: Analytical Method Information

Method Name: Environmental Contaminants
 Method ID: 692520003
 Method Version: 1.0

Section 6: Analytical Results

Result: 692520003
 Units: mg/L
 Detection Limit: 0.05
 Reporting Unit: mg/L

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Volume	Sample Container	Sample Preservation	Sample Storage	Sample Handling	Analytical Method		Analytical Result	Units	Detection Limit	Reporting Unit
										Method Name	Method ID				
692520003	Environmental Contaminants	State of California	02/08/2018	10:00	100 mL	Water	Refrigerated	Room Temperature	None	Environmental Contaminants	692520003	mg/L	0.05	mg/L	
692520004	Environmental Contaminants	State of California	02/08/2018	11:00	100 mL	Water	Refrigerated	Room Temperature	None	Environmental Contaminants	692520004	mg/L	0.05	mg/L	

Section 7: Analytical Results Summary

Requester: State of California
 Request Title: Environmental Contaminants
 Request ID: 2018-001
 Request Date: 02/08/2018

Section 8: Analytical Method Summary

Method Name: Environmental Contaminants
 Method ID: 692520003
 Method Version: 1.0

Section 9: Analytical Results Summary

Result: 692520003
 Units: mg/L
 Detection Limit: 0.05
 Reporting Unit: mg/L

Requester: State of California

CHAIN OF CUSTODY / Analytical Request Document
 The Chain of Custody is a critical component of the evidence collection process.

31-23

Section I
 Requester Information

Requester: QA Dept
 Address: Adelphi, CT
 Date of Collection: 12/12/2011
 Location: Adelphi, CT

Section II
 Requester Information

Requester: QA Dept
 Address: Adelphi, CT
 Date of Collection: 12/12/2011
 Location: Adelphi, CT

Section III
 Requester Information

Requester: QA Dept
 Address: Adelphi, CT
 Date of Collection: 12/12/2011
 Location: Adelphi, CT

Section IV
 Analytical Request

Requester: QA Dept
 Address: Adelphi, CT
 Date of Collection: 12/12/2011
 Location: Adelphi, CT

Section V
 Requester Information

Requester: QA Dept
 Address: Adelphi, CT
 Date of Collection: 12/12/2011
 Location: Adelphi, CT

ITEM #	Item Description	Quantity	Unit	Container	Label	Signature	Date	Time	Initials	Notes
1	Sample 1	1	g	1	1					
2	Sample 2	1	g	1	1					
3	Sample 3	1	g	1	1					
4	Sample 4	1	g	1	1					
5	Sample 5	1	g	1	1					
6	Sample 6	1	g	1	1					
7	Sample 7	1	g	1	1					
8	Sample 8	1	g	1	1					
9	Sample 9	1	g	1	1					
10	Sample 10	1	g	1	1					
11	Sample 11	1	g	1	1					
12	Sample 12	1	g	1	1					
13	Sample 13	1	g	1	1					
14	Sample 14	1	g	1	1					
15	Sample 15	1	g	1	1					
16	Sample 16	1	g	1	1					
17	Sample 17	1	g	1	1					
18	Sample 18	1	g	1	1					
19	Sample 19	1	g	1	1					
20	Sample 20	1	g	1	1					
21	Sample 21	1	g	1	1					
22	Sample 22	1	g	1	1					
23	Sample 23	1	g	1	1					
24	Sample 24	1	g	1	1					
25	Sample 25	1	g	1	1					
26	Sample 26	1	g	1	1					
27	Sample 27	1	g	1	1					
28	Sample 28	1	g	1	1					
29	Sample 29	1	g	1	1					
30	Sample 30	1	g	1	1					



CHAIN-OF-CUSTODY Analytical Request Document
 The information on this document is required before any analytical services



3

Section 1 Agency: <u>NY State Dept of Environmental Conservation</u> Project: <u>NY State Dept of Environmental Conservation</u>	Section 2 Sample ID: <u>NY State Dept of Environmental Conservation</u> Date: <u>1/14/11</u>	Section 3 Collection Date: <u>1/14/11</u> Location: <u>NY State Dept of Environmental Conservation</u>	Section 4 Analyst: <u>[Signature]</u> Date: <u>1/14/11</u>
---	---	---	---

Step	Description	Start Date	End Date	Sample ID	Time	Location	Temperature	Method	Analysis Type	Remarks	MATERIALS			ANALYTICAL EQUIPMENT			Date
											Lot #	Quantity	Manufacturer	Model	Serial	Calibration		Checked by
1	RECEIVED	1/14/11	1/14/11	NY State Dept of Environmental Conservation	10:00 AM	NY State Dept of Environmental Conservation	4°C	NA	NA	NA	NY State Dept of Environmental Conservation	NA	NA	NA	NA	NA	NA
2	PREPARED FOR ANALYSIS	1/14/11	1/14/11	NY State Dept of Environmental Conservation	11:00 AM	NY State Dept of Environmental Conservation	4°C	NA	NA	NA	NY State Dept of Environmental Conservation	NA	NA	NA	NA	NA	NA
3	ANALYZED	1/14/11	1/14/11	NY State Dept of Environmental Conservation	12:00 PM	NY State Dept of Environmental Conservation	4°C	NA	NA	NA	NY State Dept of Environmental Conservation	NA	NA	NA	NA	NA	NA
4	REPORT PREPARED	1/14/11	1/14/11	NY State Dept of Environmental Conservation	1:00 PM	NY State Dept of Environmental Conservation	4°C	NA	NA	NA	NY State Dept of Environmental Conservation	NA	NA	NA	NA	NA	NA



CHAIN-OF-CUSTODY BY Analytical Request Document

The Environmental Protection Agency (EPA) has approved this document as a standard for use in conducting programs.



Section 1: Project Information
Project Name: _____
Site Name: _____
Address: _____
City/State: _____

Section 2: Sample Information
Sample Type: _____
Sampling Date: _____
Sampling Location: _____

Section 3: Chain of Custody
Collector: _____
Receiver: _____
Transporter: _____

Sample No.	Sample Description	Sampling Date	Sampling Location	Collector	Receiver	Transportation		Storage		Analysis		Remarks	
						Vehicle	Time	Temp	Humidity	Method	Time	Result	Quality	Notes
1	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
2	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
3	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
4	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
5	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
6	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
7	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
8	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
9	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
10	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
11	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
12	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
13	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
14	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				
15	HOMELD	2-10-83	1340	[Signature]	[Signature]	1340	1340	1340	1340				

USEPA Form 1631-10 (Rev. 6-74)

Page 2 of 3



QUALITY OF ENVIRONMENT / Analytical Request Document
 The Department is a 100% owned and operated state and is a separate entity.

Page 1 of 1

Section 1: Requesting Party Information
 Requesting Party Name: US Army
 Requesting Party Address: 1000 ...
 Requesting Party City: Fort Belvoir, Colorado
 Requesting Party State: CO
 Requesting Party Zip: 80113

Section 2: Analytical Request Information
 Analytical Request Number: 1000 ...
 Requesting Party Name: US Army
 Requesting Party Address: 1000 ...
 Requesting Party City: Fort Belvoir, Colorado
 Requesting Party State: CO
 Requesting Party Zip: 80113

Section 3: Analytical Request Details
 Analytical Request Description: ...
 Analytical Request Date: ...
 Analytical Request Status: ...

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Volume	Sample Container	Sample Preservation	Sample Storage	Sample Handling	Sample Analysis	Sample Results	Sample Comments
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Section 4: Laboratory Information
 Laboratory Name: ...
 Laboratory Address: ...
 Laboratory City: ...
 Laboratory State: ...
 Laboratory Zip: ...

Section 5: Analytical Request Summary
 Analytical Request Number: ...
 Analytical Request Date: ...
 Analytical Request Status: ...



CHAIN-OF-CU... Analytical Request Document



Section 1: General Information

Section 2: Analytical Request Details

Section 3: Laboratory Information

Section 4: Analytical Method

Section 5: Sample Information

Section 6: Results and Comments

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Status	Sample Priority	Sample Comments
...
...
...
...

Vertical text on the left side of the page, possibly a reference or identifier.



CHAIN-OF-CURE: 2017 Annual Trial Request Document
 The Chain-of-Cure is a critical document. All requests must be supported by evidence.

Page 2 of 3

Section A
 Requester Name: [Blank]
 Requester Title: [Blank]
 Requester Department: [Blank]
 Requester Address: [Blank]
 Requester Phone: [Blank]
 Requester Email: [Blank]

Section B
 Requester Name: [Blank]
 Requester Title: [Blank]
 Requester Department: [Blank]
 Requester Address: [Blank]
 Requester Phone: [Blank]
 Requester Email: [Blank]

Section C
 Requester Name: [Blank]
 Requester Title: [Blank]
 Requester Department: [Blank]
 Requester Address: [Blank]
 Requester Phone: [Blank]
 Requester Email: [Blank]

Section D
 Requester Name: [Blank]
 Requester Title: [Blank]
 Requester Department: [Blank]
 Requester Address: [Blank]
 Requester Phone: [Blank]
 Requester Email: [Blank]

Item ID	Item Name	Item Description	Item Code	Item Status	Item Location	Item Date	Item Value	Item Type	Item Category	Item Sub-Category	Item Unit	Item Qty	Item Price	Item Total	Item Tax	Item Total Tax	Item Total Value
1	EXAMPLE 10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Requester Name: [Blank] Requester Title: [Blank] Requester Department: [Blank] Requester Address: [Blank] Requester Phone: [Blank] Requester Email: [Blank]



Section 1
Identify the individual
Name: SAURA E. D.
Address: [redacted]
City: [redacted]
State: [redacted]
Sex: [redacted]
Race: [redacted]
Hair: [redacted]
Eyes: [redacted]
Build: [redacted]
Date of Birth: [redacted]
Place of Birth: [redacted]
Social Security Number: [redacted]
Employer: [redacted]
Occupation: [redacted]

Section 2
Identify the specimen
Type: [redacted]
Quantity: [redacted]
Container: [redacted]
Labeling: [redacted]
Date Collected: [redacted]
Collector: [redacted]

Section 3
Identify the laboratory
Name: [redacted]
Address: [redacted]
City: [redacted]
State: [redacted]
Date Received: [redacted]
Received By: [redacted]

Section 4
Identify the individual who collected the specimen
Name: [redacted]
Address: [redacted]
City: [redacted]
State: [redacted]
Date: [redacted]

Q	I.D. NO.	QTY	QTY IN			QTY OUT			REMARKS
			NO.	WT.	VOL.	NO.	WT.	VOL.	
1	1000-110	1							
2	1000-110	1							
3	1000-110	1							
4	1000-110	1							
5	1000-110	1							
6	1000-110	1							
7	1000-110	1							
8	1000-110	1							
9	1000-110	1							
10	1000-110	1							
11	1000-110	1							
12	1000-110	1							
13	1000-110	1							
14	1000-110	1							
15	1000-110	1							
16	1000-110	1							
17	1000-110	1							
18	1000-110	1							
19	1000-110	1							
20	1000-110	1							

Page 61 of 65

Handwritten signature

CHAIN-OF-CU - DT Analytical Request Document
 The information in this document is for internal use only and is not to be distributed outside the organization.

Page 1 of 3

Requester Information
 Name: [Redacted]
 Title: [Redacted]
 Department: [Redacted]

Request Details
 Request ID: [Redacted]
 Request Date: [Redacted]
 Request Status: [Redacted]

Request Description
 [Redacted]

Item #	Item Name	Quantity	Unit	Requester	Request Date	Request Status	Request Description
1	BAKED BREAD	100	Loaves	[Redacted]	[Redacted]	[Redacted]	[Redacted]
2
3
4
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7
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12
13
14
15
16
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82
83
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91
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95
96
97
98
99
100

Requester Information
 Name: [Redacted]
 Title: [Redacted]
 Department: [Redacted]

Request Details
 Request ID: [Redacted]
 Request Date: [Redacted]
 Request Status: [Redacted]

Request Description
 [Redacted]



UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURE
ANALYTICAL REQUEST DOCUMENT

Form 2-4-2003

Requester's Name: _____
 Requester's Address: _____
 Requester's Phone: _____
 Requester's E-mail: _____
 Requester's Fax: _____
 Requester's Title: _____
 Requester's Organization: _____
 Requester's Address: _____
 Requester's Phone: _____
 Requester's E-mail: _____
 Requester's Fax: _____

Requester's Signature: _____
 Date: _____
 Requester's Title: _____
 Requester's Organization: _____
 Requester's Address: _____
 Requester's Phone: _____
 Requester's E-mail: _____
 Requester's Fax: _____

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Method	Sample Results	Sample Comments
1
2
3
4
5
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7
8
9
10
11
12

Requester's Name: _____
 Requester's Address: _____
 Requester's Phone: _____
 Requester's E-mail: _____
 Requester's Fax: _____
 Requester's Title: _____
 Requester's Organization: _____
 Requester's Address: _____
 Requester's Phone: _____
 Requester's E-mail: _____
 Requester's Fax: _____

Received by _____

CHAIN OF CUSTODY for DNA Analytical Request Documents
to ensure a chain of custody control of evidence submitted for forensic analysis

Case No. 15-00000

Requester		Requestor's Organization		Requestor's Address		Requestor's Phone		Requestor's Email	
Requester's Name		Requester's Title		Requester's Organization		Requester's Address		Requester's Phone	
Requester's Email		Requester's Phone		Requester's Fax		Requester's Cell		Requester's Home	
Requester's Signature		Requester's Date		Requester's Location		Requester's Agency		Requester's Division	
Requester's Signature		Requester's Date		Requester's Location		Requester's Agency		Requester's Division	
Requester's Signature		Requester's Date		Requester's Location		Requester's Agency		Requester's Division	

Item #	Description	Quantity	Unit	Location	Agency	Division	Signature	Date	Location	Agency	Division	Signature	Date	Location	Agency	Division
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Number of items analyzed: 2
 Date analyzed: 2/12/2015
 Analyst: [Signature]
 Supervisor: [Signature]
 Date: 2/12/2015
 Location: [Signature]
 Agency: [Signature]
 Division: [Signature]



CHAMBER OF COMMERCE / Analytical Request Document



Section I: Project Information

Project Name: CHAMBER OF COMMERCE

Client: CHAMBER OF COMMERCE

Address: 1000 ...

City: ...

State: ...

Zip: ...

Section II: Sampling Information

Sampling Location: ...

Sampling Date: ...

Sampling Time: ...

Sampling Method: ...

Section III: Analytical Parameters

Parameter: ...

Method: ...

Units: ...

Section IV: Laboratory Information

Laboratory Name: ...

Address: ...

City: ...

State: ...

Zip: ...

Sample ID	Sample Description	Matrix	Depth	Date	Time	Temperature		pH		Dissolved Oxygen		Remarks
						Water	Air	Water	Air	Water	Air	
1
2
3
4
5
6
7
8
9
10

Section V: Administrative

Prepared by: ...

Reviewed by: ...

Date: ...

Signature: ...



April 15, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92527256

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between March 11, 2021 and March 22, 2021. 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 Company
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Pace Analytical Services Charlotte

9800 Kinsey 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

North Carolina Certification #: 381

South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92527256

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92527256001	HGWA-1	Water	03/10/21 16:10	03/11/21 15:55
92527256002	HGWA-4	Water	03/10/21 16:21	03/11/21 15:55
92527256003	HGWA-42D	Water	03/10/21 14:23	03/11/21 15:55
92527256004	HGWA-44D	Water	03/10/21 14:30	03/11/21 15:55
92527256006	HGWA-2	Water	03/11/21 09:59	03/12/21 13:43
92527256007	HGWA-3	Water	03/11/21 11:25	03/12/21 13:43
92527256008	HGWA-5	Water	03/11/21 11:30	03/12/21 13:43
92527256009	HGWA-6	Water	03/11/21 12:39	03/12/21 13:43
92527256010	HGWA-43D	Water	03/11/21 09:57	03/12/21 13:43
92527256011	MW-37D	Water	03/12/21 10:20	03/15/21 12:00
92527256012	HGWC-15	Water	03/16/21 15:24	03/17/21 13:10
92527256013	HGWC-14	Water	03/17/21 14:28	03/18/21 13:17
92527256014	HGWC-16	Water	03/17/21 09:29	03/18/21 13:17
92527256015	MW-22	Water	03/17/21 10:00	03/18/21 13:17
92527256016	MW-23D	Water	03/17/21 11:49	03/18/21 13:17
92527256017	HGWC-17	Water	03/18/21 14:48	03/19/21 13:40
92527256018	HGWC-18	Water	03/18/21 10:01	03/19/21 13:40
92527256019	MW-21D	Water	03/18/21 12:08	03/19/21 13:40
92527256020	MW-33	Water	03/18/21 10:40	03/19/21 13:40
92527256021	DUP-2	Water	03/18/21 00:00	03/19/21 13:40
92527256022	EB-2	Water	03/18/21 12:50	03/19/21 13:40
92527256023	FB-2	Water	03/18/21 15:30	03/19/21 13:40
92527256024	MW-35	Water	03/19/21 12:48	03/22/21 15:41

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92527256001	HGWA-1	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256002	HGWA-4	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256003	HGWA-42D	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256004	HGWA-44D	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256006	HGWA-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92527256007	HGWA-3	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92527256008	HGWA-5	EPA 6010D	DRB	1
		EPA 6020B	KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92527256009	HGWA-6	EPA 6010D	DRB	1
		EPA 6020B	KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92527256010	HGWA-43D	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92527256011	MW-37D	EPA 6010D	DRB	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92527256012	HGWC-15	EPA 6020B	KH	13
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	KH	13
92527256013	HGWC-14	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	JLH	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
92527256014	HGWC-16	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256015	MW-22	EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92527256016	MW-23D	EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
92527256017	HGWC-17	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
92527256018	HGWC-18	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92527256019	MW-21D	EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92527256020	MW-33	EPA 6020B	CW1, KH	13
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92527256021	DUP-2	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
92527256022	EB-2	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	KH	13
92527256023	FB-2	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
92527256024	MW-35	SM 2450C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1, KH	13
		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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256001	HGWA-1					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	6.95	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	111	mg/L	1.0	03/19/21 04:13	
EPA 6020B	Barium	0.030	mg/L	0.0050	03/16/21 15:56	
EPA 6020B	Boron	0.015J	mg/L	0.040	03/16/21 15:56	
EPA 6020B	Lithium	0.00090J	mg/L	0.030	03/16/21 15:56	
EPA 6020B	Selenium	0.0047J	mg/L	0.0050	03/16/21 15:56	
SM 2450C-2011	Total Dissolved Solids	348	mg/L	10.0	03/15/21 13:14	
EPA 300.0 Rev 2.1 1993	Chloride	7.4	mg/L	1.0	03/17/21 20:51	
EPA 300.0 Rev 2.1 1993	Fluoride	0.079J	mg/L	0.10	03/17/21 20:51	
EPA 300.0 Rev 2.1 1993	Sulfate	49.6	mg/L	1.0	03/17/21 20:51	M1
92527256002	HGWA-4					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	5.28	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	5.9	mg/L	1.0	03/19/21 04:18	
EPA 6020B	Barium	0.036	mg/L	0.0050	03/16/21 16:01	
EPA 6020B	Beryllium	0.00017J	mg/L	0.00050	03/16/21 16:01	
EPA 6020B	Boron	0.012J	mg/L	0.040	03/16/21 16:01	
EPA 6020B	Cobalt	0.00065J	mg/L	0.0050	03/16/21 16:01	
EPA 6020B	Lead	0.00016J	mg/L	0.0010	03/16/21 16:01	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	03/16/21 16:01	
SM 2450C-2011	Total Dissolved Solids	53.0	mg/L	10.0	03/15/21 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	2.9	mg/L	1.0	03/17/21 21:33	
EPA 300.0 Rev 2.1 1993	Sulfate	1.2	mg/L	1.0	03/17/21 21:33	
92527256003	HGWA-42D					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	7.70	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	43.4	mg/L	1.0	03/19/21 04:23	
EPA 6020B	Barium	0.18	mg/L	0.0050	03/16/21 16:07	
EPA 6020B	Boron	0.048	mg/L	0.040	03/16/21 16:07	
EPA 6020B	Lithium	0.0094J	mg/L	0.030	03/16/21 16:07	
SM 2450C-2011	Total Dissolved Solids	163	mg/L	10.0	03/15/21 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	3.0	mg/L	1.0	03/17/21 22:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	03/17/21 22:14	
EPA 300.0 Rev 2.1 1993	Sulfate	10.8	mg/L	1.0	03/17/21 22:14	
92527256004	HGWA-44D					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	7.92	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	18.3	mg/L	1.0	03/19/21 04:28	
EPA 6020B	Antimony	0.00037J	mg/L	0.0030	03/16/21 16:13	B
EPA 6020B	Barium	0.26	mg/L	0.0050	03/16/21 16:13	
EPA 6020B	Boron	0.39	mg/L	0.040	03/16/21 16:13	
EPA 6020B	Lithium	0.030	mg/L	0.030	03/16/21 16:13	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256004	HGWA-44D					
EPA 6020B	Molybdenum	0.0019J	mg/L	0.010	03/16/21 16:13	
SM 2450C-2011	Total Dissolved Solids	289	mg/L	10.0	03/15/21 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	12.3	mg/L	1.0	03/17/21 22:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.65	mg/L	0.10	03/17/21 22:28	
92527256006	HGWA-2					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	5.80	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	43.8	mg/L	1.0	03/22/21 20:09	M1
EPA 6020B	Barium	0.070	mg/L	0.0050	03/19/21 20:54	
EPA 6020B	Beryllium	0.000086J	mg/L	0.00050	03/19/21 20:54	
EPA 6020B	Boron	0.056	mg/L	0.040	03/19/21 20:54	
EPA 6020B	Cobalt	0.013	mg/L	0.0050	03/19/21 20:54	
EPA 6020B	Lead	0.000076J	mg/L	0.0010	03/19/21 20:54	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	03/19/21 20:54	
SM 2450C-2011	Total Dissolved Solids	169	mg/L	10.0	03/16/21 15:08	
EPA 300.0 Rev 2.1 1993	Chloride	5.1	mg/L	1.0	03/20/21 02:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.10	mg/L	0.10	03/20/21 02:14	
EPA 300.0 Rev 2.1 1993	Sulfate	52.9	mg/L	1.0	03/20/21 02:14	
92527256007	HGWA-3					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	7.33	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	83.8	mg/L	1.0	03/22/21 20:29	
EPA 6020B	Barium	0.13	mg/L	0.0050	03/19/21 21:00	
EPA 6020B	Boron	0.015J	mg/L	0.040	03/19/21 21:00	
EPA 6020B	Lithium	0.0035J	mg/L	0.030	03/19/21 21:00	
SM 2450C-2011	Total Dissolved Solids	267	mg/L	10.0	03/16/21 15:08	
EPA 300.0 Rev 2.1 1993	Chloride	5.9	mg/L	1.0	03/20/21 02:29	
EPA 300.0 Rev 2.1 1993	Sulfate	50.4	mg/L	1.0	03/20/21 02:29	
92527256008	HGWA-5					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	6.48	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	28.3	mg/L	1.0	04/01/21 16:07	M1
EPA 6020B	Barium	0.044	mg/L	0.0050	04/05/21 22:19	
EPA 6020B	Boron	0.0075J	mg/L	0.040	04/05/21 22:19	
EPA 6020B	Chromium	0.0011J	mg/L	0.0050	04/05/21 22:19	
EPA 6020B	Cobalt	0.0013J	mg/L	0.0050	04/05/21 22:19	
EPA 6020B	Lithium	0.0037J	mg/L	0.030	04/05/21 22:19	
SM 2450C-2011	Total Dissolved Solids	118	mg/L	10.0	03/16/21 15:08	
EPA 300.0 Rev 2.1 1993	Chloride	1.4	mg/L	1.0	03/20/21 03:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.060J	mg/L	0.10	03/20/21 03:14	
EPA 300.0 Rev 2.1 1993	Sulfate	22.7	mg/L	1.0	03/20/21 03:14	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256009	HGWA-6					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	7.56	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	53.1	mg/L	1.0	04/01/21 16:26	
EPA 6020B	Barium	0.21	mg/L	0.0050	04/05/21 22:25	
EPA 6020B	Boron	0.018J	mg/L	0.040	04/05/21 22:25	
EPA 6020B	Lithium	0.012J	mg/L	0.030	04/05/21 22:25	
SM 2450C-2011	Total Dissolved Solids	215	mg/L	10.0	03/16/21 15:08	
EPA 300.0 Rev 2.1 1993	Chloride	1.2	mg/L	1.0	03/20/21 03:29	
EPA 300.0 Rev 2.1 1993	Fluoride	0.17	mg/L	0.10	03/20/21 03:29	
EPA 300.0 Rev 2.1 1993	Sulfate	35.5	mg/L	1.0	03/20/21 03:29	
92527256010	HGWA-43D					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	7.46	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	59.6	mg/L	1.0	03/22/21 20:33	
EPA 6020B	Antimony	0.00057J	mg/L	0.0030	03/19/21 21:06	
EPA 6020B	Arsenic	0.0013J	mg/L	0.0050	03/19/21 21:06	
EPA 6020B	Barium	0.32	mg/L	0.0050	03/19/21 21:06	
EPA 6020B	Boron	0.060	mg/L	0.040	03/19/21 21:06	
EPA 6020B	Lead	0.000094J	mg/L	0.0010	03/19/21 21:06	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	03/19/21 21:06	
EPA 6020B	Molybdenum	0.0064J	mg/L	0.010	03/19/21 21:06	
SM 2450C-2011	Total Dissolved Solids	279	mg/L	10.0	03/17/21 17:40	
EPA 300.0 Rev 2.1 1993	Chloride	4.5	mg/L	1.0	03/20/21 04:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.20	mg/L	0.10	03/20/21 04:14	
EPA 300.0 Rev 2.1 1993	Sulfate	38.6	mg/L	1.0	03/20/21 04:14	
92527256011	MW-37D					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	7.50	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	170	mg/L	1.0	04/01/21 16:31	
EPA 6020B	Barium	0.12	mg/L	0.0050	04/05/21 22:48	
EPA 6020B	Boron	0.15	mg/L	0.040	04/05/21 22:48	
EPA 6020B	Lithium	0.035	mg/L	0.030	04/05/21 22:48	
EPA 6020B	Molybdenum	0.014	mg/L	0.010	04/05/21 22:48	
SM 2450C-2011	Total Dissolved Solids	890	mg/L	20.0	03/17/21 17:40	
EPA 300.0 Rev 2.1 1993	Chloride	124	mg/L	6.0	03/23/21 16:42	
EPA 300.0 Rev 2.1 1993	Fluoride	0.061J	mg/L	0.10	03/20/21 22:18	
EPA 300.0 Rev 2.1 1993	Sulfate	237	mg/L	6.0	03/23/21 16:42	
92527256012	HGWC-15					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	6.08	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	196	mg/L	1.0	04/01/21 16:36	
EPA 6020B	Barium	0.012	mg/L	0.0050	04/05/21 22:54	
EPA 6020B	Boron	2.4	mg/L	0.040	04/05/21 22:54	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256012	HGWC-15					
EPA 6020B	Cadmium	0.0011	mg/L	0.00050	04/05/21 22:54	
EPA 6020B	Chromium	0.0012J	mg/L	0.0050	04/05/21 22:54	
EPA 6020B	Cobalt	0.018	mg/L	0.0050	04/05/21 22:54	
EPA 6020B	Lithium	0.032	mg/L	0.030	04/05/21 22:54	
SM 2450C-2011	Total Dissolved Solids	92.0	mg/L	20.0	03/23/21 07:59	
EPA 300.0 Rev 2.1 1993	Chloride	103	mg/L	8.0	03/22/21 09:41	
EPA 300.0 Rev 2.1 1993	Sulfate	379	mg/L	8.0	03/22/21 09:41	
92527256013	HGWC-14					
	Performed by	CUSTOME			04/06/21 16:57	
		R				
	pH	4.72	Std. Units		04/06/21 16:57	
EPA 6010D	Calcium	572	mg/L	10.0	04/02/21 14:00	
EPA 6020B	Barium	0.023	mg/L	0.0050	04/06/21 01:00	
EPA 6020B	Beryllium	0.00058	mg/L	0.00050	04/06/21 01:00	
EPA 6020B	Boron	11.8	mg/L	0.40	04/06/21 09:40	
EPA 6020B	Cobalt	0.034	mg/L	0.025	04/06/21 17:15	
EPA 6020B	Lead	0.0019	mg/L	0.0010	04/06/21 01:00	
EPA 6020B	Selenium	0.010J	mg/L	0.025	04/06/21 17:15	D3
EPA 6020B	Thallium	0.00034J	mg/L	0.0010	04/06/21 01:00	
SM 2450C-2011	Total Dissolved Solids	1640	mg/L	100	03/23/21 07:41	
EPA 300.0 Rev 2.1 1993	Chloride	233	mg/L	27.0	03/23/21 14:33	
EPA 300.0 Rev 2.1 1993	Fluoride	0.076J	mg/L	0.10	03/23/21 06:17	
EPA 300.0 Rev 2.1 1993	Sulfate	1300	mg/L	27.0	03/23/21 14:33	
92527256014	HGWC-16					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	7.19	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	198	mg/L	1.0	04/01/21 17:14	
EPA 6020B	Barium	0.12	mg/L	0.0050	04/05/21 22:59	
EPA 6020B	Boron	2.7	mg/L	0.040	04/05/21 22:59	
EPA 6020B	Lead	0.000058J	mg/L	0.0010	04/05/21 22:59	
EPA 6020B	Lithium	0.0048J	mg/L	0.030	04/05/21 22:59	
SM 2450C-2011	Total Dissolved Solids	768	mg/L	20.0	03/23/21 07:41	
EPA 300.0 Rev 2.1 1993	Chloride	93.8	mg/L	1.0	03/23/21 06:31	
EPA 300.0 Rev 2.1 1993	Sulfate	250	mg/L	5.0	03/23/21 14:48	
92527256015	MW-22					
	Performed by	CUSTOME			03/22/21 11:59	
		R				
	pH	5.57	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	200	mg/L	1.0	04/01/21 17:19	
EPA 6020B	Barium	0.018	mg/L	0.0050	04/05/21 23:16	
EPA 6020B	Beryllium	0.000082J	mg/L	0.00050	04/05/21 23:16	
EPA 6020B	Boron	2.7	mg/L	0.20	04/06/21 09:46	
EPA 6020B	Cadmium	0.0022	mg/L	0.00050	04/05/21 23:16	
EPA 6020B	Chromium	0.00075J	mg/L	0.0050	04/05/21 23:16	
EPA 6020B	Cobalt	0.039	mg/L	0.0050	04/05/21 23:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256015	MW-22					
EPA 6020B	Lithium	0.0012J	mg/L	0.030	04/05/21 23:16	
SM 2450C-2011	Total Dissolved Solids	998	mg/L	20.0	03/23/21 07:41	
EPA 300.0 Rev 2.1 1993	Chloride	127	mg/L	10.0	03/23/21 15:02	
EPA 300.0 Rev 2.1 1993	Sulfate	461	mg/L	10.0	03/23/21 15:02	
92527256016	MW-23D					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	6.86	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	341	mg/L	10.0	04/02/21 14:05	
EPA 6020B	Barium	0.058	mg/L	0.0050	04/05/21 23:22	
EPA 6020B	Boron	3.4	mg/L	0.20	04/06/21 09:52	
EPA 6020B	Cadmium	0.00057	mg/L	0.00050	04/05/21 23:22	
EPA 6020B	Chromium	0.00083J	mg/L	0.0050	04/05/21 23:22	
EPA 6020B	Cobalt	0.0011J	mg/L	0.0050	04/05/21 23:22	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	04/05/21 23:22	
EPA 6020B	Molybdenum	0.0034J	mg/L	0.010	04/05/21 23:22	
SM 2450C-2011	Total Dissolved Solids	990	mg/L	100	03/23/21 07:41	
EPA 300.0 Rev 2.1 1993	Chloride	151	mg/L	10.0	03/23/21 15:16	
EPA 300.0 Rev 2.1 1993	Sulfate	486	mg/L	10.0	03/23/21 15:16	
92527256017	HGWC-17					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	6.43	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	266	mg/L	1.0	04/01/21 17:29	
EPA 6020B	Barium	0.027	mg/L	0.0050	04/05/21 23:28	
EPA 6020B	Beryllium	0.000048J	mg/L	0.00050	04/05/21 23:28	
EPA 6020B	Boron	6.8	mg/L	0.20	04/06/21 09:58	
EPA 6020B	Chromium	0.00069J	mg/L	0.0050	04/05/21 23:28	
EPA 6020B	Cobalt	0.012	mg/L	0.0050	04/05/21 23:28	
EPA 6020B	Lead	0.000088J	mg/L	0.0010	04/05/21 23:28	
EPA 6020B	Lithium	0.0014J	mg/L	0.030	04/05/21 23:28	
SM 2450C-2011	Total Dissolved Solids	1020	mg/L	20.0	03/25/21 11:09	
EPA 300.0 Rev 2.1 1993	Chloride	138	mg/L	9.0	03/26/21 16:17	M6
EPA 300.0 Rev 2.1 1993	Fluoride	0.057J	mg/L	0.10	03/25/21 21:46	
EPA 300.0 Rev 2.1 1993	Sulfate	447	mg/L	9.0	03/26/21 16:17	M6
92527256018	HGWC-18					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	4.54	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	407	mg/L	10.0	04/02/21 14:10	
EPA 6020B	Arsenic	0.0083J	mg/L	0.025	04/06/21 10:03	D3
EPA 6020B	Barium	0.031	mg/L	0.0050	04/05/21 23:34	
EPA 6020B	Beryllium	0.0038	mg/L	0.00050	04/05/21 23:34	
EPA 6020B	Boron	8.9	mg/L	0.20	04/06/21 10:03	
EPA 6020B	Cadmium	0.0015	mg/L	0.00050	04/05/21 23:34	
EPA 6020B	Cobalt	0.14	mg/L	0.025	04/06/21 10:03	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256018	HGWC-18					
EPA 6020B	Lead	0.00096J	mg/L	0.0010	04/05/21 23:34	
EPA 6020B	Lithium	0.013J	mg/L	0.030	04/05/21 23:34	
EPA 6020B	Selenium	0.019J	mg/L	0.025	04/06/21 10:03	D3
EPA 6020B	Thallium	0.00016J	mg/L	0.0010	04/05/21 23:34	
SM 2450C-2011	Total Dissolved Solids	1390	mg/L	100	03/25/21 11:09	
EPA 300.0 Rev 2.1 1993	Chloride	90.2	mg/L	22.0	03/26/21 17:00	
EPA 300.0 Rev 2.1 1993	Fluoride	0.64	mg/L	0.10	03/25/21 22:54	
EPA 300.0 Rev 2.1 1993	Sulfate	1050	mg/L	22.0	03/26/21 17:00	
92527256019	MW-21D					
	Performed by	CUSTOMER			03/22/21 11:59	
	pH	6.95	Std. Units		03/22/21 11:59	
EPA 6010D	Calcium	382	mg/L	10.0	04/02/21 14:14	
EPA 6020B	Barium	0.047	mg/L	0.0050	04/05/21 23:39	
EPA 6020B	Boron	5.7	mg/L	0.20	04/06/21 10:09	
EPA 6020B	Chromium	0.00074J	mg/L	0.0050	04/05/21 23:39	
EPA 6020B	Lead	0.000073J	mg/L	0.0010	04/05/21 23:39	
EPA 6020B	Lithium	0.026J	mg/L	0.030	04/05/21 23:39	
EPA 6020B	Molybdenum	0.016	mg/L	0.010	04/05/21 23:39	
SM 2450C-2011	Total Dissolved Solids	1390	mg/L	100	03/25/21 11:09	
EPA 300.0 Rev 2.1 1993	Chloride	208	mg/L	17.0	03/26/21 17:13	
EPA 300.0 Rev 2.1 1993	Sulfate	829	mg/L	17.0	03/26/21 17:13	
92527256020	MW-33					
	Performed by	CUSTOMER			04/06/21 16:57	
	pH	4.27	Std. Units		04/06/21 16:57	
EPA 6010D	Calcium	574	mg/L	10.0	04/02/21 14:19	
EPA 6020B	Arsenic	0.0054J	mg/L	0.025	04/06/21 17:20	D3
EPA 6020B	Barium	0.029	mg/L	0.0050	04/06/21 01:05	
EPA 6020B	Beryllium	0.0011	mg/L	0.00050	04/06/21 01:05	
EPA 6020B	Boron	10.2	mg/L	0.20	04/06/21 17:20	
EPA 6020B	Cadmium	0.00019J	mg/L	0.00050	04/06/21 01:05	
EPA 6020B	Cobalt	0.057	mg/L	0.025	04/06/21 17:20	
EPA 6020B	Lead	0.0017	mg/L	0.0010	04/06/21 01:05	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	04/06/21 01:05	
EPA 6020B	Selenium	0.028	mg/L	0.025	04/06/21 17:20	
EPA 6020B	Thallium	0.00031J	mg/L	0.0010	04/06/21 01:05	
SM 2450C-2011	Total Dissolved Solids	1790	mg/L	100	03/25/21 11:09	
EPA 300.0 Rev 2.1 1993	Chloride	199	mg/L	29.0	03/26/21 17:27	
EPA 300.0 Rev 2.1 1993	Fluoride	0.40	mg/L	0.10	03/25/21 23:22	
EPA 300.0 Rev 2.1 1993	Sulfate	1360	mg/L	29.0	03/26/21 17:27	
92527256021	DUP-2					
EPA 6010D	Calcium	557	mg/L	10.0	04/02/21 14:24	
EPA 6020B	Arsenic	0.0062J	mg/L	0.025	04/06/21 17:26	D3
EPA 6020B	Barium	0.031	mg/L	0.0050	04/06/21 01:11	
EPA 6020B	Beryllium	0.0012	mg/L	0.00050	04/06/21 01:11	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92527256021	DUP-2					
EPA 6020B	Boron	10.8	mg/L	0.20	04/06/21 17:26	
EPA 6020B	Cadmium	0.00014J	mg/L	0.00050	04/06/21 01:11	
EPA 6020B	Cobalt	0.057	mg/L	0.025	04/06/21 17:26	
EPA 6020B	Lead	0.0018	mg/L	0.0010	04/06/21 01:11	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	04/06/21 01:11	
EPA 6020B	Selenium	0.029	mg/L	0.025	04/06/21 17:26	
EPA 6020B	Thallium	0.00033J	mg/L	0.0010	04/06/21 01:11	
SM 2450C-2011	Total Dissolved Solids	1860	mg/L	100	03/25/21 11:09	
EPA 300.0 Rev 2.1 1993	Chloride	200	mg/L	29.0	03/26/21 18:09	
EPA 300.0 Rev 2.1 1993	Fluoride	0.47	mg/L	0.10	03/25/21 23:35	
EPA 300.0 Rev 2.1 1993	Sulfate	1370	mg/L	29.0	03/26/21 18:09	
92527256022	EB-2					
EPA 6020B	Boron	0.026J	mg/L	0.040	04/05/21 23:45	
92527256023	FB-2					
EPA 6020B	Boron	0.011J	mg/L	0.040	04/05/21 23:51	
92527256024	MW-35					
	Performed by	CUSTOMER			04/06/21 16:57	
	pH	4.89	Std. Units		04/06/21 16:57	
EPA 6010D	Calcium	552	mg/L	10.0	04/02/21 14:29	
EPA 6020B	Barium	0.032	mg/L	0.0050	04/05/21 23:57	
EPA 6020B	Beryllium	0.00061	mg/L	0.00050	04/05/21 23:57	
EPA 6020B	Boron	11.9	mg/L	0.20	04/06/21 17:37	
EPA 6020B	Cadmium	0.0018	mg/L	0.00050	04/05/21 23:57	
EPA 6020B	Chromium	0.00083J	mg/L	0.0050	04/05/21 23:57	
EPA 6020B	Cobalt	0.10	mg/L	0.0050	04/05/21 23:57	
EPA 6020B	Lead	0.00066J	mg/L	0.0010	04/05/21 23:57	
EPA 6020B	Lithium	0.0045J	mg/L	0.030	04/05/21 23:57	
EPA 6020B	Selenium	0.016J	mg/L	0.025	04/06/21 17:37	D3
SM 2450C-2011	Total Dissolved Solids	1690	mg/L	100	03/26/21 09:32	
EPA 300.0 Rev 2.1 1993	Chloride	250	mg/L	24.0	03/26/21 13:56	
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.10	03/25/21 17:17	
EPA 300.0 Rev 2.1 1993	Sulfate	1220	mg/L	24.0	03/26/21 13:56	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-1 Lab ID: 92527256001 Collected: 03/10/21 16:10 Received: 03/11/21 15:55 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		03/22/21 11:59		
pH	6.95	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	111	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:13	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	03/15/21 14:35	03/16/21 15:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 15:56	7440-38-2	
Barium	0.030	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 15:56	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 15:56	7440-41-7	
Boron	0.015J	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 15:56	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 15:56	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 15:56	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 15:56	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 15:56	7439-92-1	
Lithium	0.00090J	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 15:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 15:56	7439-98-7	
Selenium	0.0047J	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 15:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 15:56	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	348	mg/L	10.0	10.0	1		03/15/21 13:14		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7.4	mg/L	1.0	0.60	1		03/17/21 20:51	16887-00-6	
Fluoride	0.079J	mg/L	0.10	0.050	1		03/17/21 20:51	16984-48-8	
Sulfate	49.6	mg/L	1.0	0.50	1		03/17/21 20:51	14808-79-8	M1

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-4 Lab ID: 92527256002 Collected: 03/10/21 16:21 Received: 03/11/21 15:55 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		03/22/21 11:59		
pH	5.28	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	5.9	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:18	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	03/15/21 14:35	03/16/21 16:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 16:01	7440-38-2	
Barium	0.036	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 16:01	7440-39-3	
Beryllium	0.00017J	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 16:01	7440-41-7	
Boron	0.012J	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 16:01	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 16:01	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 16:01	7440-47-3	
Cobalt	0.00065J	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 16:01	7440-48-4	
Lead	0.00016J	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 16:01	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 16:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 16:01	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 16:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 16:01	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	53.0	mg/L	10.0	10.0	1		03/15/21 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	2.9	mg/L	1.0	0.60	1		03/17/21 21:33	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/17/21 21:33	16984-48-8	M1
Sulfate	1.2	mg/L	1.0	0.50	1		03/17/21 21:33	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-42D		Lab ID: 92527256003		Collected: 03/10/21 14:23		Received: 03/11/21 15:55		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		03/22/21 11:59		
pH	7.70	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	43.4	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:23	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	03/15/21 14:35	03/16/21 16:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 16:07	7440-38-2	
Barium	0.18	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 16:07	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 16:07	7440-41-7	
Boron	0.048	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 16:07	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 16:07	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 16:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 16:07	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 16:07	7439-92-1	
Lithium	0.0094J	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 16:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 16:07	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 16:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 16:07	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	163	mg/L	10.0	10.0	1		03/15/21 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	3.0	mg/L	1.0	0.60	1		03/17/21 22:14	16887-00-6	
Fluoride	0.11	mg/L	0.10	0.050	1		03/17/21 22:14	16984-48-8	
Sulfate	10.8	mg/L	1.0	0.50	1		03/17/21 22:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

Sample: HGWA-44D		Lab ID: 92527256004		Collected: 03/10/21 14:30		Received: 03/11/21 15:55		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		03/22/21 11:59		
pH	7.92	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	18.3	mg/L	1.0	0.070	1	03/15/21 14:10	03/19/21 04:28	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.00037J	mg/L	0.0030	0.00028	1	03/15/21 14:35	03/16/21 16:13	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	03/15/21 14:35	03/16/21 16:13	7440-38-2	
Barium	0.26	mg/L	0.0050	0.00071	1	03/15/21 14:35	03/16/21 16:13	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/15/21 14:35	03/16/21 16:13	7440-41-7	
Boron	0.39	mg/L	0.040	0.0052	1	03/15/21 14:35	03/16/21 16:13	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/15/21 14:35	03/16/21 16:13	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/15/21 14:35	03/16/21 16:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/15/21 14:35	03/16/21 16:13	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/15/21 14:35	03/16/21 16:13	7439-92-1	
Lithium	0.030	mg/L	0.030	0.00081	1	03/15/21 14:35	03/16/21 16:13	7439-93-2	
Molybdenum	0.0019J	mg/L	0.010	0.00069	1	03/15/21 14:35	03/16/21 16:13	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/15/21 14:35	03/16/21 16:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/15/21 14:35	03/16/21 16:13	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	289	mg/L	10.0	10.0	1		03/15/21 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	12.3	mg/L	1.0	0.60	1		03/17/21 22:28	16887-00-6	
Fluoride	0.65	mg/L	0.10	0.050	1		03/17/21 22:28	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/17/21 22:28	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-2		Lab ID: 92527256006		Collected: 03/11/21 09:59		Received: 03/12/21 13:43		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		03/22/21 11:59		
pH	5.80	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	43.8	mg/L	1.0	0.070	1	03/22/21 11:22	03/22/21 20:09	7440-70-2	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	03/19/21 12:10	03/19/21 20:54	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/19/21 12:10	03/19/21 20:54	7440-38-2	
Barium	0.070	mg/L	0.0050	0.00071	1	03/19/21 12:10	03/19/21 20:54	7440-39-3	
Beryllium	0.000086J	mg/L	0.00050	0.000046	1	03/19/21 12:10	03/19/21 20:54	7440-41-7	
Boron	0.056	mg/L	0.040	0.0052	1	03/19/21 12:10	03/19/21 20:54	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/19/21 12:10	03/19/21 20:54	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/19/21 12:10	03/19/21 20:54	7440-47-3	
Cobalt	0.013	mg/L	0.0050	0.00038	1	03/19/21 12:10	03/19/21 20:54	7440-48-4	
Lead	0.000076J	mg/L	0.0010	0.000036	1	03/19/21 12:10	03/19/21 20:54	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00081	1	03/19/21 12:10	03/19/21 20:54	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/19/21 12:10	03/19/21 20:54	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/19/21 12:10	03/19/21 20:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/21 12:10	03/19/21 20:54	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	169	mg/L	10.0	10.0	1		03/16/21 15:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5.1	mg/L	1.0	0.60	1		03/20/21 02:14	16887-00-6	
Fluoride	0.10	mg/L	0.10	0.050	1		03/20/21 02:14	16984-48-8	
Sulfate	52.9	mg/L	1.0	0.50	1		03/20/21 02:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

Sample: HGWA-3		Lab ID: 92527256007		Collected: 03/11/21 11:25		Received: 03/12/21 13:43		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		03/22/21 11:59		
pH	7.33	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	83.8	mg/L	1.0	0.070	1	03/22/21 11:22	03/22/21 20:29	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	03/19/21 12:10	03/19/21 21:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	03/19/21 12:10	03/19/21 21:00	7440-38-2	
Barium	0.13	mg/L	0.0050	0.00071	1	03/19/21 12:10	03/19/21 21:00	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/19/21 12:10	03/19/21 21:00	7440-41-7	
Boron	0.015J	mg/L	0.040	0.0052	1	03/19/21 12:10	03/19/21 21:00	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/19/21 12:10	03/19/21 21:00	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/19/21 12:10	03/19/21 21:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/19/21 12:10	03/19/21 21:00	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	03/19/21 12:10	03/19/21 21:00	7439-92-1	
Lithium	0.0035J	mg/L	0.030	0.00081	1	03/19/21 12:10	03/19/21 21:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	03/19/21 12:10	03/19/21 21:00	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/19/21 12:10	03/19/21 21:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/21 12:10	03/19/21 21:00	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	267	mg/L	10.0	10.0	1		03/16/21 15:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5.9	mg/L	1.0	0.60	1		03/20/21 02:29	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/20/21 02:29	16984-48-8	
Sulfate	50.4	mg/L	1.0	0.50	1		03/20/21 02:29	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-5 **Lab ID: 92527256008** Collected: 03/11/21 11:30 Received: 03/12/21 13:43 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		03/22/21 11:59		
pH	6.48	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	28.3	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 16:07	7440-70-2	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	04/01/21 10:34	04/05/21 22:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 22:19	7440-38-2	
Barium	0.044	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 22:19	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 22:19	7440-41-7	
Boron	0.0075J	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 22:19	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 22:19	7440-43-9	
Chromium	0.0011J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 22:19	7440-47-3	
Cobalt	0.0013J	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 22:19	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 22:19	7439-92-1	
Lithium	0.0037J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 22:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 22:19	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 22:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 22:19	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	118	mg/L	10.0	10.0	1		03/16/21 15:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	1.4	mg/L	1.0	0.60	1		03/20/21 03:14	16887-00-6	
Fluoride	0.060J	mg/L	0.10	0.050	1		03/20/21 03:14	16984-48-8	
Sulfate	22.7	mg/L	1.0	0.50	1		03/20/21 03:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: HGWA-6									
Lab ID: 92527256009									
Collected: 03/11/21 12:39									
Received: 03/12/21 13:43									
Matrix: Water									
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		03/22/21 11:59		
pH	7.56	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	53.1	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 16:26	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	04/01/21 10:34	04/05/21 22:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 22:25	7440-38-2	
Barium	0.21	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 22:25	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 22:25	7440-41-7	
Boron	0.018J	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 22:25	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 22:25	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 22:25	7440-47-3	M1,R1
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 22:25	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 22:25	7439-92-1	
Lithium	0.012J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 22:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 22:25	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 22:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 22:25	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	215	mg/L	10.0	10.0	1		03/16/21 15:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	1.2	mg/L	1.0	0.60	1		03/20/21 03:29	16887-00-6	
Fluoride	0.17	mg/L	0.10	0.050	1		03/20/21 03:29	16984-48-8	
Sulfate	35.5	mg/L	1.0	0.50	1		03/20/21 03:29	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWA-43D		Lab ID: 92527256010		Collected: 03/11/21 09:57		Received: 03/12/21 13:43		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		03/22/21 11:59		
pH	7.46	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	59.6	mg/L	1.0	0.070	1	03/22/21 11:22	03/22/21 20:33	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.00057J	mg/L	0.0030	0.00028	1	03/19/21 12:10	03/19/21 21:06	7440-36-0	
Arsenic	0.0013J	mg/L	0.0050	0.00078	1	03/19/21 12:10	03/19/21 21:06	7440-38-2	
Barium	0.32	mg/L	0.0050	0.00071	1	03/19/21 12:10	03/19/21 21:06	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	03/19/21 12:10	03/19/21 21:06	7440-41-7	
Boron	0.060	mg/L	0.040	0.0052	1	03/19/21 12:10	03/19/21 21:06	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	03/19/21 12:10	03/19/21 21:06	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	03/19/21 12:10	03/19/21 21:06	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	03/19/21 12:10	03/19/21 21:06	7440-48-4	
Lead	0.000094J	mg/L	0.0010	0.000036	1	03/19/21 12:10	03/19/21 21:06	7439-92-1	
Lithium	0.0022J	mg/L	0.030	0.00081	1	03/19/21 12:10	03/19/21 21:06	7439-93-2	
Molybdenum	0.0064J	mg/L	0.010	0.00069	1	03/19/21 12:10	03/19/21 21:06	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	03/19/21 12:10	03/19/21 21:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	03/19/21 12:10	03/19/21 21:06	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	279	mg/L	10.0	10.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	4.5	mg/L	1.0	0.60	1		03/20/21 04:14	16887-00-6	
Fluoride	0.20	mg/L	0.10	0.050	1		03/20/21 04:14	16984-48-8	
Sulfate	38.6	mg/L	1.0	0.50	1		03/20/21 04:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-37D		Lab ID: 92527256011		Collected: 03/12/21 10:20		Received: 03/15/21 12:00		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		03/22/21 11:59		
pH	7.50	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	170	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 16:31	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	04/01/21 10:34	04/05/21 22:48	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 22:48	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 22:48	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 22:48	7440-41-7	
Boron	0.15	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 22:48	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 22:48	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 22:48	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 22:48	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 22:48	7439-92-1	
Lithium	0.035	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 22:48	7439-93-2	
Molybdenum	0.014	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 22:48	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 22:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 22:48	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	890	mg/L	20.0	20.0	1		03/17/21 17:40		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	124	mg/L	6.0	3.6	6		03/23/21 16:42	16887-00-6	
Fluoride	0.061J	mg/L	0.10	0.050	1		03/20/21 22:18	16984-48-8	
Sulfate	237	mg/L	6.0	3.0	6		03/23/21 16:42	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWC-15 **Lab ID: 92527256012** Collected: 03/16/21 15:24 Received: 03/17/21 13:10 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		03/22/21 11:59		
pH	6.08	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	196	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 16:36	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	04/01/21 10:34	04/05/21 22:54	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 22:54	7440-38-2	
Barium	0.012	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 22:54	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 22:54	7440-41-7	
Boron	2.4	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 22:54	7440-42-8	
Cadmium	0.0011	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 22:54	7440-43-9	
Chromium	0.0012J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 22:54	7440-47-3	
Cobalt	0.018	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 22:54	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 22:54	7439-92-1	
Lithium	0.032	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 22:54	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 22:54	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 22:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 22:54	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	92.0	mg/L	20.0	20.0	1		03/23/21 07:59		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	103	mg/L	8.0	4.8	8		03/22/21 09:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/21/21 23:57	16984-48-8	
Sulfate	379	mg/L	8.0	4.0	8		03/22/21 09:41	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWC-14 **Lab ID: 92527256013** Collected: 03/17/21 14:28 Received: 03/18/21 13:17 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		04/06/21 16:57		
pH	4.72	Std. Units			1		04/06/21 16:57		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	572	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:00	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	04/01/21 10:34	04/06/21 01:00	7440-36-0	
Arsenic	ND	mg/L	0.025	0.0039	5	04/01/21 10:34	04/06/21 17:15	7440-38-2	D3
Barium	0.023	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/06/21 01:00	7440-39-3	
Beryllium	0.00058	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/06/21 01:00	7440-41-7	
Boron	11.8	mg/L	0.40	0.052	10	04/01/21 10:34	04/06/21 09:40	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/06/21 01:00	7440-43-9	
Chromium	ND	mg/L	0.025	0.0028	5	04/01/21 10:34	04/06/21 17:15	7440-47-3	D3
Cobalt	0.034	mg/L	0.025	0.0019	5	04/01/21 10:34	04/06/21 17:15	7440-48-4	
Lead	0.0019	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/06/21 01:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	04/01/21 10:34	04/06/21 01:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/06/21 01:00	7439-98-7	
Selenium	0.010J	mg/L	0.025	0.0078	5	04/01/21 10:34	04/06/21 17:15	7782-49-2	D3
Thallium	0.00034J	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/06/21 01:00	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1640	mg/L	100	100	1		03/23/21 07:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	233	mg/L	27.0	16.2	27		03/23/21 14:33	16887-00-6	
Fluoride	0.076J	mg/L	0.10	0.050	1		03/23/21 06:17	16984-48-8	
Sulfate	1300	mg/L	27.0	13.5	27		03/23/21 14:33	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWC-16 **Lab ID: 92527256014** Collected: 03/17/21 09:29 Received: 03/18/21 13:17 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		03/22/21 11:59		
pH	7.19	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	198	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 17:14	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	04/01/21 10:34	04/05/21 22:59	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 22:59	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 22:59	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 22:59	7440-41-7	
Boron	2.7	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 22:59	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 22:59	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 22:59	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 22:59	7440-48-4	
Lead	0.000058J	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 22:59	7439-92-1	
Lithium	0.0048J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 22:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 22:59	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 22:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 22:59	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	768	mg/L	20.0	20.0	1		03/23/21 07:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	93.8	mg/L	1.0	0.60	1		03/23/21 06:31	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/23/21 06:31	16984-48-8	
Sulfate	250	mg/L	5.0	2.5	5		03/23/21 14:48	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-22 **Lab ID: 92527256015** Collected: 03/17/21 10:00 Received: 03/18/21 13:17 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		03/22/21 11:59		
pH	5.57	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	200	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 17:19	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	04/01/21 10:34	04/05/21 23:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:16	7440-38-2	
Barium	0.018	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:16	7440-39-3	
Beryllium	0.000082J	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:16	7440-41-7	
Boron	2.7	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 09:46	7440-42-8	
Cadmium	0.0022	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:16	7440-43-9	
Chromium	0.00075J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:16	7440-47-3	
Cobalt	0.039	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:16	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:16	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:16	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:16	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	998	mg/L	20.0	20.0	1		03/23/21 07:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	127	mg/L	10.0	6.0	10		03/23/21 15:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/23/21 06:44	16984-48-8	
Sulfate	461	mg/L	10.0	5.0	10		03/23/21 15:02	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-23D **Lab ID: 92527256016** Collected: 03/17/21 11:49 Received: 03/18/21 13:17 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		03/22/21 11:59		
pH	6.86	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	341	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:05	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	04/01/21 10:34	04/05/21 23:22	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:22	7440-38-2	
Barium	0.058	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:22	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:22	7440-41-7	
Boron	3.4	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 09:52	7440-42-8	
Cadmium	0.00057	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:22	7440-43-9	
Chromium	0.00083J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:22	7440-47-3	
Cobalt	0.0011J	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:22	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:22	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:22	7439-93-2	
Molybdenum	0.0034J	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:22	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:22	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	990	mg/L	100	100	1		03/23/21 07:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	151	mg/L	10.0	6.0	10		03/23/21 15:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/23/21 06:58	16984-48-8	
Sulfate	486	mg/L	10.0	5.0	10		03/23/21 15:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWC-17 **Lab ID: 92527256017** Collected: 03/18/21 14:48 Received: 03/19/21 13:40 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		03/22/21 11:59		
pH	6.43	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	266	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 17:29	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	04/01/21 10:34	04/05/21 23:28	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:28	7440-38-2	
Barium	0.027	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:28	7440-39-3	
Beryllium	0.000048J	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:28	7440-41-7	
Boron	6.8	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 09:58	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:28	7440-43-9	
Chromium	0.00069J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:28	7440-47-3	
Cobalt	0.012	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:28	7440-48-4	
Lead	0.000088J	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:28	7439-92-1	
Lithium	0.0014J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:28	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:28	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:28	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1020	mg/L	20.0	20.0	1		03/25/21 11:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	138	mg/L	9.0	5.4	9		03/26/21 16:17	16887-00-6	M6
Fluoride	0.057J	mg/L	0.10	0.050	1		03/25/21 21:46	16984-48-8	
Sulfate	447	mg/L	9.0	4.5	9		03/26/21 16:17	14808-79-8	M6

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: HGWC-18 **Lab ID: 92527256018** Collected: 03/18/21 10:01 Received: 03/19/21 13:40 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		03/22/21 11:59		
pH	4.54	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	407	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:10	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	04/01/21 10:34	04/05/21 23:34	7440-36-0	
Arsenic	0.0083J	mg/L	0.025	0.0039	5	04/01/21 10:34	04/06/21 10:03	7440-38-2	D3
Barium	0.031	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:34	7440-39-3	
Beryllium	0.0038	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:34	7440-41-7	
Boron	8.9	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 10:03	7440-42-8	
Cadmium	0.0015	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:34	7440-43-9	
Chromium	ND	mg/L	0.025	0.0028	5	04/01/21 10:34	04/06/21 10:03	7440-47-3	D3
Cobalt	0.14	mg/L	0.025	0.0019	5	04/01/21 10:34	04/06/21 10:03	7440-48-4	
Lead	0.00096J	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:34	7439-92-1	
Lithium	0.013J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:34	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:34	7439-98-7	
Selenium	0.019J	mg/L	0.025	0.0078	5	04/01/21 10:34	04/06/21 10:03	7782-49-2	D3
Thallium	0.00016J	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:34	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1390	mg/L	100	100	1		03/25/21 11:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	90.2	mg/L	22.0	13.2	22		03/26/21 17:00	16887-00-6	
Fluoride	0.64	mg/L	0.10	0.050	1		03/25/21 22:54	16984-48-8	
Sulfate	1050	mg/L	22.0	11.0	22		03/26/21 17:00	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-21D **Lab ID: 92527256019** Collected: 03/18/21 12:08 Received: 03/19/21 13:40 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		03/22/21 11:59		
pH	6.95	Std. Units			1		03/22/21 11:59		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	382	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:14	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	04/01/21 10:34	04/05/21 23:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:39	7440-38-2	
Barium	0.047	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:39	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:39	7440-41-7	
Boron	5.7	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 10:09	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:39	7440-43-9	
Chromium	0.00074J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:39	7440-48-4	
Lead	0.000073J	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:39	7439-92-1	
Lithium	0.026J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:39	7439-93-2	
Molybdenum	0.016	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:39	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:39	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1390	mg/L	100	100	1		03/25/21 11:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	208	mg/L	17.0	10.2	17		03/26/21 17:13	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/25/21 23:08	16984-48-8	
Sulfate	829	mg/L	17.0	8.5	17		03/26/21 17:13	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-33 **Lab ID: 92527256020** Collected: 03/18/21 10:40 Received: 03/19/21 13:40 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		04/06/21 16:57		
pH	4.27	Std. Units			1		04/06/21 16:57		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	574	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:19	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	04/01/21 10:34	04/06/21 01:05	7440-36-0	
Arsenic	0.0054J	mg/L	0.025	0.0039	5	04/01/21 10:34	04/06/21 17:20	7440-38-2	D3
Barium	0.029	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/06/21 01:05	7440-39-3	
Beryllium	0.0011	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/06/21 01:05	7440-41-7	
Boron	10.2	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 17:20	7440-42-8	
Cadmium	0.00019J	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/06/21 01:05	7440-43-9	
Chromium	ND	mg/L	0.025	0.0028	5	04/01/21 10:34	04/06/21 17:20	7440-47-3	D3
Cobalt	0.057	mg/L	0.025	0.0019	5	04/01/21 10:34	04/06/21 17:20	7440-48-4	
Lead	0.0017	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/06/21 01:05	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/06/21 01:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/06/21 01:05	7439-98-7	
Selenium	0.028	mg/L	0.025	0.0078	5	04/01/21 10:34	04/06/21 17:20	7782-49-2	
Thallium	0.00031J	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/06/21 01:05	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1790	mg/L	100	100	1		03/25/21 11:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	199	mg/L	29.0	17.4	29		03/26/21 17:27	16887-00-6	
Fluoride	0.40	mg/L	0.10	0.050	1		03/25/21 23:22	16984-48-8	
Sulfate	1360	mg/L	29.0	14.5	29		03/26/21 17:27	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: DUP-2 **Lab ID:** 92527256021 Collected: 03/18/21 00:00 Received: 03/19/21 13:40 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	557	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:24	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	04/01/21 10:34	04/06/21 01:11	7440-36-0	
Arsenic	0.0062J	mg/L	0.025	0.0039	5	04/01/21 10:34	04/06/21 17:26	7440-38-2	D3
Barium	0.031	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/06/21 01:11	7440-39-3	
Beryllium	0.0012	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/06/21 01:11	7440-41-7	
Boron	10.8	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 17:26	7440-42-8	
Cadmium	0.00014J	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/06/21 01:11	7440-43-9	
Chromium	ND	mg/L	0.025	0.0028	5	04/01/21 10:34	04/06/21 17:26	7440-47-3	D3
Cobalt	0.057	mg/L	0.025	0.0019	5	04/01/21 10:34	04/06/21 17:26	7440-48-4	
Lead	0.0018	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/06/21 01:11	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/06/21 01:11	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/06/21 01:11	7439-98-7	
Selenium	0.029	mg/L	0.025	0.0078	5	04/01/21 10:34	04/06/21 17:26	7782-49-2	
Thallium	0.00033J	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/06/21 01:11	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1860	mg/L	100	100	1		03/25/21 11:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	200	mg/L	29.0	17.4	29		03/26/21 18:09	16887-00-6	
Fluoride	0.47	mg/L	0.10	0.050	1		03/25/21 23:35	16984-48-8	
Sulfate	1370	mg/L	29.0	14.5	29		03/26/21 18:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: EB-2		Lab ID: 92527256022		Collected: 03/18/21 12:50	Received: 03/19/21 13:40	Matrix: Water				
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6010D ATL ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 17:53	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	04/01/21 10:34	04/05/21 23:45	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:45	7440-38-2		
Barium	ND	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:45	7440-39-3		
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:45	7440-41-7		
Boron	0.026J	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 23:45	7440-42-8		
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:45	7440-43-9		
Chromium	ND	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:45	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:45	7440-48-4		
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:45	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:45	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:45	7439-98-7		
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:45	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:45	7440-28-0		
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		03/25/21 11:10			
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		03/25/21 23:49	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		03/25/21 23:49	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		03/25/21 23:49	14808-79-8		

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: FB-2		Lab ID: 92527256023		Collected: 03/18/21 15:30	Received: 03/19/21 13:40	Matrix: Water			
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Calcium	ND	mg/L	1.0	0.070	1	04/01/21 10:32	04/01/21 18:13	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	04/01/21 10:34	04/05/21 23:51	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	04/01/21 10:34	04/05/21 23:51	7440-38-2	
Barium	ND	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:51	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:51	7440-41-7	
Boron	0.011J	mg/L	0.040	0.0052	1	04/01/21 10:34	04/05/21 23:51	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:51	7440-43-9	
Chromium	ND	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:51	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:51	7440-48-4	
Lead	ND	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/06/21 17:32	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:51	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0016	1	04/01/21 10:34	04/05/21 23:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/06/21 17:32	7440-28-0	
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		03/25/21 11:10		
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		03/26/21 00:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/26/21 00:02	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/26/21 00:02	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Sample: MW-35 **Lab ID: 92527256024** Collected: 03/19/21 12:48 Received: 03/22/21 15:41 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		04/06/21 16:57		
pH	4.89	Std. Units			1		04/06/21 16:57		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	552	mg/L	10.0	0.70	10	04/01/21 10:32	04/02/21 14:29	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	04/01/21 10:34	04/05/21 23:57	7440-36-0	
Arsenic	ND	mg/L	0.025	0.0039	5	04/01/21 10:34	04/06/21 17:37	7440-38-2	D3
Barium	0.032	mg/L	0.0050	0.00071	1	04/01/21 10:34	04/05/21 23:57	7440-39-3	
Beryllium	0.00061	mg/L	0.00050	0.000046	1	04/01/21 10:34	04/05/21 23:57	7440-41-7	
Boron	11.9	mg/L	0.20	0.026	5	04/01/21 10:34	04/06/21 17:37	7440-42-8	
Cadmium	0.0018	mg/L	0.00050	0.00012	1	04/01/21 10:34	04/05/21 23:57	7440-43-9	
Chromium	0.00083J	mg/L	0.0050	0.00055	1	04/01/21 10:34	04/05/21 23:57	7440-47-3	
Cobalt	0.10	mg/L	0.0050	0.00038	1	04/01/21 10:34	04/05/21 23:57	7440-48-4	
Lead	0.00066J	mg/L	0.0010	0.000036	1	04/01/21 10:34	04/05/21 23:57	7439-92-1	
Lithium	0.0045J	mg/L	0.030	0.00081	1	04/01/21 10:34	04/05/21 23:57	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	04/01/21 10:34	04/05/21 23:57	7439-98-7	
Selenium	0.016J	mg/L	0.025	0.0078	5	04/01/21 10:34	04/06/21 17:37	7782-49-2	D3
Thallium	ND	mg/L	0.0010	0.00014	1	04/01/21 10:34	04/05/21 23:57	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1690	mg/L	100	100	1		03/26/21 09:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	250	mg/L	24.0	14.4	24		03/26/21 13:56	16887-00-6	
Fluoride	0.082J	mg/L	0.10	0.050	1		03/25/21 17:17	16984-48-8	
Sulfate	1220	mg/L	24.0	12.0	24		03/26/21 13:56	14808-79-8	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

QC Batch: 606634 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

METHOD BLANK: 3196175 Matrix: Water
 Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/19/21 03:10	

LABORATORY CONTROL SAMPLE: 3196176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196177 3196178

Parameter	Units	3196177		3196178		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526031001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	207	1	1	209	202	181	-447	75-125	3	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

QC Batch: 608195 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92527256006, 92527256007, 92527256010

METHOD BLANK: 3204024 Matrix: Water
 Associated Lab Samples: 92527256006, 92527256007, 92527256010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	03/22/21 19:59	

LABORATORY CONTROL SAMPLE: 3204025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.95J	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3204026 3204027

Parameter	Units	3204026		3204027		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527256006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	43.8	1	1	44.4	43.0	63	-72	75-125	3	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 610580 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92527256008, 92527256009, 92527256011, 92527256012, 92527256013, 92527256014, 92527256015, 92527256016, 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023, 92527256024

METHOD BLANK: 3215299 Matrix: Water
 Associated Lab Samples: 92527256008, 92527256009, 92527256011, 92527256012, 92527256013, 92527256014, 92527256015, 92527256016, 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023, 92527256024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	04/01/21 15:57	

LABORATORY CONTROL SAMPLE: 3215300

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: 3215301 3215302

Parameter	Units	92527256008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	28.3	1	1	28.4	29.3	7	102	75-125	3	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
Pace Project No.: 92527256

QC Batch: 606644 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

METHOD BLANK: 3196234 Matrix: Water
Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00035J	0.0030	0.00028	03/16/21 14:38	
Arsenic	mg/L	ND	0.0050	0.00078	03/16/21 14:38	
Barium	mg/L	ND	0.0050	0.00071	03/16/21 14:38	
Beryllium	mg/L	ND	0.00050	0.000046	03/16/21 14:38	
Boron	mg/L	ND	0.040	0.0052	03/16/21 14:38	
Cadmium	mg/L	ND	0.00050	0.00012	03/16/21 14:38	
Chromium	mg/L	ND	0.0050	0.00055	03/16/21 14:38	
Cobalt	mg/L	ND	0.0050	0.00038	03/16/21 14:38	
Lead	mg/L	ND	0.0010	0.000036	03/16/21 14:38	
Lithium	mg/L	ND	0.030	0.00081	03/16/21 14:38	
Molybdenum	mg/L	ND	0.010	0.00069	03/16/21 14:38	
Selenium	mg/L	ND	0.0050	0.0016	03/16/21 14:38	
Thallium	mg/L	ND	0.0010	0.00014	03/16/21 14:38	

LABORATORY CONTROL SAMPLE: 3196235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.096	96	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	103	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.094	94	80-120	
Lithium	mg/L	0.1	0.096	96	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.090	90	80-120	
Thallium	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3196236 3196237

Parameter	Units	92526031002 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Conc.	Spike Conc.	Result	Result						
Antimony	mg/L	0.00079J	0.1	0.1	0.098	0.099	98	98	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Parameter	Units	3196236		3196237		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526031002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	0.016	0.1	0.1	0.11	0.11	96	95	75-125	1	20		
Beryllium	mg/L	0.000097J	0.1	0.1	0.083	0.080	82	80	75-125	3	20		
Boron	mg/L	0.36	1	1	1.2	1.2	84	83	75-125	1	20		
Cadmium	mg/L	0.017	0.1	0.1	0.11	0.11	96	95	75-125	1	20		
Chromium	mg/L	0.00080J	0.1	0.1	0.092	0.092	92	91	75-125	0	20		
Cobalt	mg/L	0.019	0.1	0.1	0.11	0.11	93	92	75-125	1	20		
Lead	mg/L	0.00017J	0.1	0.1	0.088	0.087	88	86	75-125	2	20		
Lithium	mg/L	0.026J	0.1	0.1	0.11	0.11	82	81	75-125	1	20		
Molybdenum	mg/L	ND	0.1	0.1	0.093	0.092	93	91	75-125	2	20		
Selenium	mg/L	ND	0.1	0.1	0.10	0.097	100	96	75-125	4	20		
Thallium	mg/L	ND	0.1	0.1	0.089	0.087	89	86	75-125	3	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 607964 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92527256006, 92527256007, 92527256010

METHOD BLANK: 3202640 Matrix: Water

Associated Lab Samples: 92527256006, 92527256007, 92527256010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	03/19/21 19:29	
Arsenic	mg/L	ND	0.0050	0.00078	03/19/21 19:29	
Barium	mg/L	ND	0.0050	0.00071	03/19/21 19:29	
Beryllium	mg/L	ND	0.00050	0.000046	03/19/21 19:29	
Boron	mg/L	ND	0.040	0.0052	03/19/21 19:29	
Cadmium	mg/L	ND	0.00050	0.00012	03/19/21 19:29	
Chromium	mg/L	ND	0.0050	0.00055	03/19/21 19:29	
Cobalt	mg/L	ND	0.0050	0.00038	03/19/21 19:29	
Lead	mg/L	ND	0.0010	0.000036	03/19/21 19:29	
Lithium	mg/L	ND	0.030	0.00081	03/19/21 19:29	
Molybdenum	mg/L	ND	0.010	0.00069	03/19/21 19:29	
Selenium	mg/L	ND	0.0050	0.0016	03/19/21 19:29	
Thallium	mg/L	ND	0.0010	0.00014	03/19/21 19:29	

LABORATORY CONTROL SAMPLE: 3202641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.12	120	80-120	
Arsenic	mg/L	0.1	0.11	106	80-120	
Barium	mg/L	0.1	0.11	106	80-120	
Beryllium	mg/L	0.1	0.11	109	80-120	
Boron	mg/L	1	1.0	105	80-120	
Cadmium	mg/L	0.1	0.11	107	80-120	
Chromium	mg/L	0.1	0.10	104	80-120	
Cobalt	mg/L	0.1	0.10	102	80-120	
Lead	mg/L	0.1	0.11	108	80-120	
Lithium	mg/L	0.1	0.11	107	80-120	
Molybdenum	mg/L	0.1	0.11	105	80-120	
Selenium	mg/L	0.1	0.10	103	80-120	
Thallium	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202642 3202643

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526941001	Result	Spike Conc.	Spike Conc.								
Antimony	mg/L	ND	0.1	0.1	0.1	0.12	0.12	118	118	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.1	0.11	0.10	107	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Parameter	Units	3202642		3202643		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526941001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	ND	0.1	0.1	0.11	0.11	107	106	75-125	1	20		
Beryllium	mg/L	ND	0.1	0.1	0.11	0.10	107	104	75-125	2	20		
Boron	mg/L	0.0052J	1	1	1.1	1.0	106	102	75-125	4	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.10	105	104	75-125	1	20		
Chromium	mg/L	0.00062J	0.1	0.1	0.11	0.10	108	103	75-125	4	20		
Cobalt	mg/L	ND	0.1	0.1	0.11	0.10	106	101	75-125	5	20		
Lead	mg/L	ND	0.1	0.1	0.11	0.11	107	106	75-125	1	20		
Lithium	mg/L	ND	0.1	0.1	0.11	0.10	106	104	75-125	3	20		
Molybdenum	mg/L	ND	0.1	0.1	0.11	0.11	107	106	75-125	1	20		
Selenium	mg/L	ND	0.1	0.1	0.11	0.10	105	101	75-125	4	20		
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 610582 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92527256008, 92527256009, 92527256011, 92527256012, 92527256013, 92527256014, 92527256015, 92527256016, 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023, 92527256024

METHOD BLANK: 3215309 Matrix: Water

Associated Lab Samples: 92527256008, 92527256009, 92527256011, 92527256012, 92527256013, 92527256014, 92527256015, 92527256016, 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023, 92527256024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	04/05/21 22:08	
Arsenic	mg/L	ND	0.0050	0.00078	04/05/21 22:08	
Barium	mg/L	ND	0.0050	0.00071	04/05/21 22:08	
Beryllium	mg/L	ND	0.00050	0.000046	04/05/21 22:08	
Boron	mg/L	ND	0.040	0.0052	04/05/21 22:08	
Cadmium	mg/L	ND	0.00050	0.00012	04/05/21 22:08	
Chromium	mg/L	ND	0.0050	0.00055	04/05/21 22:08	
Cobalt	mg/L	ND	0.0050	0.00038	04/05/21 22:08	
Lead	mg/L	ND	0.0010	0.000036	04/05/21 22:08	
Lithium	mg/L	ND	0.030	0.00081	04/05/21 22:08	
Molybdenum	mg/L	ND	0.010	0.00069	04/05/21 22:08	
Selenium	mg/L	ND	0.0050	0.0016	04/05/21 22:08	
Thallium	mg/L	ND	0.0010	0.00014	04/05/21 22:08	

LABORATORY CONTROL SAMPLE: 3215310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.12	116	80-120	
Arsenic	mg/L	0.1	0.10	102	80-120	
Barium	mg/L	0.1	0.10	103	80-120	
Beryllium	mg/L	0.1	0.10	105	80-120	
Boron	mg/L	1	1.0	104	80-120	
Cadmium	mg/L	0.1	0.11	107	80-120	
Chromium	mg/L	0.1	0.10	105	80-120	
Cobalt	mg/L	0.1	0.10	103	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	101	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Parameter	Units	3215311		3215312		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527256009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result									MSD Result
Antimony	mg/L	ND	0.1	0.1	0.12	0.11	117	114	75-125	3	20		
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	104	103	75-125	2	20		
Barium	mg/L	0.21	0.1	0.1	0.31	0.31	103	102	75-125	0	20		
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	105	102	75-125	2	20		
Boron	mg/L	0.018J	1	1	1.0	1.0	102	102	75-125	0	20		
Cadmium	mg/L	ND	0.1	0.1	0.11	0.10	105	103	75-125	3	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.14	102	143	75-125	34	20	M1, R1	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	102	104	75-125	3	20		
Lead	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20		
Lithium	mg/L	0.012J	0.1	0.1	0.11	0.12	103	104	75-125	1	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	102	104	75-125	2	20		
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	2	20		
Thallium	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

QC Batch: 606587 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: 92527256001, 92527256002, 92527256003, 92527256004

METHOD BLANK: 3195825 Matrix: Water
 Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/15/21 13:13	

LABORATORY CONTROL SAMPLE: 3195826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	362	90	90-111	

SAMPLE DUPLICATE: 3195827

Parameter	Units	92527234005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2120	2390	12	10	D6

SAMPLE DUPLICATE: 3195998

Parameter	Units	92527273001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	190	16	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

QC Batch: 606868 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: 92527256006, 92527256007, 92527256008, 92527256009

METHOD BLANK: 3197215 Matrix: Water
 Associated Lab Samples: 92527256006, 92527256007, 92527256008, 92527256009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/16/21 15:05	

LABORATORY CONTROL SAMPLE: 3197216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	386	96	90-111	

SAMPLE DUPLICATE: 3197217

Parameter	Units	92527492010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	43.0	52.0	19	10	D6

SAMPLE DUPLICATE: 3197218

Parameter	Units	92527234015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	149	147	1	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

QC Batch: 607316 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: 92527256010, 92527256011

METHOD BLANK: 3199480 Matrix: Water
 Associated Lab Samples: 92527256010, 92527256011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/17/21 17:40	

LABORATORY CONTROL SAMPLE: 3199481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	90-111	

SAMPLE DUPLICATE: 3199482

Parameter	Units	92527256010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	279	278	0	10	

SAMPLE DUPLICATE: 3199483

Parameter	Units	92526996006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	258	1	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 608136

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: 92527256012

METHOD BLANK: 3203650

Matrix: Water

Associated Lab Samples: 92527256012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/23/21 07:58	

LABORATORY CONTROL SAMPLE: 3203651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	414	104	90-111	

SAMPLE DUPLICATE: 3203652

Parameter	Units	92527612006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	99.0	97.0	2	10	

SAMPLE DUPLICATE: 3203653

Parameter	Units	92528339001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	952	1020	7	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch:	608146	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: 92527256013, 92527256014, 92527256015, 92527256016

METHOD BLANK: 3203677 Matrix: Water
 Associated Lab Samples: 92527256013, 92527256014, 92527256015, 92527256016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/23/21 07:38	

LABORATORY CONTROL SAMPLE: 3203678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	401	100	90-111	

SAMPLE DUPLICATE: 3203679

Parameter	Units	92527268006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	490	502	2	10	H1

SAMPLE DUPLICATE: 3203680

Parameter	Units	92528629001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	158	72.0	75	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 608913

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: 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023

METHOD BLANK: 3207223

Matrix: Water

Associated Lab Samples: 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/25/21 11:08	

LABORATORY CONTROL SAMPLE: 3207224

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	377	94	90-111	

SAMPLE DUPLICATE: 3207225

Parameter	Units	92528809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1170	1110	5	10	

SAMPLE DUPLICATE: 3207226

Parameter	Units	92527612014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	213	18	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 609221	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: 92527256024

METHOD BLANK: 3208754 Matrix: Water

Associated Lab Samples: 92527256024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	03/26/21 09:30	

LABORATORY CONTROL SAMPLE: 3208755

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	385	96	90-111	

SAMPLE DUPLICATE: 3208757

Parameter	Units	92527612017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	371	403	8	10	

SAMPLE DUPLICATE: 3208759

Parameter	Units	92528787009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	250	243	3	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 607170 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

METHOD BLANK: 3198670 Matrix: Water
 Associated Lab Samples: 92527256001, 92527256002, 92527256003, 92527256004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/17/21 17:51	
Fluoride	mg/L	ND	0.10	0.050	03/17/21 17:51	
Sulfate	mg/L	ND	1.0	0.50	03/17/21 17:51	

LABORATORY CONTROL SAMPLE: 3198671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.3	101	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	52.7	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198672 3198673

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527256001 Result	Conc.	Conc.	Conc.								
Chloride	mg/L	7.4	50	50	59.6	59.8	104	105	90-110	0	10		
Fluoride	mg/L	0.079J	2.5	2.5	2.7	2.7	106	107	90-110	0	10		
Sulfate	mg/L	49.6	50	50	94.1	95.1	89	91	90-110	1	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3198674 3198675

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527256002 Result	Conc.	Conc.	Conc.								
Chloride	mg/L	2.9	50	50	54.4	53.4	103	101	90-110	2	10		
Fluoride	mg/L	ND	2.5	2.5	3.0	2.8	118	112	90-110	6	10	M1	
Sulfate	mg/L	1.2	50	50	54.5	53.7	107	105	90-110	1	10		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 607751 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92527256006, 92527256007, 92527256008, 92527256009, 92527256010

METHOD BLANK: 3201757 Matrix: Water
 Associated Lab Samples: 92527256006, 92527256007, 92527256008, 92527256009, 92527256010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/19/21 17:15	
Fluoride	mg/L	ND	0.10	0.050	03/19/21 17:15	
Sulfate	mg/L	ND	1.0	0.50	03/19/21 17:15	

LABORATORY CONTROL SAMPLE: 3201758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	50	50.2	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201759 3201760

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528475003 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	2510	50	50	50	2520	2520	27	27	90-110	0	10	M6
Fluoride	mg/L	4.6	2.5	2.5	2.5	12.1	11.9	302	294	90-110	2	10	M6
Sulfate	mg/L	1530	50	50	50	1510	1480	-49	-112	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201761 3201762

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527256007 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	5.9	50	50	50	58.9	57.5	106	103	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.3	2.3	91	90	90-110	1	10	
Sulfate	mg/L	50.4	50	50	50	102	101	103	101	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 607758	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92527256011

METHOD BLANK: 3201801 Matrix: Water

Associated Lab Samples: 92527256011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/20/21 19:43	
Fluoride	mg/L	ND	0.10	0.050	03/20/21 19:43	
Sulfate	mg/L	ND	1.0	0.50	03/20/21 19:43	

LABORATORY CONTROL SAMPLE: 3201802

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	2.6	103	90-110	
Sulfate	mg/L	50	53.0	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201803 3201804

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526996007	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	8.0	50	50	57.8	58.5	99	101	90-110	1	10		
Fluoride	mg/L	0.058J	2.5	2.5	2.5	2.6	98	100	90-110	2	10		
Sulfate	mg/L	154	50	50	255	259	201	210	90-110	2	10	M6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3201805 3201806

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527261012	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	3.2	50	50	53.9	53.4	101	100	90-110	1	10		
Fluoride	mg/L	0.83	2.5	2.5	3.5	3.5	107	106	90-110	1	10		
Sulfate	mg/L	166	50	50	183	208	33	84	90-110	13	10	M1,R1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 607984	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92527256012

METHOD BLANK: 3202745 Matrix: Water

Associated Lab Samples: 92527256012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/21/21 19:26	
Fluoride	mg/L	ND	0.10	0.050	03/21/21 19:26	
Sulfate	mg/L	ND	1.0	0.50	03/21/21 19:26	

LABORATORY CONTROL SAMPLE: 3202746

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	2.6	104	90-110	
Sulfate	mg/L	50	52.8	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202747 3202748

Parameter	Units	92527234030		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	ND	50	50	51.8	50.4	104	101	90-110	3	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	104	101	90-110	3	10		
Sulfate	mg/L	ND	50	50	52.2	50.8	104	102	90-110	3	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202749 3202750

Parameter	Units	92527612006		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual	
Chloride	mg/L	1.6	50	50	52.6	51.8	102	100	90-110	1	10		
Fluoride	mg/L	0.18	2.5	2.5	2.7	2.7	99	102	90-110	2	10		
Sulfate	mg/L	7.7	50	50	57.9	57.5	100	100	90-110	1	10		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch: 608285 Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92527256013, 92527256014, 92527256015, 92527256016

METHOD BLANK: 3204508 Matrix: Water

Associated Lab Samples: 92527256013, 92527256014, 92527256015, 92527256016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/23/21 04:02	
Fluoride	mg/L	ND	0.10	0.050	03/23/21 04:02	
Sulfate	mg/L	ND	1.0	0.50	03/23/21 04:02	

LABORATORY CONTROL SAMPLE: 3204509

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	100	90-110	
Sulfate	mg/L	50	51.8	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3204510 3204511

Parameter	Units	92528339002		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result						
Chloride	mg/L	53.4	50	50	91.2	90.1	75	73	90-110	1	10	M6	
Fluoride	mg/L	0.74	2.5	2.5	3.3	3.2	102	100	90-110	2	10		
Sulfate	mg/L	457	50	50	503	503	93	93	90-110	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3204512 3204513

Parameter	Units	92527612010		MS		MSD		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result						
Chloride	mg/L	4.7	50	50	58.1	56.8	107	104	90-110	2	10		
Fluoride	mg/L	0.089J	2.5	2.5	2.8	2.7	107	104	90-110	2	10		
Sulfate	mg/L	28.3	50	50	80.9	79.7	105	103	90-110	2	10		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch:	608857	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023

METHOD BLANK: 3206837 Matrix: Water
 Associated Lab Samples: 92527256017, 92527256018, 92527256019, 92527256020, 92527256021, 92527256022, 92527256023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/25/21 18:48	
Fluoride	mg/L	ND	0.10	0.050	03/25/21 18:48	
Sulfate	mg/L	ND	1.0	0.50	03/25/21 18:48	

LABORATORY CONTROL SAMPLE: 3206838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.4	105	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	53.8	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206839 3206840

Parameter	Units	92527256017		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	138	50	50	182	183	88	90	90-110	1	10	M6	
Fluoride	mg/L	0.057J	2.5	2.5	2.8	2.8	108	108	90-110	0	10		
Sulfate	mg/L	447	50	50	490	492	86	91	90-110	0	10	M6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206841 3206842

Parameter	Units	92527612015		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	4.3	50	50	56.2	56.5	104	104	90-110	0	10		
Fluoride	mg/L	0.079J	2.5	2.5	2.7	2.7	105	106	90-110	1	10		
Sulfate	mg/L	87.8	50	50	128	129	81	82	90-110	0	10	M1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

QC Batch:	608960	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92527256024

METHOD BLANK: 3207640 Matrix: Water

Associated Lab Samples: 92527256024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/25/21 13:06	
Fluoride	mg/L	ND	0.10	0.050	03/25/21 13:06	
Sulfate	mg/L	ND	1.0	0.50	03/25/21 13:06	

LABORATORY CONTROL SAMPLE: 3207641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.3	103	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	51.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3207642 3207643

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92529156001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	24.2	24.2	50	50	71.9	72.2	95	96	90-110	0	10	
Fluoride	mg/L	ND	ND	2.5	2.5	2.5	2.5	98	98	90-110	0	10	
Sulfate	mg/L	ND	ND	50	50	71.0	71.3	142	142	90-110	0	10 M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3207644 3207645

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527612017	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	24.9	24.9	50	50	76.4	76.6	103	103	90-110	0	10	
Fluoride	mg/L	ND	ND	2.5	2.5	2.6	2.6	103	102	90-110	1	10	
Sulfate	mg/L	162	162	50	50	209	207	93	90	90-110	1	10	

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QUALIFIERS

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

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.

H1 Analysis conducted outside the EPA method holding time.

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL
 Pace Project No.: 92527256

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92527256001	HGWA-1				
92527256002	HGWA-4				
92527256003	HGWA-42D				
92527256004	HGWA-44D				
92527256006	HGWA-2				
92527256007	HGWA-3				
92527256008	HGWA-5				
92527256009	HGWA-6				
92527256010	HGWA-43D				
92527256011	MW-37D				
92527256012	HGWC-15				
92527256013	HGWC-14				
92527256014	HGWC-16				
92527256015	MW-22				
92527256016	MW-23D				
92527256017	HGWC-17				
92527256018	HGWC-18				
92527256019	MW-21D				
92527256020	MW-33				
92527256024	MW-35				
92527256001	HGWA-1	EPA 3010A	606634	EPA 6010D	606723
92527256002	HGWA-4	EPA 3010A	606634	EPA 6010D	606723
92527256003	HGWA-42D	EPA 3010A	606634	EPA 6010D	606723
92527256004	HGWA-44D	EPA 3010A	606634	EPA 6010D	606723
92527256006	HGWA-2	EPA 3010A	608195	EPA 6010D	608261
92527256007	HGWA-3	EPA 3010A	608195	EPA 6010D	608261
92527256008	HGWA-5	EPA 3010A	610580	EPA 6010D	610784
92527256009	HGWA-6	EPA 3010A	610580	EPA 6010D	610784
92527256010	HGWA-43D	EPA 3010A	608195	EPA 6010D	608261
92527256011	MW-37D	EPA 3010A	610580	EPA 6010D	610784
92527256012	HGWC-15	EPA 3010A	610580	EPA 6010D	610784
92527256013	HGWC-14	EPA 3010A	610580	EPA 6010D	610784
92527256014	HGWC-16	EPA 3010A	610580	EPA 6010D	610784
92527256015	MW-22	EPA 3010A	610580	EPA 6010D	610784
92527256016	MW-23D	EPA 3010A	610580	EPA 6010D	610784
92527256017	HGWC-17	EPA 3010A	610580	EPA 6010D	610784
92527256018	HGWC-18	EPA 3010A	610580	EPA 6010D	610784
92527256019	MW-21D	EPA 3010A	610580	EPA 6010D	610784
92527256020	MW-33	EPA 3010A	610580	EPA 6010D	610784
92527256021	DUP-2	EPA 3010A	610580	EPA 6010D	610784
92527256022	EB-2	EPA 3010A	610580	EPA 6010D	610784
92527256023	FB-2	EPA 3010A	610580	EPA 6010D	610784
92527256024	MW-35	EPA 3010A	610580	EPA 6010D	610784
92527256001	HGWA-1	EPA 3005A	606644	EPA 6020B	606712
92527256002	HGWA-4	EPA 3005A	606644	EPA 6020B	606712
92527256003	HGWA-42D	EPA 3005A	606644	EPA 6020B	606712

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92527256004	HGWA-44D	EPA 3005A	606644	EPA 6020B	606712
92527256006	HGWA-2	EPA 3005A	607964	EPA 6020B	608044
92527256007	HGWA-3	EPA 3005A	607964	EPA 6020B	608044
92527256008	HGWA-5	EPA 3005A	610582	EPA 6020B	610877
92527256009	HGWA-6	EPA 3005A	610582	EPA 6020B	610877
92527256010	HGWA-43D	EPA 3005A	607964	EPA 6020B	608044
92527256011	MW-37D	EPA 3005A	610582	EPA 6020B	610877
92527256012	HGWC-15	EPA 3005A	610582	EPA 6020B	610877
92527256013	HGWC-14	EPA 3005A	610582	EPA 6020B	610877
92527256014	HGWC-16	EPA 3005A	610582	EPA 6020B	610877
92527256015	MW-22	EPA 3005A	610582	EPA 6020B	610877
92527256016	MW-23D	EPA 3005A	610582	EPA 6020B	610877
92527256017	HGWC-17	EPA 3005A	610582	EPA 6020B	610877
92527256018	HGWC-18	EPA 3005A	610582	EPA 6020B	610877
92527256019	MW-21D	EPA 3005A	610582	EPA 6020B	610877
92527256020	MW-33	EPA 3005A	610582	EPA 6020B	610877
92527256021	DUP-2	EPA 3005A	610582	EPA 6020B	610877
92527256022	EB-2	EPA 3005A	610582	EPA 6020B	610877
92527256023	FB-2	EPA 3005A	610582	EPA 6020B	610877
92527256024	MW-35	EPA 3005A	610582	EPA 6020B	610877
92527256001	HGWA-1	SM 2450C-2011	606587		
92527256002	HGWA-4	SM 2450C-2011	606587		
92527256003	HGWA-42D	SM 2450C-2011	606587		
92527256004	HGWA-44D	SM 2450C-2011	606587		
92527256006	HGWA-2	SM 2450C-2011	606868		
92527256007	HGWA-3	SM 2450C-2011	606868		
92527256008	HGWA-5	SM 2450C-2011	606868		
92527256009	HGWA-6	SM 2450C-2011	606868		
92527256010	HGWA-43D	SM 2450C-2011	607316		
92527256011	MW-37D	SM 2450C-2011	607316		
92527256012	HGWC-15	SM 2450C-2011	608136		
92527256013	HGWC-14	SM 2450C-2011	608146		
92527256014	HGWC-16	SM 2450C-2011	608146		
92527256015	MW-22	SM 2450C-2011	608146		
92527256016	MW-23D	SM 2450C-2011	608146		
92527256017	HGWC-17	SM 2450C-2011	608913		
92527256018	HGWC-18	SM 2450C-2011	608913		
92527256019	MW-21D	SM 2450C-2011	608913		
92527256020	MW-33	SM 2450C-2011	608913		
92527256021	DUP-2	SM 2450C-2011	608913		
92527256022	EB-2	SM 2450C-2011	608913		
92527256023	FB-2	SM 2450C-2011	608913		
92527256024	MW-35	SM 2450C-2011	609221		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2 SEMIANNUAL

Pace Project No.: 92527256

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92527256001	HGWA-1	EPA 300.0 Rev 2.1 1993	607170		
92527256002	HGWA-4	EPA 300.0 Rev 2.1 1993	607170		
92527256003	HGWA-42D	EPA 300.0 Rev 2.1 1993	607170		
92527256004	HGWA-44D	EPA 300.0 Rev 2.1 1993	607170		
92527256006	HGWA-2	EPA 300.0 Rev 2.1 1993	607751		
92527256007	HGWA-3	EPA 300.0 Rev 2.1 1993	607751		
92527256008	HGWA-5	EPA 300.0 Rev 2.1 1993	607751		
92527256009	HGWA-6	EPA 300.0 Rev 2.1 1993	607751		
92527256010	HGWA-43D	EPA 300.0 Rev 2.1 1993	607751		
92527256011	MW-37D	EPA 300.0 Rev 2.1 1993	607758		
92527256012	HGWC-15	EPA 300.0 Rev 2.1 1993	607984		
92527256013	HGWC-14	EPA 300.0 Rev 2.1 1993	608285		
92527256014	HGWC-16	EPA 300.0 Rev 2.1 1993	608285		
92527256015	MW-22	EPA 300.0 Rev 2.1 1993	608285		
92527256016	MW-23D	EPA 300.0 Rev 2.1 1993	608285		
92527256017	HGWC-17	EPA 300.0 Rev 2.1 1993	608857		
92527256018	HGWC-18	EPA 300.0 Rev 2.1 1993	608857		
92527256019	MW-21D	EPA 300.0 Rev 2.1 1993	608857		
92527256020	MW-33	EPA 300.0 Rev 2.1 1993	608857		
92527256021	DUP-2	EPA 300.0 Rev 2.1 1993	608857		
92527256022	EB-2	EPA 300.0 Rev 2.1 1993	608857		
92527256023	FB-2	EPA 300.0 Rev 2.1 1993	608857		
92527256024	MW-35	EPA 300.0 Rev 2.1 1993	608960		

REPORT OF LABORATORY ANALYSIS

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CHAIN OF CUSTODY / Analytical Request Co
 For Forensic Identification, Qualification, or Quantification of Evidence

WO# : 92527256



Requester's Name		Requester's Address		Requester's Phone	
Requester's Title		Requester's City		Requester's State	
Requester's Organization		Requester's Case No.		Requester's Date	
Requester's Signature		Requester's Print Name		Requester's Title	
Requester's Date		Requester's Time		Requester's Location	
Requester's Contact Info		Requester's Email		Requester's Fax	

Item No.	Description	Quantity	Unit	Container	Collector	Analysis															
						PC	GC	GC/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS	GC/MS/MS				
1	Sample 1	1	mg	100% Methanol	100%																
2	Sample 2	1	mg	100% Methanol	100%																
3	Sample 3	1	mg	100% Methanol	100%																
4	Sample 4	1	mg	100% Methanol	100%																
5	Sample 5	1	mg	100% Methanol	100%																
6	Sample 6	1	mg	100% Methanol	100%																
7	Sample 7	1	mg	100% Methanol	100%																
8	Sample 8	1	mg	100% Methanol	100%																
9	Sample 9	1	mg	100% Methanol	100%																
10	Sample 10	1	mg	100% Methanol	100%																

Remarks: [Handwritten notes]

Signature: [Handwritten signature]

Date: [Handwritten date]

Time: [Handwritten time]

Location: [Handwritten location]



CHAIN-OF-CUSTODY / Analytical Request Document
 This document is used to track the custody and handling of evidence from the time it is collected to the time it is analyzed.

Page 65 of 71

Requester's Name S.A. [redacted]	Requester's Organization [redacted]	Requester's Title [redacted]	Requester's Signature [redacted]	Requester's Date [redacted]
Case Name [redacted]	Case Number [redacted]	Case Location [redacted]	Case Date [redacted]	Case Time [redacted]
Requester's Phone [redacted]	Requester's Email [redacted]	Requester's Address [redacted]	Requester's City [redacted]	Requester's State [redacted]
Requester's Fax [redacted]	Requester's FPO [redacted]	Requester's ZIP [redacted]	Requester's Country [redacted]	Requester's Continent [redacted]

Item #	Item Description	Quantity	Unit	Container	Seal	Label	Signature	Date	Time	Location	Remarks
1	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
16	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Sample ID	1	unit	1	1	1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Requester's Name S.A. [redacted]	Requester's Organization [redacted]	Requester's Title [redacted]	Requester's Signature [redacted]	Requester's Date [redacted]
Case Name [redacted]	Case Number [redacted]	Case Location [redacted]	Case Date [redacted]	Case Time [redacted]
Requester's Phone [redacted]	Requester's Email [redacted]	Requester's Address [redacted]	Requester's City [redacted]	Requester's State [redacted]
Requester's Fax [redacted]	Requester's FPO [redacted]	Requester's ZIP [redacted]	Requester's Country [redacted]	Requester's Continent [redacted]



CHAIN-OF-CUSTODY / Analytical Request Document
 The Chemical Sciences Division is a proud participant in numerous clean energy research programs.

Page: ()

Analytical Request Information Requester: <u>CS</u> Requested Date: <u>10/15/11</u>	Requester Information Name: <u>CS</u> Address: <u>10100</u> City: <u>MS</u>	Sample Information Sample ID: <u>10100</u> Sample Description: <u>10100</u> Sample Quantity: <u>10100</u>	Laboratory Information Lab Name: <u>CS</u> Lab Address: <u>10100</u> Lab City: <u>MS</u>
Analytical Method: <u>10100</u> Reference: <u>10100</u>	Sample Location: <u>10100</u> Sample Date: <u>10100</u>	Sample Storage: <u>10100</u> Sample Handling: <u>10100</u>	Analytical Method: <u>10100</u> Reference: <u>10100</u>

Sample ID	Sample Description	Quantity	Container	Analysis Type	Analysis Results		Previous Date (y-m-d)	Prepared By (initials)
					Value	Units		
1	10100-1	10100	10100	10100	10100	10100	10100	10100
2	10100-2	10100	10100	10100	10100	10100	10100	10100
3	10100-3	10100	10100	10100	10100	10100	10100	10100
4	10100-4	10100	10100	10100	10100	10100	10100	10100
5	10100-5	10100	10100	10100	10100	10100	10100	10100
6	10100-6	10100	10100	10100	10100	10100	10100	10100
7	10100-7	10100	10100	10100	10100	10100	10100	10100
8	10100-8	10100	10100	10100	10100	10100	10100	10100
9	10100-9	10100	10100	10100	10100	10100	10100	10100
10	10100-10	10100	10100	10100	10100	10100	10100	10100
11	10100-11	10100	10100	10100	10100	10100	10100	10100
12	10100-12	10100	10100	10100	10100	10100	10100	10100

ANALYST AND REQUESTOR

ANALYST: 10100

REQUESTOR: 10100

DATE: 10100

TIME: 10100

LOCATION: 10100

INITIALS: 10100

FIELD ANALYSIS

CHAIN-OF-CUSTODY / Analytical Request Document
 This document is a legal document and should be handled accordingly.

Sample ID: [Blank] Date: [Blank] Page: 1 of 1

Requester Information:
 Name: [Blank] Address: [Blank] Phone: [Blank]

Requester Contact:
 Name: [Blank] Address: [Blank] Phone: [Blank]

Requester Signature: [Blank] Date: [Blank]

Collector Information:
 Name: [Blank] Address: [Blank] Phone: [Blank]

Collector Signature: [Blank] Date: [Blank]

Chain of Custody:
 Date/Time: [Blank] Signature: [Blank]

Sample ID	Sample Type	Collector	Date/Time	Requester			Collector			Chain of Custody			
				Name	Address	Phone	Name	Address	Phone	Date/Time	Signature	Signature	Date/Time
1	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
2	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
3	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
4	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
5	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
6	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
7	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
8	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
9	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
10	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
11	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]
12	MOBILE CUPA	CELL	11/10	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]	[Blank]

Requester Information:
 Name: [Blank] Address: [Blank] Phone: [Blank]

Requester Signature: [Blank] Date: [Blank]

Collector Information:
 Name: [Blank] Address: [Blank] Phone: [Blank]

Collector Signature: [Blank] Date: [Blank]

Chain of Custody:
 Date/Time: [Blank] Signature: [Blank]

FORM A-10-10
 1-1-1988

CHAIN-OF-CUSTODY (Analytical Reagents Document)
 The Laboratory accepts no liability for loss of or damage to specimens while under laboratory possession.

Page 1 of 2

Section A: Analytical Reagents

Reagent Name: Lead Acetate
 Lot Number: 1000
 Manufacturer: Wako Pure Chemical Industries, Ltd.
 Purity: 99.999%
 Date of Receipt: 10/15/2010
 Expiration Date: 10/15/2015

Section B: Inventory

Quantity: 1000g
 Location: Room 101, Shelf 101
 Date of Inventory: 10/15/2010
 Initials: [Signature]

Section C: Distribution

Initials: [Signature]
 Date: 10/15/2010

Item No.	Description	Quantity	Unit	Date		Initials	Signature	Remarks
				Received	Released			
1	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
2	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
3	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
4	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
5	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
6	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
7	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
8	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
9	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
10	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
11	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	
12	LEAD ACETATE	1000g	g	10/15/2010		[Signature]	[Signature]	

Section D: Additional Information

Prepared by: [Signature]
 Date: 10/15/2010
 Reviewed by: [Signature]
 Date: 10/15/2010

Section E: Laboratory Information

Laboratory Name: Environmental Health Laboratory
 Address: 1000 Main St, New York, NY 10001
 Phone: 212-123-4567
 Fax: 212-123-4568



CHAIN OF CUSTODY / Analytical Request Document
 This document is to be used to document the chain of custody for all samples submitted for analysis.

Page 2 of 3

Section 1: Sample Information
 Sample ID: Sample Name:
 Location: Date Collected:
 Collector: Analytical Method:
 Requested by: Requested for:
 Sample Type: Matrix:
 Container: Preservation:

Section 2: Chain of Custody
 Name: Signature: Date:
 Title: Department:
 Name: Signature: Date:
 Title: Department:

Sample ID	Description	Quantity	Matrix	Preservation	Storage Conditions		Date	Signature	Title	Department
					Temp	Humidity				
1	Sample A	100g	Soil	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
2	Sample B	50g	Water	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
3	Sample C	20g	Air	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
4	Sample D	10g	Plant	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
5	Sample E	5g	Animal	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
6	Sample F	1g	Microbe	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
7	Sample G	0.5g	Trace	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab
8	Sample H	0.1g	Residue	Refrigerated	20°C	50%	12/15/21	[Signature]	Analyst	Lab

Section 3: Laboratory Information
 Laboratory Name: Address:
 Phone: Fax:
 Email: Website:
 Date of Report: Report Number:
 Analyst: Reviewer:
 Date of Review: Signature:



CHAIN OF CUSTODY / Analytical Request Document
The Standard Operating Procedure (SOP) for this document is located in the laboratory manual. It must be read and understood by all personnel before use.

Page 1 of 4

Section 1 Requesting Laboratory City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000	Section 2 Requesting Agency City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000	Section 3 Requesting Agency City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000
Section 4 Requesting Agency City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000	Section 5 Requesting Agency City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000	Section 6 Requesting Agency City of Phoenix Address: 1501 N. Central Ave. City: Phoenix, AZ 85004 Phone: (602) 350-3000

Sample #	Sample Description	Matrix Code	Sample Type	Collection Date	Sample Temp	# of Containers	Analysis Type				Requester Contact Info
							GC	MS	GC/MS	Other	
1	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
2	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
3	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
4	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
5	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
6	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
7	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
8	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
9	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility
10	SEWAGE TREATMENT PLANT	1	Water	11/15/2011	4	1	1	1	1	1	Phoenix Water Utility

REC'D
 10/10/2000

CHAIN OF CUSTODY / Analytical Request Document
 The Chemical Analysis Unit, University of Waterloo, does not guarantee the accuracy of the results.

Page 1 of 1

Section 1: Requester Information
 Requester Name: Amur Co.
 Requester Address: 305 Dundas St. W.
 Requester Phone: 905-881-1111

Section 2: Request Details
 Requested Analysis: GC/MS
 Requested Quantity: 100ug
 Requested Turnaround Time: 1 week

Section 3: Sample Information
 Sample ID: BA001E10
 Sample Description: Water sample from Lake Ontario

Step	Description	Date	By	Sample ID		Quantity	Status	Remarks
				Original	Residual			
1	Sample Receipt	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Received	
2	Sample Storage	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Stored	
3	Sample Preparation	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Prepared	
4	Sample Analysis	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Analyzed	
5	Sample Reporting	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Reported	
6	Sample Archiving	10/10/00	Amur Co.	BA001E10	BA001E10	100ug	Archived	

Section 4: Signatures and Dates
 Requester Signature: [Signature] Date: 10/10/00
 Analyst Signature: [Signature] Date: 10/10/00
 Laboratory Director Signature: [Signature] Date: 10/10/00



September 14, 2021

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2
Pace Project No.: 92555504

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between August 13, 2021 and August 20, 2021. 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,

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants
Ms. Lauren Petty, Southern Company
Nardos Tilahun, GeoSyntec
Dawit Yifru, Geosyntec Consultants, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Pace Analytical Services Charlotte

9800 Kinsey 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

North Carolina Certification #: 381
South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92555504001	HGWA-4	Water	08/12/21 16:55	08/13/21 14:55
92555504002	HGWA-5	Water	08/12/21 16:18	08/13/21 14:55
92555504003	HGWA-6	Water	08/12/21 14:48	08/13/21 14:55
92555504004	HGWA-42D	Water	08/12/21 09:35	08/13/21 14:55
92555504005	MW-34D	Water	08/16/21 15:03	08/17/21 11:25
92555504006	HGWC-17	Water	08/18/21 17:25	08/19/21 12:40
92555504007	HGWC-14	Water	08/18/21 15:31	08/19/21 12:40
92555504008	MW-33	Water	08/18/21 13:40	08/19/21 12:40
92555504009	MW-51	Water	08/18/21 11:54	08/19/21 12:40
92555504010	MW-35	Water	08/18/21 10:18	08/19/21 12:40
92555504011	MW-37D	Water	08/18/21 18:30	08/19/21 12:40
92555504012	MW-22	Water	08/19/21 14:58	08/20/21 12:15
92555504013	HGWC-18	Water	08/19/21 09:30	08/20/21 12:15
92555504014	MW-21D	Water	08/19/21 10:50	08/20/21 12:15
92555504015	HGWC-16	Water	08/19/21 13:15	08/20/21 12:15
92555504016	HGWC-15	Water	08/19/21 15:00	08/20/21 12:15
92555504017	MW-23D	Water	08/19/21 18:48	08/20/21 12:15
92555504018	DUP-2	Water	08/19/21 00:00	08/20/21 12:15
92555504019	EB-2	Water	08/19/21 13:30	08/20/21 12:15
92555504020	FB-2	Water	08/19/21 09:40	08/20/21 12:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92555504001	HGWA-4	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504002	HGWA-5	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504003	HGWA-6	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504004	HGWA-42D	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504005	MW-34D	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504006	HGWC-17	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504007	HGWC-14	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504008	MW-33	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504009	MW-51	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504010	MW-35	EPA 6010D	DRB	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92555504011	MW-37D	EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
92555504012	MW-22	SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
92555504013	HGWC-18	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504014	MW-21D	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92555504015	HGWC-16	EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	13
92555504016	HGWC-15	SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
92555504017	MW-23D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504018	DUP-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92555504019	EB-2	EPA 6020B	CW1	13
		EPA 6010D	DRB	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2
Pace Project No.: 92555504

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2540C-2011	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92555504020	FB-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	13
		SM 2540C-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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92555504001	HGWA-4					
	Performed by	CUSTOMER			08/16/21 10:18	
	pH	5.26	Std. Units		08/16/21 10:18	
EPA 6010D	Calcium	5.4	mg/L	1.0	08/18/21 17:06	
EPA 6020B	Barium	0.034	mg/L	0.0050	08/19/21 18:02	
EPA 6020B	Beryllium	0.00021J	mg/L	0.00050	08/19/21 18:02	
EPA 6020B	Boron	0.014J	mg/L	0.040	08/19/21 18:02	
EPA 6020B	Cobalt	0.00070J	mg/L	0.0050	08/19/21 18:02	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	08/19/21 18:02	
SM 2540C-2011	Total Dissolved Solids	55.0	mg/L	10.0	08/18/21 08:32	
EPA 300.0 Rev 2.1 1993	Chloride	2.4	mg/L	1.0	08/20/21 05:29	
EPA 300.0 Rev 2.1 1993	Sulfate	1.1	mg/L	1.0	08/20/21 05:29	
92555504002	HGWA-5					
	Performed by	CUSTOMER			08/16/21 10:18	
	pH	6.46	Std. Units		08/16/21 10:18	
EPA 6010D	Calcium	32.0	mg/L	1.0	08/18/21 17:25	
EPA 6020B	Antimony	0.0014J	mg/L	0.0030	08/19/21 18:25	
EPA 6020B	Barium	0.044	mg/L	0.0050	08/19/21 18:25	
EPA 6020B	Boron	0.0092J	mg/L	0.040	08/19/21 18:25	
EPA 6020B	Lithium	0.0032J	mg/L	0.030	08/19/21 18:25	
SM 2540C-2011	Total Dissolved Solids	158	mg/L	10.0	08/18/21 08:32	
EPA 300.0 Rev 2.1 1993	Chloride	1.4	mg/L	1.0	08/20/21 05:43	
EPA 300.0 Rev 2.1 1993	Sulfate	17.4	mg/L	1.0	08/20/21 05:43	
92555504003	HGWA-6					
	Performed by	CUSTOMER			08/16/21 10:18	
	pH	7.47	Std. Units		08/16/21 10:18	
EPA 6010D	Calcium	54.7	mg/L	1.0	08/18/21 17:30	
EPA 6020B	Barium	0.18	mg/L	0.0050	08/19/21 18:30	
EPA 6020B	Boron	0.014J	mg/L	0.040	08/19/21 18:30	
EPA 6020B	Lithium	0.0094J	mg/L	0.030	08/19/21 18:30	
SM 2540C-2011	Total Dissolved Solids	229	mg/L	10.0	08/18/21 08:32	
EPA 300.0 Rev 2.1 1993	Chloride	0.94J	mg/L	1.0	08/20/21 05:58	
EPA 300.0 Rev 2.1 1993	Sulfate	28.6	mg/L	1.0	08/20/21 05:58	
92555504004	HGWA-42D					
	Performed by	CUSTOMER			08/16/21 10:18	
	pH	7.70	Std. Units		08/16/21 10:18	
EPA 6010D	Calcium	43.6	mg/L	1.0	08/18/21 17:45	
EPA 6020B	Barium	0.18	mg/L	0.0050	08/19/21 18:36	
EPA 6020B	Boron	0.044	mg/L	0.040	08/19/21 18:36	
EPA 6020B	Lithium	0.0096J	mg/L	0.030	08/19/21 18:36	
SM 2540C-2011	Total Dissolved Solids	179	mg/L	10.0	08/18/21 08:32	
EPA 300.0 Rev 2.1 1993	Chloride	2.6	mg/L	1.0	08/20/21 06:13	
EPA 300.0 Rev 2.1 1993	Fluoride	0.079J	mg/L	0.10	08/20/21 06:13	
EPA 300.0 Rev 2.1 1993	Sulfate	7.8	mg/L	1.0	08/20/21 06:13	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92555504005	MW-34D					
	Performed by	CUSTOME			08/18/21 10:11	
		R				
	pH	7.05	Std. Units		08/18/21 10:11	
EPA 6010D	Calcium	554	mg/L	5.0	08/18/21 17:55	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	08/19/21 18:42	
EPA 6020B	Barium	0.035	mg/L	0.0050	08/19/21 18:42	
EPA 6020B	Boron	8.2	mg/L	0.040	08/19/21 18:42	
EPA 6020B	Cadmium	0.00023J	mg/L	0.00050	08/19/21 18:42	
EPA 6020B	Cobalt	0.0093	mg/L	0.0050	08/19/21 18:42	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	08/19/21 18:42	
SM 2540C-2011	Total Dissolved Solids	2340	mg/L	100	08/19/21 15:12	
EPA 300.0 Rev 2.1 1993	Chloride	264	mg/L	22.0	08/23/21 12:44	
EPA 300.0 Rev 2.1 1993	Fluoride	0.066J	mg/L	0.10	08/23/21 00:17	
EPA 300.0 Rev 2.1 1993	Sulfate	987	mg/L	22.0	08/23/21 12:44	
92555504006	HGWC-17					
	Performed by	CUSTOME			08/19/21 16:57	
		R				
	pH	6.43	Std. Units		08/19/21 16:57	
EPA 6010D	Calcium	281	mg/L	1.0	08/20/21 17:52	M1
EPA 6020B	Barium	0.022	mg/L	0.0050	08/27/21 14:38	
EPA 6020B	Boron	5.3	mg/L	0.040	08/27/21 14:38	
EPA 6020B	Cobalt	0.0090	mg/L	0.0050	08/27/21 14:38	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	08/27/21 14:38	
SM 2540C-2011	Total Dissolved Solids	1290	mg/L	50.0	08/24/21 18:59	
EPA 300.0 Rev 2.1 1993	Chloride	90.7	mg/L	9.0	08/28/21 13:29	
EPA 300.0 Rev 2.1 1993	Fluoride	0.062J	mg/L	0.10	08/26/21 02:13	
EPA 300.0 Rev 2.1 1993	Sulfate	280	mg/L	9.0	08/28/21 13:29	
92555504007	HGWC-14					
	Performed by	CUSTOME			08/19/21 16:57	
		R				
	pH	4.90	Std. Units		08/19/21 16:57	
EPA 6010D	Calcium	583	mg/L	10.0	08/23/21 16:28	
EPA 6020B	Arsenic	0.0035J	mg/L	0.0050	08/27/21 14:49	
EPA 6020B	Barium	0.018	mg/L	0.0050	08/27/21 14:49	
EPA 6020B	Beryllium	0.00039J	mg/L	0.00050	08/27/21 14:49	
EPA 6020B	Boron	8.6	mg/L	0.040	08/27/21 14:49	M1
EPA 6020B	Cadmium	0.00013J	mg/L	0.00050	08/27/21 14:49	
EPA 6020B	Cobalt	0.033	mg/L	0.0050	08/27/21 14:49	
EPA 6020B	Lead	0.0015	mg/L	0.0010	08/27/21 14:49	
EPA 6020B	Selenium	0.0077	mg/L	0.0050	08/27/21 14:49	
EPA 6020B	Thallium	0.00027J	mg/L	0.0010	08/27/21 14:49	
SM 2540C-2011	Total Dissolved Solids	2350	mg/L	100	08/24/21 18:59	
EPA 300.0 Rev 2.1 1993	Chloride	141	mg/L	25.0	08/28/21 13:46	
EPA 300.0 Rev 2.1 1993	Sulfate	768	mg/L	25.0	08/28/21 13:46	
92555504008	MW-33					
	Performed by	CUSTOME			08/19/21 16:57	
		R				

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92555504008	MW-33					
	pH	4.42	Std. Units		08/19/21 16:57	
EPA 6010D	Calcium	549	mg/L	10.0	08/23/21 16:32	
EPA 6020B	Arsenic	0.0058	mg/L	0.0050	08/27/21 15:43	
EPA 6020B	Barium	0.025	mg/L	0.0050	08/27/21 15:43	
EPA 6020B	Beryllium	0.00097	mg/L	0.00050	08/30/21 17:01	
EPA 6020B	Boron	9.1	mg/L	0.040	08/30/21 17:01	
EPA 6020B	Cadmium	0.00017J	mg/L	0.00050	08/27/21 15:43	
EPA 6020B	Cobalt	0.054	mg/L	0.0050	08/27/21 15:43	
EPA 6020B	Lead	0.0016	mg/L	0.0010	08/27/21 15:43	
EPA 6020B	Lithium	0.00097J	mg/L	0.030	08/30/21 17:01	
EPA 6020B	Selenium	0.014	mg/L	0.0050	08/27/21 15:43	
EPA 6020B	Thallium	0.00040J	mg/L	0.0010	08/27/21 15:43	
SM 2540C-2011	Total Dissolved Solids	3690	mg/L	100	08/24/21 18:59	
EPA 300.0 Rev 2.1 1993	Chloride	118	mg/L	25.0	08/28/21 15:10	
EPA 300.0 Rev 2.1 1993	Fluoride	0.16	mg/L	0.10	08/26/21 02:45	
EPA 300.0 Rev 2.1 1993	Sulfate	740	mg/L	25.0	08/28/21 15:10	
92555504009	MW-51					
	Performed by	CUSTOMER			08/19/21 16:58	
	pH	6.19	Std. Units		08/19/21 16:58	
EPA 6010D	Calcium	532	mg/L	10.0	08/23/21 16:37	
EPA 6020B	Arsenic	0.0020J	mg/L	0.0050	08/27/21 15:54	
EPA 6020B	Barium	0.032	mg/L	0.0050	08/27/21 15:54	
EPA 6020B	Beryllium	0.00042J	mg/L	0.00050	08/30/21 17:07	
EPA 6020B	Boron	9.7	mg/L	0.40	08/30/21 17:48	
EPA 6020B	Cadmium	0.00094	mg/L	0.00050	08/27/21 15:54	
EPA 6020B	Cobalt	0.030	mg/L	0.0050	08/27/21 15:54	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	08/30/21 17:07	
EPA 6020B	Selenium	0.0040J	mg/L	0.0050	08/27/21 15:54	
SM 2540C-2011	Total Dissolved Solids	2610	mg/L	100	08/24/21 18:59	
EPA 300.0 Rev 2.1 1993	Chloride	123	mg/L	23.0	08/28/21 15:28	
EPA 300.0 Rev 2.1 1993	Fluoride	0.072J	mg/L	0.10	08/26/21 03:33	
EPA 300.0 Rev 2.1 1993	Sulfate	757	mg/L	23.0	08/28/21 15:28	
92555504010	MW-35					
	Performed by	CUSTOMER			08/19/21 16:58	
	pH	4.89	Std. Units		08/19/21 16:58	
EPA 6010D	Calcium	546	mg/L	10.0	08/23/21 16:42	
EPA 6020B	Arsenic	0.0043J	mg/L	0.0050	08/27/21 16:06	
EPA 6020B	Barium	0.025	mg/L	0.0050	08/27/21 16:06	
EPA 6020B	Beryllium	0.00061	mg/L	0.00050	08/30/21 17:13	
EPA 6020B	Boron	11.2	mg/L	0.40	08/30/21 17:54	
EPA 6020B	Cadmium	0.0015	mg/L	0.00050	08/27/21 16:06	
EPA 6020B	Cobalt	0.085	mg/L	0.0050	08/27/21 16:06	
EPA 6020B	Lithium	0.0036J	mg/L	0.030	08/30/21 17:13	
EPA 6020B	Selenium	0.014	mg/L	0.0050	08/27/21 16:06	
SM 2540C-2011	Total Dissolved Solids	2390	mg/L	100	08/25/21 19:25	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92555504010	MW-35					
EPA 300.0 Rev 2.1 1993	Chloride	149	mg/L	23.0	08/28/21 15:45	
EPA 300.0 Rev 2.1 1993	Fluoride	0.052J	mg/L	0.10	08/26/21 03:49	
EPA 300.0 Rev 2.1 1993	Sulfate	789	mg/L	23.0	08/28/21 15:45	
92555504011	MW-37D					
	Performed by	CUSTOMER			08/19/21 16:58	
	pH	7.52	Std. Units		08/19/21 16:58	
EPA 6010D	Calcium	180	mg/L	1.0	08/20/21 18:41	
EPA 6020B	Barium	0.12	mg/L	0.0050	08/27/21 16:17	
EPA 6020B	Boron	0.20	mg/L	0.040	08/30/21 17:19	
EPA 6020B	Lithium	0.030	mg/L	0.030	08/30/21 17:19	
EPA 6020B	Molybdenum	0.0083J	mg/L	0.010	08/27/21 16:17	
SM 2540C-2011	Total Dissolved Solids	950	mg/L	20.0	08/25/21 19:25	
EPA 300.0 Rev 2.1 1993	Chloride	122	mg/L	6.0	08/28/21 16:02	
EPA 300.0 Rev 2.1 1993	Fluoride	0.050J	mg/L	0.10	08/26/21 04:05	
EPA 300.0 Rev 2.1 1993	Sulfate	207	mg/L	6.0	08/28/21 16:02	
92555504012	MW-22					
	Performed by	CUSTOMER			08/20/21 15:26	
	pH	6.05	Std. Units		08/20/21 15:26	
EPA 6010D	Calcium	203	mg/L	1.0	08/24/21 19:31	M1
EPA 6020B	Antimony	0.0016J	mg/L	0.0030	08/27/21 13:32	
EPA 6020B	Barium	0.018	mg/L	0.0050	08/27/21 13:32	
EPA 6020B	Beryllium	0.000070J	mg/L	0.00050	08/27/21 13:32	
EPA 6020B	Boron	2.5	mg/L	0.040	08/27/21 13:32	
EPA 6020B	Cadmium	0.0021	mg/L	0.00050	08/27/21 13:32	
EPA 6020B	Cobalt	0.022	mg/L	0.0050	08/27/21 13:32	
EPA 6020B	Lithium	0.0012J	mg/L	0.030	08/27/21 13:32	
SM 2540C-2011	Total Dissolved Solids	1030	mg/L	20.0	08/25/21 19:44	
EPA 300.0 Rev 2.1 1993	Chloride	118	mg/L	9.0	08/27/21 18:19	M1
EPA 300.0 Rev 2.1 1993	Sulfate	412	mg/L	9.0	08/27/21 18:19	M1
92555504013	HGWC-18					
	Performed by	CUSTOMER			08/20/21 15:27	
	pH	4.43	Std. Units		08/20/21 15:27	
EPA 6010D	Calcium	416	mg/L	10.0	08/25/21 12:33	
EPA 6020B	Antimony	0.00080J	mg/L	0.0030	08/27/21 13:38	
EPA 6020B	Arsenic	0.0045J	mg/L	0.0050	08/27/21 13:38	
EPA 6020B	Barium	0.031	mg/L	0.0050	08/27/21 13:38	
EPA 6020B	Beryllium	0.0034	mg/L	0.00050	08/27/21 13:38	
EPA 6020B	Boron	8.6	mg/L	0.040	08/27/21 13:38	
EPA 6020B	Cadmium	0.0014	mg/L	0.00050	08/27/21 13:38	
EPA 6020B	Cobalt	0.15	mg/L	0.0050	08/27/21 13:38	
EPA 6020B	Lead	0.0013	mg/L	0.0010	08/27/21 13:38	
EPA 6020B	Lithium	0.013J	mg/L	0.030	08/27/21 13:38	
EPA 6020B	Selenium	0.010	mg/L	0.0050	08/27/21 13:38	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92555504013	HGWC-18					
EPA 6020B	Thallium	0.00020J	mg/L	0.0010	08/27/21 13:38	
SM 2540C-2011	Total Dissolved Solids	1750	mg/L	100	08/25/21 19:44	
EPA 300.0 Rev 2.1 1993	Chloride	95.8	mg/L	1.0	08/27/21 09:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.31	mg/L	0.10	08/27/21 09:46	
EPA 300.0 Rev 2.1 1993	Sulfate	934	mg/L	21.0	08/27/21 19:05	
92555504014	MW-21D					
	Performed by	CUSTOMER			08/20/21 15:27	
	pH	6.85	Std. Units		08/20/21 15:27	
EPA 6010D	Calcium	365	mg/L	10.0	08/25/21 12:38	
EPA 6020B	Barium	0.042	mg/L	0.0050	08/27/21 13:44	
EPA 6020B	Boron	5.4	mg/L	0.040	08/27/21 13:44	
EPA 6020B	Lithium	0.022J	mg/L	0.030	08/27/21 13:44	
EPA 6020B	Molybdenum	0.018	mg/L	0.010	08/27/21 13:44	
SM 2540C-2011	Total Dissolved Solids	1920	mg/L	100	08/25/21 19:44	
EPA 300.0 Rev 2.1 1993	Chloride	173	mg/L	17.0	08/27/21 19:20	
EPA 300.0 Rev 2.1 1993	Sulfate	724	mg/L	17.0	08/27/21 19:20	
92555504015	HGWC-16					
	Performed by	CUSTOMER			08/20/21 15:27	
	pH	7.04	Std. Units		08/20/21 15:27	
EPA 6010D	Calcium	207	mg/L	1.0	08/24/21 20:11	
EPA 6020B	Barium	0.10	mg/L	0.0050	08/27/21 13:50	
EPA 6020B	Boron	2.5	mg/L	0.040	08/27/21 13:50	
EPA 6020B	Lithium	0.0042J	mg/L	0.030	08/27/21 13:50	
SM 2540C-2011	Total Dissolved Solids	816	mg/L	20.0	08/26/21 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	90.1	mg/L	1.0	08/27/21 11:09	
EPA 300.0 Rev 2.1 1993	Sulfate	228	mg/L	5.0	08/27/21 20:06	
92555504016	HGWC-15					
	Performed by	CUSTOMER			08/20/21 15:27	
	pH	6.18	Std. Units		08/20/21 15:27	
EPA 6010D	Calcium	203	mg/L	1.0	08/24/21 20:15	
EPA 6020B	Barium	0.010	mg/L	0.0050	08/27/21 14:13	
EPA 6020B	Boron	2.1	mg/L	0.040	08/27/21 14:13	
EPA 6020B	Cadmium	0.0012	mg/L	0.00050	08/27/21 14:13	
EPA 6020B	Cobalt	0.011	mg/L	0.0050	08/27/21 14:13	
EPA 6020B	Lithium	0.0058J	mg/L	0.030	08/27/21 14:13	
SM 2540C-2011	Total Dissolved Solids	958	mg/L	20.0	08/26/21 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	89.9	mg/L	1.0	08/27/21 11:24	
EPA 300.0 Rev 2.1 1993	Sulfate	223	mg/L	5.0	08/27/21 20:21	
92555504017	MW-23D					
	Performed by	CUSTOMER			08/20/21 15:27	
	pH	6.72	Std. Units		08/20/21 15:27	
EPA 6010D	Calcium	307	mg/L	5.0	08/24/21 20:25	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92555504017	MW-23D					
EPA 6020B	Barium	0.050	mg/L	0.0050	08/27/21 14:19	
EPA 6020B	Boron	3.4	mg/L	0.040	08/27/21 14:19	
EPA 6020B	Cadmium	0.00012J	mg/L	0.00050	08/27/21 14:19	
EPA 6020B	Cobalt	0.00089J	mg/L	0.0050	08/27/21 14:19	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	08/27/21 14:19	
EPA 6020B	Molybdenum	0.0034J	mg/L	0.010	08/27/21 14:19	
SM 2540C-2011	Total Dissolved Solids	1440	mg/L	50.0	08/26/21 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	137	mg/L	10.0	08/27/21 20:36	
EPA 300.0 Rev 2.1 1993	Sulfate	432	mg/L	10.0	08/27/21 20:36	
92555504018	DUP-2					
EPA 6010D	Calcium	210	mg/L	1.0	08/24/21 20:30	
EPA 6020B	Barium	0.10	mg/L	0.0050	08/27/21 14:31	
EPA 6020B	Boron	2.6	mg/L	0.040	08/27/21 14:31	
EPA 6020B	Lithium	0.0042J	mg/L	0.030	08/27/21 14:31	
SM 2540C-2011	Total Dissolved Solids	862	mg/L	20.0	08/26/21 18:46	
EPA 300.0 Rev 2.1 1993	Chloride	98.8	mg/L	1.0	08/27/21 11:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.051J	mg/L	0.10	08/27/21 11:55	
EPA 300.0 Rev 2.1 1993	Sulfate	349	mg/L	8.0	08/27/21 20:51	
92555504019	EB-2					
EPA 6020B	Boron	0.011J	mg/L	0.040	08/27/21 14:37	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWA-4 **Lab ID: 92555504001** Collected: 08/12/21 16:55 Received: 08/13/21 14:55 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		08/16/21 10:18		
pH	5.26	Std. Units			1		08/16/21 10:18		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	5.4	mg/L	1.0	0.12	1	08/18/21 09:54	08/18/21 17:06	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	0.00078	1	08/18/21 09:57	08/19/21 18:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:02	7440-38-2	
Barium	0.034	mg/L	0.0050	0.00067	1	08/18/21 09:57	08/19/21 18:02	7440-39-3	
Beryllium	0.00021J	mg/L	0.00050	0.000054	1	08/18/21 09:57	08/19/21 18:02	7440-41-7	
Boron	0.014J	mg/L	0.040	0.0086	1	08/18/21 09:57	08/19/21 18:02	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/18/21 09:57	08/19/21 18:02	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:02	7440-47-3	
Cobalt	0.00070J	mg/L	0.0050	0.00039	1	08/18/21 09:57	08/19/21 18:02	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/18/21 09:57	08/19/21 18:02	7439-92-1	
Lithium	0.0013J	mg/L	0.030	0.00073	1	08/18/21 09:57	08/19/21 18:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/18/21 09:57	08/19/21 18:02	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/18/21 09:57	08/19/21 18:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/18/21 09:57	08/19/21 18:02	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	55.0	mg/L	10.0	10.0	1		08/18/21 08:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	2.4	mg/L	1.0	0.60	1		08/20/21 05:29	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/20/21 05:29	16984-48-8	
Sulfate	1.1	mg/L	1.0	0.50	1		08/20/21 05:29	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWA-5 **Lab ID: 92555504002** Collected: 08/12/21 16:18 Received: 08/13/21 14:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/16/21 10:18		
pH	6.46	Std. Units			1		08/16/21 10:18		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	32.0	mg/L	1.0	0.12	1	08/18/21 09:54	08/18/21 17:25	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.0014J	mg/L	0.0030	0.00078	1	08/18/21 09:57	08/19/21 18:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:25	7440-38-2	
Barium	0.044	mg/L	0.0050	0.00067	1	08/18/21 09:57	08/19/21 18:25	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/18/21 09:57	08/19/21 18:25	7440-41-7	
Boron	0.0092J	mg/L	0.040	0.0086	1	08/18/21 09:57	08/19/21 18:25	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/18/21 09:57	08/19/21 18:25	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:25	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/18/21 09:57	08/19/21 18:25	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/18/21 09:57	08/19/21 18:25	7439-92-1	
Lithium	0.0032J	mg/L	0.030	0.00073	1	08/18/21 09:57	08/19/21 18:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/18/21 09:57	08/19/21 18:25	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/18/21 09:57	08/19/21 18:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/18/21 09:57	08/19/21 18:25	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	158	mg/L	10.0	10.0	1		08/18/21 08:32		
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300.0 IC Anions 28 Days

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

Chloride	1.4	mg/L	1.0	0.60	1		08/20/21 05:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/20/21 05:43	16984-48-8	
Sulfate	17.4	mg/L	1.0	0.50	1		08/20/21 05:43	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWA-6 **Lab ID: 92555504003** Collected: 08/12/21 14:48 Received: 08/13/21 14:55 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		08/16/21 10:18		
pH	7.47	Std. Units			1		08/16/21 10:18		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	54.7	mg/L	1.0	0.12	1	08/18/21 09:54	08/18/21 17:30	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	0.00078	1	08/18/21 09:57	08/19/21 18:30	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:30	7440-38-2	
Barium	0.18	mg/L	0.0050	0.00067	1	08/18/21 09:57	08/19/21 18:30	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/18/21 09:57	08/19/21 18:30	7440-41-7	
Boron	0.014J	mg/L	0.040	0.0086	1	08/18/21 09:57	08/19/21 18:30	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/18/21 09:57	08/19/21 18:30	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:30	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/18/21 09:57	08/19/21 18:30	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/18/21 09:57	08/19/21 18:30	7439-92-1	
Lithium	0.0094J	mg/L	0.030	0.00073	1	08/18/21 09:57	08/19/21 18:30	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/18/21 09:57	08/19/21 18:30	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/18/21 09:57	08/19/21 18:30	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/18/21 09:57	08/19/21 18:30	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	229	mg/L	10.0	10.0	1		08/18/21 08:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	0.94J	mg/L	1.0	0.60	1		08/20/21 05:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/20/21 05:58	16984-48-8	
Sulfate	28.6	mg/L	1.0	0.50	1		08/20/21 05:58	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWA-42D **Lab ID: 92555504004** Collected: 08/12/21 09:35 Received: 08/13/21 14:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/16/21 10:18		
pH	7.70	Std. Units			1		08/16/21 10:18		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	43.6	mg/L	1.0	0.12	1	08/18/21 09:54	08/18/21 17:45	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/18/21 09:57	08/19/21 18:36	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:36	7440-38-2	
Barium	0.18	mg/L	0.0050	0.00067	1	08/18/21 09:57	08/19/21 18:36	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/18/21 09:57	08/19/21 18:36	7440-41-7	
Boron	0.044	mg/L	0.040	0.0086	1	08/18/21 09:57	08/19/21 18:36	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/18/21 09:57	08/19/21 18:36	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:36	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/18/21 09:57	08/19/21 18:36	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/18/21 09:57	08/19/21 18:36	7439-92-1	
Lithium	0.0096J	mg/L	0.030	0.00073	1	08/18/21 09:57	08/19/21 18:36	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/18/21 09:57	08/19/21 18:36	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/18/21 09:57	08/19/21 18:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/18/21 09:57	08/19/21 18:36	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	179	mg/L	10.0	10.0	1		08/18/21 08:32		
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300.0 IC Anions 28 Days

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

Chloride	2.6	mg/L	1.0	0.60	1		08/20/21 06:13	16887-00-6	
Fluoride	0.079J	mg/L	0.10	0.050	1		08/20/21 06:13	16984-48-8	
Sulfate	7.8	mg/L	1.0	0.50	1		08/20/21 06:13	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-34D **Lab ID: 92555504005** Collected: 08/16/21 15:03 Received: 08/17/21 11:25 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/18/21 10:11		
pH	7.05	Std. Units			1		08/18/21 10:11		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	554	mg/L	5.0	0.61	5	08/18/21 09:54	08/18/21 17:55	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/18/21 09:57	08/19/21 18:42	7440-36-0	
Arsenic	0.0024J	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:42	7440-38-2	
Barium	0.035	mg/L	0.0050	0.00067	1	08/18/21 09:57	08/19/21 18:42	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/18/21 09:57	08/19/21 18:42	7440-41-7	
Boron	8.2	mg/L	0.040	0.0086	1	08/18/21 09:57	08/19/21 18:42	7440-42-8	
Cadmium	0.00023J	mg/L	0.00050	0.00011	1	08/18/21 09:57	08/19/21 18:42	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/18/21 09:57	08/19/21 18:42	7440-47-3	
Cobalt	0.0093	mg/L	0.0050	0.00039	1	08/18/21 09:57	08/19/21 18:42	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/18/21 09:57	08/19/21 18:42	7439-92-1	
Lithium	0.0010J	mg/L	0.030	0.00073	1	08/18/21 09:57	08/19/21 18:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/18/21 09:57	08/19/21 18:42	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/18/21 09:57	08/19/21 18:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/18/21 09:57	08/19/21 18:42	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2340	mg/L	100	100	1		08/19/21 15:12		
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300.0 IC Anions 28 Days

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

Chloride	264	mg/L	22.0	13.2	22		08/23/21 12:44	16887-00-6	
Fluoride	0.066J	mg/L	0.10	0.050	1		08/23/21 00:17	16984-48-8	
Sulfate	987	mg/L	22.0	11.0	22		08/23/21 12:44	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWC-17 **Lab ID: 92555504006** Collected: 08/18/21 17:25 Received: 08/19/21 12:40 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		08/19/21 16:57		
pH	6.43	Std. Units			1		08/19/21 16:57		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	281	mg/L	1.0	0.12	1	08/20/21 11:15	08/20/21 17:52	7440-70-2	M1
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00078	1	08/20/21 11:15	08/27/21 14:38	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 14:38	7440-38-2	
Barium	0.022	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 14:38	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/27/21 14:38	7440-41-7	
Boron	5.3	mg/L	0.040	0.0086	1	08/20/21 11:15	08/27/21 14:38	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 14:38	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 14:38	7440-47-3	
Cobalt	0.0090	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 14:38	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 14:38	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00073	1	08/20/21 11:15	08/27/21 14:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 14:38	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 14:38	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 14:38	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1290	mg/L	50.0	50.0	1		08/24/21 18:59		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	90.7	mg/L	9.0	5.4	9		08/28/21 13:29	16887-00-6	
Fluoride	0.062J	mg/L	0.10	0.050	1		08/26/21 02:13	16984-48-8	
Sulfate	280	mg/L	9.0	4.5	9		08/28/21 13:29	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWC-14 **Lab ID: 92555504007** Collected: 08/18/21 15:31 Received: 08/19/21 12:40 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		08/19/21 16:57		
pH	4.90	Std. Units			1		08/19/21 16:57		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	583	mg/L	10.0	1.2	10	08/20/21 11:15	08/23/21 16:28	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	0.00078	1	08/20/21 11:15	08/27/21 14:49	7440-36-0	
Arsenic	0.0035J	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 14:49	7440-38-2	
Barium	0.018	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 14:49	7440-39-3	
Beryllium	0.00039J	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/27/21 14:49	7440-41-7	
Boron	8.6	mg/L	0.040	0.0086	1	08/20/21 11:15	08/27/21 14:49	7440-42-8	M1
Cadmium	0.00013J	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 14:49	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 14:49	7440-47-3	
Cobalt	0.033	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 14:49	7440-48-4	
Lead	0.0015	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 14:49	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/20/21 11:15	08/27/21 14:49	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 14:49	7439-98-7	
Selenium	0.0077	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 14:49	7782-49-2	
Thallium	0.00027J	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 14:49	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2350	mg/L	100	100	1		08/24/21 18:59		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	141	mg/L	25.0	15.0	25		08/28/21 13:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/26/21 02:29	16984-48-8	
Sulfate	768	mg/L	25.0	12.5	25		08/28/21 13:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-33 **Lab ID: 92555504008** Collected: 08/18/21 13:40 Received: 08/19/21 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/19/21 16:57		
pH	4.42	Std. Units			1		08/19/21 16:57		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	549	mg/L	10.0	1.2	10	08/20/21 11:15	08/23/21 16:32	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/20/21 11:15	08/27/21 15:43	7440-36-0	
Arsenic	0.0058	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 15:43	7440-38-2	
Barium	0.025	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 15:43	7440-39-3	
Beryllium	0.00097	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/30/21 17:01	7440-41-7	
Boron	9.1	mg/L	0.040	0.0086	1	08/20/21 11:15	08/30/21 17:01	7440-42-8	
Cadmium	0.00017J	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 15:43	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 15:43	7440-47-3	
Cobalt	0.054	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 15:43	7440-48-4	
Lead	0.0016	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 15:43	7439-92-1	
Lithium	0.00097J	mg/L	0.030	0.00073	1	08/20/21 11:15	08/30/21 17:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 15:43	7439-98-7	
Selenium	0.014	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 15:43	7782-49-2	
Thallium	0.00040J	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 15:43	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	3690	mg/L	100	100	1		08/24/21 18:59		
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300.0 IC Anions 28 Days

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

Chloride	118	mg/L	25.0	15.0	25		08/28/21 15:10	16887-00-6	
Fluoride	0.16	mg/L	0.10	0.050	1		08/26/21 02:45	16984-48-8	
Sulfate	740	mg/L	25.0	12.5	25		08/28/21 15:10	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Sample: MW-51		Lab ID: 92555504009		Collected: 08/18/21 11:54		Received: 08/19/21 12:40		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		08/19/21 16:58		
pH	6.19	Std. Units			1		08/19/21 16:58		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	532	mg/L	10.0	1.2	10	08/20/21 11:15	08/23/21 16:37	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	0.00078	1	08/20/21 11:15	08/27/21 15:54	7440-36-0	
Arsenic	0.0020J	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 15:54	7440-38-2	
Barium	0.032	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 15:54	7440-39-3	
Beryllium	0.00042J	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/30/21 17:07	7440-41-7	
Boron	9.7	mg/L	0.40	0.086	10	08/20/21 11:15	08/30/21 17:48	7440-42-8	
Cadmium	0.00094	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 15:54	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 15:54	7440-47-3	
Cobalt	0.030	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 15:54	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 15:54	7439-92-1	
Lithium	0.0022J	mg/L	0.030	0.00073	1	08/20/21 11:15	08/30/21 17:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 15:54	7439-98-7	
Selenium	0.0040J	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 15:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 15:54	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2610	mg/L	100	100	1		08/24/21 18:59		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	123	mg/L	23.0	13.8	23		08/28/21 15:28	16887-00-6	
Fluoride	0.072J	mg/L	0.10	0.050	1		08/26/21 03:33	16984-48-8	
Sulfate	757	mg/L	23.0	11.5	23		08/28/21 15:28	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Sample: MW-35 **Lab ID: 92555504010** Collected: 08/18/21 10:18 Received: 08/19/21 12:40 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		08/19/21 16:58		
pH	4.89	Std. Units			1		08/19/21 16:58		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	546	mg/L	10.0	1.2	10	08/20/21 11:15	08/23/21 16:42	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	0.00078	1	08/20/21 11:15	08/27/21 16:06	7440-36-0	
Arsenic	0.0043J	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 16:06	7440-38-2	
Barium	0.025	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 16:06	7440-39-3	
Beryllium	0.00061	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/30/21 17:13	7440-41-7	
Boron	11.2	mg/L	0.40	0.086	10	08/20/21 11:15	08/30/21 17:54	7440-42-8	
Cadmium	0.0015	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 16:06	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 16:06	7440-47-3	
Cobalt	0.085	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 16:06	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 16:06	7439-92-1	
Lithium	0.0036J	mg/L	0.030	0.00073	1	08/20/21 11:15	08/30/21 17:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 16:06	7439-98-7	
Selenium	0.014	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 16:06	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 16:06	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2390	mg/L	100	100	1		08/25/21 19:25		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	149	mg/L	23.0	13.8	23		08/28/21 15:45	16887-00-6	
Fluoride	0.052J	mg/L	0.10	0.050	1		08/26/21 03:49	16984-48-8	
Sulfate	789	mg/L	23.0	11.5	23		08/28/21 15:45	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-37D **Lab ID: 92555504011** Collected: 08/18/21 18:30 Received: 08/19/21 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/19/21 16:58		
pH	7.52	Std. Units			1		08/19/21 16:58		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	180	mg/L	1.0	0.12	1	08/20/21 11:15	08/20/21 18:41	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/20/21 11:15	08/27/21 16:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 16:17	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00067	1	08/20/21 11:15	08/27/21 16:17	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/20/21 11:15	08/30/21 17:19	7440-41-7	
Boron	0.20	mg/L	0.040	0.0086	1	08/20/21 11:15	08/30/21 17:19	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/20/21 11:15	08/27/21 16:17	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/20/21 11:15	08/27/21 16:17	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/20/21 11:15	08/27/21 16:17	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/20/21 11:15	08/27/21 16:17	7439-92-1	
Lithium	0.030	mg/L	0.030	0.00073	1	08/20/21 11:15	08/30/21 17:19	7439-93-2	
Molybdenum	0.0083J	mg/L	0.010	0.00074	1	08/20/21 11:15	08/27/21 16:17	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/20/21 11:15	08/27/21 16:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/20/21 11:15	08/27/21 16:17	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	950	mg/L	20.0	20.0	1		08/25/21 19:25		
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300.0 IC Anions 28 Days

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

Chloride	122	mg/L	6.0	3.6	6		08/28/21 16:02	16887-00-6	
Fluoride	0.050J	mg/L	0.10	0.050	1		08/26/21 04:05	16984-48-8	
Sulfate	207	mg/L	6.0	3.0	6		08/28/21 16:02	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-22 **Lab ID: 92555504012** Collected: 08/19/21 14:58 Received: 08/20/21 12:15 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		08/20/21 15:26		
pH	6.05	Std. Units			1		08/20/21 15:26		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	203	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 19:31	7440-70-2	M1
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.0016J	mg/L	0.0030	0.00078	1	08/24/21 12:10	08/27/21 13:32	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:32	7440-38-2	
Barium	0.018	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 13:32	7440-39-3	
Beryllium	0.000070J	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 13:32	7440-41-7	
Boron	2.5	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 13:32	7440-42-8	
Cadmium	0.0021	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 13:32	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:32	7440-47-3	
Cobalt	0.022	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 13:32	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 13:32	7439-92-1	
Lithium	0.0012J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 13:32	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 13:32	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 13:32	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 13:32	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1030	mg/L	20.0	20.0	1		08/25/21 19:44		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	118	mg/L	9.0	5.4	9		08/27/21 18:19	16887-00-6	M1
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 08:06	16984-48-8	
Sulfate	412	mg/L	9.0	4.5	9		08/27/21 18:19	14808-79-8	M1

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Sample: HGWC-18		Lab ID: 92555504013		Collected: 08/19/21 09:30		Received: 08/20/21 12:15		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		08/20/21 15:27		
pH	4.43	Std. Units			1		08/20/21 15:27		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	416	mg/L	10.0	1.2	10	08/24/21 12:42	08/25/21 12:33	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.00080J	mg/L	0.0030	0.00078	1	08/24/21 12:10	08/27/21 13:38	7440-36-0	
Arsenic	0.0045J	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:38	7440-38-2	
Barium	0.031	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 13:38	7440-39-3	
Beryllium	0.0034	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 13:38	7440-41-7	
Boron	8.6	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 13:38	7440-42-8	
Cadmium	0.0014	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 13:38	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:38	7440-47-3	
Cobalt	0.15	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 13:38	7440-48-4	
Lead	0.0013	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 13:38	7439-92-1	
Lithium	0.013J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 13:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 13:38	7439-98-7	
Selenium	0.010	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 13:38	7782-49-2	
Thallium	0.00020J	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 13:38	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1750	mg/L	100	100	1		08/25/21 19:44		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	95.8	mg/L	1.0	0.60	1		08/27/21 09:46	16887-00-6	
Fluoride	0.31	mg/L	0.10	0.050	1		08/27/21 09:46	16984-48-8	
Sulfate	934	mg/L	21.0	10.5	21		08/27/21 19:05	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-21D **Lab ID: 92555504014** Collected: 08/19/21 10:50 Received: 08/20/21 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/20/21 15:27		
pH	6.85	Std. Units			1		08/20/21 15:27		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	365	mg/L	10.0	1.2	10	08/24/21 12:42	08/25/21 12:38	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/24/21 12:10	08/27/21 13:44	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:44	7440-38-2	
Barium	0.042	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 13:44	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 13:44	7440-41-7	
Boron	5.4	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 13:44	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 13:44	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:44	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 13:44	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 13:44	7439-92-1	
Lithium	0.022J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 13:44	7439-93-2	
Molybdenum	0.018	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 13:44	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 13:44	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 13:44	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1920	mg/L	100	100	1		08/25/21 19:44		
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300.0 IC Anions 28 Days

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

Chloride	173	mg/L	17.0	10.2	17		08/27/21 19:20	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 10:54	16984-48-8	
Sulfate	724	mg/L	17.0	8.5	17		08/27/21 19:20	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWC-16 **Lab ID: 92555504015** Collected: 08/19/21 13:15 Received: 08/20/21 12:15 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		08/20/21 15:27		
pH	7.04	Std. Units			1		08/20/21 15:27		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	207	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 20:11	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	0.00078	1	08/24/21 12:10	08/27/21 13:50	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:50	7440-38-2	
Barium	0.10	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 13:50	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 13:50	7440-41-7	
Boron	2.5	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 13:50	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 13:50	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 13:50	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 13:50	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 13:50	7439-92-1	
Lithium	0.0042J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 13:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 13:50	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 13:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 13:50	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	816	mg/L	20.0	20.0	1		08/26/21 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	90.1	mg/L	1.0	0.60	1		08/27/21 11:09	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 11:09	16984-48-8	
Sulfate	228	mg/L	5.0	2.5	5		08/27/21 20:06	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: HGWC-15 **Lab ID: 92555504016** Collected: 08/19/21 15:00 Received: 08/20/21 12:15 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		08/20/21 15:27		
pH	6.18	Std. Units			1		08/20/21 15:27		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	203	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 20:15	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	0.00078	1	08/24/21 12:10	08/27/21 14:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:13	7440-38-2	
Barium	0.010	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 14:13	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 14:13	7440-41-7	
Boron	2.1	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 14:13	7440-42-8	
Cadmium	0.0012	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 14:13	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:13	7440-47-3	
Cobalt	0.011	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 14:13	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 14:13	7439-92-1	
Lithium	0.0058J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 14:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 14:13	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 14:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 14:13	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	958	mg/L	20.0	20.0	1		08/26/21 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	89.9	mg/L	1.0	0.60	1		08/27/21 11:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 11:24	16984-48-8	
Sulfate	223	mg/L	5.0	2.5	5		08/27/21 20:21	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: MW-23D **Lab ID: 92555504017** Collected: 08/19/21 18:48 Received: 08/20/21 12:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		08/20/21 15:27		
pH	6.72	Std. Units			1		08/20/21 15:27		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	307	mg/L	5.0	0.61	5	08/24/21 12:42	08/24/21 20:25	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	08/24/21 12:10	08/27/21 14:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:19	7440-38-2	
Barium	0.050	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 14:19	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 14:19	7440-41-7	
Boron	3.4	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 14:19	7440-42-8	
Cadmium	0.00012J	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 14:19	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:19	7440-47-3	
Cobalt	0.00089J	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 14:19	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 14:19	7439-92-1	
Lithium	0.0022J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 14:19	7439-93-2	
Molybdenum	0.0034J	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 14:19	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 14:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 14:19	7440-28-0	

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1440	mg/L	50.0	50.0	1		08/26/21 18:46		
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300.0 IC Anions 28 Days

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

Chloride	137	mg/L	10.0	6.0	10		08/27/21 20:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 11:40	16984-48-8	
Sulfate	432	mg/L	10.0	5.0	10		08/27/21 20:36	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: DUP-2 **Lab ID: 92555504018** Collected: 08/19/21 00:00 Received: 08/20/21 12:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	210	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 20:30	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	0.00078	1	08/24/21 12:10	08/27/21 14:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:31	7440-38-2	
Barium	0.10	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 14:31	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 14:31	7440-41-7	
Boron	2.6	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 14:31	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 14:31	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 14:31	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 14:31	7439-92-1	
Lithium	0.0042J	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 14:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 14:31	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 14:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 14:31	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	862	mg/L	20.0	20.0	1		08/26/21 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	98.8	mg/L	1.0	0.60	1		08/27/21 11:55	16887-00-6	
Fluoride	0.051J	mg/L	0.10	0.050	1		08/27/21 11:55	16984-48-8	
Sulfate	349	mg/L	8.0	4.0	8		08/27/21 20:51	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92555504

Sample: EB-2 **Lab ID: 92555504019** Collected: 08/19/21 13:30 Received: 08/20/21 12:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	ND	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 20:35	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	0.00078	1	08/24/21 12:10	08/27/21 14:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:37	7440-38-2	
Barium	ND	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 14:37	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 14:37	7440-41-7	
Boron	0.011J	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 14:37	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 14:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:37	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 14:37	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 14:37	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 14:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 14:37	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 14:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 14:37	7440-28-0	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		08/26/21 18:46		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/27/21 12:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 12:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/27/21 12:11	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Sample: FB-2		Lab ID: 92555504020		Collected: 08/19/21 09:40		Received: 08/20/21 12:15		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
6010D ATL ICP		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.12	1	08/24/21 12:42	08/24/21 20:40	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	0.00078	1	08/24/21 12:10	08/27/21 14:43	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:43	7440-38-2		
Barium	ND	mg/L	0.0050	0.00067	1	08/24/21 12:10	08/27/21 14:43	7440-39-3		
Beryllium	ND	mg/L	0.00050	0.000054	1	08/24/21 12:10	08/27/21 14:43	7440-41-7		
Boron	ND	mg/L	0.040	0.0086	1	08/24/21 12:10	08/27/21 14:43	7440-42-8		
Cadmium	ND	mg/L	0.00050	0.00011	1	08/24/21 12:10	08/27/21 14:43	7440-43-9		
Chromium	ND	mg/L	0.0050	0.0011	1	08/24/21 12:10	08/27/21 14:43	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00039	1	08/24/21 12:10	08/27/21 14:43	7440-48-4		
Lead	ND	mg/L	0.0010	0.00089	1	08/24/21 12:10	08/27/21 14:43	7439-92-1		
Lithium	ND	mg/L	0.030	0.00073	1	08/24/21 12:10	08/27/21 14:43	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00074	1	08/24/21 12:10	08/27/21 14:43	7439-98-7		
Selenium	ND	mg/L	0.0050	0.0014	1	08/24/21 12:10	08/27/21 14:43	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00018	1	08/24/21 12:10	08/27/21 14:43	7440-28-0		
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		08/26/21 18:46			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		08/27/21 12:26	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		08/27/21 12:26	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		08/27/21 12:26	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 641193	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D ATL
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004, 92555504005

METHOD BLANK: 3365273 Matrix: Water
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004, 92555504005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/18/21 16:31	

LABORATORY CONTROL SAMPLE: 3365274

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: 3365275 3365276

Parameter	Units	3365275		3365276		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555504001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	5.4	1	1	6.6	6.4	113	103	75-125	2	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch:	641912	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

METHOD BLANK: 3368995 Matrix: Water

Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/20/21 17:38	

LABORATORY CONTROL SAMPLE: 3368996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3368997 3368998

Parameter	Units	92555504006		3368998		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Calcium	mg/L	281	1	282	1	124	-592	75-125	3	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 642523 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

METHOD BLANK: 3371892 Matrix: Water
 Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	08/24/21 19:17	

LABORATORY CONTROL SAMPLE: 3371893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.99J	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371894 3371895

Parameter	Units	92555504012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	203	1	1	208	205	523	223	75-125	1	20 M1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 641199 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004, 92555504005

METHOD BLANK: 3365292 Matrix: Water
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004, 92555504005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	08/19/21 17:50	
Arsenic	mg/L	ND	0.0050	0.0011	08/19/21 17:50	
Barium	mg/L	ND	0.0050	0.00067	08/19/21 17:50	
Beryllium	mg/L	ND	0.00050	0.000054	08/19/21 17:50	
Boron	mg/L	ND	0.040	0.0086	08/19/21 17:50	
Cadmium	mg/L	ND	0.00050	0.00011	08/19/21 17:50	
Chromium	mg/L	ND	0.0050	0.0011	08/19/21 17:50	
Cobalt	mg/L	ND	0.0050	0.00039	08/19/21 17:50	
Lead	mg/L	ND	0.0010	0.00089	08/19/21 17:50	
Lithium	mg/L	ND	0.030	0.00073	08/19/21 17:50	
Molybdenum	mg/L	ND	0.010	0.00074	08/19/21 17:50	
Selenium	mg/L	ND	0.0050	0.0014	08/19/21 17:50	
Thallium	mg/L	ND	0.0010	0.00018	08/19/21 17:50	

LABORATORY CONTROL SAMPLE: 3365293

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.098	98	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.094	94	80-120	
Boron	mg/L	1	0.95	95	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	0.10	100	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.094	94	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	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3365294 3365295

Parameter	Units	92555504001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	mg/L	ND	0.1	0.1	0.099	0.097	98	97	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

Parameter	Units	3365294		3365295		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555504001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	0.034	0.1	0.1	0.13	0.13	99	98	75-125	1	20		
Beryllium	mg/L	0.00021J	0.1	0.1	0.10	0.10	102	100	75-125	2	20		
Boron	mg/L	0.014J	1	1	1.0	1.0	102	101	75-125	1	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	100	98	75-125	1	20		
Chromium	mg/L	ND	0.1	0.1	0.11	0.11	110	107	75-125	2	20		
Cobalt	mg/L	0.00070J	0.1	0.1	0.11	0.11	110	106	75-125	4	20		
Lead	mg/L	ND	0.1	0.1	0.096	0.095	96	94	75-125	2	20		
Lithium	mg/L	0.0013J	0.1	0.1	0.11	0.11	106	104	75-125	1	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.097	100	97	75-125	3	20		
Selenium	mg/L	ND	0.1	0.1	0.093	0.094	93	94	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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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 641913 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

METHOD BLANK: 3368999 Matrix: Water
 Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	08/27/21 14:27	
Arsenic	mg/L	ND	0.0050	0.0011	08/27/21 14:27	
Barium	mg/L	ND	0.0050	0.00067	08/27/21 14:27	
Beryllium	mg/L	ND	0.00050	0.000054	08/27/21 14:27	
Boron	mg/L	ND	0.040	0.0086	08/27/21 14:27	
Cadmium	mg/L	ND	0.00050	0.00011	08/27/21 14:27	
Chromium	mg/L	ND	0.0050	0.0011	08/27/21 14:27	
Cobalt	mg/L	ND	0.0050	0.00039	08/27/21 14:27	
Lead	mg/L	ND	0.0010	0.00089	08/27/21 14:27	
Lithium	mg/L	ND	0.030	0.00073	08/27/21 14:27	
Molybdenum	mg/L	ND	0.010	0.00074	08/27/21 14:27	
Selenium	mg/L	ND	0.0050	0.0014	08/27/21 14:27	
Thallium	mg/L	ND	0.0010	0.00018	08/27/21 14:27	

LABORATORY CONTROL SAMPLE: 3369000

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	0.10	100	80-120	
Barium	mg/L	0.1	0.098	98	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Boron	mg/L	1	0.95	95	80-120	
Cadmium	mg/L	0.1	0.10	100	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	0.10	101	80-120	
Lithium	mg/L	0.1	0.096	96	80-120	
Molybdenum	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3369001 3369002

Parameter	Units	92555504007 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	101	75-125	2	20	
Arsenic	mg/L	0.0035J	0.1	0.1	0.11	0.11	108	106	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

Parameter	Units	3369001		3369002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555504007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	0.018	0.1	0.1	0.11	0.11	96	94	75-125	1	20		
Beryllium	mg/L	0.00039J	0.1	0.1	0.085	0.084	85	84	75-125	1	20		
Boron	mg/L	8.6	1	1	9.1	9.3	51	71	75-125	2	20	M1	
Cadmium	mg/L	0.00013J	0.1	0.1	0.098	0.095	98	95	75-125	3	20		
Chromium	mg/L	ND	0.1	0.1	0.098	0.094	98	94	75-125	4	20		
Cobalt	mg/L	0.033	0.1	0.1	0.13	0.12	95	90	75-125	4	20		
Lead	mg/L	0.0015	0.1	0.1	0.097	0.095	96	93	75-125	3	20		
Lithium	mg/L	ND	0.1	0.1	0.087	0.085	87	85	75-125	2	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.098	103	98	75-125	5	20		
Selenium	mg/L	0.0077	0.1	0.1	0.12	0.12	112	110	75-125	1	20		
Thallium	mg/L	0.00027J	0.1	0.1	0.095	0.092	95	92	75-125	4	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92555504

QC Batch: 642521 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

METHOD BLANK: 3371879 Matrix: Water
 Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	08/27/21 12:56	
Arsenic	mg/L	ND	0.0050	0.0011	08/27/21 12:56	
Barium	mg/L	ND	0.0050	0.00067	08/27/21 12:56	
Beryllium	mg/L	ND	0.00050	0.000054	08/27/21 12:56	
Boron	mg/L	ND	0.040	0.0086	08/27/21 12:56	
Cadmium	mg/L	ND	0.00050	0.00011	08/27/21 12:56	
Chromium	mg/L	ND	0.0050	0.0011	08/27/21 12:56	
Cobalt	mg/L	ND	0.0050	0.00039	08/27/21 12:56	
Lead	mg/L	ND	0.0010	0.00089	08/27/21 12:56	
Lithium	mg/L	ND	0.030	0.00073	08/27/21 12:56	
Molybdenum	mg/L	ND	0.010	0.00074	08/27/21 12:56	
Selenium	mg/L	ND	0.0050	0.0014	08/27/21 12:56	
Thallium	mg/L	ND	0.0010	0.00018	08/27/21 12:56	

LABORATORY CONTROL SAMPLE: 3371880

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	100	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	0.097	97	80-120	
Lead	mg/L	0.1	0.10	101	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	103	80-120	
Selenium	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371881 3371882

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555501017 Result	Spike Conc.	Spike Conc.	MS Result						
Antimony	mg/L	ND	0.1	0.1	0.099	0.10	99	102	75-125	3	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3371881 3371882												
Parameter	Units	92555501017 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
			Spike Conc.	Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.1	0.1	0.095	0.096	95	96	75-125	1	20	
Barium	mg/L	0.041	0.1	0.1	0.16	0.16	114	117	75-125	1	20	
Beryllium	mg/L	0.000056J	0.1	0.1	0.092	0.094	92	94	75-125	3	20	
Boron	mg/L	0.78	1	1	1.8	1.9	103	108	75-125	3	20	
Cadmium	mg/L	0.0012	0.1	0.1	0.097	0.098	96	97	75-125	2	20	
Chromium	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	1	20	
Cobalt	mg/L	0.017	0.1	0.1	0.11	0.11	91	96	75-125	4	20	
Lead	mg/L	ND	0.1	0.1	0.094	0.097	93	97	75-125	4	20	
Lithium	mg/L	0.0017J	0.1	0.1	0.095	0.098	93	96	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.094	0.099	94	99	75-125	5	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92555504

QC Batch: 640931 Analysis Method: SM 2540C-2011
 QC Batch Method: SM 2540C-2011 Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004

METHOD BLANK: 3363778 Matrix: Water
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/18/21 08:29	

LABORATORY CONTROL SAMPLE: 3363779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	388	97	90-111	

SAMPLE DUPLICATE: 3363780

Parameter	Units	92555514001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	366	378	3	10	

SAMPLE DUPLICATE: 3363781

Parameter	Units	92555501001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	212	217	2	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 641466

Analysis Method: SM 2540C-2011

QC Batch Method: SM 2540C-2011

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504005

METHOD BLANK: 3366949

Matrix: Water

Associated Lab Samples: 92555504005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/19/21 15:09	

LABORATORY CONTROL SAMPLE: 3366950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	401	100	90-111	

SAMPLE DUPLICATE: 3366951

Parameter	Units	92555514003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	118	131	10	10	

SAMPLE DUPLICATE: 3366952

Parameter	Units	92555514005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	272	268	1	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 642067	Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009

METHOD BLANK: 3369965 Matrix: Water
 Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/20/21 16:46	

LABORATORY CONTROL SAMPLE: 3369966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	383	96	90-111	

SAMPLE DUPLICATE: 3369967

Parameter	Units	92555895001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	533	566	6	10	

SAMPLE DUPLICATE: 3369968

Parameter	Units	92556790001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	38.0	52.0	31	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 642673	Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504010, 92555504011

METHOD BLANK: 3372850 Matrix: Water
 Associated Lab Samples: 92555504010, 92555504011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/25/21 19:25	

LABORATORY CONTROL SAMPLE: 3372851

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	392	98	90-111	

SAMPLE DUPLICATE: 3372852

Parameter	Units	92555504010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2390	2610	9	10	

SAMPLE DUPLICATE: 3372853

Parameter	Units	92555948008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	666	696	4	10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 642674	Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011	Analysis Description: 2540C Total Dissolved Solids
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92555504012, 92555504013, 92555504014

METHOD BLANK: 3372854 Matrix: Water
 Associated Lab Samples: 92555504012, 92555504013, 92555504014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/25/21 19:40	

LABORATORY CONTROL SAMPLE: 3372855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	409	102	90-111	

SAMPLE DUPLICATE: 3372856

Parameter	Units	92555948018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	682	726	6	10	

SAMPLE DUPLICATE: 3372857

Parameter	Units	92557081004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	22.0	15.0	38	10	D6

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92555504

QC Batch: 643140 Analysis Method: SM 2540C-2011
 QC Batch Method: SM 2540C-2011 Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

METHOD BLANK: 3374769 Matrix: Water
 Associated Lab Samples: 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/26/21 18:46	

LABORATORY CONTROL SAMPLE: 3374770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	409	102	90-111	

SAMPLE DUPLICATE: 3374771

Parameter	Units	92555504015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	816	876	7	10	

SAMPLE DUPLICATE: 3374772

Parameter	Units	92555938012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 641753 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004

METHOD BLANK: 3368331 Matrix: Water
 Associated Lab Samples: 92555504001, 92555504002, 92555504003, 92555504004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/19/21 22:58	
Fluoride	mg/L	ND	0.10	0.050	08/19/21 22:58	
Sulfate	mg/L	ND	1.0	0.50	08/19/21 22:58	

LABORATORY CONTROL SAMPLE: 3368332

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.5	102	90-110	
Sulfate	mg/L	50	50.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3368333 3368334

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92554551025 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	3.4	50	50	56.6	56.8	106	107	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	100	90-110	2	10		
Sulfate	mg/L	6.9	50	50	59.8	60.3	106	107	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3368335 3368336

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555501002 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	2.2	50	50	50.0	54.8	95	105	90-110	9	10		
Fluoride	mg/L	0.064J	2.5	2.5	2.4	2.6	92	102	90-110	10	10		
Sulfate	mg/L	4.3	50	50	51.7	56.7	95	105	90-110	9	10		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 642138	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92555504005

METHOD BLANK: 3370171 Matrix: Water

Associated Lab Samples: 92555504005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/22/21 20:47	
Fluoride	mg/L	ND	0.10	0.050	08/22/21 20:47	
Sulfate	mg/L	ND	1.0	0.50	08/22/21 20:47	

LABORATORY CONTROL SAMPLE: 3370172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.1	98	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370173 3370174

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555535001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	14.0	50	50	65.0	66.6	102	105	90-110	2	10		
Fluoride	mg/L	0.19	2.5	2.5	2.7	2.8	102	104	90-110	2	10		
Sulfate	mg/L	35.2	50	50	84.4	85.9	98	101	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3370177 3370178

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555938002	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	2.4	50	50	54.7	55.6	104	106	90-110	2	10		
Fluoride	mg/L	0.39	2.5	2.5	3.0	3.0	104	106	90-110	2	10		
Sulfate	mg/L	211	50	50	255	257	88	92	90-110	1	10 M1		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch:	642990	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

METHOD BLANK: 3374032 Matrix: Water
 Associated Lab Samples: 92555504006, 92555504007, 92555504008, 92555504009, 92555504010, 92555504011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/26/21 00:53	
Fluoride	mg/L	ND	0.10	0.050	08/26/21 00:53	
Sulfate	mg/L	ND	1.0	0.50	08/26/21 00:53	

LABORATORY CONTROL SAMPLE: 3374033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	48.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3374034 3374035

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92557349005	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	248	50	50	144	155	-207	-187	90-110	7	10	M1	
Fluoride	mg/L	8.9	2.5	2.5	5.4	5.7	-139	-128	90-110	5	10	M1	
Sulfate	mg/L	1040	50	50	1040	1090	-16	89	90-110	5	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3374036 3374037

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92555945011	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	14.3	50	50	65.1	67.7	101	107	90-110	4	10		
Fluoride	mg/L	0.12	2.5	2.5	2.4	2.5	91	97	90-110	6	10		
Sulfate	mg/L	219	50	50	321	254	204	68	90-110	24	10	M1, R1	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92555504

QC Batch: 643306

Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

METHOD BLANK: 3375691

Matrix: Water

Associated Lab Samples: 92555504012, 92555504013, 92555504014, 92555504015, 92555504016, 92555504017, 92555504018, 92555504019, 92555504020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/27/21 07:35	
Fluoride	mg/L	ND	0.10	0.050	08/27/21 07:35	
Sulfate	mg/L	ND	1.0	0.50	08/27/21 07:35	

LABORATORY CONTROL SAMPLE: 3375692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	47.1	94	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	50	47.6	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375693 3375694

Parameter	Units	92555504012		3375694		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	118	50	50	160	160	84	85	90-110	0	10 M1
Fluoride	mg/L	ND	2.5	2.5	2.3	2.4	92	94	90-110	2	10
Sulfate	mg/L	412	50	50	453	454	84	85	90-110	0	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3375695 3375696

Parameter	Units	92555938009		3375696		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	4.5	50	50	52.3	52.6	96	96	90-110	1	10
Fluoride	mg/L	0.17	2.5	2.5	2.5	2.6	95	96	90-110	1	10
Sulfate	mg/L	264	50	50	305	306	82	83	90-110	0	10 M1

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QUALIFIERS

Project: HAMMOND AP-2

Pace Project No.: 92555504

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92555504001	HGWA-4				
92555504002	HGWA-5				
92555504003	HGWA-6				
92555504004	HGWA-42D				
92555504005	MW-34D				
92555504006	HGWC-17				
92555504007	HGWC-14				
92555504008	MW-33				
92555504009	MW-51				
92555504010	MW-35				
92555504011	MW-37D				
92555504012	MW-22				
92555504013	HGWC-18				
92555504014	MW-21D				
92555504015	HGWC-16				
92555504016	HGWC-15				
92555504017	MW-23D				
92555504001	HGWA-4	EPA 3010A	641193	EPA 6010D	641263
92555504002	HGWA-5	EPA 3010A	641193	EPA 6010D	641263
92555504003	HGWA-6	EPA 3010A	641193	EPA 6010D	641263
92555504004	HGWA-42D	EPA 3010A	641193	EPA 6010D	641263
92555504005	MW-34D	EPA 3010A	641193	EPA 6010D	641263
92555504006	HGWC-17	EPA 3010A	641912	EPA 6010D	641995
92555504007	HGWC-14	EPA 3010A	641912	EPA 6010D	641995
92555504008	MW-33	EPA 3010A	641912	EPA 6010D	641995
92555504009	MW-51	EPA 3010A	641912	EPA 6010D	641995
92555504010	MW-35	EPA 3010A	641912	EPA 6010D	641995
92555504011	MW-37D	EPA 3010A	641912	EPA 6010D	641995
92555504012	MW-22	EPA 3010A	642523	EPA 6010D	642626
92555504013	HGWC-18	EPA 3010A	642523	EPA 6010D	642626
92555504014	MW-21D	EPA 3010A	642523	EPA 6010D	642626
92555504015	HGWC-16	EPA 3010A	642523	EPA 6010D	642626
92555504016	HGWC-15	EPA 3010A	642523	EPA 6010D	642626
92555504017	MW-23D	EPA 3010A	642523	EPA 6010D	642626
92555504018	DUP-2	EPA 3010A	642523	EPA 6010D	642626
92555504019	EB-2	EPA 3010A	642523	EPA 6010D	642626
92555504020	FB-2	EPA 3010A	642523	EPA 6010D	642626
92555504001	HGWA-4	EPA 3005A	641199	EPA 6020B	641271
92555504002	HGWA-5	EPA 3005A	641199	EPA 6020B	641271
92555504003	HGWA-6	EPA 3005A	641199	EPA 6020B	641271
92555504004	HGWA-42D	EPA 3005A	641199	EPA 6020B	641271
92555504005	MW-34D	EPA 3005A	641199	EPA 6020B	641271
92555504006	HGWC-17	EPA 3005A	641913	EPA 6020B	642062
92555504007	HGWC-14	EPA 3005A	641913	EPA 6020B	642062
92555504008	MW-33	EPA 3005A	641913	EPA 6020B	642062
92555504009	MW-51	EPA 3005A	641913	EPA 6020B	642062

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
 Pace Project No.: 92555504

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92555504010	MW-35	EPA 3005A	641913	EPA 6020B	642062
92555504011	MW-37D	EPA 3005A	641913	EPA 6020B	642062
92555504012	MW-22	EPA 3005A	642521	EPA 6020B	642652
92555504013	HGWC-18	EPA 3005A	642521	EPA 6020B	642652
92555504014	MW-21D	EPA 3005A	642521	EPA 6020B	642652
92555504015	HGWC-16	EPA 3005A	642521	EPA 6020B	642652
92555504016	HGWC-15	EPA 3005A	642521	EPA 6020B	642652
92555504017	MW-23D	EPA 3005A	642521	EPA 6020B	642652
92555504018	DUP-2	EPA 3005A	642521	EPA 6020B	642652
92555504019	EB-2	EPA 3005A	642521	EPA 6020B	642652
92555504020	FB-2	EPA 3005A	642521	EPA 6020B	642652
92555504001	HGWA-4	SM 2540C-2011	640931		
92555504002	HGWA-5	SM 2540C-2011	640931		
92555504003	HGWA-6	SM 2540C-2011	640931		
92555504004	HGWA-42D	SM 2540C-2011	640931		
92555504005	MW-34D	SM 2540C-2011	641466		
92555504006	HGWC-17	SM 2540C-2011	642067		
92555504007	HGWC-14	SM 2540C-2011	642067		
92555504008	MW-33	SM 2540C-2011	642067		
92555504009	MW-51	SM 2540C-2011	642067		
92555504010	MW-35	SM 2540C-2011	642673		
92555504011	MW-37D	SM 2540C-2011	642673		
92555504012	MW-22	SM 2540C-2011	642674		
92555504013	HGWC-18	SM 2540C-2011	642674		
92555504014	MW-21D	SM 2540C-2011	642674		
92555504015	HGWC-16	SM 2540C-2011	643140		
92555504016	HGWC-15	SM 2540C-2011	643140		
92555504017	MW-23D	SM 2540C-2011	643140		
92555504018	DUP-2	SM 2540C-2011	643140		
92555504019	EB-2	SM 2540C-2011	643140		
92555504020	FB-2	SM 2540C-2011	643140		
92555504001	HGWA-4	EPA 300.0 Rev 2.1 1993	641753		
92555504002	HGWA-5	EPA 300.0 Rev 2.1 1993	641753		
92555504003	HGWA-6	EPA 300.0 Rev 2.1 1993	641753		
92555504004	HGWA-42D	EPA 300.0 Rev 2.1 1993	641753		
92555504005	MW-34D	EPA 300.0 Rev 2.1 1993	642138		
92555504006	HGWC-17	EPA 300.0 Rev 2.1 1993	642990		
92555504007	HGWC-14	EPA 300.0 Rev 2.1 1993	642990		
92555504008	MW-33	EPA 300.0 Rev 2.1 1993	642990		
92555504009	MW-51	EPA 300.0 Rev 2.1 1993	642990		
92555504010	MW-35	EPA 300.0 Rev 2.1 1993	642990		
92555504011	MW-37D	EPA 300.0 Rev 2.1 1993	642990		
92555504012	MW-22	EPA 300.0 Rev 2.1 1993	643306		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2

Pace Project No.: 92555504

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92555504013	HGWC-18	EPA 300.0 Rev 2.1 1993	643306		
92555504014	MW-21D	EPA 300.0 Rev 2.1 1993	643306		
92555504015	HGWC-16	EPA 300.0 Rev 2.1 1993	643306		
92555504016	HGWC-15	EPA 300.0 Rev 2.1 1993	643306		
92555504017	MW-23D	EPA 300.0 Rev 2.1 1993	643306		
92555504018	DUP-2	EPA 300.0 Rev 2.1 1993	643306		
92555504019	EB-2	EPA 300.0 Rev 2.1 1993	643306		
92555504020	FB-2	EPA 300.0 Rev 2.1 1993	643306		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt	Client Name: <u>CIA POWER</u>	Project # WO# : 92555504
Courier: <input type="checkbox"/> Fed Ex <input checked="" type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Other _____		 92555504
Custody Seal Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Seals Intact? <input type="checkbox"/> Yes <input type="checkbox"/> No		

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer: In Use ID: TH2083 Type of use: Other None

Cooler Temp: 1.8 Correction Factor: Add/Subtract (°C) 0

Cooler Temp Corrected (°C): 1.8

Temp should be above freezing to 6°C
 Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (Yes, water sample) Did samples originate from a foreign source (not just locally, including Hawaii and Puerto Rico)? Yes No

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

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

COMMENTY/SAMPLE DISCREPANCY _____

Field Data Required? Yes No

Lot ID of split containers: _____

CLIENT NOTIFICATION/RESOLUTION _____

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

Page Analytical

CHAIN-OF-CUSTODY / Analytical Request Document
 This Chain-of-Custody is a legal document. It should never be removed, altered, or destroyed.

Section A Regional Crime Laboratory Requester: <u>LA 744</u>		Section B Regional Crime Laboratory Requester: <u>SCB CONTACT</u>		Section C Regional Laboratory Location: <u>Tulsa, OK</u>	
Sample: <u>44243 23</u>	Site: <u>Providence, Oklahoma</u>	Agency: _____	Address: _____	Requester Name: _____	Requester Title: _____
Field No: <u>801-00000</u>	Requester Name: _____	Agency: _____	Address: _____	Requester Name: _____	Requester Title: _____
Date: _____	Requester Name: <u>Sharon D. H. H.</u>	Agency: _____	Address: _____	Requester Name: _____	Requester Title: _____
Submission Location: <u>LA 744</u>	Requester Name: _____	Agency: _____	Address: _____	Requester Name: _____	Requester Title: _____

Item #	Item Description	Date	Time	Location	Collector	Analysis Test	Requester Analytical Request (Y/N)	
							Drugs	Trace
1	109944-1	01/21/21	14:00	PROV	PROV	Analysis Test	X	
2	109944-2	01/21/21	14:10	PROV	PROV	Analysis Test	X	
3	109944-3	01/21/21	14:15	PROV	PROV	Analysis Test	X	
4	109944-4	01/21/21	14:20	PROV	PROV	Analysis Test	X	
5	109944-5	01/21/21	14:25	PROV	PROV	Analysis Test	X	

APPROVAL: _____ Date: <u>01/22/2021</u>	APPROVAL: _____ Date: _____	APPROVAL: _____ Date: _____	APPROVAL: _____ Date: _____
APPROVAL: _____ Date: _____	APPROVAL: _____ Date: _____	APPROVAL: _____ Date: _____	APPROVAL: _____ Date: _____

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Custody
Loss Report

Client Name: GA Power Project #: **WO#: 92555504**

PR: NMS Due Date: 08/27/21
CLIENT: GA-GR Power

Courier: Fed Ex UPS Other _____ Client

Custody Seal Present? Yes No Seal Intact? Yes No

Date/Initials Person Examining Contents: 2/17/21 [Signature]

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen? Yes No N/A

Thermometer: THK230 Type of Use: Cool Heat None

Cooler Temp: 4.6 Correction Factor: Add/Subtract (°C) +0.1

Temp should be above freezing to 6°C
 Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 4.7

USDA Regulated Soil (SMA, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check map)? Yes No

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

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

COMMENTS/SAMPLE DISCREPANCY: _____ Field Data Required? Yes No

Lot ID of split containers: _____

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Temp. Condition Upon Receipt
 Client Name: CA Power Project #:

Courier: Fed-Ex UPS USPS Client
 Commercial Face Other: _____

Custody Seal Present? Yes No Seal Intact? Yes No

Date/Initials Person Examining Contents: 8/19/21
low

Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer: In-Gum Ice 083 Type of Ice: Clear Blue None

Biological Tissue Frozen?
 Yes No N/A

Cooler Temp: 1.8 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C
 Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.8
 USDA Regulated Soil? N/A, water sample
 Did samples originate in a quarantine zone within the United States: CA, NY, or DC (check maps)?
 Yes No

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

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (x72 hr.?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Face Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Label - Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix	<u>Yes</u>		
Headspace in VOA Vials (0.5-5mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY Field Data Required? Yes No

List ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____
 Project Manager SRF Review: _____ Date: _____



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-01-001-Rev. 07

Document Revised: October 28, 2020
 Page 2 of 2
 Issuing Authority:
 Pace Carolina Quality Office

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

Project #

(Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/BOD) (water) DOC, LWG

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

Method	Sample Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
BP40-125 ml, Plastic, Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP40-250 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP50-500 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP10-1 liter Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml, Plastic, H2O2 (pH < 7) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP45-250 ml, Plastic, H2O2 (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml, Plastic, 2N Acetic Acid, H2O2 (pH)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml, Plastic, NaOH (pH > 12) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
W4010 Wide-mouthed Glass Jar, Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A0110-1 liter Amber Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A0110-1 liter Amber (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A010-250 ml, Amber, Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A010-1 liter Amber H2O2 (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A010-250 ml, Amber H2O2 (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A0340(250ml) 250 ml, Amber (H2O2) (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
E000-40 ml, VOA (C-1) (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
V001-40 ml, VOA, H2O2 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
V000-40 ml, VOA (pH)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
D000-40 ml, VOA, H2PO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
V000 (B vials per kit) per 100-500 ml (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
V000 (B vials per kit) VPH/Can kit (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1000-125 ml, 1.5 liter Fluoroc (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1000-250 ml, 1.5 liter Fluoroc (N/A - Lab)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
BP45-250 ml, Plastic (H2O2) (pH < 7)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
A000-500 ml, Amber, Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
V000-20 ml, Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
D000-40 ml, Amber, Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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

Section A Requested Client Name: <u>City of Houston</u> Contact: <u>City of Houston</u> Address: <u>10000 Highway 100</u> City: <u>Houston, TX</u>		Section B Requested Analysis Location: <u>City of Houston</u> Requested Analysis Location: <u>City of Houston</u> Requested Analysis Location: <u>City of Houston</u>		Section C Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u>	
Project Name: <u>City of Houston</u> Project Number: <u>City of Houston</u> Project Address: <u>City of Houston</u> Project City: <u>City of Houston</u>		Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u>		Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u> Requested Analysis Method: <u>City of Houston</u>	

ITEM #	Sample ID	Volume (mL)	Date	Time	Collector	Sample Temp at Collection	Per Container	Analysis Test	Requester Analysis Method	Requester Name	Requester Address	Requester City	Requester State	Requester Zip	Requester Phone	Requester Email	Requester Fax	Requester Website	Requester Other	Requester Notes	
																					Analysis Test	Requester Analysis Method	Requester Name	Requester Address	Requester City	Requester State	Requester Zip	Requester Phone	Requester Email	Requester Fax	Requester Website	Requester Other	Requester Notes
1	HQW-017	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
2	HQW-018	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
3	HQW-019	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
4	HQW-020	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
5	HQW-021	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
6	HQW-022	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
7	HQW-023	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
8	HQW-024	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
9	HQW-025	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
10	HQW-026	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
11	HQW-027	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston
12	HQW-028	100	08/18/2021	11:00	City of Houston	75	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston	City of Houston

Additional Comments:

Business Address: 9412 13th St, Houston, TX 77036

City of Houston

LABORATORY USE ONLY - DO NOT PRINT

Print Name: City of Houston

Address: City of Houston

City: City of Houston

State: TX

Zip: 77036

Phone: City of Houston

Fax: City of Houston

Email: City of Houston

Website: City of Houston

Other: City of Houston

Notes: City of Houston

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Customer Information

Client Name:

GA Ports

Project #:

Courier: Fed Ex UPS USPS Other

Custody Seal Present? Yes No Seal Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags Foam Other

Thermometer: Analog Digital None

Biological Tapal Preserv? Yes No

Cooler Temp: 4.4 Correction Factor: Add/Subtract (°C) +0

Temp should be above freezing to NYC
 Samples out of temp range. Samples on ice, cooling process has begun.

Cooler Temp Corrected (°C): 4.4

USDA Regulated Soil? N/A, water sample

2nd samples originate in a quarantine zone within the United States, CA, NY, or NC (check map)?

Do samples originate from a foreign source (check country, including Hawaii and Puerto Rico)? Yes No

	Yes	No	NA	
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
Short Hold Time Analysis (≤72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3
Batch Turn Around Time Requested?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
Sufficient Volume?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5
Correct Containers Used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
-Pack Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7
Discarded analysis (samples found fibrous)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8
Sample Labels Match COCP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9
Includes Date/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10
Headspace in VOA vials (15-min)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10
Tri B seal Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11
Tri B seal Custody Seal Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11

COMMENTS/SAMPLE DISCREPANCY

Field Data Received? Yes No

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____



Document Name
Sample Condition Upon Receipt (VCR)
Document No.
F-CAR-CS-033-Rev.07

Document Revised: October 28, 2020
Page 2 of 2
Issuing Authority:
Pace Carolina Quality Office

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

Project #

Exceptions: VOA, Coliform, TDC, Oil and Grease, DRG/2005 (water), DOC, UHg

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

Bottle	Sample	1	2	3	4	5	6	7	8	9	10	11	12
	BP100-125 ml Plastic Unpreserved (N/A) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	BP100-250 ml Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	BP100-500 ml Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	BP100-1 liter Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	BP400-125 ml Plastic HDPE (pH + T) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	BP100-125 ml plastic HDPE (pH + T)	/	/	/	/	/	/	/	/	/	/	/	/
	BP400-125 ml Plastic (N/A) (pH + T) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	BP400-125 ml Plastic HDPE (pH + T) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-1 liter unpreserved Glass jar Unpreserved	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-1 liter Amber Unpreserved (N/A) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-1 liter Amber (pH + T)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-250 ml Amber Unpreserved (N/A) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-1 liter Amber HDPE (pH + T)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-250 ml Amber HDPE (pH + T)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-100 mL 250 ml Amber (pH) (N/A) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	DO100-40 ml VOA (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-40 ml VOA Na2S2O5 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-40 ml VOA Na2S2O5 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-40 ml VOA (pH) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	DO100-40 ml VOA (pH) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010 (6 vials per lot) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010 (7 vials per lot) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010 (17 ml) Amber Plastic (N/A - 200)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-250 ml Amber Plastic (N/A - 200)	/	/	/	/	/	/	/	/	/	/	/	/
	BP100-125 ml Plastic (pH) (N/A) (C-1)	/	/	/	/	/	/	/	/	/	/	/	/
	AS100-100 ml Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	WV010-20 ml Neutralization vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	DO100-40 ml Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/

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 Central Commission Office. It is Out of State, incorrect preservative, out of time, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a log of possession of physical items used in analytical process.

Page 1 of 1

System A Requester Name: <i>QA Group</i> Requester Title: <i>QA Group</i>	System B Requester Name: <i>Tom H. Thompson</i> Requester Title: <i>Tom H. Thompson</i>	System C Requester Name: <i>[Blank]</i> Requester Title: <i>[Blank]</i>	REGULATORY AGENCY Agency: <i>[Blank]</i> Agency Title: <i>[Blank]</i> Agency Address: <i>[Blank]</i> Agency Phone: <i>[Blank]</i>
Case No: <i>MS-2021-00000</i>	Case Name: <i>[Blank]</i>	Case Description: <i>[Blank]</i>	Case Status: <i>[Blank]</i>
Requester Contact: <i>[Blank]</i>	Requester Phone: <i>[Blank]</i>	Requester Email: <i>[Blank]</i>	Requester Fax: <i>[Blank]</i>
Requester Signature: <i>[Blank]</i>	Requester Date: <i>[Blank]</i>	Requester Title: <i>[Blank]</i>	Requester Agency: <i>[Blank]</i>

Item #	Description	Quantity	Collection		Analysis Test	Requester Analytical Method (TM)	Requester Signature		Requester Date		Requester Title	Requester Agency
			Collector	Location			Signature	Signature	Date	Date		
			Collector	Location			Signature	Signature	Date	Date		
ANALYTICAL REQUEST												
1	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
2	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
3	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
4	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
5	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
6	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
7	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
8	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
9	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
10	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
11	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000
12	MS-2021-00000	1	Tom H. Thompson	MS-2021-00000	MS-2021-00000	MS-2021-00000	<i>[Signature]</i>	<i>[Signature]</i>	8/18/2021	8/18/2021	Tom H. Thompson	MS-2021-00000

ANALYST SIGNATURE AND DATE

ANALYST NAME	ANALYST TITLE	ANALYST AGENCY	ANALYST SIGNATURE	ANALYST DATE
<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>

REQUESTER SIGNATURE AND DATE

REQUESTER NAME	REQUESTER TITLE	REQUESTER AGENCY	REQUESTER SIGNATURE	REQUESTER DATE
<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>

LABORATORY USE ONLY

LABORATORY NAME	LABORATORY ADDRESS	LABORATORY CITY	LABORATORY STATE	LABORATORY ZIP
<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>	<i>[Blank]</i>



March 23, 2022

Joju Abraham
Georgia Power-CCR
2480 Maner Road
Atlanta, GA 30339

RE: Project: HAMMOND AP-2
Pace Project No.: 92587322

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between February 03, 2022 and February 11, 2022. 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

Revision 1: This revision was issued on 3/23/22 to include updated COCs.

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

Sincerely,

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Anna Bottum, ERM
Andrea Brazell, ERM
Christine Hug, Geosyntec Consultants, Inc.
Kristen Jurinko
Thomas Kessler, Geosyntec
Whitney Law, Geosyntec Consultants
Noelia Muskus, Geosyntec Consultants

Ms. Lauren Petty, Southern Company
Lacy Smith, ERM
Anthony Szwest, Geosyntec
Nardos Tilahun, GeoSyntec
Caitlin Tillema, ERM
Christine Weaver, ERM
Dawit Yifru, Geosyntec Consultants, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Pace Analytical Services Charlotte

South Carolina Laboratory ID: 99006

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Laboratory ID: 99006

South Carolina Certification #: 99006001

South Carolina Drinking Water Cert. #: 99006003

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Louisiana DoH Drinking Water #: LA029

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 Laboratory ID: 99030

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92587322001	HGWA-4	Water	02/07/22 14:28	02/09/22 12:40
92587322002	HGWA-5	Water	02/07/22 16:51	02/09/22 12:40
92587322003	HGWA-6	Water	02/07/22 16:31	02/09/22 12:40
92587322004	HGWA-42D	Water	02/07/22 15:57	02/09/22 12:40
92587322005	HGWC-15	Water	02/08/22 13:49	02/09/22 12:40
92587322006	HGWC-16	Water	02/08/22 12:09	02/09/22 12:40
92587322007	HGWC-17	Water	02/08/22 10:33	02/09/22 12:40
92587322008	HGWC-18	Water	02/08/22 15:40	02/09/22 12:40
92587322009	MW-21D	Water	02/08/22 14:30	02/09/22 12:40
92587322010	MW-22	Water	02/08/22 16:59	02/09/22 12:40
92587322011	MW-33	Water	02/08/22 16:35	02/09/22 12:40
92587322012	MW-35	Water	02/08/22 12:39	02/09/22 12:40
92587322013	MW-37D	Water	02/08/22 12:14	02/09/22 12:40
92587322014	MW-51	Water	02/08/22 14:10	02/09/22 12:40
92587322015	DUP-2	Water	02/08/22 00:00	02/09/22 12:40
92587322017	HGWA-44D	Water	02/01/22 13:35	02/03/22 12:32
92587322018	HGWA-2	Water	02/01/22 11:52	02/03/22 12:32
92587322019	HGWA-3	Water	02/01/22 09:58	02/03/22 12:32
92587322020	HGWA-1	Water	02/01/22 12:13	02/03/22 12:32
92587322021	HGWA-43D	Water	02/01/22 10:28	02/03/22 12:32
92587322022	HGWC-14	Water	02/09/22 15:23	02/11/22 11:35
92587322023	MW-34D	Water	02/09/22 13:50	02/11/22 11:35
92587322024	MW-23D	Water	02/10/22 09:49	02/11/22 11:35
92587322025	EB-2	Water	02/10/22 10:25	02/11/22 11:35
92587322026	FB-2	Water	02/10/22 10:30	02/11/22 11:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92587322001	HGWA-4	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322002	HGWA-5	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322003	HGWA-6	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322004	HGWA-42D	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322005	HGWC-15	EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322006	HGWC-16	EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322007	HGWC-17	EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322008	HGWC-18	EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92587322009	MW-21D	EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322010	MW-22	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
92587322011	MW-33	EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
92587322012	MW-35	SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
92587322013	MW-37D	EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
92587322014	MW-51	EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322015	DUP-2	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92587322017	HGWA-44D	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322018	HGWA-2	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322019	HGWA-3	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322020	HGWA-1	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322021	HGWA-43D	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322022	HGWC-14	EPA 300.0 Rev 2.1 1993	JCM	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322023	MW-34D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	KH	1
		EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
92587322024	MW-23D	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	KH	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92587322025	EB-2	EPA 6020B	CW1, KH	13
		EPA 7470A	VB	1
		SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
92587322026	FB-2	SM 2540C-2015	ALW	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	KH	1
		EPA 6020B	CW1	13
		EPA 7470A	VB	1
		SM 2540C-2015	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322001	HGWA-4					
	Performed by	CUSTOMER			02/09/22 17:31	
	pH	5.24	Std. Units		02/09/22 17:31	
EPA 6010D	Calcium	5.9	mg/L	1.0	02/25/22 16:56	
EPA 6020B	Barium	0.028	mg/L	0.0050	02/25/22 16:31	
EPA 6020B	Beryllium	0.00017J	mg/L	0.00050	02/25/22 16:31	
EPA 6020B	Boron	0.017J	mg/L	0.040	02/25/22 16:31	
EPA 6020B	Cobalt	0.00068J	mg/L	0.0050	02/25/22 16:31	
EPA 6020B	Lithium	0.0013J	mg/L	0.030	02/25/22 16:31	
SM 2540C-2015	Total Dissolved Solids	54.0	mg/L	10.0	02/11/22 11:41	
EPA 300.0 Rev 2.1 1993	Chloride	2.4	mg/L	1.0	02/16/22 09:30	
EPA 300.0 Rev 2.1 1993	Sulfate	2.9	mg/L	1.0	02/16/22 09:30	
92587322002	HGWA-5					
	Performed by	CUSTOMER			02/09/22 17:31	
	pH	6.51	Std. Units		02/09/22 17:31	
EPA 6010D	Calcium	30.0	mg/L	1.0	02/25/22 17:01	
EPA 6020B	Barium	0.038	mg/L	0.0050	02/25/22 16:37	
EPA 6020B	Cobalt	0.00055J	mg/L	0.0050	02/25/22 16:37	
EPA 6020B	Lithium	0.0029J	mg/L	0.030	02/25/22 16:37	
SM 2540C-2015	Total Dissolved Solids	135	mg/L	10.0	02/11/22 11:41	
EPA 300.0 Rev 2.1 1993	Chloride	1.4	mg/L	1.0	02/16/22 09:45	
EPA 300.0 Rev 2.1 1993	Sulfate	20.6	mg/L	1.0	02/16/22 09:45	
92587322003	HGWA-6					
	Performed by	CUSTOMER			02/09/22 17:31	
	pH	7.65	Std. Units		02/09/22 17:31	
EPA 6010D	Calcium	53.4	mg/L	1.0	02/25/22 18:53	M1
EPA 6020B	Antimony	0.0014J	mg/L	0.0030	02/25/22 17:01	
EPA 6020B	Barium	0.18	mg/L	0.0050	02/25/22 17:01	
EPA 6020B	Boron	0.019J	mg/L	0.040	02/25/22 17:01	
EPA 6020B	Lithium	0.0097J	mg/L	0.030	02/25/22 17:01	
SM 2540C-2015	Total Dissolved Solids	224	mg/L	10.0	02/11/22 11:41	
EPA 300.0 Rev 2.1 1993	Chloride	1.1	mg/L	1.0	02/16/22 10:00	
EPA 300.0 Rev 2.1 1993	Sulfate	33.0	mg/L	1.0	02/16/22 10:00	
92587322004	HGWA-42D					
	Performed by	CUSTOMER			02/09/22 17:32	
	pH	7.85	Std. Units		02/09/22 17:32	
EPA 6010D	Calcium	48.7	mg/L	1.0	02/25/22 17:06	
EPA 6020B	Barium	0.18	mg/L	0.0050	02/25/22 17:07	
EPA 6020B	Boron	0.047	mg/L	0.040	02/25/22 17:07	
EPA 6020B	Lithium	0.0097J	mg/L	0.030	02/25/22 17:07	
EPA 6020B	Molybdenum	0.00099J	mg/L	0.010	02/25/22 17:07	
SM 2540C-2015	Total Dissolved Solids	190	mg/L	10.0	02/11/22 11:41	
EPA 300.0 Rev 2.1 1993	Chloride	3.1	mg/L	1.0	02/16/22 10:15	
EPA 300.0 Rev 2.1 1993	Fluoride	0.085J	mg/L	0.10	02/16/22 10:15	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322004	HGWA-42D					
EPA 300.0 Rev 2.1 1993	Sulfate	10.4	mg/L	1.0	02/16/22 10:15	
92587322005	HGWC-15					
	Performed by	CUSTOME			02/09/22 17:33	
		R				
	pH	6.04	Std. Units		02/09/22 17:33	
EPA 6010D	Calcium	186	mg/L	1.0	02/28/22 20:54	
EPA 6020B	Antimony	0.0020J	mg/L	0.0030	02/25/22 17:13	
EPA 6020B	Barium	0.0098	mg/L	0.0050	02/25/22 17:13	
EPA 6020B	Boron	1.9	mg/L	0.040	02/25/22 17:13	
EPA 6020B	Cadmium	0.0011	mg/L	0.00050	02/25/22 17:13	
EPA 6020B	Cobalt	0.0081	mg/L	0.0050	02/25/22 17:13	
EPA 6020B	Lithium	0.014J	mg/L	0.030	02/25/22 17:13	
SM 2540C-2015	Total Dissolved Solids	866	mg/L	20.0	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	76.6	mg/L	1.0	02/16/22 10:30	
EPA 300.0 Rev 2.1 1993	Sulfate	360	mg/L	7.0	02/16/22 15:00	
92587322006	HGWC-16					
	Performed by	CUSTOME			02/09/22 17:33	
		R				
	pH	7.18	Std. Units		02/09/22 17:33	
EPA 6010D	Calcium	218	mg/L	1.0	02/28/22 21:08	
EPA 6020B	Barium	0.10	mg/L	0.0050	02/25/22 18:37	
EPA 6020B	Boron	2.6	mg/L	0.40	02/28/22 18:38	
EPA 6020B	Lithium	0.0034J	mg/L	0.030	02/25/22 18:37	
SM 2540C-2015	Total Dissolved Solids	852	mg/L	20.0	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	96.4	mg/L	1.0	02/16/22 11:15	
EPA 300.0 Rev 2.1 1993	Sulfate	238	mg/L	5.0	02/16/22 15:15	
92587322007	HGWC-17					
	Performed by	CUSTOME			02/09/22 17:33	
		R				
	pH	6.42	Std. Units		02/09/22 17:33	
EPA 6010D	Calcium	280	mg/L	1.0	02/28/22 21:13	
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	02/25/22 18:44	
EPA 6020B	Barium	0.021	mg/L	0.0050	02/25/22 18:44	
EPA 6020B	Boron	7.8	mg/L	0.40	02/28/22 18:44	
EPA 6020B	Cobalt	0.0066	mg/L	0.0050	02/25/22 18:44	
EPA 6020B	Lithium	0.0014J	mg/L	0.030	02/25/22 18:44	
SM 2540C-2015	Total Dissolved Solids	1160	mg/L	20.0	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	117	mg/L	8.0	02/16/22 15:30	
EPA 300.0 Rev 2.1 1993	Fluoride	0.055J	mg/L	0.10	02/16/22 11:30	
EPA 300.0 Rev 2.1 1993	Sulfate	364	mg/L	8.0	02/16/22 15:30	M1
92587322008	HGWC-18					
	Performed by	CUSTOME			02/09/22 17:34	
		R				
	pH	4.59	Std. Units		02/09/22 17:34	
EPA 6010D	Calcium	418	mg/L	10.0	02/28/22 21:18	
EPA 6020B	Arsenic	0.0050J	mg/L	0.0050	02/25/22 18:50	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322008	HGWC-18					
EPA 6020B	Barium	0.020	mg/L	0.0050	02/25/22 18:50	
EPA 6020B	Beryllium	0.0026	mg/L	0.0025	02/28/22 18:50	
EPA 6020B	Boron	8.1	mg/L	0.20	02/28/22 18:50	
EPA 6020B	Cadmium	0.00076	mg/L	0.00050	02/25/22 18:50	
EPA 6020B	Cobalt	0.16	mg/L	0.0050	02/25/22 18:50	
EPA 6020B	Lead	0.00090J	mg/L	0.0010	02/25/22 18:50	
EPA 6020B	Lithium	0.010J	mg/L	0.030	02/25/22 18:50	
EPA 6020B	Selenium	0.0082	mg/L	0.0050	02/25/22 18:50	
SM 2540C-2015	Total Dissolved Solids	1770	mg/L	50.0	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	105	mg/L	19.0	02/16/22 16:14	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	02/16/22 12:15	
EPA 300.0 Rev 2.1 1993	Sulfate	960	mg/L	19.0	02/16/22 16:14	
92587322009	MW-21D					
	Performed by	CUSTOMER			02/09/22 17:34	
	pH	7.09	Std. Units		02/09/22 17:34	
EPA 6010D	Calcium	366	mg/L	10.0	02/28/22 21:23	
EPA 6020B	Barium	0.033	mg/L	0.0050	02/25/22 18:56	
EPA 6020B	Boron	5.9	mg/L	0.40	02/28/22 18:56	
EPA 6020B	Lithium	0.022J	mg/L	0.030	02/25/22 18:56	
EPA 6020B	Molybdenum	0.016	mg/L	0.010	02/25/22 18:56	
SM 2540C-2015	Total Dissolved Solids	1810	mg/L	100	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	196	mg/L	16.0	02/16/22 20:00	
EPA 300.0 Rev 2.1 1993	Sulfate	779	mg/L	16.0	02/16/22 20:00	
92587322010	MW-22					
	Performed by	CUSTOMER			02/09/22 17:34	
	pH	5.37	Std. Units		02/09/22 17:34	
EPA 6010D	Calcium	221	mg/L	1.0	02/28/22 21:27	
EPA 6020B	Barium	0.014	mg/L	0.0050	02/25/22 19:02	
EPA 6020B	Beryllium	0.000079J	mg/L	0.00050	02/25/22 19:02	
EPA 6020B	Boron	3.2	mg/L	0.40	02/28/22 19:29	
EPA 6020B	Cadmium	0.0020	mg/L	0.00050	02/25/22 19:02	
EPA 6020B	Cobalt	0.034	mg/L	0.0050	02/25/22 19:02	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	02/25/22 19:02	
SM 2540C-2015	Total Dissolved Solids	1070	mg/L	20.0	02/15/22 16:04	
EPA 300.0 Rev 2.1 1993	Chloride	110	mg/L	9.0	02/16/22 18:46	
EPA 300.0 Rev 2.1 1993	Sulfate	449	mg/L	9.0	02/16/22 18:46	
92587322011	MW-33					
	Performed by	CUSTOMER			02/09/22 17:34	
	pH	4.42	Std. Units		02/09/22 17:34	
EPA 6010D	Calcium	548	mg/L	10.0	03/02/22 15:05	
EPA 6020B	Arsenic	0.0069	mg/L	0.0050	02/25/22 19:08	
EPA 6020B	Barium	0.020	mg/L	0.0050	02/25/22 19:08	
EPA 6020B	Beryllium	0.00087J	mg/L	0.0025	02/28/22 19:35	D3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322011	MW-33					
EPA 6020B	Boron	8.4	mg/L	0.20	02/28/22 19:35	
EPA 6020B	Cadmium	0.00013J	mg/L	0.00050	02/25/22 19:08	
EPA 6020B	Cobalt	0.048	mg/L	0.0050	02/25/22 19:08	
EPA 6020B	Lead	0.0014	mg/L	0.0010	02/25/22 19:08	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	02/25/22 19:08	
EPA 6020B	Selenium	0.0078	mg/L	0.0050	02/25/22 19:08	
EPA 6020B	Thallium	0.00025J	mg/L	0.0010	02/25/22 19:08	
SM 2540C-2015	Total Dissolved Solids	2480	mg/L	100	02/15/22 16:05	
EPA 300.0 Rev 2.1 1993	Chloride	166	mg/L	24.0	02/16/22 19:01	
EPA 300.0 Rev 2.1 1993	Fluoride	0.14	mg/L	0.10	02/16/22 13:00	
EPA 300.0 Rev 2.1 1993	Sulfate	1220	mg/L	24.0	02/16/22 19:01	
92587322012	MW-35					
	Performed by	CUSTOMER			02/09/22 17:35	
	pH	4.86	Std. Units		02/09/22 17:35	
EPA 6010D	Calcium	519	mg/L	10.0	03/02/22 15:20	
EPA 6020B	Antimony	0.0029J	mg/L	0.0030	02/25/22 19:14	
EPA 6020B	Arsenic	0.0072	mg/L	0.0050	02/25/22 19:14	
EPA 6020B	Barium	0.023	mg/L	0.0050	02/25/22 19:14	
EPA 6020B	Beryllium	0.00070J	mg/L	0.0025	02/28/22 19:41	D3
EPA 6020B	Boron	10.8	mg/L	0.20	02/28/22 19:41	
EPA 6020B	Cadmium	0.0015	mg/L	0.00050	02/25/22 19:14	
EPA 6020B	Cobalt	0.090	mg/L	0.0050	02/25/22 19:14	
EPA 6020B	Lithium	0.0039J	mg/L	0.030	02/25/22 19:14	
EPA 6020B	Selenium	0.0083	mg/L	0.0050	02/25/22 19:14	
EPA 7470A	Mercury	0.00014J	mg/L	0.00020	02/25/22 13:15	
SM 2540C-2015	Total Dissolved Solids	2410	mg/L	100	02/15/22 16:05	
EPA 300.0 Rev 2.1 1993	Chloride	202	mg/L	23.0	02/16/22 19:16	
EPA 300.0 Rev 2.1 1993	Fluoride	0.065J	mg/L	0.10	02/16/22 13:15	
EPA 300.0 Rev 2.1 1993	Sulfate	1190	mg/L	23.0	02/16/22 19:16	
92587322013	MW-37D					
	Performed by	CUSTOMER			02/09/22 17:35	
	pH	7.63	Std. Units		02/09/22 17:35	
EPA 6010D	Calcium	167	mg/L	1.0	03/01/22 00:54	M1
EPA 6020B	Barium	0.11	mg/L	0.0050	02/25/22 20:49	
EPA 6020B	Boron	0.14	mg/L	0.040	02/28/22 16:55	
EPA 6020B	Lithium	0.029J	mg/L	0.030	02/28/22 16:55	
EPA 6020B	Molybdenum	0.0070J	mg/L	0.010	02/25/22 20:49	
SM 2540C-2015	Total Dissolved Solids	882	mg/L	20.0	02/15/22 16:05	
EPA 300.0 Rev 2.1 1993	Chloride	151	mg/L	5.0	02/16/22 19:30	
EPA 300.0 Rev 2.1 1993	Fluoride	0.055J	mg/L	0.10	02/16/22 13:30	
EPA 300.0 Rev 2.1 1993	Sulfate	248	mg/L	5.0	02/16/22 19:30	
92587322014	MW-51					
	Performed by	CUSTOMER			02/09/22 17:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322014	MW-51					
	pH	6.57	Std. Units		02/09/22 17:35	
EPA 6010D	Calcium	537	mg/L	10.0	03/02/22 15:25	
EPA 6020B	Arsenic	0.0046J	mg/L	0.0050	02/25/22 20:55	
EPA 6020B	Barium	0.046	mg/L	0.0050	02/25/22 20:55	
EPA 6020B	Beryllium	0.00011J	mg/L	0.00050	02/25/22 20:55	
EPA 6020B	Boron	10.5	mg/L	2.0	02/28/22 17:01	M1
EPA 6020B	Cadmium	0.00024J	mg/L	0.00050	02/25/22 20:55	
EPA 6020B	Cobalt	0.031	mg/L	0.0050	02/25/22 20:55	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	02/25/22 20:55	
SM 2540C-2015	Total Dissolved Solids	2430	mg/L	100	02/15/22 16:05	
EPA 300.0 Rev 2.1 1993	Chloride	194	mg/L	15.0	02/19/22 17:18	
EPA 300.0 Rev 2.1 1993	Fluoride	0.078J	mg/L	0.10	02/18/22 23:56	
EPA 300.0 Rev 2.1 1993	Sulfate	1150	mg/L	15.0	02/19/22 17:18	
92587322015	DUP-2					
EPA 6010D	Calcium	188	mg/L	1.0	03/01/22 01:18	
EPA 6020B	Antimony	0.0017J	mg/L	0.0030	02/25/22 21:19	
EPA 6020B	Barium	0.013	mg/L	0.0050	02/25/22 21:19	
EPA 6020B	Boron	2.0	mg/L	0.40	02/28/22 17:18	
EPA 6020B	Cadmium	0.0013	mg/L	0.00050	02/25/22 21:19	
EPA 6020B	Cobalt	0.013	mg/L	0.0050	02/25/22 21:19	
EPA 6020B	Lithium	0.013J	mg/L	0.030	02/25/22 21:19	
SM 2540C-2015	Total Dissolved Solids	894	mg/L	20.0	02/15/22 16:05	
EPA 300.0 Rev 2.1 1993	Chloride	74.7	mg/L	1.0	02/16/22 14:15	
EPA 300.0 Rev 2.1 1993	Sulfate	361	mg/L	7.0	02/16/22 19:45	
92587322017	HGWA-44D					
	Performed by	CUSTOMER			02/09/22 17:36	
	pH	8.25	Std. Units		02/09/22 17:36	
EPA 6010D	Calcium	24.8	mg/L	1.0	02/17/22 16:48	
EPA 6020B	Antimony	0.0013J	mg/L	0.0030	02/18/22 17:43	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	02/18/22 17:43	
EPA 6020B	Barium	0.23	mg/L	0.0050	02/18/22 17:43	
EPA 6020B	Boron	0.44	mg/L	0.040	02/18/22 17:43	
EPA 6020B	Chromium	0.0013J	mg/L	0.0050	02/18/22 17:43	
EPA 6020B	Lithium	0.048	mg/L	0.030	02/18/22 17:43	
EPA 6020B	Molybdenum	0.0055J	mg/L	0.010	02/18/22 17:43	
SM 2540C-2015	Total Dissolved Solids	444	mg/L	10.0	02/07/22 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	44.8	mg/L	1.0	02/08/22 12:23	
EPA 300.0 Rev 2.1 1993	Fluoride	0.96	mg/L	0.10	02/08/22 12:23	
EPA 300.0 Rev 2.1 1993	Sulfate	56.3	mg/L	1.0	02/08/22 12:23	
92587322018	HGWA-2					
	Performed by	CUSTOMER			02/09/22 17:36	
	pH	5.24	Std. Units		02/09/22 17:36	
EPA 6010D	Calcium	27.2	mg/L	1.0	02/17/22 16:53	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	02/18/22 17:49	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322018	HGWA-2					
EPA 6020B	Barium	0.13	mg/L	0.0050	02/18/22 17:49	
EPA 6020B	Beryllium	0.00020J	mg/L	0.00050	02/18/22 17:49	
EPA 6020B	Boron	0.056	mg/L	0.040	02/18/22 17:49	
EPA 6020B	Cadmium	0.00017J	mg/L	0.00050	02/18/22 17:49	
EPA 6020B	Cobalt	0.025	mg/L	0.0050	02/18/22 17:49	
EPA 6020B	Lithium	0.0017J	mg/L	0.030	02/18/22 17:49	
SM 2540C-2015	Total Dissolved Solids	156	mg/L	10.0	02/07/22 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	7.0	mg/L	1.0	02/08/22 13:36	
EPA 300.0 Rev 2.1 1993	Sulfate	67.1	mg/L	1.0	02/08/22 13:36	
92587322019	HGWA-3					
	Performed by	CUSTOMER			02/09/22 17:36	
	pH	7.45	Std. Units		02/09/22 17:36	
EPA 6010D	Calcium	85.1	mg/L	1.0	02/17/22 16:58	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	02/18/22 17:55	
EPA 6020B	Barium	0.12	mg/L	0.0050	02/18/22 17:55	
EPA 6020B	Boron	0.011J	mg/L	0.040	02/18/22 17:55	
EPA 6020B	Lithium	0.0037J	mg/L	0.030	02/18/22 17:55	
SM 2540C-2015	Total Dissolved Solids	350	mg/L	10.0	02/07/22 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	5.7	mg/L	1.0	02/08/22 13:50	
EPA 300.0 Rev 2.1 1993	Sulfate	46.0	mg/L	1.0	02/08/22 13:50	
92587322020	HGWA-1					
	Performed by	CUSTOMER			02/09/22 17:36	
	pH	7.19	Std. Units		02/09/22 17:36	
EPA 6010D	Calcium	106	mg/L	1.0	02/17/22 17:02	
EPA 6020B	Arsenic	0.0016J	mg/L	0.0050	02/18/22 18:01	
EPA 6020B	Barium	0.031	mg/L	0.0050	02/18/22 18:01	
EPA 6020B	Boron	0.016J	mg/L	0.040	02/18/22 18:01	
EPA 6020B	Lithium	0.0011J	mg/L	0.030	02/18/22 18:01	
SM 2540C-2015	Total Dissolved Solids	270	mg/L	10.0	02/07/22 16:44	
EPA 300.0 Rev 2.1 1993	Chloride	7.5	mg/L	1.0	02/08/22 14:03	
EPA 300.0 Rev 2.1 1993	Fluoride	0.064J	mg/L	0.10	02/08/22 14:03	
EPA 300.0 Rev 2.1 1993	Sulfate	43.7	mg/L	1.0	02/08/22 14:03	
92587322021	HGWA-43D					
	Performed by	CUSTOMER			02/09/22 17:37	
	pH	7.52	Std. Units		02/09/22 17:37	
EPA 6010D	Calcium	55.9	mg/L	1.0	02/17/22 17:07	
EPA 6020B	Arsenic	0.0036J	mg/L	0.0050	02/18/22 18:07	
EPA 6020B	Barium	0.29	mg/L	0.0050	02/18/22 18:07	
EPA 6020B	Boron	0.050	mg/L	0.040	02/18/22 18:07	
EPA 6020B	Lithium	0.0024J	mg/L	0.030	02/18/22 18:07	
EPA 6020B	Molybdenum	0.0036J	mg/L	0.010	02/18/22 18:07	
SM 2540C-2015	Total Dissolved Solids	156	mg/L	10.0	02/07/22 16:44	
EPA 300.0 Rev 2.1 1993	Chloride	4.1	mg/L	1.0	02/08/22 14:17	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92587322021	HGWA-43D					
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	02/08/22 14:17	
EPA 300.0 Rev 2.1 1993	Sulfate	37.5	mg/L	1.0	02/08/22 14:17	
92587322022	HGWC-14					
	Performed by	CUSTOMER			02/11/22 15:57	
	pH	4.97	Std. Units		02/11/22 15:57	
EPA 6010D	Calcium	571	mg/L	10.0	03/02/22 15:30	
EPA 6020B	Arsenic	0.0077	mg/L	0.0050	02/25/22 22:37	
EPA 6020B	Barium	0.017	mg/L	0.0050	02/25/22 22:37	
EPA 6020B	Beryllium	0.00056	mg/L	0.00050	02/25/22 22:37	
EPA 6020B	Boron	9.9	mg/L	2.0	02/28/22 18:20	
EPA 6020B	Cobalt	0.038	mg/L	0.0050	02/25/22 22:37	
EPA 6020B	Lead	0.0014	mg/L	0.0010	02/25/22 22:37	
EPA 6020B	Selenium	0.0047J	mg/L	0.0050	02/25/22 22:37	
EPA 6020B	Thallium	0.00025J	mg/L	0.0010	02/25/22 22:37	
SM 2540C-2015	Total Dissolved Solids	2310	mg/L	100	02/16/22 13:54	
EPA 300.0 Rev 2.1 1993	Chloride	174	mg/L	24.0	02/18/22 00:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.053J	mg/L	0.10	02/17/22 13:11	
EPA 300.0 Rev 2.1 1993	Sulfate	1190	mg/L	24.0	02/18/22 00:24	
92587322023	MW-34D					
	Performed by	CUSTOMER			02/11/22 15:57	
	pH	7.21	Std. Units		02/11/22 15:57	
EPA 6010D	Calcium	557	mg/L	10.0	03/02/22 15:35	
EPA 6020B	Arsenic	0.0054	mg/L	0.0050	02/25/22 22:43	
EPA 6020B	Barium	0.040	mg/L	0.0050	02/25/22 22:43	
EPA 6020B	Beryllium	0.000065J	mg/L	0.00050	02/25/22 22:43	
EPA 6020B	Boron	9.6	mg/L	2.0	02/28/22 18:26	
EPA 6020B	Cadmium	0.00072	mg/L	0.00050	02/25/22 22:43	
EPA 6020B	Cobalt	0.0065	mg/L	0.0050	02/25/22 22:43	
EPA 6020B	Lithium	0.0022J	mg/L	0.030	02/25/22 22:43	
SM 2540C-2015	Total Dissolved Solids	2260	mg/L	100	02/16/22 13:54	
EPA 300.0 Rev 2.1 1993	Chloride	251	mg/L	21.0	02/18/22 00:38	
EPA 300.0 Rev 2.1 1993	Fluoride	0.051J	mg/L	0.10	02/17/22 13:26	
EPA 300.0 Rev 2.1 1993	Sulfate	1050	mg/L	21.0	02/18/22 00:38	
92587322024	MW-23D					
	Performed by	CUSTOMER			02/11/22 15:57	
	pH	6.87	Std. Units		02/11/22 15:57	
EPA 6010D	Calcium	288	mg/L	10.0	03/02/22 15:39	
EPA 6020B	Barium	0.050	mg/L	0.0050	02/25/22 23:01	
EPA 6020B	Boron	3.2	mg/L	0.40	02/28/22 18:32	
EPA 6020B	Cadmium	0.00024J	mg/L	0.00050	02/25/22 23:01	
EPA 6020B	Cobalt	0.0010J	mg/L	0.0050	02/25/22 23:01	
EPA 6020B	Lithium	0.0029J	mg/L	0.030	02/25/22 23:01	
EPA 6020B	Molybdenum	0.0034J	mg/L	0.010	02/25/22 23:01	

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SUMMARY OF DETECTION

Project: HAMMOND AP-2

Pace Project No.: 92587322

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92587322024	MW-23D					
SM 2540C-2015	Total Dissolved Solids	1260	mg/L	50.0	02/16/22 14:18	
EPA 300.0 Rev 2.1 1993	Chloride	138	mg/L	9.0	02/18/22 00:53	
EPA 300.0 Rev 2.1 1993	Sulfate	430	mg/L	9.0	02/18/22 00:53	
92587322025	EB-2					
EPA 6020B	Barium	0.0024J	mg/L	0.0050	02/25/22 23:07	
EPA 6020B	Boron	0.020J	mg/L	0.040	02/25/22 23:07	
92587322026	FB-2					
EPA 6020B	Barium	0.0025J	mg/L	0.0050	02/25/22 23:13	
EPA 6020B	Boron	0.011J	mg/L	0.040	02/25/22 23:13	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: HGWA-4 **Lab ID: 92587322001** Collected: 02/07/22 14:28 Received: 02/09/22 12:40 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		02/09/22 17:31		
pH	5.24	Std. Units			1		02/09/22 17:31		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	5.9	mg/L	1.0	0.12	1	02/25/22 07:39	02/25/22 16:56	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	0.00078	1	02/25/22 07:37	02/25/22 16:31	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 16:31	7440-38-2	
Barium	0.028	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 16:31	7440-39-3	
Beryllium	0.00017J	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 16:31	7440-41-7	
Boron	0.017J	mg/L	0.040	0.0086	1	02/25/22 07:37	02/25/22 16:31	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 16:31	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 16:31	7440-47-3	
Cobalt	0.00068J	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 16:31	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 16:31	7439-92-1	
Lithium	0.0013J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 16:31	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 16:31	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 16:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 16:31	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:26	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	54.0	mg/L	10.0	10.0	1		02/11/22 11:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	2.4	mg/L	1.0	0.60	1		02/16/22 09:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 09:30	16984-48-8	
Sulfate	2.9	mg/L	1.0	0.50	1		02/16/22 09:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-5 **Lab ID: 92587322002** Collected: 02/07/22 16:51 Received: 02/09/22 12:40 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		02/09/22 17:31		
pH	6.51	Std. Units			1		02/09/22 17:31		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	30.0	mg/L	1.0	0.12	1	02/25/22 07:39	02/25/22 17:01	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	0.00078	1	02/25/22 07:37	02/25/22 16:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 16:37	7440-38-2	
Barium	0.038	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 16:37	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 16:37	7440-41-7	
Boron	ND	mg/L	0.040	0.0086	1	02/25/22 07:37	02/25/22 16:37	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 16:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 16:37	7440-47-3	
Cobalt	0.00055J	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 16:37	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 16:37	7439-92-1	
Lithium	0.0029J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 16:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 16:37	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 16:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 16:37	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:43	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	135	mg/L	10.0	10.0	1		02/11/22 11:41		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	1.4	mg/L	1.0	0.60	1		02/16/22 09:45	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 09:45	16984-48-8	
Sulfate	20.6	mg/L	1.0	0.50	1		02/16/22 09:45	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-6 **Lab ID: 92587322003** Collected: 02/07/22 16:31 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by **CUSTOMER** 1 02/09/22 17:31

pH **7.65** Std. Units 1 02/09/22 17:31

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium **53.4** mg/L 1.0 0.12 1 02/25/22 07:39 02/25/22 18:53 7440-70-2 M1

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	0.0014J	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 17:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:01	7440-38-2	
Barium	0.18	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 17:01	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 17:01	7440-41-7	
Boron	0.019J	mg/L	0.040	0.0086	1	02/25/22 07:37	02/25/22 17:01	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 17:01	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:01	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 17:01	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 17:01	7439-92-1	
Lithium	0.0097J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 17:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 17:01	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 17:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 17:01	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury ND mg/L 0.00020 0.00013 1 02/25/22 08:00 02/25/22 12:46 7439-97-6

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids **224** mg/L 10.0 10.0 1 02/11/22 11:41

300.0 IC Anions 28 Days

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

Chloride	1.1	mg/L	1.0	0.60	1	02/16/22 10:00	16887-00-6
Fluoride	ND	mg/L	0.10	0.050	1	02/16/22 10:00	16984-48-8
Sulfate	33.0	mg/L	1.0	0.50	1	02/16/22 10:00	14808-79-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-42D **Lab ID: 92587322004** Collected: 02/07/22 15:57 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:32		
pH	7.85	Std. Units			1		02/09/22 17:32		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	48.7	mg/L	1.0	0.12	1	02/25/22 07:39	02/25/22 17:06	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 17:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:07	7440-38-2	
Barium	0.18	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 17:07	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 17:07	7440-41-7	
Boron	0.047	mg/L	0.040	0.0086	1	02/25/22 07:37	02/25/22 17:07	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 17:07	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 17:07	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 17:07	7439-92-1	
Lithium	0.0097J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 17:07	7439-93-2	
Molybdenum	0.00099J	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 17:07	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 17:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 17:07	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:48	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	190	mg/L	10.0	10.0	1		02/11/22 11:41		
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300.0 IC Anions 28 Days

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

Chloride	3.1	mg/L	1.0	0.60	1		02/16/22 10:15	16887-00-6	
Fluoride	0.085J	mg/L	0.10	0.050	1		02/16/22 10:15	16984-48-8	
Sulfate	10.4	mg/L	1.0	0.50	1		02/16/22 10:15	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWC-15 **Lab ID:** 92587322005 Collected: 02/08/22 13:49 Received: 02/09/22 12:40 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		02/09/22 17:33		
pH	6.04	Std. Units			1		02/09/22 17:33		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	186	mg/L	1.0	0.12	1	02/25/22 07:39	02/28/22 20:54	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.0020J	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 17:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:13	7440-38-2	
Barium	0.0098	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 17:13	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 17:13	7440-41-7	
Boron	1.9	mg/L	0.040	0.0086	1	02/25/22 07:37	02/25/22 17:13	7440-42-8	
Cadmium	0.0011	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 17:13	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 17:13	7440-47-3	
Cobalt	0.0081	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 17:13	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 17:13	7439-92-1	
Lithium	0.014J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 17:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 17:13	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 17:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 17:13	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:51	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	866	mg/L	20.0	20.0	1		02/15/22 16:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	76.6	mg/L	1.0	0.60	1		02/16/22 10:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 10:30	16984-48-8	
Sulfate	360	mg/L	7.0	3.5	7		02/16/22 15:00	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWC-16 **Lab ID: 92587322006** Collected: 02/08/22 12:09 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:33		
pH	7.18	Std. Units			1		02/09/22 17:33		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	218	mg/L	1.0	0.12	1	02/25/22 07:39	02/28/22 21:08	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 18:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:37	7440-38-2	
Barium	0.10	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 18:37	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 18:37	7440-41-7	
Boron	2.6	mg/L	0.40	0.086	10	02/25/22 07:37	02/28/22 18:38	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 18:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:37	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 18:37	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 18:37	7439-92-1	
Lithium	0.0034J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 18:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 18:37	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 18:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 18:37	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:54	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	852	mg/L	20.0	20.0	1		02/15/22 16:04		
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300.0 IC Anions 28 Days

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

Chloride	96.4	mg/L	1.0	0.60	1		02/16/22 11:15	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 11:15	16984-48-8	
Sulfate	238	mg/L	5.0	2.5	5		02/16/22 15:15	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: HGWC-17 **Lab ID: 92587322007** Collected: 02/08/22 10:33 Received: 02/09/22 12:40 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		02/09/22 17:33		
pH	6.42	Std. Units			1		02/09/22 17:33		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	280	mg/L	1.0	0.12	1	02/25/22 07:39	02/28/22 21:13	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	0.00078	1	02/25/22 07:37	02/25/22 18:44	7440-36-0	
Arsenic	0.0017J	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:44	7440-38-2	
Barium	0.021	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 18:44	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 18:44	7440-41-7	
Boron	7.8	mg/L	0.40	0.086	10	02/25/22 07:37	02/28/22 18:44	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 18:44	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:44	7440-47-3	
Cobalt	0.0066	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 18:44	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 18:44	7439-92-1	
Lithium	0.0014J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 18:44	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 18:44	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 18:44	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 18:44	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:56	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	1160	mg/L	20.0	20.0	1		02/15/22 16:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	117	mg/L	8.0	4.8	8		02/16/22 15:30	16887-00-6	
Fluoride	0.055J	mg/L	0.10	0.050	1		02/16/22 11:30	16984-48-8	
Sulfate	364	mg/L	8.0	4.0	8		02/16/22 15:30	14808-79-8	M1

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWC-18 **Lab ID: 92587322008** Collected: 02/08/22 15:40 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:34		
pH	4.59	Std. Units			1		02/09/22 17:34		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	418	mg/L	10.0	1.2	10	02/25/22 07:39	02/28/22 21:18	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 18:50	7440-36-0	
Arsenic	0.0050J	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:50	7440-38-2	
Barium	0.020	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 18:50	7440-39-3	
Beryllium	0.0026	mg/L	0.0025	0.00027	5	02/25/22 07:37	02/28/22 18:50	7440-41-7	
Boron	8.1	mg/L	0.20	0.043	5	02/25/22 07:37	02/28/22 18:50	7440-42-8	
Cadmium	0.00076	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 18:50	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:50	7440-47-3	
Cobalt	0.16	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 18:50	7440-48-4	
Lead	0.00090J	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 18:50	7439-92-1	
Lithium	0.010J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 18:50	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 18:50	7439-98-7	
Selenium	0.0082	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 18:50	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 18:50	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 12:59	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1770	mg/L	50.0	50.0	1		02/15/22 16:04		
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300.0 IC Anions 28 Days

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

Chloride	105	mg/L	19.0	11.4	19		02/16/22 16:14	16887-00-6	
Fluoride	0.19	mg/L	0.10	0.050	1		02/16/22 12:15	16984-48-8	
Sulfate	960	mg/L	19.0	9.5	19		02/16/22 16:14	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: MW-21D **Lab ID: 92587322009** Collected: 02/08/22 14:30 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:34		
pH	7.09	Std. Units			1		02/09/22 17:34		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	366	mg/L	10.0	1.2	10	02/25/22 07:39	02/28/22 21:23	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 18:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:56	7440-38-2	
Barium	0.033	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 18:56	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 18:56	7440-41-7	
Boron	5.9	mg/L	0.40	0.086	10	02/25/22 07:37	02/28/22 18:56	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 18:56	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 18:56	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 18:56	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 18:56	7439-92-1	
Lithium	0.022J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 18:56	7439-93-2	
Molybdenum	0.016	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 18:56	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 18:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 18:56	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
 Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:01	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1810	mg/L	100	100	1		02/15/22 16:04		
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300.0 IC Anions 28 Days

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

Chloride	196	mg/L	16.0	9.6	16		02/16/22 20:00	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 12:30	16984-48-8	
Sulfate	779	mg/L	16.0	8.0	16		02/16/22 20:00	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-22 **Lab ID: 92587322010** Collected: 02/08/22 16:59 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:34		
pH	5.37	Std. Units			1		02/09/22 17:34		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	221	mg/L	1.0	0.12	1	02/25/22 07:39	02/28/22 21:27	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 19:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:02	7440-38-2	
Barium	0.014	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 19:02	7440-39-3	
Beryllium	0.000079J	mg/L	0.00050	0.000054	1	02/25/22 07:37	02/25/22 19:02	7440-41-7	
Boron	3.2	mg/L	0.40	0.086	10	02/25/22 07:37	02/28/22 19:29	7440-42-8	
Cadmium	0.0020	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 19:02	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:02	7440-47-3	
Cobalt	0.034	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 19:02	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 19:02	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 19:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 19:02	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 19:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 19:02	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:04	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1070	mg/L	20.0	20.0	1		02/15/22 16:04		
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300.0 IC Anions 28 Days

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

Chloride	110	mg/L	9.0	5.4	9		02/16/22 18:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 12:45	16984-48-8	
Sulfate	449	mg/L	9.0	4.5	9		02/16/22 18:46	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: MW-33 **Lab ID: 92587322011** Collected: 02/08/22 16:35 Received: 02/09/22 12:40 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		02/09/22 17:34		
pH	4.42	Std. Units			1		02/09/22 17:34		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	548	mg/L	10.0	1.2	10	02/25/22 10:43	03/02/22 15:05	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	0.00078	1	02/25/22 07:37	02/25/22 19:08	7440-36-0	
Arsenic	0.0069	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:08	7440-38-2	
Barium	0.020	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 19:08	7440-39-3	
Beryllium	0.00087J	mg/L	0.0025	0.00027	5	02/25/22 07:37	02/28/22 19:35	7440-41-7	D3
Boron	8.4	mg/L	0.20	0.043	5	02/25/22 07:37	02/28/22 19:35	7440-42-8	
Cadmium	0.00013J	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 19:08	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:08	7440-47-3	
Cobalt	0.048	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 19:08	7440-48-4	
Lead	0.0014	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 19:08	7439-92-1	
Lithium	0.0010J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 19:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 19:08	7439-98-7	
Selenium	0.0078	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 19:08	7782-49-2	
Thallium	0.00025J	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 19:08	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:12	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2480	mg/L	100	100	1		02/15/22 16:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	166	mg/L	24.0	14.4	24		02/16/22 19:01	16887-00-6	
Fluoride	0.14	mg/L	0.10	0.050	1		02/16/22 13:00	16984-48-8	
Sulfate	1220	mg/L	24.0	12.0	24		02/16/22 19:01	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-35 **Lab ID: 92587322012** Collected: 02/08/22 12:39 Received: 02/09/22 12:40 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		02/09/22 17:35		
pH	4.86	Std. Units			1		02/09/22 17:35		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	519	mg/L	10.0	1.2	10	02/25/22 10:43	03/02/22 15:20	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.0029J	mg/L	0.0030	0.00078	1	02/25/22 07:37	02/25/22 19:14	7440-36-0	
Arsenic	0.0072	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:14	7440-38-2	
Barium	0.023	mg/L	0.0050	0.00067	1	02/25/22 07:37	02/25/22 19:14	7440-39-3	
Beryllium	0.00070J	mg/L	0.0025	0.00027	5	02/25/22 07:37	02/28/22 19:41	7440-41-7	D3
Boron	10.8	mg/L	0.20	0.043	5	02/25/22 07:37	02/28/22 19:41	7440-42-8	
Cadmium	0.0015	mg/L	0.00050	0.00011	1	02/25/22 07:37	02/25/22 19:14	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 07:37	02/25/22 19:14	7440-47-3	
Cobalt	0.090	mg/L	0.0050	0.00039	1	02/25/22 07:37	02/25/22 19:14	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 07:37	02/25/22 19:14	7439-92-1	
Lithium	0.0039J	mg/L	0.030	0.00073	1	02/25/22 07:37	02/25/22 19:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 07:37	02/25/22 19:14	7439-98-7	
Selenium	0.0083	mg/L	0.0050	0.0014	1	02/25/22 07:37	02/25/22 19:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 07:37	02/25/22 19:14	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	0.00014J	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:15	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	2410	mg/L	100	100	1		02/15/22 16:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	202	mg/L	23.0	13.8	23		02/16/22 19:16	16887-00-6	
Fluoride	0.065J	mg/L	0.10	0.050	1		02/16/22 13:15	16984-48-8	
Sulfate	1190	mg/L	23.0	11.5	23		02/16/22 19:16	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-37D **Lab ID: 92587322013** Collected: 02/08/22 12:14 Received: 02/09/22 12:40 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		02/09/22 17:35		
pH	7.63	Std. Units			1		02/09/22 17:35		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	167	mg/L	1.0	0.12	1	02/25/22 10:43	03/01/22 00:54	7440-70-2	M1
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 20:49	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 20:49	7440-38-2	
Barium	0.11	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 20:49	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 20:49	7440-41-7	
Boron	0.14	mg/L	0.040	0.0086	1	02/25/22 10:38	02/28/22 16:55	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 20:49	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 20:49	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 20:49	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 20:49	7439-92-1	
Lithium	0.029J	mg/L	0.030	0.00073	1	02/25/22 10:38	02/28/22 16:55	7439-93-2	
Molybdenum	0.0070J	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 20:49	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 20:49	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 20:49	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:17	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	882	mg/L	20.0	20.0	1		02/15/22 16:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	151	mg/L	5.0	3.0	5		02/16/22 19:30	16887-00-6	
Fluoride	0.055J	mg/L	0.10	0.050	1		02/16/22 13:30	16984-48-8	
Sulfate	248	mg/L	5.0	2.5	5		02/16/22 19:30	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-51 **Lab ID: 92587322014** Collected: 02/08/22 14:10 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:35		
pH	6.57	Std. Units			1		02/09/22 17:35		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	537	mg/L	10.0	1.2	10	02/25/22 10:43	03/02/22 15:25	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 20:55	7440-36-0	
Arsenic	0.0046J	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 20:55	7440-38-2	
Barium	0.046	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 20:55	7440-39-3	
Beryllium	0.00011J	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 20:55	7440-41-7	
Boron	10.5	mg/L	2.0	0.43	50	02/25/22 10:38	02/28/22 17:01	7440-42-8	M1
Cadmium	0.00024J	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 20:55	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 20:55	7440-47-3	
Cobalt	0.031	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 20:55	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 20:55	7439-92-1	
Lithium	0.0010J	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 20:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 20:55	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 20:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 20:55	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:20	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2430	mg/L	100	100	1		02/15/22 16:05		
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300.0 IC Anions 28 Days

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

Chloride	194	mg/L	15.0	9.0	15		02/19/22 17:18	16887-00-6	
Fluoride	0.078J	mg/L	0.10	0.050	1		02/18/22 23:56	16984-48-8	
Sulfate	1150	mg/L	15.0	7.5	15		02/19/22 17:18	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: DUP-2 **Lab ID: 92587322015** Collected: 02/08/22 00:00 Received: 02/09/22 12:40 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	188	mg/L	1.0	0.12	1	02/25/22 10:43	03/01/22 01:18	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.0017J	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 21:19	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 21:19	7440-38-2	
Barium	0.013	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 21:19	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 21:19	7440-41-7	
Boron	2.0	mg/L	0.40	0.086	10	02/25/22 10:38	02/28/22 17:18	7440-42-8	
Cadmium	0.0013	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 21:19	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 21:19	7440-47-3	
Cobalt	0.013	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 21:19	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 21:19	7439-92-1	
Lithium	0.013J	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 21:19	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 21:19	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 21:19	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 21:19	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:22	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	894	mg/L	20.0	20.0	1		02/15/22 16:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	74.7	mg/L	1.0	0.60	1		02/16/22 14:15	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/16/22 14:15	16984-48-8	
Sulfate	361	mg/L	7.0	3.5	7		02/16/22 19:45	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-44D **Lab ID: 92587322017** Collected: 02/01/22 13:35 Received: 02/03/22 12:32 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		02/09/22 17:36		
pH	8.25	Std. Units			1		02/09/22 17:36		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	24.8	mg/L	1.0	0.12	1	02/17/22 10:31	02/17/22 16:48	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.0013J	mg/L	0.0030	0.00078	1	02/17/22 09:52	02/18/22 17:43	7440-36-0	
Arsenic	0.0025J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:43	7440-38-2	
Barium	0.23	mg/L	0.0050	0.00067	1	02/17/22 09:52	02/18/22 17:43	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/17/22 09:52	02/18/22 17:43	7440-41-7	
Boron	0.44	mg/L	0.040	0.0086	1	02/17/22 09:52	02/18/22 17:43	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/17/22 09:52	02/18/22 17:43	7440-43-9	
Chromium	0.0013J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:43	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/17/22 09:52	02/18/22 17:43	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/17/22 09:52	02/18/22 17:43	7439-92-1	
Lithium	0.048	mg/L	0.030	0.00073	1	02/17/22 09:52	02/18/22 17:43	7439-93-2	
Molybdenum	0.0055J	mg/L	0.010	0.00074	1	02/17/22 09:52	02/18/22 17:43	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/17/22 09:52	02/18/22 17:43	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/17/22 09:52	02/18/22 17:43	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/15/22 08:00	02/15/22 13:24	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	444	mg/L	10.0	10.0	1		02/07/22 16:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	44.8	mg/L	1.0	0.60	1		02/08/22 12:23	16887-00-6	
Fluoride	0.96	mg/L	0.10	0.050	1		02/08/22 12:23	16984-48-8	
Sulfate	56.3	mg/L	1.0	0.50	1		02/08/22 12:23	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: HGWA-2 **Lab ID: 92587322018** Collected: 02/01/22 11:52 Received: 02/03/22 12:32 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		02/09/22 17:36		
pH	5.24	Std. Units			1		02/09/22 17:36		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	27.2	mg/L	1.0	0.12	1	02/17/22 10:31	02/17/22 16:53	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	0.00078	1	02/17/22 09:52	02/18/22 17:49	7440-36-0	
Arsenic	0.0023J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:49	7440-38-2	
Barium	0.13	mg/L	0.0050	0.00067	1	02/17/22 09:52	02/18/22 17:49	7440-39-3	
Beryllium	0.00020J	mg/L	0.00050	0.000054	1	02/17/22 09:52	02/18/22 17:49	7440-41-7	
Boron	0.056	mg/L	0.040	0.0086	1	02/17/22 09:52	02/18/22 17:49	7440-42-8	
Cadmium	0.00017J	mg/L	0.00050	0.00011	1	02/17/22 09:52	02/18/22 17:49	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:49	7440-47-3	
Cobalt	0.025	mg/L	0.0050	0.00039	1	02/17/22 09:52	02/18/22 17:49	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/17/22 09:52	02/18/22 17:49	7439-92-1	
Lithium	0.0017J	mg/L	0.030	0.00073	1	02/17/22 09:52	02/18/22 17:49	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/17/22 09:52	02/18/22 17:49	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/17/22 09:52	02/18/22 17:49	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/17/22 09:52	02/18/22 17:49	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/15/22 08:00	02/15/22 13:27	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	156	mg/L	10.0	10.0	1		02/07/22 16:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7.0	mg/L	1.0	0.60	1		02/08/22 13:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/08/22 13:36	16984-48-8	
Sulfate	67.1	mg/L	1.0	0.50	1		02/08/22 13:36	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: HGWA-3 **Lab ID: 92587322019** Collected: 02/01/22 09:58 Received: 02/03/22 12:32 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		02/09/22 17:36		
pH	7.45	Std. Units			1		02/09/22 17:36		
6010D ATL ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	85.1	mg/L	1.0	0.12	1	02/17/22 10:31	02/17/22 16:58	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00078	1	02/17/22 09:52	02/18/22 17:55	7440-36-0	
Arsenic	0.0024J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:55	7440-38-2	
Barium	0.12	mg/L	0.0050	0.00067	1	02/17/22 09:52	02/18/22 17:55	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/17/22 09:52	02/18/22 17:55	7440-41-7	
Boron	0.011J	mg/L	0.040	0.0086	1	02/17/22 09:52	02/18/22 17:55	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/17/22 09:52	02/18/22 17:55	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 17:55	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/17/22 09:52	02/18/22 17:55	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/17/22 09:52	02/18/22 17:55	7439-92-1	
Lithium	0.0037J	mg/L	0.030	0.00073	1	02/17/22 09:52	02/18/22 17:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/17/22 09:52	02/18/22 17:55	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/17/22 09:52	02/18/22 17:55	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/17/22 09:52	02/18/22 17:55	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.00013	1	02/15/22 15:15	02/16/22 10:53	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2015 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	350	mg/L	10.0	10.0	1		02/07/22 16:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5.7	mg/L	1.0	0.60	1		02/08/22 13:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/08/22 13:50	16984-48-8	
Sulfate	46.0	mg/L	1.0	0.50	1		02/08/22 13:50	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-1 **Lab ID: 92587322020** Collected: 02/01/22 12:13 Received: 02/03/22 12:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:36		
pH	7.19	Std. Units			1		02/09/22 17:36		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	106	mg/L	1.0	0.12	1	02/17/22 10:31	02/17/22 17:02	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/17/22 09:52	02/18/22 18:01	7440-36-0	
Arsenic	0.0016J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 18:01	7440-38-2	
Barium	0.031	mg/L	0.0050	0.00067	1	02/17/22 09:52	02/18/22 18:01	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/17/22 09:52	02/18/22 18:01	7440-41-7	
Boron	0.016J	mg/L	0.040	0.0086	1	02/17/22 09:52	02/18/22 18:01	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/17/22 09:52	02/18/22 18:01	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 18:01	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/17/22 09:52	02/18/22 18:01	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/17/22 09:52	02/18/22 18:01	7439-92-1	
Lithium	0.0011J	mg/L	0.030	0.00073	1	02/17/22 09:52	02/18/22 18:01	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/17/22 09:52	02/18/22 18:01	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/17/22 09:52	02/18/22 18:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/17/22 09:52	02/18/22 18:01	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/15/22 15:15	02/16/22 11:04	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	270	mg/L	10.0	10.0	1		02/07/22 16:44		
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300.0 IC Anions 28 Days

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

Chloride	7.5	mg/L	1.0	0.60	1		02/08/22 14:03	16887-00-6	
Fluoride	0.064J	mg/L	0.10	0.050	1		02/08/22 14:03	16984-48-8	
Sulfate	43.7	mg/L	1.0	0.50	1		02/08/22 14:03	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: HGWA-43D **Lab ID: 92587322021** Collected: 02/01/22 10:28 Received: 02/03/22 12:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/09/22 17:37		
pH	7.52	Std. Units			1		02/09/22 17:37		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	55.9	mg/L	1.0	0.12	1	02/17/22 10:31	02/17/22 17:07	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/17/22 09:52	02/18/22 18:07	7440-36-0	
Arsenic	0.0036J	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 18:07	7440-38-2	
Barium	0.29	mg/L	0.0050	0.00067	1	02/17/22 09:52	02/18/22 18:07	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/17/22 09:52	02/18/22 18:07	7440-41-7	
Boron	0.050	mg/L	0.040	0.0086	1	02/17/22 09:52	02/18/22 18:07	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/17/22 09:52	02/18/22 18:07	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/17/22 09:52	02/18/22 18:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/17/22 09:52	02/18/22 18:07	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/17/22 09:52	02/18/22 18:07	7439-92-1	
Lithium	0.0024J	mg/L	0.030	0.00073	1	02/17/22 09:52	02/18/22 18:07	7439-93-2	
Molybdenum	0.0036J	mg/L	0.010	0.00074	1	02/17/22 09:52	02/18/22 18:07	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/17/22 09:52	02/18/22 18:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/17/22 09:52	02/18/22 18:07	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/15/22 15:15	02/16/22 11:06	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	156	mg/L	10.0	10.0	1		02/07/22 16:44		
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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		02/08/22 14:17	16887-00-6	
Fluoride	0.19	mg/L	0.10	0.050	1		02/08/22 14:17	16984-48-8	
Sulfate	37.5	mg/L	1.0	0.50	1		02/08/22 14:17	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Sample: HGWC-14 **Lab ID: 92587322022** Collected: 02/09/22 15:23 Received: 02/11/22 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
 Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/11/22 15:57		
pH	4.97	Std. Units			1		02/11/22 15:57		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	571	mg/L	10.0	1.2	10	02/25/22 10:43	03/02/22 15:30	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 22:37	7440-36-0	
Arsenic	0.0077	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 22:37	7440-38-2	
Barium	0.017	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 22:37	7440-39-3	
Beryllium	0.00056	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 22:37	7440-41-7	
Boron	9.9	mg/L	2.0	0.43	50	02/25/22 10:38	02/28/22 18:20	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 22:37	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 22:37	7440-47-3	
Cobalt	0.038	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 22:37	7440-48-4	
Lead	0.0014	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 22:37	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 22:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 22:37	7439-98-7	
Selenium	0.0047J	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 22:37	7782-49-2	
Thallium	0.00025J	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 22:37	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
 Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:25	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	2310	mg/L	100	100	1		02/16/22 13:54		
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300.0 IC Anions 28 Days

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

Chloride	174	mg/L	24.0	14.4	24		02/18/22 00:24	16887-00-6	
Fluoride	0.053J	mg/L	0.10	0.050	1		02/17/22 13:11	16984-48-8	
Sulfate	1190	mg/L	24.0	12.0	24		02/18/22 00:24	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-34D **Lab ID: 92587322023** Collected: 02/09/22 13:50 Received: 02/11/22 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by **CUSTOMER** 1 02/11/22 15:57

pH **7.21** Std. Units 1 02/11/22 15:57

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium **557** mg/L 10.0 1.2 10 02/25/22 10:43 03/02/22 15:35 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	0.00078	1	02/25/22 10:38	02/25/22 22:43	7440-36-0
Arsenic	0.0054	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 22:43	7440-38-2
Barium	0.040	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 22:43	7440-39-3
Beryllium	0.000065J	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 22:43	7440-41-7
Boron	9.6	mg/L	2.0	0.43	50	02/25/22 10:38	02/28/22 18:26	7440-42-8
Cadmium	0.00072	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 22:43	7440-43-9
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 22:43	7440-47-3
Cobalt	0.0065	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 22:43	7440-48-4
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 22:43	7439-92-1
Lithium	0.0022J	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 22:43	7439-93-2
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 22:43	7439-98-7
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 22:43	7782-49-2
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 22:43	7440-28-0

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury ND mg/L 0.00020 0.00013 1 02/25/22 08:00 02/25/22 13:28 7439-97-6

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids **2260** mg/L 100 100 1 02/16/22 13:54

300.0 IC Anions 28 Days

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

Chloride	251	mg/L	21.0	12.6	21	02/18/22 00:38	16887-00-6
Fluoride	0.051J	mg/L	0.10	0.050	1	02/17/22 13:26	16984-48-8
Sulfate	1050	mg/L	21.0	10.5	21	02/18/22 00:38	14808-79-8

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: MW-23D **Lab ID: 92587322024** Collected: 02/10/22 09:49 Received: 02/11/22 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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Field Data

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		02/11/22 15:57		
pH	6.87	Std. Units			1		02/11/22 15:57		

6010D ATL ICP

Analytical Method: EPA 6010D Preparation Method: EPA 3010A
Pace Analytical Services - Peachtree Corners, GA

Calcium	288	mg/L	10.0	1.2	10	02/25/22 10:43	03/02/22 15:39	7440-70-2	
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6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 23:01	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:01	7440-38-2	
Barium	0.050	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 23:01	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 23:01	7440-41-7	
Boron	3.2	mg/L	0.40	0.086	10	02/25/22 10:38	02/28/22 18:32	7440-42-8	
Cadmium	0.00024J	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 23:01	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:01	7440-47-3	
Cobalt	0.0010J	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 23:01	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 23:01	7439-92-1	
Lithium	0.0029J	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 23:01	7439-93-2	
Molybdenum	0.0034J	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 23:01	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 23:01	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 23:01	7440-28-0	

7470 Mercury

Analytical Method: EPA 7470A Preparation Method: EPA 7470A
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:30	7439-97-6	
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2540C Total Dissolved Solids

Analytical Method: SM 2540C-2015
Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	1260	mg/L	50.0	50.0	1		02/16/22 14:18		
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300.0 IC Anions 28 Days

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

Chloride	138	mg/L	9.0	5.4	9		02/18/22 00:53	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/17/22 13:41	16984-48-8	
Sulfate	430	mg/L	9.0	4.5	9		02/18/22 00:53	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: EB-2 **Lab ID: 92587322025** Collected: 02/10/22 10:25 Received: 02/11/22 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				

6010D ATL ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	ND	mg/L	1.0	0.12	1	02/25/22 10:43	03/01/22 02:25	7440-70-2	
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6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 23:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:07	7440-38-2	
Barium	0.0024J	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 23:07	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 23:07	7440-41-7	
Boron	0.020J	mg/L	0.040	0.0086	1	02/25/22 10:38	02/25/22 23:07	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 23:07	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 23:07	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 23:07	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 23:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 23:07	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 23:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 23:07	7440-28-0	

7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A
 Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:33	7439-97-6	
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2540C Total Dissolved Solids Analytical Method: SM 2540C-2015
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	ND	mg/L	10.0	10.0	1		02/16/22 14:18		
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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		02/17/22 13:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/17/22 13:56	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		02/17/22 13:56	14808-79-8	

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ANALYTICAL RESULTS

Project: HAMMOND AP-2

Pace Project No.: 92587322

Sample: FB-2 **Lab ID: 92587322026** Collected: 02/10/22 10:30 Received: 02/11/22 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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6010D ATL ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A
 Pace Analytical Services - Peachtree Corners, GA

Calcium	ND	mg/L	1.0	0.12	1	02/25/22 10:43	03/01/22 02:30	7440-70-2	
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6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A
 Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00078	1	02/25/22 10:38	02/25/22 23:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:13	7440-38-2	
Barium	0.0025J	mg/L	0.0050	0.00067	1	02/25/22 10:38	02/25/22 23:13	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.000054	1	02/25/22 10:38	02/25/22 23:13	7440-41-7	
Boron	0.011J	mg/L	0.040	0.0086	1	02/25/22 10:38	02/25/22 23:13	7440-42-8	
Cadmium	ND	mg/L	0.00050	0.00011	1	02/25/22 10:38	02/25/22 23:13	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0011	1	02/25/22 10:38	02/25/22 23:13	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00039	1	02/25/22 10:38	02/25/22 23:13	7440-48-4	
Lead	ND	mg/L	0.0010	0.00089	1	02/25/22 10:38	02/25/22 23:13	7439-92-1	
Lithium	ND	mg/L	0.030	0.00073	1	02/25/22 10:38	02/25/22 23:13	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00074	1	02/25/22 10:38	02/25/22 23:13	7439-98-7	
Selenium	ND	mg/L	0.0050	0.0014	1	02/25/22 10:38	02/25/22 23:13	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00018	1	02/25/22 10:38	02/25/22 23:13	7440-28-0	

7470 Mercury Analytical Method: EPA 7470A Preparation Method: EPA 7470A
 Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.00013	1	02/25/22 08:00	02/25/22 13:36	7439-97-6	
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2540C Total Dissolved Solids Analytical Method: SM 2540C-2015
 Pace Analytical Services - Peachtree Corners, GA

Total Dissolved Solids	ND	mg/L	10.0	10.0	1		02/16/22 14:18		
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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		02/17/22 14:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/17/22 14:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		02/17/22 14:11	14808-79-8	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 678931	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010D ATL
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

METHOD BLANK: 3552812 Matrix: Water

Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	02/17/22 15:21	

LABORATORY CONTROL SAMPLE: 3552813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	0.99J	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552814 3552815

Parameter	Units	3552814		3552815		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92586342002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	51.3	1	1	53.1	51.0	177	-37	75-125	4	20 M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 680760 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010

METHOD BLANK: 3561423 Matrix: Water
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	02/25/22 16:35	

LABORATORY CONTROL SAMPLE: 3561424

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: 3561425 3561426

Parameter	Units	92587322003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	53.4	1	1	57.1	57.3	367	381	75-125	0	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 680899 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010D ATL
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322011, 92587322012, 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

METHOD BLANK: 3562225 Matrix: Water
 Associated Lab Samples: 92587322011, 92587322012, 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.12	03/01/22 00:25	

LABORATORY CONTROL SAMPLE: 3562226

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: 3562227 3562228

Parameter	Units	92587322013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	167	1	1	164	165	-228	-156	75-125	0	20	M1

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 678928

Analysis Method: EPA 6020B

QC Batch Method: EPA 3005A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

METHOD BLANK: 3552808

Matrix: Water

Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	02/17/22 21:50	
Arsenic	mg/L	ND	0.0050	0.0011	02/17/22 21:50	
Barium	mg/L	ND	0.0050	0.00067	02/17/22 21:50	
Beryllium	mg/L	ND	0.00050	0.000054	02/17/22 21:50	
Boron	mg/L	ND	0.040	0.0086	02/17/22 21:50	
Cadmium	mg/L	ND	0.00050	0.00011	02/17/22 21:50	
Chromium	mg/L	ND	0.0050	0.0011	02/17/22 21:50	
Cobalt	mg/L	ND	0.0050	0.00039	02/17/22 21:50	
Lead	mg/L	ND	0.0010	0.00089	02/17/22 21:50	
Lithium	mg/L	ND	0.030	0.00073	02/18/22 16:01	
Molybdenum	mg/L	ND	0.010	0.00074	02/17/22 21:50	
Selenium	mg/L	ND	0.0050	0.0014	02/17/22 21:50	
Thallium	mg/L	ND	0.0010	0.00018	02/17/22 21:50	

LABORATORY CONTROL SAMPLE: 3552809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.12	119	80-120	
Arsenic	mg/L	0.1	0.10	103	80-120	
Barium	mg/L	0.1	0.10	102	80-120	
Beryllium	mg/L	0.1	0.10	102	80-120	
Boron	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	0.1	0.11	107	80-120	
Chromium	mg/L	0.1	0.10	103	80-120	
Cobalt	mg/L	0.1	0.10	102	80-120	
Lead	mg/L	0.1	0.11	106	80-120	
Lithium	mg/L	0.1	0.10	103	80-120	
Molybdenum	mg/L	0.1	0.11	109	80-120	
Selenium	mg/L	0.1	0.10	104	80-120	
Thallium	mg/L	0.1	0.11	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552810 3552811

Parameter	Units	92586342001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	mg/L	ND	0.1	0.1	0.12	0.13	122	125	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.11	0.11	110	108	75-125	2	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

Parameter	Units	3552810		3552811		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
Barium	mg/L	0.035	0.1	0.1	0.14	0.14	108	107	75-125	0	20		
Beryllium	mg/L	ND	0.1	0.1	0.091	0.091	91	91	75-125	0	20		
Boron	mg/L	0.17	1	1	1.1	1.1	90	89	75-125	1	20		
Cadmium	mg/L	ND	0.1	0.1	0.11	0.11	108	109	75-125	1	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.11	103	106	75-125	3	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.11	104	106	75-125	2	20		
Lead	mg/L	ND	0.1	0.1	0.11	0.11	108	108	75-125	1	20		
Lithium	mg/L	ND	0.1	0.1	0.10	0.11	102	106	75-125	4	20		
Molybdenum	mg/L	0.0020J	0.1	0.1	0.12	0.12	116	116	75-125	0	20		
Selenium	mg/L	ND	0.1	0.1	0.11	0.11	111	110	75-125	0	20		
Thallium	mg/L	ND	0.1	0.1	0.11	0.11	109	109	75-125	0	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92587322

QC Batch: 680757 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012

METHOD BLANK: 3561407 Matrix: Water
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	02/25/22 16:19	
Arsenic	mg/L	ND	0.0050	0.0011	02/25/22 16:19	
Barium	mg/L	ND	0.0050	0.00067	02/25/22 16:19	
Beryllium	mg/L	ND	0.00050	0.000054	02/25/22 16:19	
Boron	mg/L	ND	0.040	0.0086	02/25/22 16:19	
Cadmium	mg/L	ND	0.00050	0.00011	02/25/22 16:19	
Chromium	mg/L	ND	0.0050	0.0011	02/25/22 16:19	
Cobalt	mg/L	ND	0.0050	0.00039	02/25/22 16:19	
Lead	mg/L	ND	0.0010	0.00089	02/25/22 16:19	
Lithium	mg/L	ND	0.030	0.00073	02/25/22 16:19	
Molybdenum	mg/L	ND	0.010	0.00074	02/25/22 16:19	
Selenium	mg/L	ND	0.0050	0.0014	02/25/22 16:19	
Thallium	mg/L	ND	0.0010	0.00018	02/25/22 16:19	

LABORATORY CONTROL SAMPLE: 3561408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.095	95	80-120	
Arsenic	mg/L	0.1	0.091	91	80-120	
Barium	mg/L	0.1	0.087	87	80-120	
Beryllium	mg/L	0.1	0.091	91	80-120	
Boron	mg/L	1	0.95	95	80-120	
Cadmium	mg/L	0.1	0.091	91	80-120	
Chromium	mg/L	0.1	0.091	91	80-120	
Cobalt	mg/L	0.1	0.090	90	80-120	
Lead	mg/L	0.1	0.088	88	80-120	
Lithium	mg/L	0.1	0.090	90	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.090	90	80-120	
Thallium	mg/L	0.1	0.088	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3561409 3561410

Parameter	Units	92587322002 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Antimony	mg/L	ND	0.1	0.1	0.10	0.091	102	91	75-125	12	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3561409		3561410								
Parameter	Units	92587322002	MS	MSD	MS	MSD	MS	MSD	% Rec		Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Arsenic	mg/L	ND	0.1	0.1	0.098	0.090	98	90	75-125	8	20	
Barium	mg/L	0.038	0.1	0.1	0.14	0.13	105	89	75-125	12	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.087	94	87	75-125	8	20	
Boron	mg/L	ND	1	1	0.94	0.92	94	91	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.089	97	89	75-125	9	20	
Chromium	mg/L	ND	0.1	0.1	0.098	0.090	97	89	75-125	8	20	
Cobalt	mg/L	0.00055J	0.1	0.1	0.093	0.088	92	88	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.095	0.083	95	83	75-125	14	20	
Lithium	mg/L	0.0029J	0.1	0.1	0.097	0.088	94	85	75-125	10	20	
Molybdenum	mg/L	ND	0.1	0.1	0.098	0.088	97	88	75-125	10	20	
Selenium	mg/L	ND	0.1	0.1	0.096	0.089	96	89	75-125	8	20	
Thallium	mg/L	ND	0.1	0.1	0.093	0.084	93	84	75-125	10	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch:	680871	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

METHOD BLANK:	3562117	Matrix:	Water
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Associated Lab Samples: 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	02/25/22 20:37	
Arsenic	mg/L	ND	0.0050	0.0011	02/25/22 20:37	
Barium	mg/L	ND	0.0050	0.00067	02/25/22 20:37	
Beryllium	mg/L	ND	0.00050	0.000054	02/25/22 20:37	
Boron	mg/L	ND	0.040	0.0086	02/25/22 20:37	
Cadmium	mg/L	ND	0.00050	0.00011	02/25/22 20:37	
Chromium	mg/L	ND	0.0050	0.0011	02/25/22 20:37	
Cobalt	mg/L	ND	0.0050	0.00039	02/25/22 20:37	
Lead	mg/L	ND	0.0010	0.00089	02/25/22 20:37	
Lithium	mg/L	ND	0.030	0.00073	02/25/22 20:37	
Molybdenum	mg/L	ND	0.010	0.00074	02/25/22 20:37	
Selenium	mg/L	ND	0.0050	0.0014	02/25/22 20:37	
Thallium	mg/L	ND	0.0010	0.00018	02/25/22 20:37	

LABORATORY CONTROL SAMPLE: 3562118

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	0.098	98	80-120	
Barium	mg/L	0.1	0.10	100	80-120	
Beryllium	mg/L	0.1	0.11	109	80-120	
Boron	mg/L	1	1.1	112	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	0.096	96	80-120	
Lead	mg/L	0.1	0.095	95	80-120	
Lithium	mg/L	0.1	0.11	115	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	
Selenium	mg/L	0.1	0.097	97	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3562119 3562120

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92587322014	Spike Conc.	Spike Conc.	MS Result						
Antimony	mg/L	ND	0.1	0.1	0.10	0.11	104	106	75-125	2	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3562119			3562120										
Parameter	Units	92587322014 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic	mg/L	0.0046J	0.1	0.1	0.11	0.12	106	110	75-125	4	20		
Barium	mg/L	0.046	0.1	0.1	0.15	0.15	105	109	75-125	3	20		
Beryllium	mg/L	0.00011J	0.1	0.1	0.10	0.10	100	104	75-125	4	20		
Boron	mg/L	10.5	1	1	11.0	11.5	50	104	75-125	5	20	M1	
Cadmium	mg/L	0.00024J	0.1	0.1	0.094	0.099	94	99	75-125	5	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.11	99	106	75-125	7	20		
Cobalt	mg/L	0.031	0.1	0.1	0.12	0.13	93	99	75-125	4	20		
Lead	mg/L	ND	0.1	0.1	0.085	0.087	85	87	75-125	3	20		
Lithium	mg/L	0.0010J	0.1	0.1	0.11	0.11	108	112	75-125	4	20		
Molybdenum	mg/L	ND	0.1	0.1	0.095	0.099	95	98	75-125	4	20		
Selenium	mg/L	ND	0.1	0.1	0.11	0.11	104	108	75-125	4	20		
Thallium	mg/L	ND	0.1	0.1	0.087	0.090	87	90	75-125	3	20		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92587322

QC Batch: 678094 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322017, 92587322018

METHOD BLANK: 3548852 Matrix: Water
 Associated Lab Samples: 92587322017, 92587322018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	02/15/22 12:00	

LABORATORY CONTROL SAMPLE: 3548853

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: 3548854 3548855

Parameter	Units	92585561007		3548855		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0025	0.0024	0.0024	96	95	75-125	1	20

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 678396

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322019, 92587322020, 92587322021

METHOD BLANK: 3550157

Matrix: Water

Associated Lab Samples: 92587322019, 92587322020, 92587322021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	02/16/22 10:48	

LABORATORY CONTROL SAMPLE: 3550158

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0023	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3550159 3550160

Parameter	Units	92586342010		3550160		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury	mg/L	ND	0.0025	0.0021	0.0023	85	92	75-125	8	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 680662 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

METHOD BLANK: 3560817 Matrix: Water
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322014, 92587322015, 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00013	02/25/22 12:21	

LABORATORY CONTROL SAMPLE: 3560818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0022	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3560819 3560820

Parameter	Units	92587322001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0023	0.0024	93	94	75-125	1	20	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch:	677215	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

METHOD BLANK: 3544557 Matrix: Water
 Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/07/22 16:40	

LABORATORY CONTROL SAMPLE: 3544558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	375	94	80-120	

SAMPLE DUPLICATE: 3544559

Parameter	Units	92587319003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	156	171	9	25	H3

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92587322

QC Batch: 677216 Analysis Method: SM 2540C-2015
 QC Batch Method: SM 2540C-2015 Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004

METHOD BLANK: 3544560 Matrix: Water
 Associated Lab Samples: 92587322001, 92587322002, 92587322003, 92587322004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/11/22 11:39	

LABORATORY CONTROL SAMPLE: 3544561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	381	95	80-120	

SAMPLE DUPLICATE: 3544562

Parameter	Units	92586436027 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	162	168	4	25	

SAMPLE DUPLICATE: 3544563

Parameter	Units	92586613016 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	161	155	4	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 678369

Analysis Method: SM 2540C-2015

QC Batch Method: SM 2540C-2015

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322014, 92587322015

METHOD BLANK: 3550014

Matrix: Water

Associated Lab Samples: 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322014, 92587322015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/15/22 16:02	

LABORATORY CONTROL SAMPLE: 3550015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	389	97	80-120	

SAMPLE DUPLICATE: 3550016

Parameter	Units	92587091003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	151	152	1	25	

SAMPLE DUPLICATE: 3550017

Parameter	Units	92587322007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1160	1080	7	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch:	678705	Analysis Method:	SM 2540C-2015
QC Batch Method:	SM 2540C-2015	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples:	92587322022, 92587322023		

METHOD BLANK: 3551645 Matrix: Water
 Associated Lab Samples: 92587322022, 92587322023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/16/22 13:52	

LABORATORY CONTROL SAMPLE: 3551646

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	377	94	80-120	

SAMPLE DUPLICATE: 3551647

Parameter	Units	92587096008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 3551648

Parameter	Units	92587319007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	756	708	7	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92587322

QC Batch: 678707 Analysis Method: SM 2540C-2015
 QC Batch Method: SM 2540C-2015 Analysis Description: 2540C Total Dissolved Solids
 Laboratory: Pace Analytical Services - Peachtree Corners, GA
 Associated Lab Samples: 92587322024, 92587322025, 92587322026

METHOD BLANK: 3551650 Matrix: Water
 Associated Lab Samples: 92587322024, 92587322025, 92587322026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	02/16/22 14:16	

LABORATORY CONTROL SAMPLE: 3551651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	376	94	80-120	

SAMPLE DUPLICATE: 3551652

Parameter	Units	92587881001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	229	228	0	25	

SAMPLE DUPLICATE: 3551653

Parameter	Units	92587855001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	94.0	95.0	1	25	

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 676561 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

METHOD BLANK: 3541395 Matrix: Water
 Associated Lab Samples: 92587322017, 92587322018, 92587322019, 92587322020, 92587322021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/08/22 06:35	
Fluoride	mg/L	ND	0.10	0.050	02/08/22 06:35	
Sulfate	mg/L	ND	1.0	0.50	02/08/22 06:35	

LABORATORY CONTROL SAMPLE: 3541396

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	2.4	95	90-110	
Sulfate	mg/L	50	50.8	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3541397 3541398

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92585561005 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	4.1	50	50	56.9	57.4	105	106	90-110	1	10		
Fluoride	mg/L	0.086J	2.5	2.5	2.5	2.6	98	99	90-110	2	10		
Sulfate	mg/L	25.5	50	50	77.5	78.0	104	105	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3541399 3541400

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92586342003 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	2.5	50	50	55.3	55.0	106	105	90-110	1	10		
Fluoride	mg/L	0.36	2.5	2.5	2.9	2.9	100	100	90-110	0	10		
Sulfate	mg/L	201	50	50	246	243	91	84	90-110	1	10 M1		

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch:	678309	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322015		

METHOD BLANK:	3549772	Matrix:	Water
Associated Lab Samples:	92587322001, 92587322002, 92587322003, 92587322004, 92587322005, 92587322006, 92587322007, 92587322008, 92587322009, 92587322010, 92587322011, 92587322012, 92587322013, 92587322015		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/16/22 07:00	
Fluoride	mg/L	ND	0.10	0.050	02/16/22 07:00	
Sulfate	mg/L	ND	1.0	0.50	02/16/22 07:00	

LABORATORY CONTROL SAMPLE: 3549773						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.2	98	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	48.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549774												3549775	
Parameter	Units	92586613018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	0.70J	50	50	51.9	51.3	102	101	90-110	1	10		
Fluoride	mg/L	0.082J	2.5	2.5	2.7	2.6	104	103	90-110	1	10		
Sulfate	mg/L	13.0	50	50	64.4	63.7	103	102	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3549776												3549777	
Parameter	Units	92587322007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	117	50	50	163	162	92	90	90-110	1	10		
Fluoride	mg/L	0.055J	2.5	2.5	2.7	2.7	106	104	90-110	1	10		
Sulfate	mg/L	364	50	50	407	406	87	84	90-110	0	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

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QUALITY CONTROL DATA

Project: HAMMOND AP-2

Pace Project No.: 92587322

QC Batch: 678880 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

METHOD BLANK: 3552686 Matrix: Water
 Associated Lab Samples: 92587322022, 92587322023, 92587322024, 92587322025, 92587322026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/17/22 11:56	
Fluoride	mg/L	ND	0.10	0.050	02/17/22 11:56	
Sulfate	mg/L	ND	1.0	0.50	02/17/22 11:56	

LABORATORY CONTROL SAMPLE: 3552687

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	2.4	95	90-110	
Sulfate	mg/L	50	47.8	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552688 3552689

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92586225004 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	12.5	50	50	63.1	63.2	101	101	90-110	0	10		
Fluoride	mg/L	0.15	2.5	2.5	2.7	2.7	102	104	90-110	1	10		
Sulfate	mg/L	967	50	50	1000	1000	73	76	90-110	0	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3552690 3552691

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92587319007 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	84.4	50	50	125	125	81	82	90-110	0	10	M1	
Fluoride	mg/L	0.10	2.5	2.5	2.7	2.7	103	105	90-110	2	10		
Sulfate	mg/L	224	50	50	270	270	94	93	90-110	0	10		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: HAMMOND AP-2
 Pace Project No.: 92587322

QC Batch: 679328 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92587322014

METHOD BLANK: 3554532 Matrix: Water
 Associated Lab Samples: 92587322014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/18/22 20:56	
Fluoride	mg/L	ND	0.10	0.050	02/18/22 20:56	
Sulfate	mg/L	ND	1.0	0.50	02/18/22 20:56	

LABORATORY CONTROL SAMPLE: 3554533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.6	99	90-110	
Fluoride	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	48.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3554534 3554535

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92588782001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	4.2	50	50	54.3	55.2	100	102	90-110	2	10		
Fluoride	mg/L	0.14	2.5	2.5	2.6	2.7	99	102	90-110	2	10		
Sulfate	mg/L	3.1	50	50	53.1	54.1	100	102	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3554536 3554537

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92587881007	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	8.9	50	50	59.0	59.3	100	101	90-110	0	10		
Fluoride	mg/L	0.071J	2.5	2.5	2.6	2.6	100	101	90-110	1	10		
Sulfate	mg/L	70.0	50	50	113	113	87	87	90-110	0	10 M1		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: HAMMOND AP-2
Pace Project No.: 92587322

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92587322001	HGWA-4				
92587322002	HGWA-5				
92587322003	HGWA-6				
92587322004	HGWA-42D				
92587322005	HGWC-15				
92587322006	HGWC-16				
92587322007	HGWC-17				
92587322008	HGWC-18				
92587322009	MW-21D				
92587322010	MW-22				
92587322011	MW-33				
92587322012	MW-35				
92587322013	MW-37D				
92587322014	MW-51				
92587322017	HGWA-44D				
92587322018	HGWA-2				
92587322019	HGWA-3				
92587322020	HGWA-1				
92587322021	HGWA-43D				
92587322022	HGWC-14				
92587322023	MW-34D				
92587322024	MW-23D				
92587322001	HGWA-4	EPA 3010A	680760	EPA 6010D	680944
92587322002	HGWA-5	EPA 3010A	680760	EPA 6010D	680944
92587322003	HGWA-6	EPA 3010A	680760	EPA 6010D	680944
92587322004	HGWA-42D	EPA 3010A	680760	EPA 6010D	680944
92587322005	HGWC-15	EPA 3010A	680760	EPA 6010D	680944
92587322006	HGWC-16	EPA 3010A	680760	EPA 6010D	680944
92587322007	HGWC-17	EPA 3010A	680760	EPA 6010D	680944
92587322008	HGWC-18	EPA 3010A	680760	EPA 6010D	680944
92587322009	MW-21D	EPA 3010A	680760	EPA 6010D	680944
92587322010	MW-22	EPA 3010A	680760	EPA 6010D	680944
92587322011	MW-33	EPA 3010A	680899	EPA 6010D	681055
92587322012	MW-35	EPA 3010A	680899	EPA 6010D	681055
92587322013	MW-37D	EPA 3010A	680899	EPA 6010D	681055
92587322014	MW-51	EPA 3010A	680899	EPA 6010D	681055
92587322015	DUP-2	EPA 3010A	680899	EPA 6010D	681055
92587322017	HGWA-44D	EPA 3010A	678931	EPA 6010D	679039
92587322018	HGWA-2	EPA 3010A	678931	EPA 6010D	679039
92587322019	HGWA-3	EPA 3010A	678931	EPA 6010D	679039
92587322020	HGWA-1	EPA 3010A	678931	EPA 6010D	679039
92587322021	HGWA-43D	EPA 3010A	678931	EPA 6010D	679039
92587322022	HGWC-14	EPA 3010A	680899	EPA 6010D	681055
92587322023	MW-34D	EPA 3010A	680899	EPA 6010D	681055
92587322024	MW-23D	EPA 3010A	680899	EPA 6010D	681055
92587322025	EB-2	EPA 3010A	680899	EPA 6010D	681055
92587322026	FB-2	EPA 3010A	680899	EPA 6010D	681055

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92587322001	HGWA-4	EPA 3005A	680757	EPA 6020B	680941
92587322002	HGWA-5	EPA 3005A	680757	EPA 6020B	680941
92587322003	HGWA-6	EPA 3005A	680757	EPA 6020B	680941
92587322004	HGWA-42D	EPA 3005A	680757	EPA 6020B	680941
92587322005	HGWC-15	EPA 3005A	680757	EPA 6020B	680941
92587322006	HGWC-16	EPA 3005A	680757	EPA 6020B	680941
92587322007	HGWC-17	EPA 3005A	680757	EPA 6020B	680941
92587322008	HGWC-18	EPA 3005A	680757	EPA 6020B	680941
92587322009	MW-21D	EPA 3005A	680757	EPA 6020B	680941
92587322010	MW-22	EPA 3005A	680757	EPA 6020B	680941
92587322011	MW-33	EPA 3005A	680757	EPA 6020B	680941
92587322012	MW-35	EPA 3005A	680757	EPA 6020B	680941
92587322013	MW-37D	EPA 3005A	680871	EPA 6020B	681052
92587322014	MW-51	EPA 3005A	680871	EPA 6020B	681052
92587322015	DUP-2	EPA 3005A	680871	EPA 6020B	681052
92587322017	HGWA-44D	EPA 3005A	678928	EPA 6020B	679033
92587322018	HGWA-2	EPA 3005A	678928	EPA 6020B	679033
92587322019	HGWA-3	EPA 3005A	678928	EPA 6020B	679033
92587322020	HGWA-1	EPA 3005A	678928	EPA 6020B	679033
92587322021	HGWA-43D	EPA 3005A	678928	EPA 6020B	679033
92587322022	HGWC-14	EPA 3005A	680871	EPA 6020B	681052
92587322023	MW-34D	EPA 3005A	680871	EPA 6020B	681052
92587322024	MW-23D	EPA 3005A	680871	EPA 6020B	681052
92587322025	EB-2	EPA 3005A	680871	EPA 6020B	681052
92587322026	FB-2	EPA 3005A	680871	EPA 6020B	681052
92587322001	HGWA-4	EPA 7470A	680662	EPA 7470A	680886
92587322002	HGWA-5	EPA 7470A	680662	EPA 7470A	680886
92587322003	HGWA-6	EPA 7470A	680662	EPA 7470A	680886
92587322004	HGWA-42D	EPA 7470A	680662	EPA 7470A	680886
92587322005	HGWC-15	EPA 7470A	680662	EPA 7470A	680886
92587322006	HGWC-16	EPA 7470A	680662	EPA 7470A	680886
92587322007	HGWC-17	EPA 7470A	680662	EPA 7470A	680886
92587322008	HGWC-18	EPA 7470A	680662	EPA 7470A	680886
92587322009	MW-21D	EPA 7470A	680662	EPA 7470A	680886
92587322010	MW-22	EPA 7470A	680662	EPA 7470A	680886
92587322011	MW-33	EPA 7470A	680662	EPA 7470A	680886
92587322012	MW-35	EPA 7470A	680662	EPA 7470A	680886
92587322013	MW-37D	EPA 7470A	680662	EPA 7470A	680886
92587322014	MW-51	EPA 7470A	680662	EPA 7470A	680886
92587322015	DUP-2	EPA 7470A	680662	EPA 7470A	680886
92587322017	HGWA-44D	EPA 7470A	678094	EPA 7470A	678301
92587322018	HGWA-2	EPA 7470A	678094	EPA 7470A	678301
92587322019	HGWA-3	EPA 7470A	678396	EPA 7470A	678613
92587322020	HGWA-1	EPA 7470A	678396	EPA 7470A	678613
92587322021	HGWA-43D	EPA 7470A	678396	EPA 7470A	678613

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
 Pace Project No.: 92587322

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92587322022	HGWC-14	EPA 7470A	680662	EPA 7470A	680886
92587322023	MW-34D	EPA 7470A	680662	EPA 7470A	680886
92587322024	MW-23D	EPA 7470A	680662	EPA 7470A	680886
92587322025	EB-2	EPA 7470A	680662	EPA 7470A	680886
92587322026	FB-2	EPA 7470A	680662	EPA 7470A	680886
92587322001	HGWA-4	SM 2540C-2015	677216		
92587322002	HGWA-5	SM 2540C-2015	677216		
92587322003	HGWA-6	SM 2540C-2015	677216		
92587322004	HGWA-42D	SM 2540C-2015	677216		
92587322005	HGWC-15	SM 2540C-2015	678369		
92587322006	HGWC-16	SM 2540C-2015	678369		
92587322007	HGWC-17	SM 2540C-2015	678369		
92587322008	HGWC-18	SM 2540C-2015	678369		
92587322009	MW-21D	SM 2540C-2015	678369		
92587322010	MW-22	SM 2540C-2015	678369		
92587322011	MW-33	SM 2540C-2015	678369		
92587322012	MW-35	SM 2540C-2015	678369		
92587322013	MW-37D	SM 2540C-2015	678369		
92587322014	MW-51	SM 2540C-2015	678369		
92587322015	DUP-2	SM 2540C-2015	678369		
92587322017	HGWA-44D	SM 2540C-2015	677215		
92587322018	HGWA-2	SM 2540C-2015	677215		
92587322019	HGWA-3	SM 2540C-2015	677215		
92587322020	HGWA-1	SM 2540C-2015	677215		
92587322021	HGWA-43D	SM 2540C-2015	677215		
92587322022	HGWC-14	SM 2540C-2015	678705		
92587322023	MW-34D	SM 2540C-2015	678705		
92587322024	MW-23D	SM 2540C-2015	678707		
92587322025	EB-2	SM 2540C-2015	678707		
92587322026	FB-2	SM 2540C-2015	678707		
92587322001	HGWA-4	EPA 300.0 Rev 2.1 1993	678309		
92587322002	HGWA-5	EPA 300.0 Rev 2.1 1993	678309		
92587322003	HGWA-6	EPA 300.0 Rev 2.1 1993	678309		
92587322004	HGWA-42D	EPA 300.0 Rev 2.1 1993	678309		
92587322005	HGWC-15	EPA 300.0 Rev 2.1 1993	678309		
92587322006	HGWC-16	EPA 300.0 Rev 2.1 1993	678309		
92587322007	HGWC-17	EPA 300.0 Rev 2.1 1993	678309		
92587322008	HGWC-18	EPA 300.0 Rev 2.1 1993	678309		
92587322009	MW-21D	EPA 300.0 Rev 2.1 1993	678309		
92587322010	MW-22	EPA 300.0 Rev 2.1 1993	678309		
92587322011	MW-33	EPA 300.0 Rev 2.1 1993	678309		
92587322012	MW-35	EPA 300.0 Rev 2.1 1993	678309		
92587322013	MW-37D	EPA 300.0 Rev 2.1 1993	678309		
92587322014	MW-51	EPA 300.0 Rev 2.1 1993	679328		
92587322015	DUP-2	EPA 300.0 Rev 2.1 1993	678309		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HAMMOND AP-2
Pace Project No.: 92587322

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92587322017	HGWA-44D	EPA 300.0 Rev 2.1 1993	676561		
92587322018	HGWA-2	EPA 300.0 Rev 2.1 1993	676561		
92587322019	HGWA-3	EPA 300.0 Rev 2.1 1993	676561		
92587322020	HGWA-1	EPA 300.0 Rev 2.1 1993	676561		
92587322021	HGWA-43D	EPA 300.0 Rev 2.1 1993	676561		
92587322022	HGWC-14	EPA 300.0 Rev 2.1 1993	678880		
92587322023	MW-34D	EPA 300.0 Rev 2.1 1993	678880		
92587322024	MW-23D	EPA 300.0 Rev 2.1 1993	678880		
92587322025	EB-2	EPA 300.0 Rev 2.1 1993	678880		
92587322026	FB-2	EPA 300.0 Rev 2.1 1993	678880		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Ashtabula Eden Greenwood Hantsville Raleigh Mechanicsville Atlanta Kennesaw

Sample ID: [Redacted]

Client Name: GA Power

PROJECT: **WON: 92587322**

Customer: Commercial Public Other Other



Customer Serial Present? Yes No Yes No

Customer Person Name: 106.217/22

Packing Material: Bubble Wrap Bubble Bags Other Other

Isolated Thru Present? Yes No

Temperature: Ambient Cold Hot

Cooler Temp: 24 08 1.2

Temp should be above freezing to BIC Samples not to be kept in a freezer unless noted on the packing slip

Cooler Temp Corrected (C): 2.6

Urban Population (U): Yes, water sample

Do samples originate in a jurisdiction other than the United States, U.S. MP, or DC (check mark)? Yes No

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Samples Sealed in this cold pack?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Shed Cold Time Analysis (CTI) (C)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Block Time Approval Temp Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Software Version?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Control Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Blank Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Control Containers?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Analytical Temperature (Temp)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Sample Labels Marked (C)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is this Case / Sample Analysis: WT

Multiple in Case (MIL) (C)? Yes No

Is this Sample Being Analyzed? Yes No

Customer/Supplier Discrepancy: Yes No

Customer/Supplier/Inspector: _____ of _____ of total containers

Person who filled: _____ Date: _____

Project Manager SCRR Review: _____ Date: _____

Project Manager MUI Review: _____ Date: _____

Phase Analysis

CHAMBER OF COMMERCE - Analytical Report Form
 The Chamber of Commerce will not be responsible for any loss or damage to property or contents of any kind.

Section A: Analytical Report Information

Company: Q&P Corp
 Address: 1000 Main St
 City: San Francisco
 State: CA
 Zip: 94102

Section B: Analytical Report Information

Report No: 1000
 Date: 10/10/72
 Analytical Report No: 1000
 Date: 10/10/72

Section C: Analytical Report Information

Customer: Q&P Corp
 Address: 1000 Main St
 City: San Francisco
 State: CA
 Zip: 94102

Section D: Analytical Report Information

Product: Q&P Corp
 Address: 1000 Main St
 City: San Francisco
 State: CA
 Zip: 94102

Item No.	Description	Quantity	Unit	Material	Analysis	Remarks	Analysis Results	
							Value	Weight
1	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
2	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
3	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
4	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
5	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
6	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
7	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
8	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
9	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp
10	Q&P Corp	1000	kg	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp	Q&P Corp

Additional Comments: Q&P Corp

Analysis Results: Q&P Corp

Remarks: Q&P Corp

Section E: Analytical Report Information

Product: Q&P Corp
 Address: 1000 Main St
 City: San Francisco
 State: CA
 Zip: 94102

Section F: Analytical Report Information

Product: Q&P Corp
 Address: 1000 Main St
 City: San Francisco
 State: CA
 Zip: 94102



Document Name:
Sample Condition Upon Receipt (SCUR)
Document No.:
F-CAR-CS-033-Rev.02

Document Revised: November 13, 2021
Page 1 of 3
Issuing Authority:
Pace Carolina's Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Sample Condition
Upon Receipt

Client Name:
GA Power

Project #: **WO#: 92586342**

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



Custody Seal Present? Yes No Seal Intact? Yes No

Date/Initial Person Examining Contents: 2/3/22
TSR

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?
 Yes No N/A

Thermometer: In Situ Ice Bath None
230 Type of Ice: Clear Blue

Cooler Temp: 2.4 Correction Factor: Add/Subtract (°C) +0.2

Temp should be above freezing to 6°C
 Samples met of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 2.6

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, HI, or SC (check maps)?

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

Yes No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Short Hold Time Analysis (c7) for [?]	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Disclosed analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9	
Includes Date/Time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of spill containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/T ime: _____

Project Manager SCURF Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____



CHAIN-OF-CUSTODY / Analytical Request Document
 The Chain-of-Custody is a critical document. All entries must be completed accurately.

Page 1 of 1

Section A Requested Chain of Custody Country: USA Group Address: Atlanta, GA Requested Date/Time: 5/16/2022		Section B Requested Sample Information Sample ID: 2022-05-16-001 Sample Name: [Blank]		Section C Sample Location Location: Southern CA City/State: [Blank]	
Requested By: [Blank] Title: [Blank]		Collector Name: [Blank] Collector Title: [Blank]		Regulatory Agency: [Blank]	
Requested For: [Blank]		Requested For: [Blank]		Sample ID: [Blank]	

ITEM #	Sample ID	Matrix Code	Sample Type	COLLECTOR			Sample Temp at Collection	# of Containers	Preservation						Analysis Test	Residual Chrome (TSS)	From Project (see last page)
				Collector	Company	Address			1	2	3	4	5	6				7
1	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
2	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
3	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
4	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
5	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
6	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
7	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
8	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
9	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
10	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
11	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	
12	HOWARD	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	WT 2	

Additional Comments:

Approved by: [Signature] Date: 5/16/2022

Requested by: [Signature] Date: 5/16/2022

Collector: [Signature] Date: 5/16/2022

Regulatory Agency: [Signature] Date: 5/16/2022

Sample ID: [Blank]

From Project (see last page): [Blank]



Document Name
 Sample Condition Upon Receipt (SCUR)
 Document No
 P-CAR 03-202 Rev 08

Document Approval Update: 04/13/2021
 Page: 1 of 3
 Issuing Authority
 Pace Analytical Quality Office

Laboratory receiving samples:

Ashville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Knoxville

Site Name and/or Location

Client Name

Self Power

Project #:

WO# : 92587322

Country
 Commercial

Industrial
 Office

Lab

Max Temp
 Min Temp

Comments

PR: 486

Due Date: 02/17/22

CLIENT: G&G Power

Custom Seal Required?

Yes

No

Seal Material

Yes

No

Delivery/Collection Purpose (optional - Client): M.T. 2/11/22

Packing Material:

Bubble wrap

Loose bag

None

Other

Biological Toxin Fragile?

Yes

No

Other

Refrigeration:

None

0-8

Temp at site

33

None

Cooler Temp:

4.2

Correction Factor:

Adj. factor = 1.02

Temp at site

33

Temp should be above freezing on 0/1/1

Temperature of sample container (Sample or 100cc cooling device) not below

Cooler Temp Corrected (C):

4.4

USDA Regulated Soil? YES (water sample)

Do samples originate from a regulated area (one with more than 1000 lbs of soil, oil, or other regulated material)?

Yes

No

Do samples originate from a foreign jurisdiction (including Hawaii and Alaska territories)?

Yes No

Number of Samples Received:

1

Yes

No

Are samples stored in a cool box?

Yes

Yes

No

Are samples stored in a cooler?

Yes

Yes

No

Each Turn at hand (How long?)

Yes

Yes

No

Seal type (optional)

Yes

Yes

No

Comments (optional)

Yes

Yes

No

Comments (optional)

Yes

Yes

No

Comments (optional) Sample (Date) Arrived?

Yes

Yes

No

Sample Label Name (Date)?

Yes

Yes

No

Number of Samples Received (Optional)

Number of Samples (Optional)

Yes

Yes

No

High Level Assessment?

Yes

Yes

No

Is a Seal or Safety Seal Present?

Yes

Yes

No

COMMENTS/ISSUES/REMARKS

Lead Date Required: Yes No

CLIENT SIGNATURE/RECOGNITION

LAB ID OF SAMPLE NAME

Project Manager

Date/Time

Project Manager SCURS Review

Date:

Project Manager IIR Review

Date:

Handwritten signature

CHAIN OF CUSTODY / Analytical Request Document
 The Department of Justice, Federal Bureau of Investigation, Laboratory Division

Section 1 Requester Information		Section 2 Requester Agency		Section 3 Requester Name	
Requester Name	Requester Address	Requester Agency	Requester Agency Address	Requester Name	Requester Title
Requester Phone	Requester Fax	Requester Agency	Requester Agency Address	Requester Name	Requester Title
Requester Email	Requester Contact	Requester Agency	Requester Agency Address	Requester Name	Requester Title
Requester Case No.	Requester Case Description	Requester Agency	Requester Agency Address	Requester Name	Requester Title
Requester Case No.	Requester Case Description	Requester Agency	Requester Agency Address	Requester Name	Requester Title
Requester Case No.	Requester Case Description	Requester Agency	Requester Agency Address	Requester Name	Requester Title

ITEM #	DESCRIPTION	QTY	UNIT	DATE	INITIALS	REMARKS	ANALYSIS		DATE	INITIALS
							TEST	RESULT		
1
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20

Approved for Release by NSA on 05-08-2014 pursuant to E.O. 13526

1 1410 October 2013 1314 2013

Handwritten: 20
 Pico Analytical

CHAIN-OF-CUSTODY / Analytical Request Document
 This document is used to document the physical custody of the sample from collection to analysis.

Section A: Requester Information
 Requester Name: Requester: [unclear]
 Requester Title: [unclear]
 Requester Organization: [unclear]

Section B: Sample Information
 Sample Name: [unclear]
 Sample ID: [unclear]
 Sample Location: [unclear]
 Sample Date: [unclear]
 Sample Time: [unclear]
 Sample Quantity: [unclear]

Section C: Collection Information
 Collector Name: [unclear]
 Collector Title: [unclear]
 Collector Organization: [unclear]
 Collection Date: [unclear]
 Collection Time: [unclear]
 Collection Location: [unclear]

Section D: Analysis Information
 Analysis Type: [unclear]
 Analysis Method: [unclear]
 Analysis Date: [unclear]
 Analysis Time: [unclear]
 Analysis Location: [unclear]

Section E: Custody Information
 Custodian Name: [unclear]
 Custodian Title: [unclear]
 Custodian Organization: [unclear]
 Custody Date: [unclear]
 Custody Time: [unclear]
 Custody Location: [unclear]

Item #	Description	Date	Time	Location	Signature	Title	Organization	Initials	Remarks
1	Sample ID: [unclear]								
2	[unclear]								
3	[unclear]								
4	[unclear]								
5	[unclear]								
6	[unclear]								
7	[unclear]								
8	[unclear]								
9	[unclear]								
10	[unclear]								
11	[unclear]								
12	[unclear]								

Section F: Additional Information
 Date of Issue: [unclear]
 Date of Receipt: [unclear]
 Date of Analysis: [unclear]
 Date of Custody: [unclear]

Section G: Signatures
 Requester Signature: [unclear]
 Collector Signature: [unclear]
 Analysis Signature: [unclear]
 Custodian Signature: [unclear]

APPENDIX B

SiREM Laboratory Sorption and Desorption Treatability Study and Site Material Characterization Report

Prepared for:

Geosyntec Consultants, Inc.
1255 Roberts Blvd, Suite 200
Kennesaw, Georgia 30144

FINAL

Laboratory Sorption and Desorption Treatability Study and Site Material Characterization

Hammond Ash Pond-2, Floyd County, Georgia

Prepared by:



130 Stone Rd W
Guelph, Ontario N1G 3Z2

SiREM Ref: GW6581B

27 January 2022
Revised: 10 August 2022

siremlab.com

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Appendix D:	Sequential Extraction Procedure Results
Appendix E:	Summary of Sorption Test Dissolved Metals, ORP and pH Results
Appendix F:	Summary of Desorption Test Dissolved Metals, ORP and pH Results
Appendix G:	External Laboratory Reports

LIST OF ABBREVIATIONS

%	percent
°C	degrees Celsius
µg/g	micrograms per gram
µm	micrometers
AEC	anion exchange capacity
AP	Ash Pond
CEC	cation exchange capacity
Co	cobalt
EDXA	energy dispersive X-ray analysis
g	grams
g/L	grams per liter
g/mL	grams per milliliter
Geosyntec	Geosyntec Consultants, Inc.
HDPE	high density polyethylene
ICP-MS	inductively coupled plasma-mass spectrometry
L	liter
Li	lithium
meq/100g	milliequivalents per 100 grams
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
min	minutes
mL	milliliter
mV	millivolts
ORP	oxidation-reduction potential
RPM	revolutions per minute
SEM	scanning electron microscopy
SEP	sequential extraction procedure
SGS	SGS Environmental
SiREM	SiREM Laboratory
TOC	total organic carbon
XRD	X-ray diffraction

1. INTRODUCTION

Geosyntec Consultants, Inc. (Geosyntec) retained SiREM Laboratory (SiREM) to characterize geologic materials and perform a laboratory treatability study to assess the sorption and desorption behaviour of cobalt (Co) in groundwater and geologic materials from the Hammond Ash Pond (AP)-2 site in Floyd County, GA (the Site).

The geologic materials were collected by Geosyntec personnel on 26 January 2021, 27 January 2021 and 2 February 2021 and were received by SiREM on 23 March 2021. The groundwater labelled HGWA-5, which is groundwater from a background well, was collected by Geosyntec personnel on 26 May 2021 and was received by SiREM on 31 May 2021. Upon arrival at SiREM, geological material and groundwater were stored at 4 degrees Celsius (°C) until required for reactor construction. Geological material samples were submitted for baseline characterization prior to the sorption and desorption tests and locations for testing were selected based on the baseline characterization results. The chain of custodies received with these samples are provided in Appendix A.

The remainder of this report is divided into two sections. Section 2 presents the experimental materials and methods and Section 3 presents the results.

2. MATERIALS AND METHODS

The following sections describe the materials and methods used for geologic material baseline characterization (Section 2.1), sorption test reactor construction and incubation (Section 2.2), desorption test reactor construction and incubation (Section 2.3), and sorption and desorption test sampling and analysis (Section 2.4).

2.1 Site Geologic Material Baseline Characterization

Geologic material baseline characterization was completed through SiREM^{MNA}™ testing and included anion exchange capacity (AEC), cation exchange capacity (CEC), total sulfur, total sulfide, total organic carbon (TOC) content, total metals, X-ray diffraction (XRD), scanning electron microscopy (SEM) with energy dispersive X-ray analysis (EDXA) and a follow up sequential extraction procedure (SEP) on select aquifer solid samples.

On 25 March 2021 geologic material samples were individually homogenized and subsampled in a chemical fume hood prior to shipping to an external laboratory for analysis. Samples for SEP were stored in the cold room until the results from the total metals analysis were received. Samples for SEP were then subsampled in a chemical fume hood and shipped to the external laboratory for analysis. The samples were shipped to external laboratories for analysis as outlined in the summary table below. Prior to performing the XRD analysis, SGS Environmental (SGS, Lakefield, ON) performed whole rock analysis on the samples to have as a reference for the mineral identification by XRD.

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
Sequential extraction procedure	Methods SW846, 6010B and 3010A for SEP Steps 1-7	Eurofins TestAmerica, Knoxville, Tennessee

2.2 Sorption Test Reactor Construction and Incubation

Two sample locations of geological material were selected from the Hammond AP-2 Site to be tested for the sorption test. On 25 March 2021 the material from the DPT07 (10-20) and DPT08 (10-20) locations were homogenized by manually mixing for reproducibility between replicates. Reactors were constructed on 2 July 2021 by filling 250 milliliter (mL) (nominal volume) high density polyethylene (HDPE) Nalgene® bottles (Systems Plus, New Hamburg, ON) with 100 grams (g) of homogenized geologic material. Reactors were constructed in duplicate with an additional set of duplicate reactors constructed to be used for sampling at Time 0.

After adding geologic material to enough reactors to represent five testing concentration conditions on 2 July 2021, five separate volumes of HGWA-5 Site groundwater were spiked with Co to target the concentration levels for the sorption test as listed in Table 1A. For each concentration level, 1.4 liters (L) of Site groundwater was spiked with Co as a 3 gram per liter (g/L) cobalt chloride (Sigma-Aldrich, Oakville, ON) stock solution. Once the groundwater for each concentration level was spiked, the reactors containing geologic material were each amended with 150 mL of the appropriately spiked groundwater. Note that “target” spiked concentrations and “actual concentrations” (as determined by subsequent laboratory analyses) may not be exactly the same. However, the sorption calculations used the measured spiked concentrations and not the target concentrations.

After construction on 5, 6, 7 and 8 July 2021, the reactors were placed on an end-over-end tumbler at room temperature and mixed for a period of 7 days. Table 1A summarizes the details of reactor

construction, incubation, amendments, sampling schedule and parameters of the sorption test reactors.

2.3 Desorption Test Reactor Construction and Incubation

One sample location from Hammond AP-2 was selected to be tested for the desorption test. Using the materials from the DPT08 (10-20) location used in the sorption test were used to evaluate desorption of Co from aquifer materials collected in the vicinity of a Co-impacted well. Reactors were constructed by filling 250 mL (nominal volume) HDPE Nalgene® bottles (Systems Plus, New Hamburg, ON) with 100 g of geologic material and 150 mL of HGWA-5 Site groundwater.

Reactors were constructed in duplicate with an additional set of duplicate reactors constructed to be used for sampling at Time 0. One set of reactors were incubated at laboratory atmospheric (i.e., ambient) to evaluate desorption of Co. After construction on 8 September 2021, laboratory atmospheric condition reactors were placed on an end-over-end tumbler at room temperature and continually mixed for 7 days.

Table 1B summarizes the reactor construction, incubation, amendments, sampling schedule and parameters of the desorption test reactors.

2.4 Sorption and Desorption Test Sampling and Analysis

2.4.1 Reactor Sampling

Aqueous samples were collected from the sorption test reactors at Time 0 and after 7 days of incubation. Aqueous samples from the spiked Site groundwater from each concentration level which had not been combined with Site geological material was also sampled at Time 0. Aqueous samples were collected from the desorption test reactors at time 0 and after 7 days of incubation. Both sorption and desorption test reactors and the groundwater sampled at baseline were sampled for analysis of pH, oxidation-reduction potential (ORP), and dissolved metals.

Prior to sampling, contents of the reactors were transferred to 250 mL centrifuge bottles and centrifuged for 5 minutes (min) at 5,000 revolutions per minute (RPM) to separate the solid and aqueous phases. Once separated, the supernatant was sampled using 30 mL HDPE plastic syringes (Fisher Scientific, Whitby, ON).

The sampling and analytical methods employed by SiREM and SGS are described in Sections 2.3.2 to 2.3.4.

2.4.2 Analysis of pH

The pH measurements were performed using an Oakton pH spear with a combination pH electrode (Oakton, Vernon Hills, IL). A 0.5 mL sample was collected and placed into a 1.5 mL micro-centrifuge tube. The pH was measured on the lab bench. The pH spear was calibrated at each sampling event according to the manufacturer's instructions using pH 4.0, 7.0 and 10 standards.

2.4.3 Analysis of ORP

The ORP measurements performed using an Omega PHH-127 Multi-Parameter Water Quality Monitor with ORP Probe (Omega, Laval, QC). A 1.2 mL sample was collected and placed in a 5 mL Thermo-Fisher vial. The ORP was measured on the lab bench immediately after sampling. The ORP probe was tested at each sampling event according to the manufacturer's instructions using Zobell's solution.

2.4.4 Analysis of Dissolved Metals at SGS Environmental

Analysis of dissolved metals was completed at SGS Environmental (SGS) in Lakefield, ON using an inductively coupled plasma-mass spectrometer (ICP-MS) based on Standard Method 3030B, EPA Method 200.8 and NIOSH 7300 Issue 2.

A 30 mL sample was collected and filtered through a 0.45 micrometer (μm) nylon syringe filter (Mandel Scientific, Guelph, ON) into a 30 mL HDPE bottle with a nitric acid preservative. Once collected, the samples were packaged on ice in a cooler and shipped overnight to SGS.

3. RESULTS

Appendix B presents the results of the baseline chemical characterization, Appendix C presents the baseline mineralogical results and Appendix D present the SEP results. Appendices E and F present the results of the sorption and desorption tests respectively. The tables in Appendices E and F present results for dissolved metals, pH and ORP as well as the recorded masses of Site geological materials and Site groundwater amended to each respective reactor. AEC and CEC are presented in units of milliequivalents per 100 grams (meq/100g). Total sulfur, total sulfide, TOC, whole rock analysis, XRD are presented as a percentage (%) of the total weight of the geologic material. Bulk metals results are presented in units of micrograms per gram ($\mu\text{g/g}$). SEP results are presented in milligrams per kilogram (mg/kg). Concentrations of dissolved metals are provided in milligrams per liter (mg/L), ORP results are provided in millivolts (mV) and reactor weights are provided in g. The volume of Site groundwater amended to each reactor was calculated from the measured mass of water added to the reactor using a density of 1 gram per milliliter (g/mL). The external laboratory reports are presented in Appendix G.

TABLES

TABLE 1A: SUMMARY OF SORPTION TEST REACTORS, CONTROLS, TREATMENTS, AND AMENDMENTS
Hammond Ash Pond-2, Floyd County, Georgia

Groundwater Sample ID	Geologic Material Sample ID	Treatment	Number of Reactors	Number of Sacrificial Reactors	Reactor Numbers	Incubation Period and Sampling Frequency	Reactor Contents		Amendments	Analyses	
							Groundwater (L)	Geologic Material (kg)	Cobalt	Dissolved Co	pH/ORP
HGWA-5	DPT07(32-42)	Concentration Level 1	2	2	13 & 14	7 Days (Sampled at Time 0 and on Day 7)	0.150	0.100	Spiked with 0.1 mg/L Cobalt.	4	4
		Concentration Level 2	2	2	15 & 16		0.150	0.100	Spiked with 0.2 mg/L Cobalt.	4	4
		Concentration Level 3	2	2	17 & 18		0.150	0.100	Spiked with 0.3 mg/L Cobalt.	4	4
		Concentration Level 4	2	2	19 & 20		0.150	0.100	Spiked with 0.4 mg/L Cobalt.	4	4
		Concentration Level 5	2	2	21 & 22		0.150	0.100	Spiked with 0.5 mg/L Cobalt.	4	4
	DPT08(10-20)	Concentration Level 1	2	2	23 & 24	7 Days (Sampled at Time 0 and on Day 7)	0.150	0.100	Spiked with 0.1 mg/L Cobalt.	4	4
		Concentration Level 2	2	2	25 & 26		0.150	0.100	Spiked with 0.2 mg/L Cobalt.	4	4
		Concentration Level 3	2	2	27 & 28		0.150	0.100	Spiked with 0.3 mg/L Cobalt.	4	4
		Concentration Level 4	2	2	29 & 30		0.150	0.100	Spiked with 0.4 mg/L Cobalt.	4	4
		Concentration Level 5	2	2	31 & 32		0.150	0.100	Spiked with 0.5 mg/L Cobalt.	4	4

Notes:

- - not applicable
- Co - cobalt
- mg/L - milligrams per liter
- ID - identification
- kg - kilogram
- L - liter
- ORP - oxidation-reduction potential

TABLE 1B: SUMMARY OF DESORPTION TEST REACTORS, CONTROLS, TREATMENTS, AND AMENDMENTS
 Hammond Ash Pond-2, Floyd County, Georgia

Location	Groundwater Sample ID	Geologic Material Sample ID	Treatment	Number of Reactors	Number of Sacrificial Reactors	Reactor Numbers	Incubation Period and Sampling Frequency	Reactor Contents		Analyses		
								Groundwater (L)	Geologic Material (kg)	Dissolved Co	Target Constituents	pH/ORP
Hammond AP-2	HGWA-5	DPT08	Laboratory Atmospheric Conditions	2	2	7 & 8	7 Days (Sampled at Time 0 and on Day 7)	0.150	0.100	4	Co	4

Notes:

- - not applicable
- Co - cobalt
- ID - identification
- kg - kilogram
- L - liter
- mL - milliliters
- mV - millivolt
- ORP - oxidation-reduction potential

]

**APPENDIX A:
Chain of Custody Documentation**

*Project Name Hazardous APC AP3 AP5 ACM evaluation		*Project # 000011619 - 000001472		Analysis																	
*Project Manager William Law		*Company Geosyntec Consultants		Aerial overflight imagery (AOI)	Satellite imagery (SIRI)	Total lead	Total sulfur	Degrass (arbitrary values)	Total PCBs (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Total metal (ppm)	Preservative Key	
*Project Address www.geosyntec.com		Address Street 1200 Robson Blvd. Apt. Suite 204																		City Montreal		State/Province QC		Country USA		*Phone # 478.202.9573		*Sampler's Signature		*Sampler's Printed Name		0: None 1: ACI 2: Other 3: Other 4: Other 5: Other 6: Other
*Client Sample ID		Sampling Date		Sampling Time		Matrix		# of Containers												Other information	
✓ 0P101_APC_012621_10-02		1/26/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P103_APC_012721_10-00		05/27/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P108_APC_012821_10-00		5/28/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P107_APC_000021_10-00		2/3/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P101_APC_012921_10-04		1/29/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P103_APC_000121_10-00		2/3/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P103_APC_000021_10-04		2/3/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P104_APC_000121_10-01		2/3/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P104_APC_012821_10-00		1/28/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
✓ 0P110_APC_012721_10-00		1/27/21				S		2												Repeat metal conc for Mn, Cr, Pb, Cu, Fe, Ni, Mg	
*Billing Information		*Turnaround Time Requested		*For Lab Use Only										*For Lab Use Only							
P.O. #		Normal <input checked="" type="checkbox"/> Rush <input type="checkbox"/>		Order Condition: <u>Good</u>										Order Condition:							
*Bill To: Special with PM on how to purchase services				Order Temperature: <u>APC</u>										Order Temperature:							
				Custody Seal: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>										Custody Seal:							
				Project #										Project #							
*Submitted By Signature <u>William Law</u>		*Received By Signature <u>Nathanael Brent</u>		*Submitted By Signature		*Received By Signature		*Submitted By Signature		*Received By Signature		*Submitted By Signature		*Received By Signature							
*Printed Name William Law		*Printed Name Nathanael Brent		*Printed Name		*Printed Name		*Printed Name		*Printed Name		*Printed Name		*Printed Name							
*Title Geosyntec Consultant		*Title SiREM		*Title		*Title		*Title		*Title		*Title		*Title							
*Date/Time 1/26/21 14:00		*Date/Time 23 Jun 21 13:35		*Date/Time		*Date/Time		*Date/Time		*Date/Time		*Date/Time		*Date/Time							

Project Name Investigation of M. Evidentiary		Project # 606561/1174		Analysis																																							
Project Manager William K. Jones		Laboratory Genosynthetic Consultants		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Sample 12	Sample 13	Sample 14	Sample 15	Sample 16	Sample 17	Sample 18	Sample 19	Sample 20																				
Client Name William K. Jones		Case # 3031411																						Retention Date																			
Address 1234 Main St, Blue Bell, PA 19380		City US A																						1. None																			
Phone # 678 789 9876		Fax # 987 654 3210																						2. None																			
Project Lead Thomas Koster		Project Manager Thomas Koster																						3. None																			
Client Agency # 606561-5		Sample # 606561-5		Matrix L		Ref. Control 4		4. None																																			
								5. None																																			
								6. None																																			
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								17. None																																			
								18. None																																			
								19. None																																			
								20. None																																			

(Signature)

Sample Information ID # 606561/1174	Temperature (F) <input type="checkbox"/> <input type="checkbox"/>	Double Checked <input checked="" type="checkbox"/> Good	Per Lab use only Received 3 of the A-D, last one was sample 62-2
		Single Checked <input type="checkbox"/> 11°C	
		Checked Again <input checked="" type="checkbox"/> <input type="checkbox"/>	

Signature	Signature	Signature	Signature	Signature	Signature
<i>Thomas Koster</i>	<i>John Kibbett</i>				
Thomas Koster	John Kibbett				
Genosynthetic	SiREM				
Date/Time 5/27/11 12:00	Date/Time 08/31/11 1:00 pm				

**APPENDIX B:
Baseline Chemical Characterization Results**

Analytical Results

SiREM File Reference: S-7677

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14;GW6581/22
Date Samples Received: March 23, 2021
Date Samples Analyzed: April 4, 12, 13 and 29, 2021

Client Sample ID	Laboratory Sample ID	Client Sample Date	Anion Exchange Capacity	Cation Exchange Capacity	Total Sulfur	Total Sulfide	Total Organic Carbon
			meq/100g	meq/100g	%	%	%
DPT11_AP2_012721_30-40	S-7677-2	27-Jan-21	6.78	8.98	0.034	0.04	0.11
DPT08_AP2_012621_10-20	S-7677-3	26-Jan-21	5.96	6.61	0.033	0.05	0.16
DPT07_AP2_020221_10-20	S-7677-4	2-Feb-21	6.84	10.25	0.811	0.85	1.06
DPT09_AP2_012621_20-30	S-7677-9	26-Jan-21	5.17	11.91	0.030	0.04	0.48
DPT10_AP2_012721_25-35	S-7677-10	27-Jan-21	6.19	10.62	0.014	< 0.04	0.15

Comments:

% - percent
< - compound not detected, the associated value is the detection limit
meq/100g - milliequivalents per 100 grams

Analyst:

Results approved:

Date:




Kela Ashworth, B.Sc.
Senior Laboratory Technician

Michael Healey, B.Sc.
Laboratory Supervisor I

27-Aug-21



Analytical Results - Total Metals

SiREM File Reference: S- S-7677

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14;GW6581/22
Date Samples Received: March 23, 2021
Date Samples Analyzed: April 15, 2021

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
DPT11_AP2_012721_30-40	S-7677-2	27-Jan-21	1.0	27	7	4.6	39,000	57,000	190
DPT08_AP2_012621_10-20	S-7677-3	26-Jan-21	1.0	45	10	8.2	24,000	48,000	230
DPT07_AP2_020221_10-20	S-7677-4	2-Feb-21	2.2	46	14	9.4	31,000	77,000	170
DPT09_AP2_012621_20-30	S-7677-9	26-Jan-21	0.8	35	13	4.7	27,000	59,000	380
DPT10_AP2_012721_25-35	S-7677-10	27-Jan-21	0.9	33	14	5.3	36,000	69,000	540

Comments:

µg/g - microgram per gram

Analyst:

Results approved:

Date:

Kela Ashworth, B.Sc.
Senior Laboratory Technician

Michael Healey, B.Sc.
Laboratory Supervisor I

27-Aug-21

Analytical Results - Whole Rock Analysis

SiREM File Reference: S- S-7677

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14;GW6581/22
Date Samples Received: March 23, 2021
Date Samples Analyzed: April 6, 2021

Client Sample ID	Laboratory Sample ID	Client Sample Date	Quartz (SiO ₂)	Aluminum Oxide (Al ₂ O ₃)	Ferric Oxide (Fe ₂ O ₃)	Magnesium Oxide (MgO)	Calcium Oxide (CaO)	Sodium Oxide (Na ₂ O)	Potassium Oxide (K ₂ O)	Titanium Dioxide (TiO ₂)	Phosphorous Pentoxide (P ₂ O ₅)	Manganese Oxide (MnO)	Chromium (III) Oxide (Cr ₂ O ₃)	Vanadium Oxide (V ₂ O ₅)	Loss on Ignition
			%	%	%	%	%	%	%	%	%	%	%	%	%
DPT11_AP2_012721_30-40	S-7677-2	27-Jan-21	72.2	11.9	6.23	0.61	0.19	0.12	1.40	0.97	0.09	0.02	< 0.01	0.02	5.90
DPT08_AP2_012621_10-20	S-7677-3	26-Jan-21	78.6	10.3	3.90	0.46	0.14	0.14	1.53	0.60	0.07	0.04	0.01	< 0.01	4.03
DPT07_AP2_020221_10-20	S-7677-4	2-Feb-21	65.6	16.3	4.99	1.04	0.24	0.39	2.70	0.74	0.11	0.02	0.03	0.02	7.11
DPT09_AP2_012621_20-30	S-7677-9	26-Jan-21	72.9	12.0	4.17	0.66	0.38	0.26	1.54	0.96	0.07	0.06	< 0.01	0.01	6.11
DPT10_AP2_012721_25-35	S-7677-10	27-Jan-21	67.3	14.2	5.66	1.03	0.43	0.56	2.21	1.02	0.12	0.07	0.01	0.01	6.69

Comments:

< - compound not detected, the associated value is the reporting limit.
% - percent

Analyst:



Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:



Michael Healey, B.Sc.
Laboratory Supervisor I

Date:

27-Aug-21

**APPENDIX C:
Baseline Mineralogical Results**

Analytical Results - Rietveld Quantitative X-Ray Diffraction

SIREM File Reference: S- S-7677

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14;GW6581/22
Date Samples Received: March 23, 2021
Date Samples Analyzed: April 16, 2021

Client Sample ID	Laboratory Sample ID	Client Sample Date	Quartz	Kaolinite	Muscovite	Microcline	Rutile	Albite	Anatase	Pyrite	Orthoclase	Calcite	Diopside
			wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %	wt %
DPT11_AP2_012721_30-40	S-7677-2	27-Jan-21	59.3	19.1	16.4	1.5	0.9	2.3	0.5	-	-	-	-
DPT08_AP2_012621_10-20	S-7677-3	26-Jan-21	65.6	12.7	17.2	1.7	0.5	2.1	0.2	-	-	-	-
DPT07_AP2_020221_10-20	S-7677-4	2-Feb-21	43.7	12.7	33.1	3.0	1.1	4.5	0.8	1.3	-	-	-
DPT09_AP2_012621_20-30	S-7677-9	26-Jan-21	62.6	20.4	7.9	-	0.3	4.3	1.0	0.4	0.6	0.2	2.4
DPT10_AP2_012721_25-35	S-7677-10	27-Jan-21	45.1	22.0	23.0	-	0.7	7.0	0.4	-	1.9	-	-

Comments:
-- not identified by analyst
wt % - weight percent

Analyst:



Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:



Michael Healey, B.Sc.
Laboratory Supervisor I

Date:

27-Aug-21

**APPENDIX D:
Sequential Extraction Procedure Results**

Analytical Results - Sequential Extraction Procedure

SiREM File Reference: S- S-7677

Client: Geosyntec Consultants Inc.
Client Project Number: GW6581B/14;GW6581/22
Date Samples Received: March 23, 2021
Date Samples Analyzed: April 20, 2021

Client Sample ID	Laboratory Sample ID	Client Sample Date	SEP Step 1	SEP Step 2	SEP Step 3	SEP Step 4	SEP Step 5	SEP Step 6	SEP Step 7	SEP Sum of Steps 1-7	Total	
			Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt	Cobalt
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
DPT11_AP2_012721_30-40	S-7677-2	27-Jan-21	<0.23	<0.24	0.33 J	2.1 J	<0.77	2.0 J	1.4 J	5.9	7.0 J	
DPT08_AP2_012621_10-20	S-7677-3	26-Jan-21	1 J	0.3 J	5.7	2.6 J	<0.68	1.8 J	0.41 J	12	7.5	
DPT07_AP2_020221_10-20	S-7677-4	2-Feb-21	7.7 J	0.79 J	0.25 J	0.68 J	2.2 J	2.2 J	0.64 J	14	11	

Comments:
 < - compound not detected, the associated value is the method detection limit.
 J - result is less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value.
 mg/kg - milligram per kilogram

Analyst:



Kela Ashworth, B.Sc.
Senior Laboratory Technician

Results approved:



Michael Healey, B.Sc.
Laboratory Supervisor I

Date:

27-Aug-21

**APPENDIX E:
Summary of Sorption Test Dissolved Metals, ORP and pH Results**

APPENDIX E: SUMMARY OF SORPTION TEST DISSOLVED METALS, ORP AND pH RESULTS
Hammond Ash Pond-2, Floyd County, Georgia

SIREM

Groundwater Sample ID	Site Material	Treatment	Date	Day	Replicate	Dissolved Cobalt	Reactor Weight	Reactor + Soil Weight	Mass Soil	Reactor, Soil + Water Weight	Mass Water	pH	ORP		
						mg/L	g	g	g	g	g		mV		
HGWA-5	DPT07(32-42)	Concentration Level 1	5-Jul-21	0	Spiked Aqueous Concentration	0.10	--	--	--	--	--	--	--	--	
					HAP2DPT07_13a	1.54	37.46	137	100.01	284	146.90	4.23	200		
					HAP2DPT07_14a	1.49	37.03	136	99.39	283	146.72	4.24	204		
			Average Concentration (mg/L)	1.52	37.25	137	99.70	284	146.81	4.24	202				
			12-Jul-21	7	HAP2DPT07_13b	3.25	37.16	137	99.93	282	145.33	3.41	217		
					HAP2DPT07_14b	3.46	37.04	136	99.44	284	147.76	3.43	246		
		Average Concentration (mg/L)			3.36	37.10	137	99.69	283	146.55	3.42	232			
		Concentration Level 2	5-Jul-21	0	Spiked Aqueous Concentration	0.23	--	--	--	--	--	--	--	--	--
					HAP2DPT07_15a	1.43	37.08	138	100.43	284	146.98	4.33	225		
					HAP2DPT07_16a	1.50	37.37	136	98.91	287	150.58	4.30	220		
			Average Concentration (mg/L)	1.47	37.23	137	99.67	286	148.78	4.32	223				
			12-Jul-21	7	HAP2DPT07_15b	3.35	37.03	136	99.31	288	151.66	3.83	239		
					HAP2DPT07_16b	3.74	37.05	136	99.40	281	144.75	3.28	279		
		Average Concentration (mg/L)			3.55	37.04	136	99.36	285	148.21	3.56	259			
		Concentration Level 3	6-Jul-21	0	Spiked Aqueous Concentration	0.33	--	--	--	--	--	--	--	--	--
					HAP2DPT07_17a	1.65	37.35	137	99.98	280	142.28	4.27	155		
					HAP2DPT07_18a	1.84	36.93	140	102.74	283	143.34	4.26	204		
			Average Concentration (mg/L)	1.75	37.14	139	101.36	281	142.81	4.27	180				
			13-Jul-21	7	HAP2DPT07_17b	3.65	37.48	137	99.34	281	144.06	3.26	233		
					HAP2DPT07_18b	3.73	37.55	138	100.36	282	144.28	3.76	226		
		Average Concentration (mg/L)			3.69	37.52	137	99.85	282	144.17	3.51	230			
		Concentration Level 4	7-Jul-21	0	Spiked Aqueous Concentration	0.44	--	--	--	--	--	--	--	--	--
					HAP2DPT07_19a	1.76	36.98	136	99.39	284	147.67	4.33	216		
					HAP2DPT07_20a	1.82	37.37	136	98.81	281	144.32	4.24	222		
			Average Concentration (mg/L)	1.79	37.18	136	99.10	282	146.00	4.29	219				
			14-Jul-21	7	HAP2DPT07_19b	3.90	36.93	135	98.01	293	147.56	3.45	238		
					HAP2DPT07_20b	3.82	36.99	132	95.32	275	142.30	3.38	260		
		Average Concentration (mg/L)			3.86	36.96	134	96.67	279	144.93	3.42	249			
		Concentration Level 5	8-Jul-21	0	Spiked Aqueous Concentration	0.55	--	--	--	--	--	--	--	--	--
					HAP2DPT07_21a	1.49	36.94	138	100.57	287	149.16	4.29	186		
					HAP2DPT07_22a	1.57	37.05	136	98.63	282	145.82	4.45	187		
			Average Concentration (mg/L)	1.53	37.00	137	99.60	284	147.49	4.37	187				
15-Jul-21	7		HAP2DPT07_21b	4.10	36.82	136	99.53	283	146.80	3.27	233				
			HAP2DPT07_22b	4.06	37.28	137	99.60	280	142.89	3.51	230				
		Average Concentration (mg/L)	4.08	37.05	137	99.57	281	144.85	3.39	232					
HGWA-5	DPT08(10-20)	Concentration Level 1	5-Jul-21	0	Spiked Aqueous Concentration	0.10	--	--	--	--	--	--	--	--	
					HAP2DPT08_23a	0.0844	36.93	136	99.33	284	147.32	6.51	172		
					HAP2DPT08_24a	0.0789	36.94	135	98.53	285	149.37	6.45	166		
			Average Concentration (mg/L)	0.0817	36.94	136	98.93	284	148.35	6.48	169				
			12-Jul-21	7	HAP2DPT08_23b	0.114	37.03	137	99.71	281	144.41	5.64	263		
					HAP2DPT08_24b	0.116	37.08	136	98.79	280	144.37	5.29	265		
		Average Concentration (mg/L)			0.115	37.06	136	99.25	281	144.39	5.47	264			
		Concentration Level 2	5-Jul-21	0	Spiked Aqueous Concentration	0.23	--	--	--	--	--	--	--	--	--
					HAP2DPT08_25a	0.102	37.33	136	98.33	281	145.41	6.50	155		
					HAP2DPT08_26a	0.0926	36.91	137	100.04	283	146.41	6.44	155		
			Average Concentration (mg/L)	0.0973	37.12	136	99.19	282	145.91	6.47	155				
			12-Jul-21	7	HAP2DPT08_25b	0.122	37.06	137	100.02	283	145.82	5.55	257		
					HAP2DPT08_26b	0.138	36.86	136	99.36	284	147.40	5.45	261		
		Average Concentration (mg/L)			0.130	36.96	137	99.69	283	146.61	5.50	259			
		Concentration Level 3	6-Jul-21	0	Spiked Aqueous Concentration	0.33	--	--	--	--	--	--	--	--	--
					HAP2DPT08_27a	0.120	37.07	137	99.56	280	143.51	6.51	114		
					HAP2DPT08_28a	0.113	36.60	137	100.01	281	143.96	6.45	116		
			Average Concentration (mg/L)	0.117	36.84	137	99.79	280	143.74	6.48	115				
			13-Jul-21	7	HAP2DPT08_27b	0.149	37.00	135	98.24	276	140.75	5.61	190		
					HAP2DPT08_28b	0.129	36.66	136	99.48	278	141.75	5.51	188		
		Average Concentration (mg/L)			0.139	36.83	136	98.86	277	141.25	5.56	189			
		Concentration Level 4	7-Jul-21	0	Spiked Aqueous Concentration	0.44	--	--	--	--	--	--	--	--	--
					HAP2DPT08_29a	0.138	36.60	136	99.87	281	144.46	6.36	156		
					HAP2DPT08_30a	0.150	36.64	137	100.51	280	142.51	6.48	155		
			Average Concentration (mg/L)	0.144	36.62	137	100.19	280	143.49	6.42	156				
			14-Jul-21	7	HAP2DPT08_29b	0.0948	36.60	137	100.00	281	144.76	5.69	196		
					HAP2DPT08_30b	0.131	36.63	135	98.51	283	147.71	5.85	194		
		Average Concentration (mg/L)			0.113	36.62	136	99.26	282	146.24	5.67	195			
		Concentration Level 5	8-Jul-21	0	Spiked Aqueous Concentration	0.55	--	--	--	--	--	--	--	--	--
					HAP2DPT08_31a	0.191	36.63	137	100.07	280	143.34	6.43	160		
					HAP2DPT08_32a	0.168	36.59	137	100.36	281	143.84	6.54	156		
			Average Concentration (mg/L)	0.180	36.61	137	100.22	280	143.59	6.49	158				
15-Jul-21	7		HAP2DPT08_31b	0.168	36.59	136	99.64	284	147.27	5.42	164				
			HAP2DPT08_32b	0.140	36.63	137	100.47	280	143.23	5.57	164				
		Average Concentration (mg/L)	0.154	36.61	137	100.06	282	145.25	5.50	164					

Notes:

- - not applicable
- < - compound not detected, the associated value is the detection limit
- mg/L - milligrams per liter
- mL - milliliter
- ND - not detected
- g - grams
- mL - milliliters
- mV - millivolts
- ORP - oxidation reduction potential

**APPENDIX F:
Summary of Desorption Test Dissolved Metals, ORP and pH Results**

APPENDIX F: SUMMARY OF DESORPTION TEST DISSOLVED METALS, ORP AND pH RESULTS
 Hammond Ash Pond-2, Floyd County, Georgia

SIREM

Groundwater Sample ID	Site Material	Chemical Characteristics (Baseline Characterization)	Treatment	Date	Day	Replicate	Dissolved Cobalt	Reactor Weight	Reactor + Soil Weight	Mass Soil	Reactor, Soil + Water Weight	Mass Water	pH	ORP
							mg/L	g	g	g	g	g		
HGWA-5	DPT08 (10-20)	Cobalt: 10 µg/g	Laboratory Atmospheric Conditions	31-Aug-21	0	HAP2DPT08_7a	0.0571	36.33	136.55	100.22	286.48	149.93	6.50	241
						HAP2DPT08_8a	0.0605	36.35	136.68	100.33	287.99	151.31	6.45	232
						Average Concentration (mg/L)	0.0588	36.34	136.62	100.28	287.24	150.62	6.48	237
				15-Sep-21	7*	HAP2DPT08_7b	0.114	36.27	138.80	102.53	289.81	151.01	5.66	160
						HAP2DPT08_8b	0.167	36.38	136.50	100.12	286.13	149.63	5.38	172
						Average Concentration (mg/L)	0.141	36.33	137.65	101.33	287.97	150.32	5.52	166

Notes:

* Samples for Day 7 sampling were prepared on 8 September 2021
 < - compound not detected, the associated value is the detection limit
 g - grams
 mg/kg - milligrams per kilogram
 mg/L - milligrams per liter
 ND - not detected
 ORP - oxidation-reduction potential

**APPENDIX G:
External Laboratory Reports**

**SGS Canada Inc.**

P.O. Box 4300 - 185 Concession St.
 Lakefield - Ontario - K0L 2H0
 Phone: 705-652-2000 FAX: 705-652-6365

Project : S-7677

12-January-2022

SiREM Laboratory

Attn : Kela Ashworth

130 Stone Rd. W
 Guelph, ON
 N1G 3Z2, Canada

Phone: 519-822-2265
 Fax:519-822-3151

Date Rec. : 26 March 2021
LR Report: CA14601-MAR21

Copy: #1

CERTIFICATE OF ANALYSIS

S-7677_2_DPT11AP2

Sample ID	Sample Date & Time	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time		19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date		16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time		10:28	10:28	10:28	10:28	10:28	10:28	10:28
6: S-7677_2_DPT11AP2	25-Mar-21	< 1	57000	4.6	260	1.3	0.25	1300

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
6: S-7677_2_DPT11AP2	0.03	7	56	13	39000	10000	27	3500

Sample ID	Mn µg/g	Mo µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
6: S-7677_2_DPT11AP2	190	1.0	19	18	< 0.8	< 0.7	< 6	40

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	12-Apr-21	12-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	10:54	10:54
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	13-Apr-21	13-Apr-21

Online LIMS

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Project : S-7677

LR Report : CA14601-MAR21

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	11:02	11:00
6: S-7677_2_DPT11AP2	3900	0.47	2.6	67	16	49	0.034	0.128

Sample ID	Sulphide %	TOC %
1: Analysis Start Date	13-Apr-21	12-Apr-21 ---
2: Analysis Start Time	07:21	13:24 ---
3: Analysis Completed Date	13-Apr-21	13-Apr-21 ---
4: Analysis Completed Time	11:02	11:00 ---
6: S-7677_2_DPT11AP2	0.04	0.114 1

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Project : S-7677

12-January-2022

SiREM Laboratory

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 Fax:519-822-3151

Date Rec. : 26 March 2021
LR Report: CA14601-MAR21

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CERTIFICATE OF ANALYSIS

S-7677_3_DPT08AP2

Sample ID	Sample Date & Time	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time		19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date		16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time		10:28	10:28	10:28	10:28	10:28	10:28	10:28
7: S-7677_3_DPT08AP2	25-Mar-21	< 1	48000	8.2	200	1.3	0.20	1100

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
7: S-7677_3_DPT08AP2	0.33	10	57	13	24000	11000	45	2500

Sample ID	Mn µg/g	Mo µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
7: S-7677_3_DPT08AP2	230	1.0	24	16	< 0.8	< 0.7	< 6	79

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	12-Apr-21	12-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	10:54	10:54
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	13-Apr-21	13-Apr-21

Online LIMS

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Project : S-7677

LR Report : CA14601-MAR21

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	11:02	11:00
7: S-7677_3_DPT08AP2	2600	0.36	1.6	71	14	59	0.033	0.167

Sample ID	Sulphide %	TOC %
1: Analysis Start Date	13-Apr-21	12-Apr-21 ---
2: Analysis Start Time	07:21	13:24 ---
3: Analysis Completed Date	13-Apr-21	13-Apr-21 ---
4: Analysis Completed Time	11:02	11:00 ---
7: S-7677_3_DPT08AP2	0.05	0.155 1

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Project : S-7677

12-January-2022

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Date Rec. : 26 March 2021
LR Report: CA14601-MAR21

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CERTIFICATE OF ANALYSIS

S-7677_4_DPT07AP2

Sample ID	Sample Date & Time	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time		19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date		16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time		10:28	10:28	10:28	10:28	10:28	10:28	10:28
8: S-7677_4_DPT07AP2	25-Mar-21	< 1	77000	9.4	280	2.4	0.37	1900

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
8: S-7677_4_DPT07AP2	0.58	14	150	22	31000	20000	46	5800

Sample ID	Mn µg/g	Mo µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
8: S-7677_4_DPT07AP2	170	2.2	55	19	1.2	4.7	< 6	150

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	12-Apr-21	12-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	10:54	10:54
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	13-Apr-21	13-Apr-21

Online LIMS

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Project : S-7677

LR Report : CA14601-MAR21

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	11:02	11:00
8: S-7677_4_DPT07AP2	3300	0.64	3.0	150	30	120	0.811	1.09

Sample ID	Sulphide %	TOC %
1: Analysis Start Date	13-Apr-21	12-Apr-21 ---
2: Analysis Start Time	07:21	13:24 ---
3: Analysis Completed Date	13-Apr-21	13-Apr-21 ---
4: Analysis Completed Time	11:02	11:00 ---
8: S-7677_4_DPT07AP2	0.85	1.06 1

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Project : S-7677

12-January-2022

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Date Rec. : 26 March 2021
LR Report: CA14601-MAR21

Copy: #1

CERTIFICATE OF ANALYSIS

S-7677_9_DPT09AP2

Sample ID	Sample Date & Time	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time		19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date		16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time		10:28	10:28	10:28	10:28	10:28	10:28	10:28
13: S-7677_9_DPT09AP2	25-Mar-21	< 1	59000	4.7	410	1.9	0.25	2600

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
13: S-7677_9_DPT09AP2	0.36	13	60	14	27000	12000	35	3800

Sample ID	Mn µg/g	Mo µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
13: S-7677_9_DPT09AP2	380	0.8	25	20	< 0.8	< 0.7	< 6	55

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	12-Apr-21	12-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	10:54	10:54
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	13-Apr-21	13-Apr-21

Online LIMS

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Project : S-7677

LR Report : CA14601-MAR21

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	11:02	11:00
13: S-7677_9_DPT09AP2	3800	0.57	2.9	75	31	85	0.030	0.496

Sample ID	Sulphide %	TOC %
1: Analysis Start Date	13-Apr-21	12-Apr-21 ---
2: Analysis Start Time	07:21	13:24 ---
3: Analysis Completed Date	13-Apr-21	13-Apr-21 ---
4: Analysis Completed Time	11:02	11:00 ---
13: S-7677_9_DPT09AP2	0.04	0.479 1

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12-January-2022

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Date Rec. : 26 March 2021
LR Report: CA14601-MAR21

Copy: #1

CERTIFICATE OF ANALYSIS

S-7677_10_DPT10AP2

Sample ID	Sample Date & Time	Ag µg/g	Al µg/g	As µg/g	Ba µg/g	Be µg/g	Bi µg/g	Ca µg/g
1: Analysis Start Date		15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time		19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date		16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time		10:28	10:28	10:28	10:28	10:28	10:28	10:28
14: S-7677_10_DPT10AP2	25-Mar-21	< 1	69000	5.3	500	1.8	0.25	3000

Sample ID	Cd µg/g	Co µg/g	Cr µg/g	Cu µg/g	Fe µg/g	K µg/g	Li µg/g	Mg µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
14: S-7677_10_DPT10AP2	0.14	14	57	24	36000	17000	33	5800

Sample ID	Mn µg/g	Mo µg/g	Ni µg/g	Pb µg/g	Sb µg/g	Se µg/g	Sn µg/g	Sr µg/g
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	19:04	19:04
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	10:28	10:28
14: S-7677_10_DPT10AP2	540	0.9	24	20	< 0.8	< 0.7	< 6	66

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
1: Analysis Start Date	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	15-Apr-21	12-Apr-21	12-Apr-21
2: Analysis Start Time	19:04	19:04	19:04	19:04	19:04	19:04	10:54	10:54
3: Analysis Completed Date	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	16-Apr-21	13-Apr-21	13-Apr-21

Online LIMS

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Project : S-7677

LR Report : CA14601-MAR21

Sample ID	Ti µg/g	Tl µg/g	U µg/g	V µg/g	Y µg/g	Zn µg/g	S %	C %
4: Analysis Completed Time	10:28	10:28	10:28	10:28	10:28	10:28	11:02	11:00
14: S-7677_10_DPT10AP2	4000	0.62	2.9	81	25	82	0.014	0.179

Sample ID	Sulphide %	TOC %
1: Analysis Start Date	13-Apr-21	12-Apr-21 ---
2: Analysis Start Time	07:21	13:24 ---
3: Analysis Completed Date	13-Apr-21	13-Apr-21 ---
4: Analysis Completed Time	11:02	11:00 ---
14: S-7677_10_DPT10AP2	< 0.04	0.151 1

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	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 ₂ O ₃ , Fe ₂ O ₃ , MgO, CaO, Na ₂ O, K ₂ O, P ₂ O ₅ , MnO, TiO ₂ , Cr ₂ O ₃ ; V ₂ O ₅ ; LOI; additions BaO; Ce ₂ O ₃ ; Nd ₂ O ₃ , La ₂ O ₃ ; Pr ₂ O ₃ , Sm ₂ O ₃ ; Nb ₂ O ₅ , ThO ₂ , Ta ₂ O ₅ ; SnO ₂ ; SrO; ZrO ₂ ; HfO ₂ ; Y ₂ O ₃ ; WO ₃ ; U ₃ O ₈ ; Co; Ni ; XRF]	Approved by K. Patel

1. Parameter(s) measured, unit(s):

Silicon Dioxide (SiO₂), Aluminum Oxide (Al₂O₃), Iron(III) Oxide (Fe₂O₃), Magnesium Oxide (MgO), Calcium Oxide (CaO), Sodium Oxide (Na₂O), Potassium Oxide (K₂O), Phosphorus Pentoxide (P₂O₅), Manganese Oxide (MnO), Titanium Dioxide (TiO₂), Chromium (III) Oxide (Cr₂O₃), Vanadium Oxide (V₂O₅), LOI, in %

Barium Oxide (BaO), Cerium (III) Oxide (Ce₂O₃), Neodymium Oxide (Nd₂O₃), Lanthanum Oxide (La₂O₃), Praseodymium Oxide (Pr₂O₃), Samarium Oxide (Sm₂O₃), Niobium Pentoxide (Nb₂O₅), Thorium Dioxide (ThO₂), Tantalum Pentoxide (Ta₂O₅), Tin Dioxide (SnO₂) Uranium Oxide (U₃O₈), Cobalt (Co), Nickel (Ni), Strontium Oxide (SrO), Zirconium Dioxide (ZrO₂), Hafnium Oxide (HfO₂), Yttrium Oxide (Y₂O₃), Tungsten Trioxide (WO₃) 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 (SiO₂, Al₂O₃, Fe₂O₃, MgO, CaO, Na₂O, K₂O, P₂O₅, MnO, TiO₂, Cr₂O₃, V₂O₅). 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.

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 %
SiO ₂	0.01
Al ₂ O ₃	0.01
MgO	0.01
Na ₂ O	0.01
K ₂ O	0.01
CaO	0.01
P ₂ O ₅	0.01
TiO ₂	0.01
Cr ₂ O ₃	0.01
V ₂ O ₅	0.01
Fe ₂ O ₃	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 - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : S-7677

12-January-2022

SiREM Laboratory
Attn : Kela Ashworth

130 Stone Rd. W, Guelph
Canada, N1G 3Z2
Phone: 519-822-2265, Fax:519-822-3151

Date Rec. : 26 March 2021
LR Report: CA14602-MAR21
Reference: P.O# 800003210A

Copy: #1

CERTIFICATE OF ANALYSIS

S-7677_2_DPT11AP2

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %
6: S-7677_2_DPT11AP2	25-Mar-21	72.2	11.9	6.23	0.61	0.19	0.12	1.40	0.97	0.09	0.02	< 0.01

Sample ID	V2O5 %	LOI %	Sum %
6: S-7677_2_DPT11AP2	0.02	5.90	99.6



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CERTIFICATE OF ANALYSIS

S-7677_3_DPT08AP2

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %
7: S-7677_3_DPT08AP2	25-Mar-21	78.6	10.3	3.90	0.46	0.14	0.14	1.53	0.60	0.07	0.04	0.01

Sample ID	V2O5 %	LOI %	Sum %
7: S-7677_3_DPT08AP2	< 0.01	4.03	99.8



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CERTIFICATE OF ANALYSIS

S-7677_4_DPT07AP2

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %
8: S-7677_4_DPT07AP2	25-Mar-21	65.6	16.3	4.99	1.04	0.24	0.39	2.70	0.74	0.11	0.02	0.03

Sample ID	V2O5 %	LOI %	Sum %
8: S-7677_4_DPT07AP2	0.02	7.11	99.3



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CERTIFICATE OF ANALYSIS

S-7677_9_DPT09AP2

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %
13: S-7677_9_DPT09AP2	25-Mar-21	72.9	12.0	4.17	0.66	0.38	0.26	1.54	0.96	0.07	0.06	< 0.01

Sample ID	V2O5 %	LOI %	Sum %
13: S-7677_9_DPT09AP2	0.01	6.11	99.1



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Copy: #1

CERTIFICATE OF ANALYSIS

S-7677_10_DPT10AP2

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %
14: S-7677_10_DPT10AP2	25-Mar-21	67.3	14.2	5.66	1.03	0.43	0.56	2.21	1.02	0.12	0.07	0.01

Sample ID	V2O5 %	LOI %	Sum %
14: S-7677_10_DPT10AP2	0.01	6.69	99.4



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Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Environmental Services

Project Number/ LIMS No. Custom MIN/MI5060-MAR21

Sample Receipt: March 30, 2021

Sample Analysis: April 12, 2021

Reporting Date: May 5, 2021

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:

- 1) Method Summary
- 2) Quantitative XRD Results
- 3) XRD Pattern(s)

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Senior Mineralogist

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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.

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Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

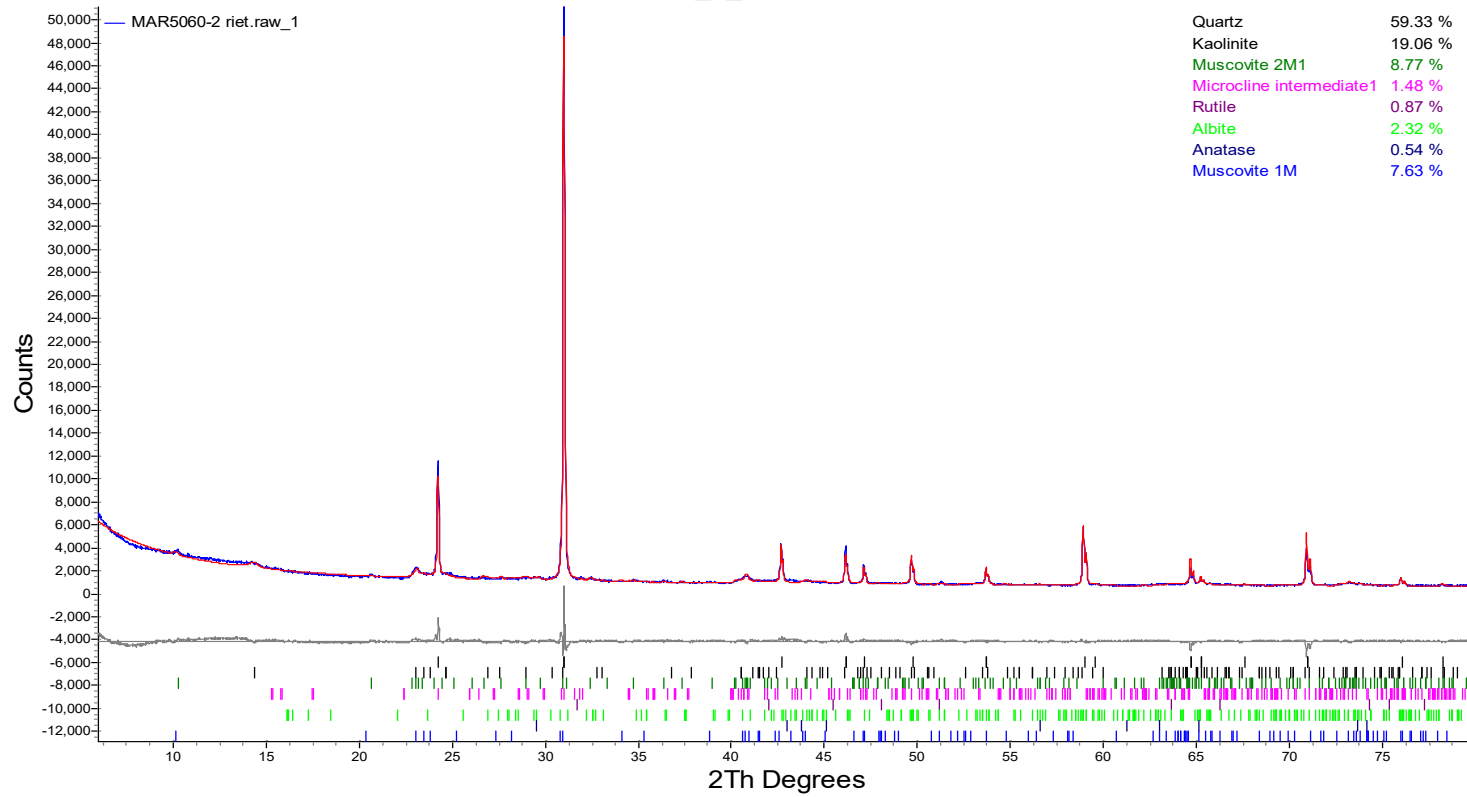
Mineral/Compound	S-7677_2_DPT11AP2
	MAR5060-02 (wt %)
Quartz	59.3
Kaolinite	19.1
Muscovite	16.4
Microcline	1.5
Rutile	0.9
Albite	2.3
Anatase	0.5
TOTAL	100

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
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Microcline	KAlSi ₃ O ₈
Rutile	TiO ₂
Albite	NaAlSi ₃ O ₈
Anatase	TiO ₂

S-7677_2_DPT11AP2





Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Environmental Services

Project Number/ LIMS No. Custom MIN/MI5060-MAR21

Sample Receipt: March 30, 2021

Sample Analysis: April 12, 2021

Reporting Date: May 5, 2021

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:

- 1) Method Summary
- 2) Quantitative XRD Results
- 3) XRD Pattern(s)

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Senior Mineralogist

Huyun Zhou, Ph.D., P.Geol.
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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.

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Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

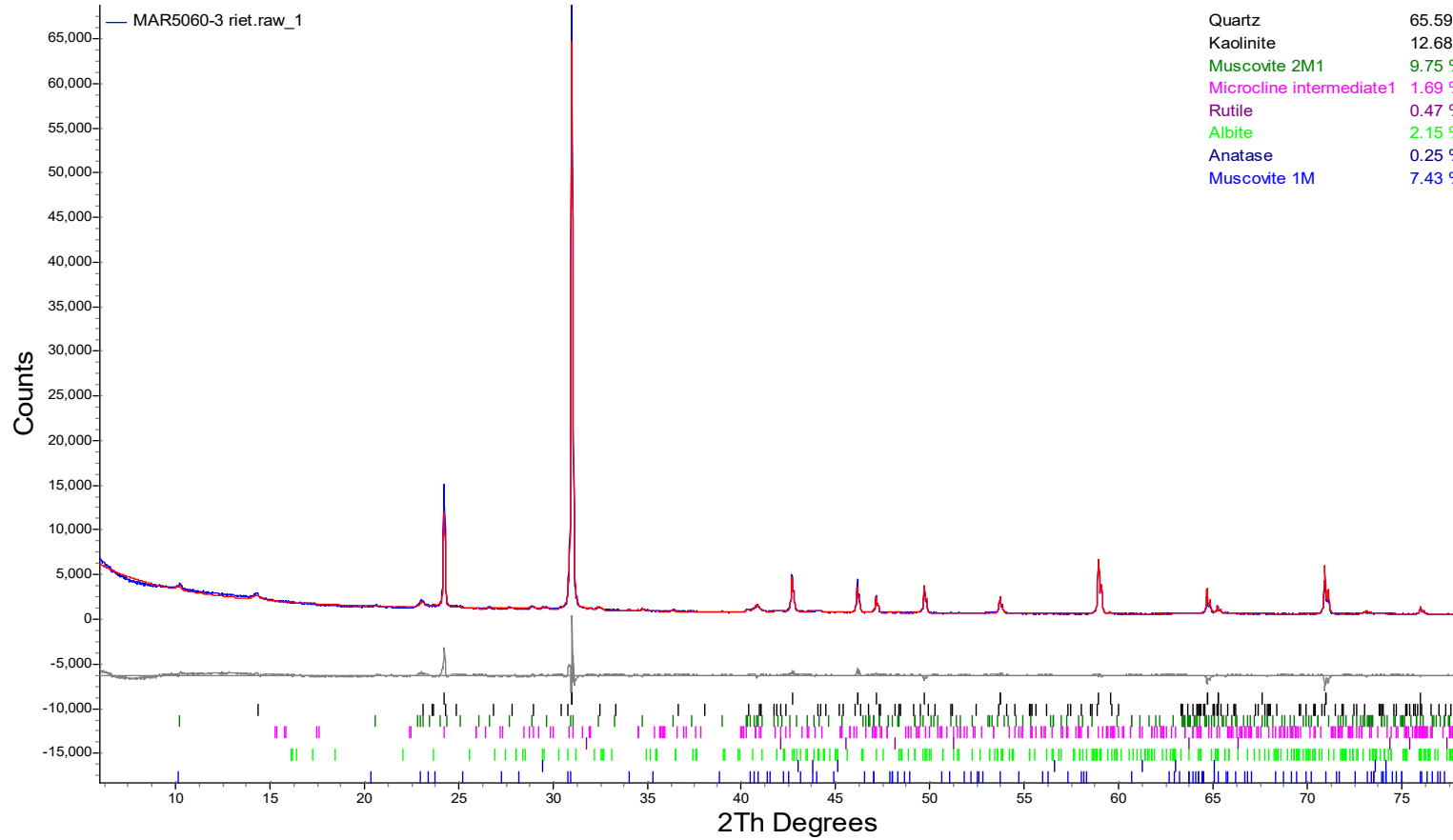
Mineral/Compound	S-7677_3_DPT08AP2 MAR5060-03
	(wt %)
Quartz	65.6
Kaolinite	12.7
Muscovite	17.2
Microcline	1.7
Rutile	0.5
Albite	2.1
Anatase	0.2
TOTAL	100

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
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Microcline	KAlSi ₃ O ₈
Rutile	TiO ₂
Albite	NaAlSi ₃ O ₈
Anatase	TiO ₂

S-7677_3_DPT08AP2





Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Environmental Services

Project Number/ LIMS No. Custom MIN/MI5060-MAR21

Sample Receipt: March 30, 2021

Sample Analysis: April 12, 2021

Reporting Date: May 5, 2021

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:

- 1) Method Summary
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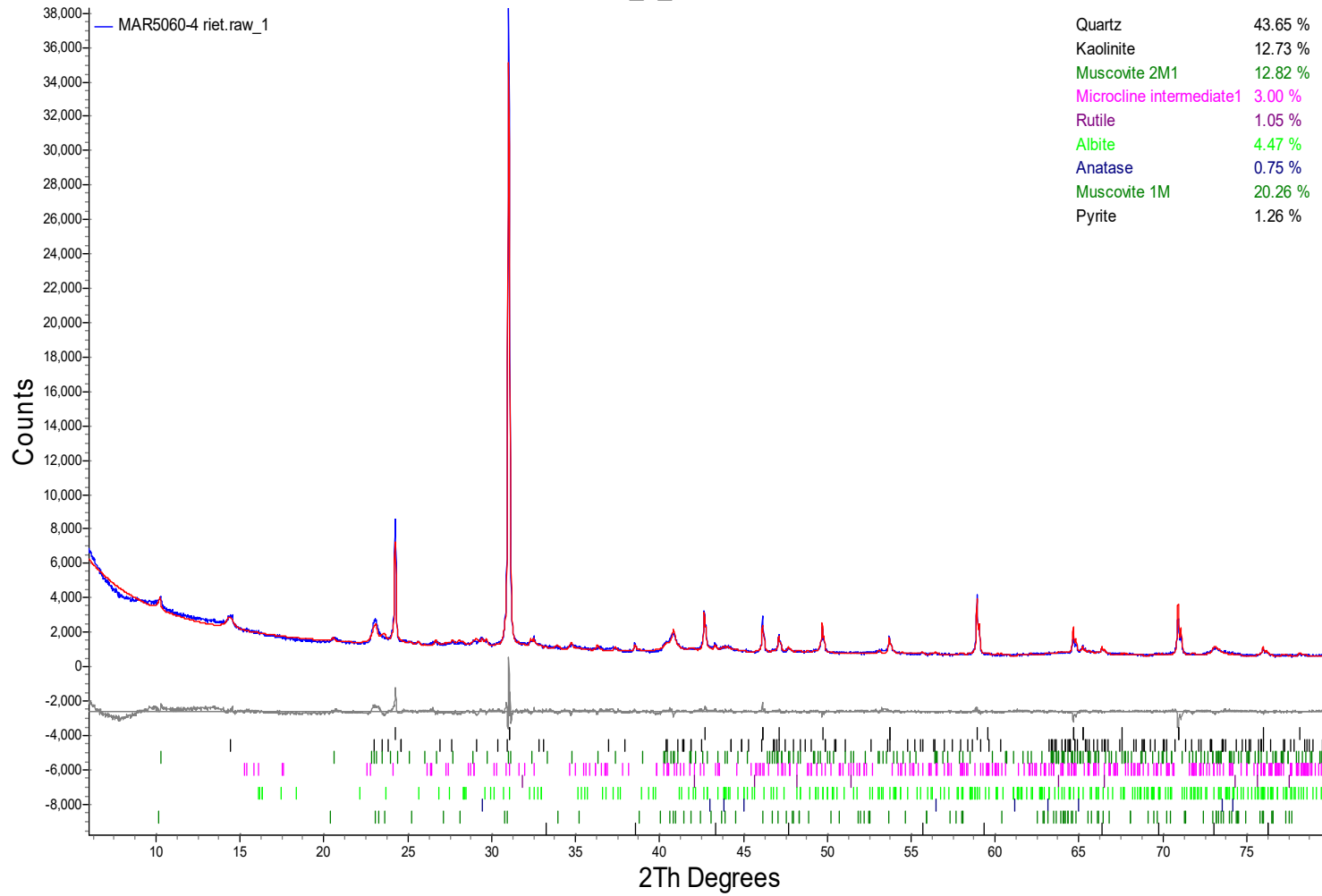
Mineral/Compound	S-7677_4_DPT07AP2
	MAR5060-04 (wt %)
Quartz	43.7
Kaolinite	12.7
Muscovite	33.1
Microcline	3.0
Rutile	1.1
Albite	4.5
Anatase	0.8
Pyrite	1.3
TOTAL	100

The weight percent quantities indicated have been normalized to a sum of 100%.

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Quartz	SiO ₂
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Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Microcline	KAlSi ₃ O ₈
Rutile	TiO ₂
Albite	NaAlSi ₃ O ₈
Anatase	TiO ₂
Pyrite	FeS ₂

S-7677_4_DPT07AP2





Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Environmental Services

Project Number/ LIMS No. Custom MIN/MI5060-MAR21

Sample Receipt: March 30, 2021

Sample Analysis: April 12, 2021

Reporting Date: May 5, 2021

Instrument: BRUKER AXS D8 Advance Diffractometer

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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.

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Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

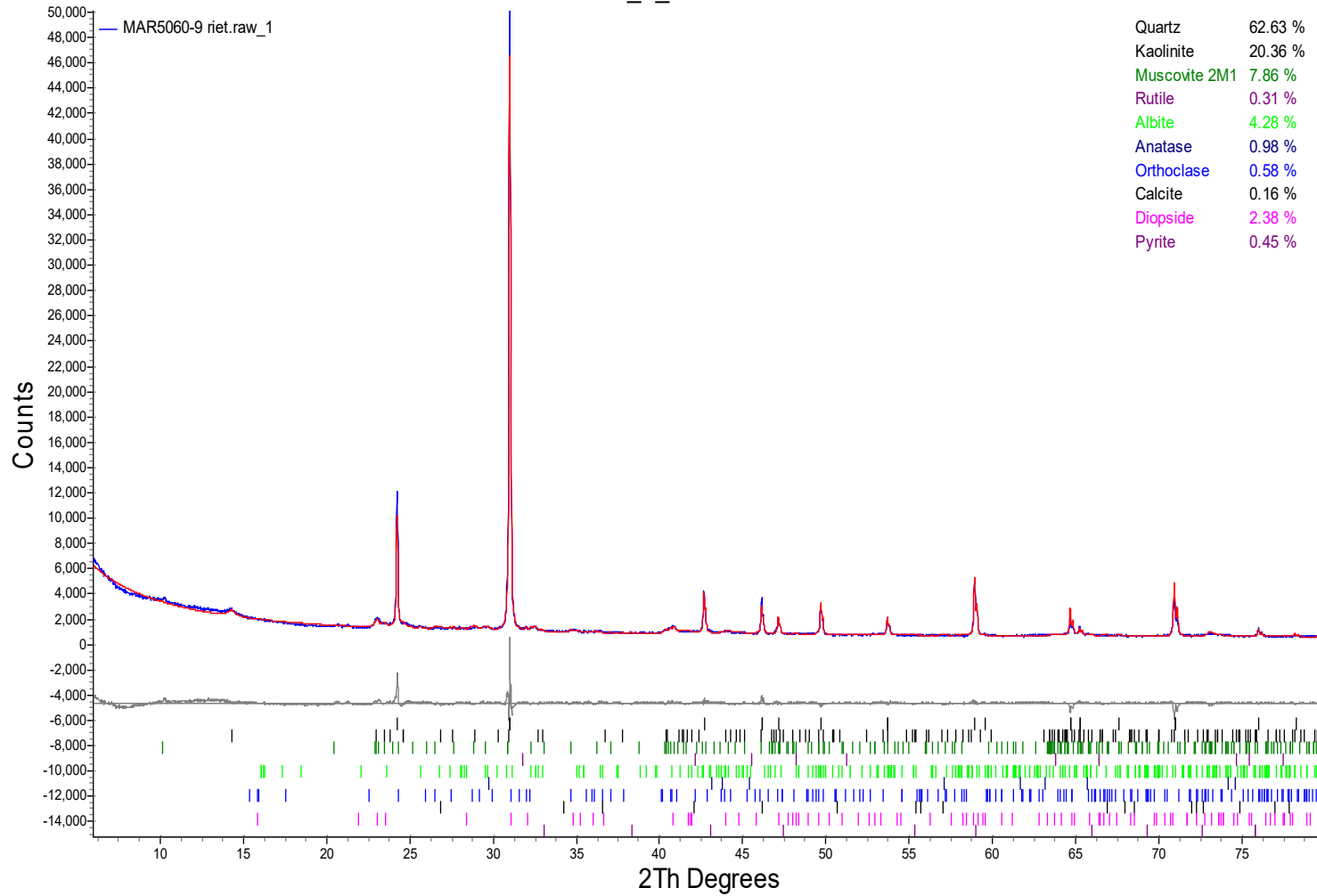
Mineral/Compound	S-7677_9_DPT09AP2 MAR5060-09
	(wt %)
Quartz	62.6
Kaolinite	20.4
Muscovite	7.9
Rutile	0.3
Albite	4.3
Anatase	1.0
Pyrite	0.4
Orthoclase	0.6
Calcite	0.2
Diopside	2.4
TOTAL	100

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
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Rutile	TiO ₂
Albite	NaAlSi ₃ O ₈
Anatase	TiO ₂
Pyrite	FeS ₂
Orthoclase	KAlSi ₃ O ₈
Calcite	CaCO ₃
Diopside	CaMgSi ₂ O ₆

S-7677_9_DPT09AP2





Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Environmental Services

Project Number/ LIMS No. Custom MIN/MI5060-MAR21

Sample Receipt: March 30, 2021

Sample Analysis: April 12, 2021

Reporting Date: May 5, 2021

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:

- 1) Method Summary
- 2) Quantitative XRD Results
- 3) XRD Pattern(s)

Kim Gibbs, H.B.Sc., P.Geol.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geol.
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.

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Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

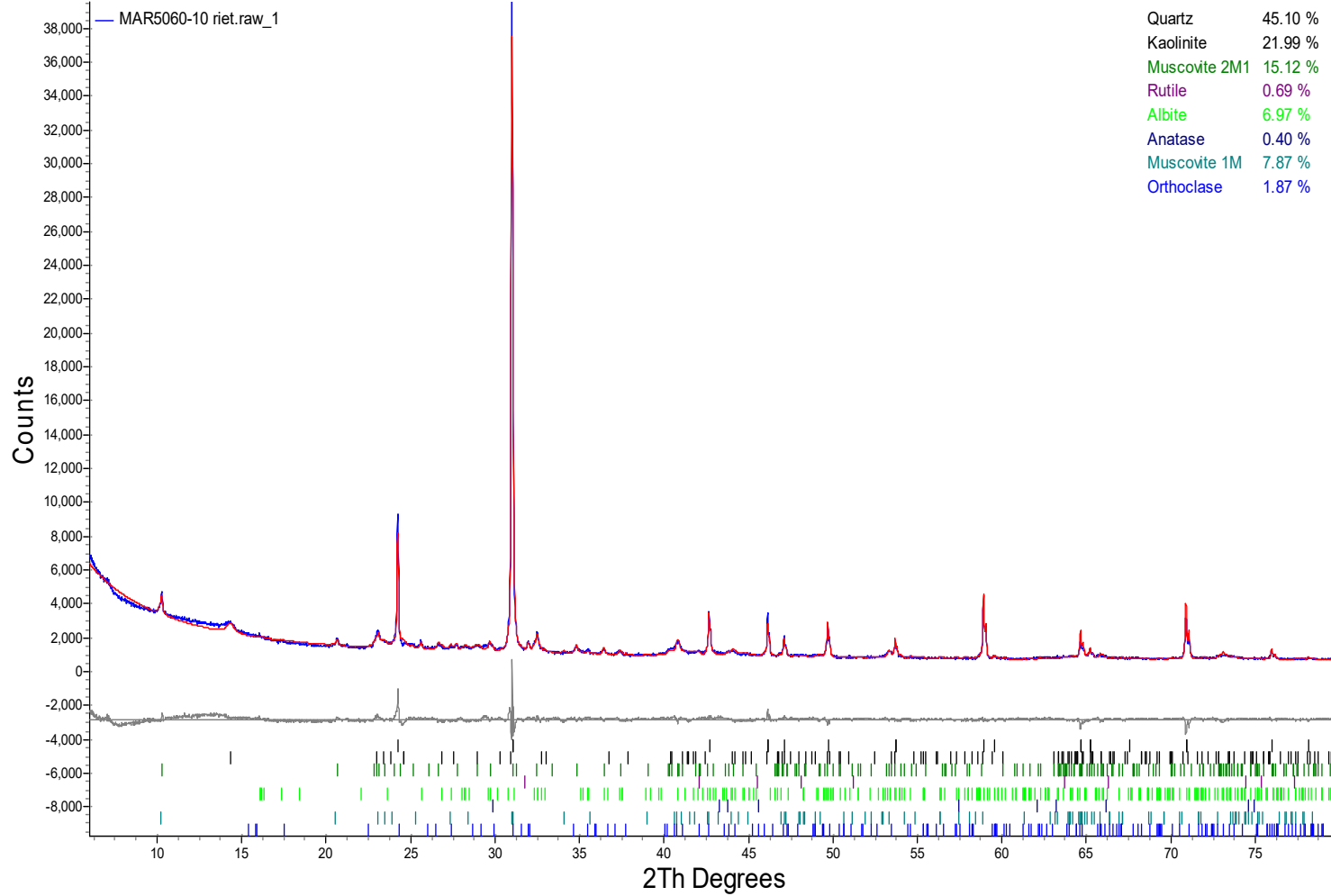
Mineral/Compound	S-7677_10_DPT10AP2 MAR5060-10
	(wt %)
Quartz	45.1
Kaolinite	22.0
Muscovite	23.0
Rutile	0.7
Albite	7.0
Anatase	0.4
Orthoclase	1.9
TOTAL	100

The weight percent quantities indicated have been normalized to a sum of 100%.

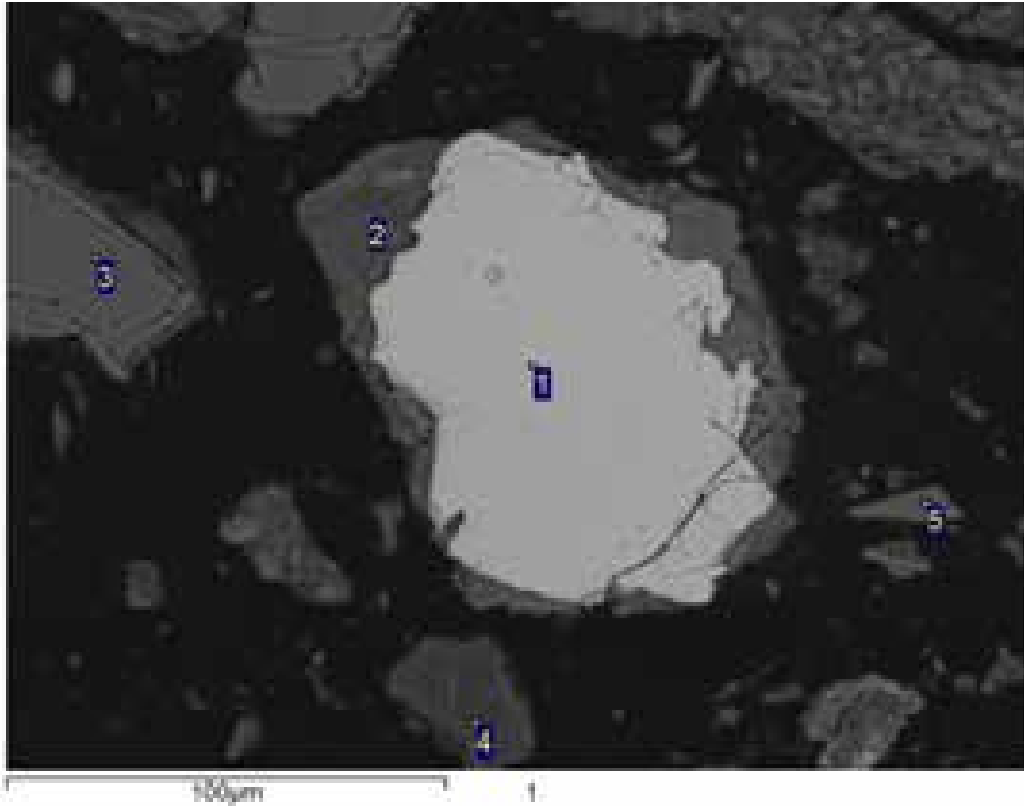
The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO ₂
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Rutile	TiO ₂
Albite	NaAlSi ₃ O ₈
Anatase	TiO ₂
Orthoclase	KAlSi ₃ O ₈

S-7677_10_DPT10AP2



Sample Notes:
S-7677_2_DPT11AP2

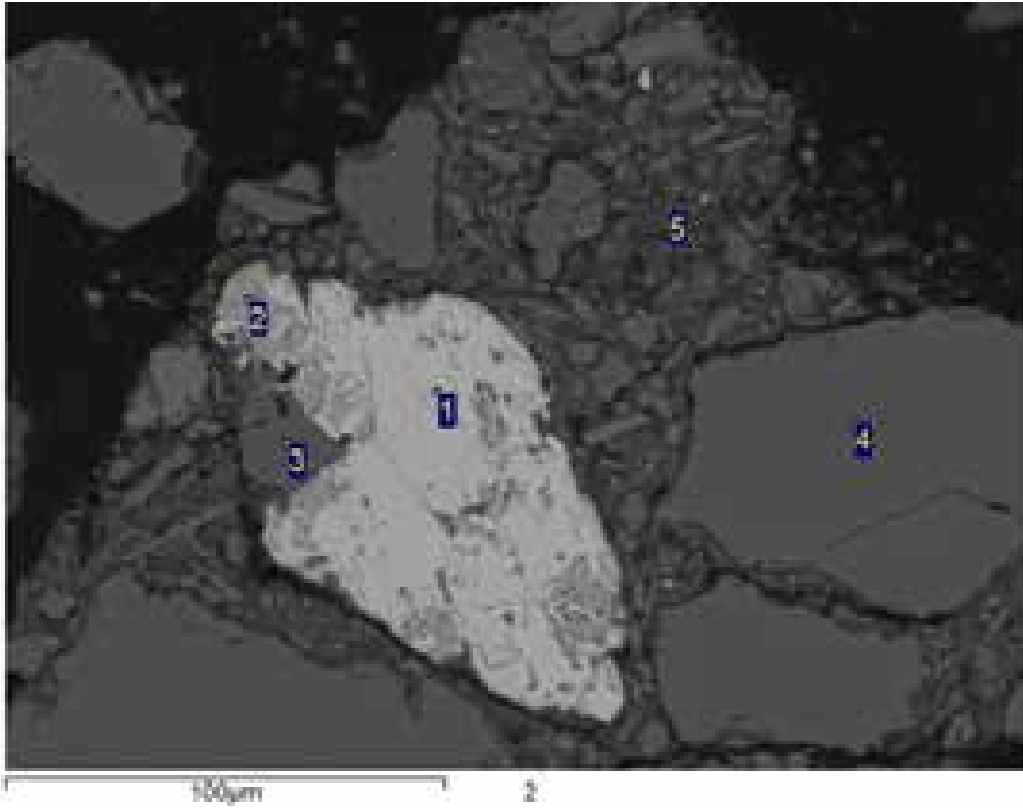


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	Cl	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	33.6								32.2	3.2	31.0	100.0	Ilmenite
2	47.1	0.5	14.5	19.5	0.6		1.2		0.5		16.0	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
3	51.0			49.0								100.0	Quartz
4	46.2		17.5	24.5	1.5	0.4	1.7	0.5	0.4		7.3	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
5	51.8			48.2								100.0	Quartz

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

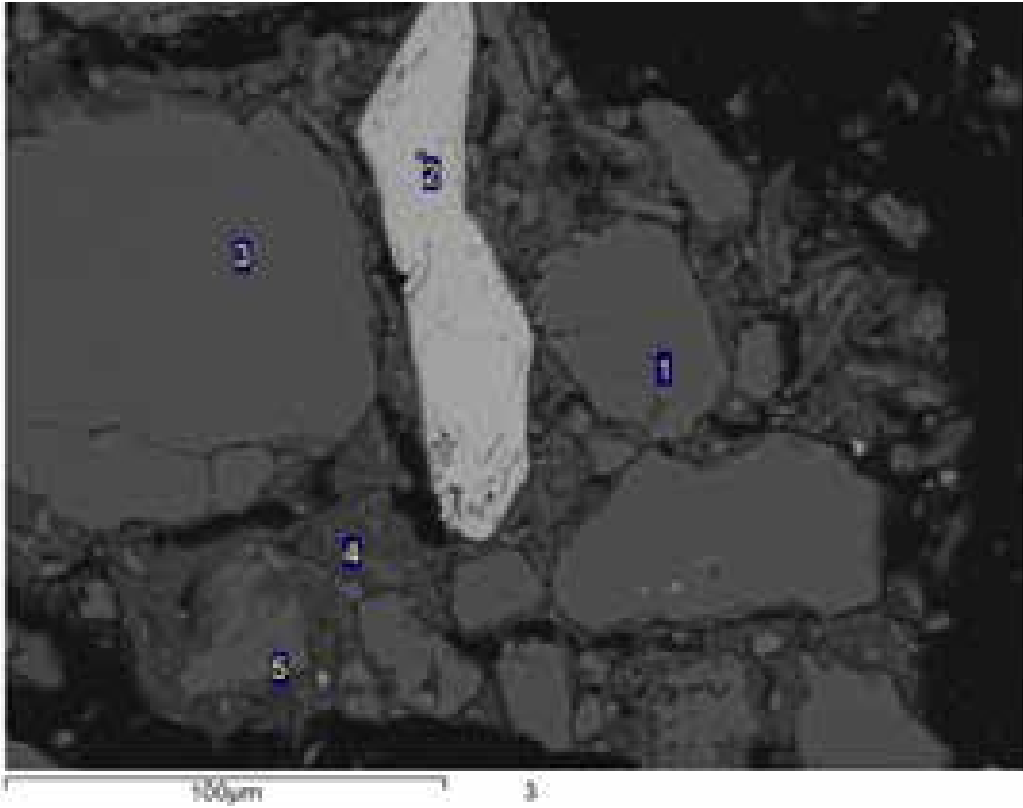


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	K	Ti	Mn	Fe	Total	Mineral ID
1	34.1				31.4	3.6	31.0	100.0	Ilmenite
2	40.7				58.7		0.6	100.0	Rutile
3	51.3		48.7					100.0	Quartz
4	51.3		48.7					100.0	Quartz
5	43.2	8.7	40.3	4.0	0.6		3.2	100.0	Muscovite

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

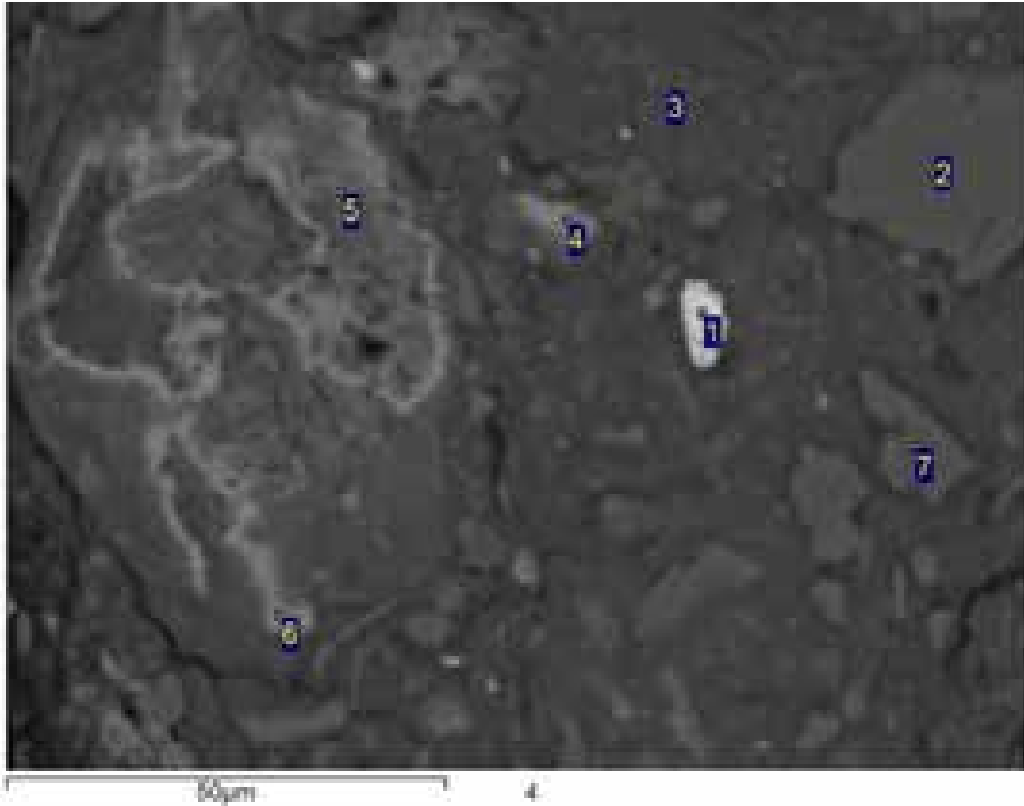


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ti	Mn	Fe	Total	Mineral ID
1	51.3			48.7					100.0	Quartz
2	32.8					30.0	1.6	35.6	100.0	Ilmenite
3	51.0			49.0					100.0	Quartz
4	44.6	0.6	19.3	28.4	2.1	1.5		3.4	100.0	Muscovite
5	51.6			48.4					100.0	Quartz

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

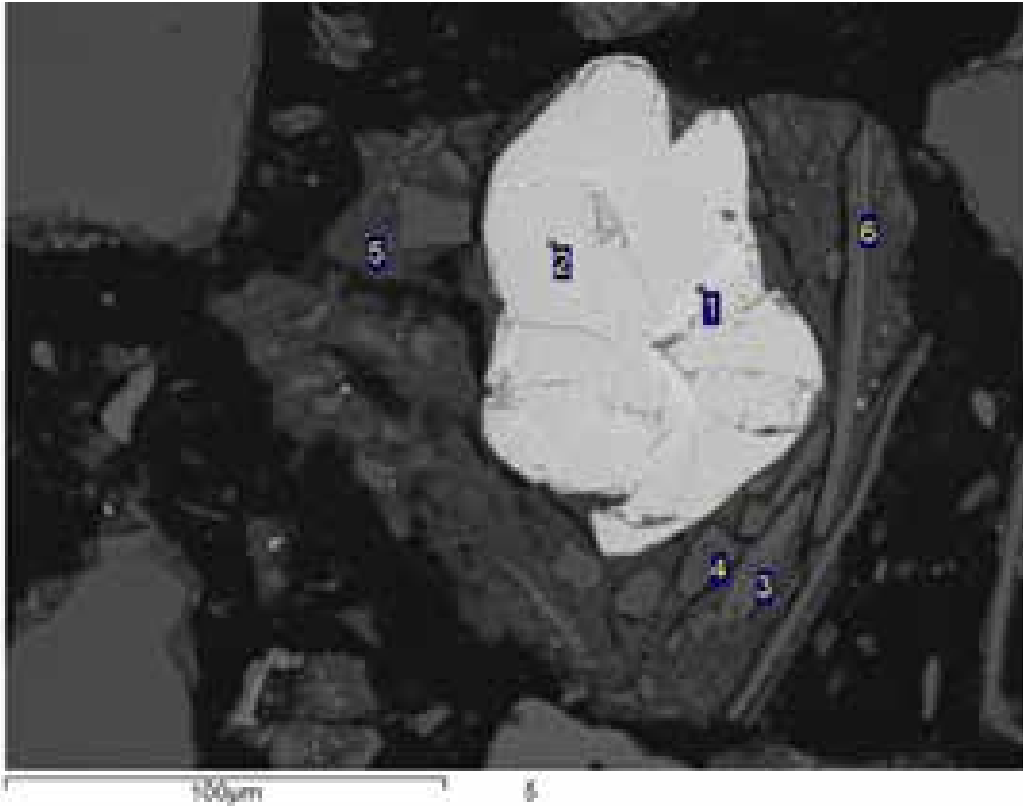


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Fe	Zr	Total	Mineral ID
1	33.7			15.9			0.6	49.7	100.0	Zircon
2	51.2			48.8					100.0	Quartz
3	39.0	0.6	16.9	22.5		2.3	18.8		100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
4	41.8		8.2	11.1	0.4	0.5	38.0		100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
5	37.6		12.8	11.2	0.5	1.0	36.9		100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
6	40.9		10.0	8.8	0.6	0.6	39.1		100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
7	53.2			46.8					100.0	Quartz

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

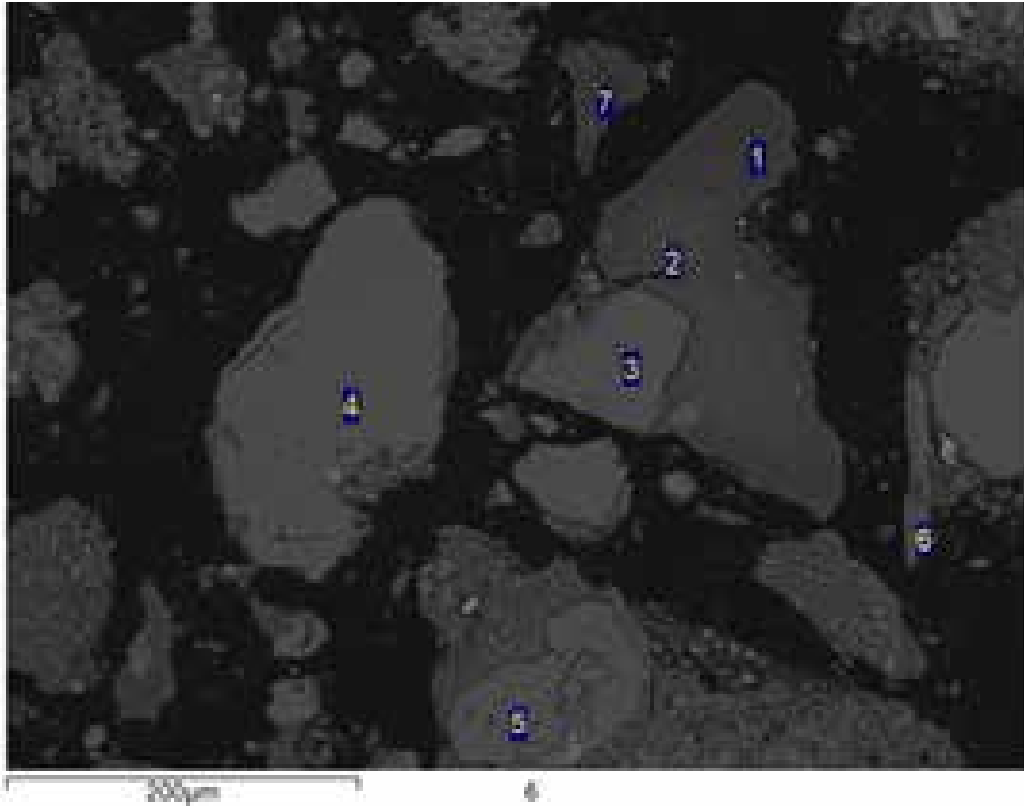


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ti	Fe	Zr	Hf	Total	Mineral ID
1	32.6				16.1					48.9	2.4	100.0	Zircon
2	33.3				16.0					50.8		100.0	Zircon
3	48.7	0.6	0.8	17.5	23.1		7.8	0.6	0.9			100.0	Mica
4	52.8				47.2							100.0	Quartz
5	45.0			16.9	31.9	0.7	1.8	0.6	3.1			100.0	Kaolinite/Mica
6	47.7	0.4	0.5	17.9	23.7		8.3	0.3	1.1			100.0	Mica

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

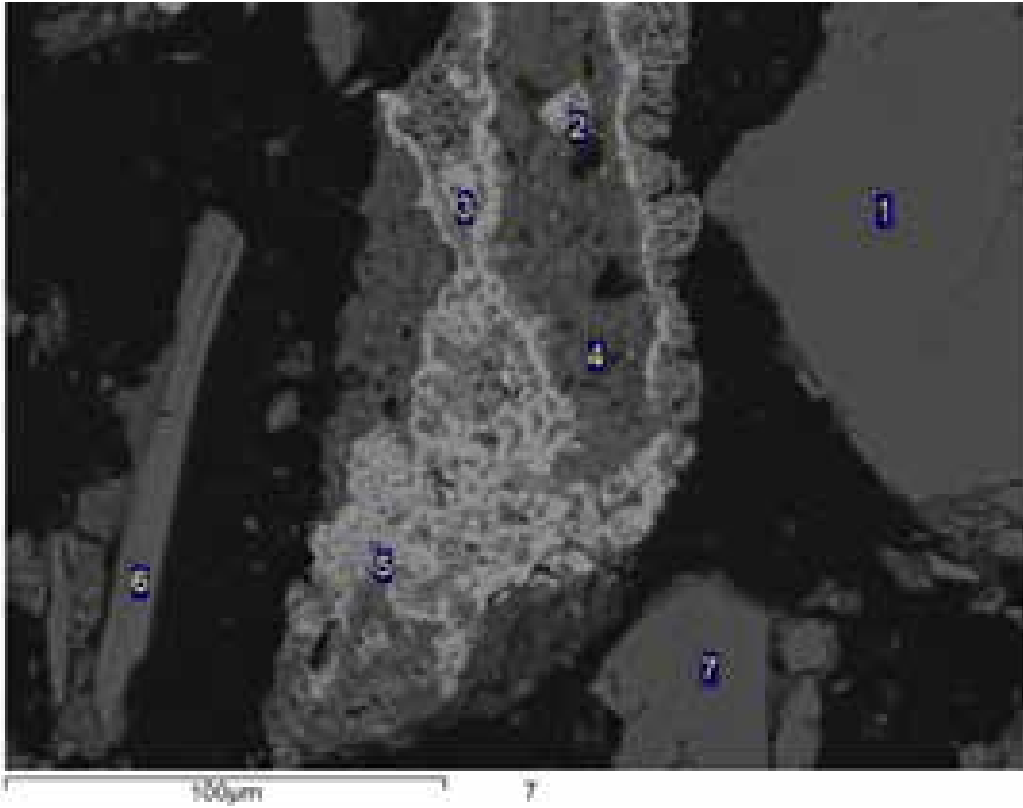


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	Cl	K	Ti	Fe	Total	Mineral ID
1	45.1	0.7	18.1	23.2	2.3		1.3	0.4	8.9	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
2	44.2	0.7	18.6	24.0			1.4	0.7	10.4	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
3	51.3			48.7						100.0	Quartz
4	51.1			48.9						100.0	Quartz
5	49.9			49.4					0.7	100.0	Quartz
6	45.9	0.6	17.7	23.1		0.5	9.0	0.6	2.6	100.0	Mica
7	40.8		10.5	44.9	1.1		1.5		1.2	100.0	Kaolinite/Mica

All results in weight%

Sample Notes:
S-7677_2_DPT11AP2

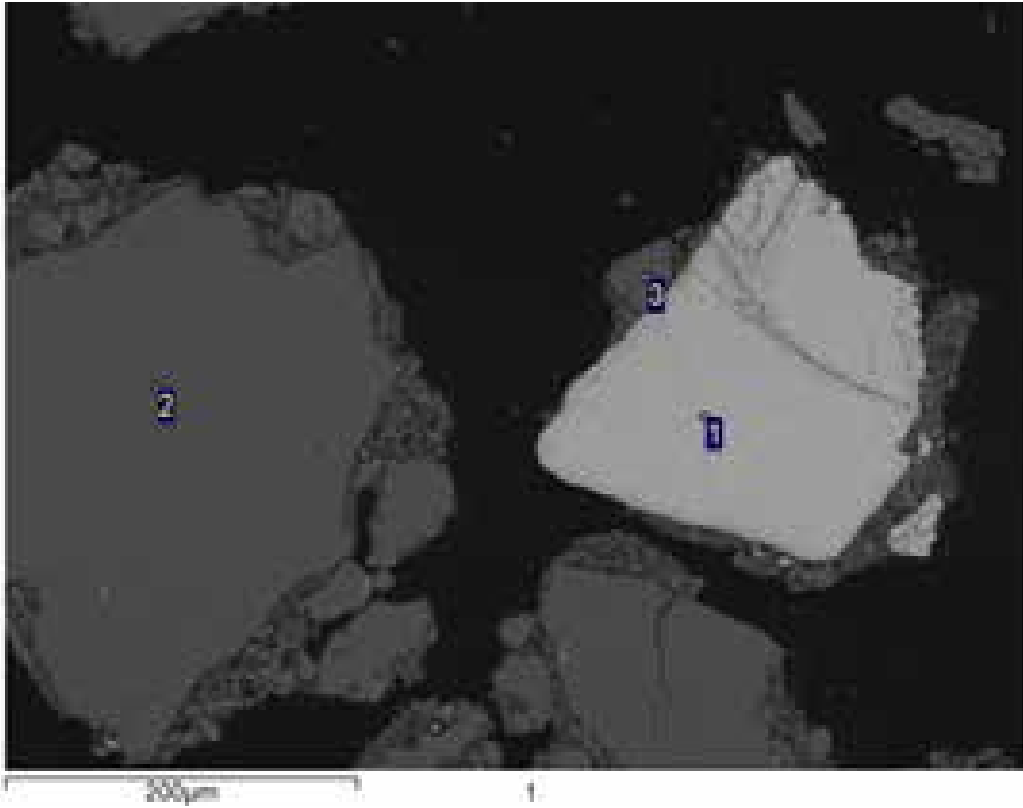


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Ti	Fe	Total	Mineral ID
1	51.3				48.7					100.0	Quartz
2	36.1			1.1	2.7				60.0	100.0	Fe-Oxide/Oxyhydroxide
3	39.2			1.5	2.7	0.4			56.2	100.0	Fe-Oxide/Oxyhydroxide
4	53.1		1.1	4.5	38.1		1.2		2.1	100.0	Quartz
5	35.4			2.6	3.5	0.8			57.8	100.0	Fe-Oxide/Oxyhydroxide
6	48.7	1.4		18.6	22.6		7.3	0.4	1.0	100.0	K-Feldspar
7	51.4				48.6					100.0	Quartz

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

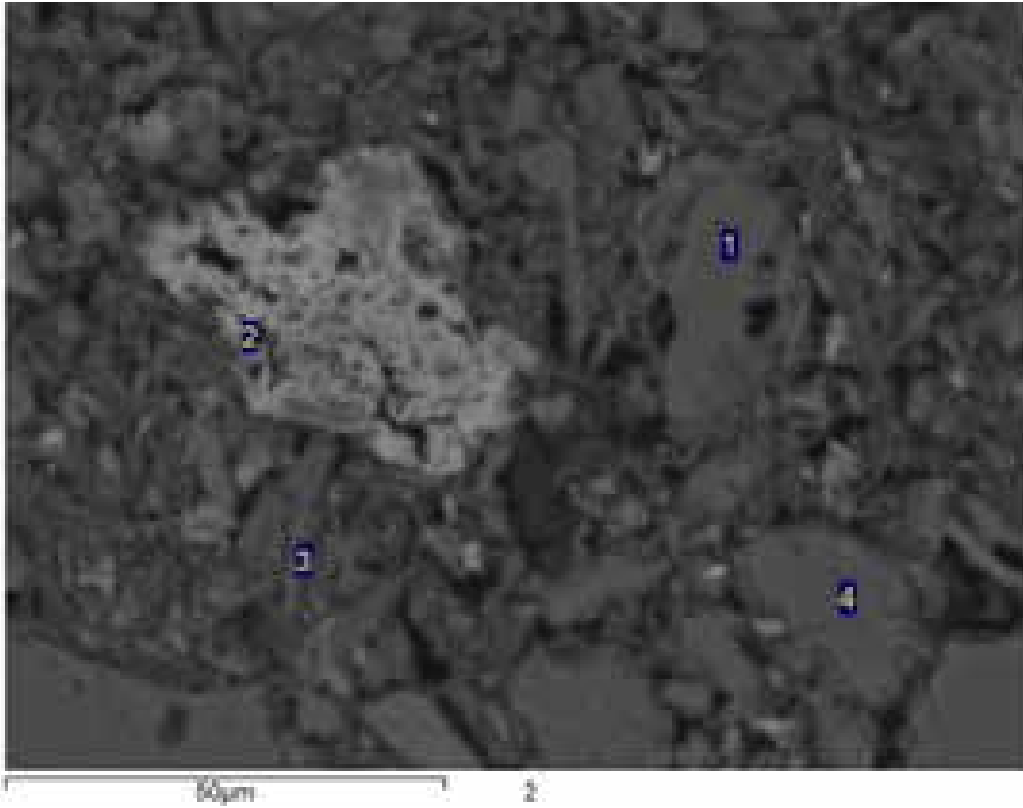


Processing option : All elements analysed (Normalised)

Spectrum	O	Si	Ti	Mn	Fe	Total	Mineral ID
1	33.0		31.2	0.6	35.2	100.0	Ilmenite
2	51.2	48.8				100.0	Quartz
3	51.0	49.0				100.0	Quartz

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

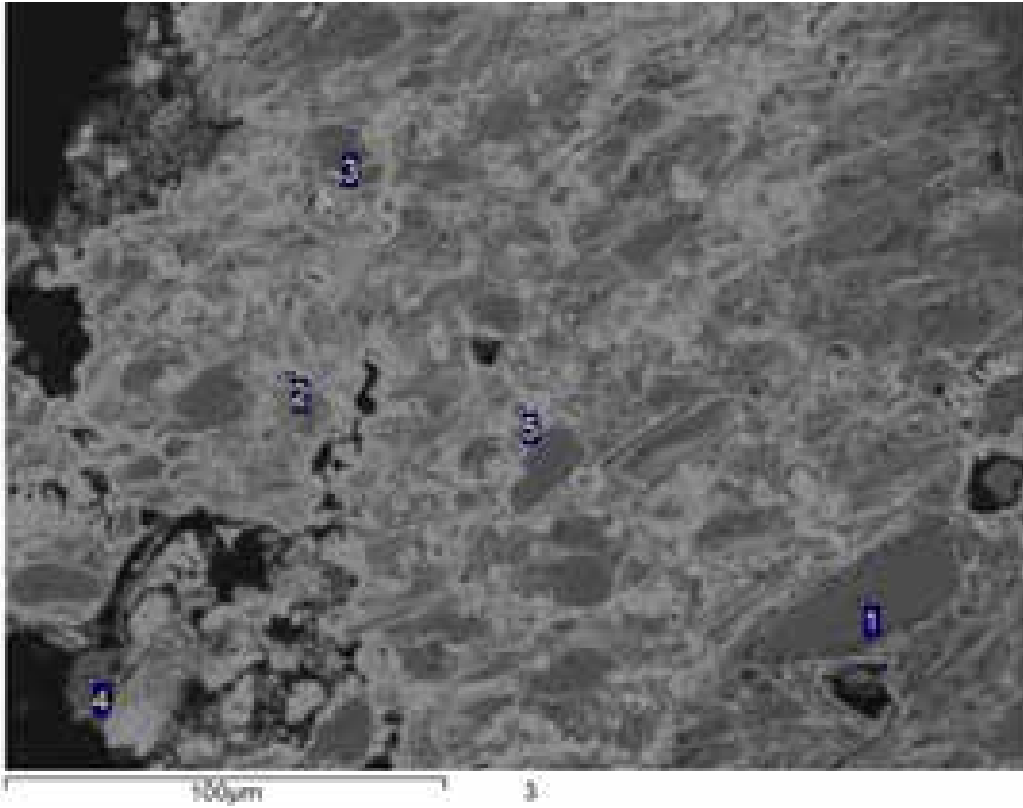


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	P	K	Fe	Total	Mineral ID
1	52.3				47.7				100.0	Quartz
2	41.8			4.5	3.3	0.7		49.7	100.0	Fe-Oxide/Oxyhydroxide
3	45.9	0.5	0.8	16.7	26.8		5.5	3.8	100.0	Mica
4	52.1				47.9				100.0	Quartz

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

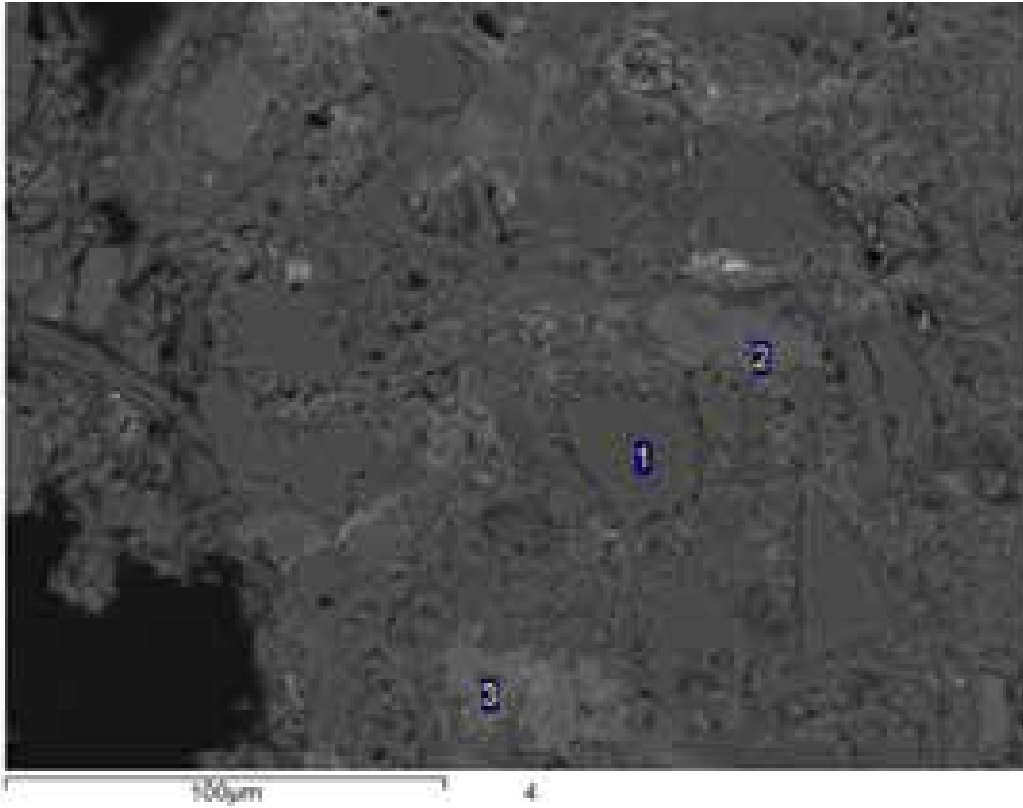


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	K	Fe	Total	Mineral ID
1	51.2		48.3			0.5	100.0	Quartz
2	43.4	3.6	4.9	0.4	0.5	47.2	100.0	Fe-Oxide/Oxyhydroxide
3	53.0	0.5	44.8			1.7	100.0	Quartz
4	50.4		48.9			0.7	100.0	Quartz
5	43.6	6.0	8.3		1.4	40.7	100.0	Fe-Oxide/Oxyhydroxide

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

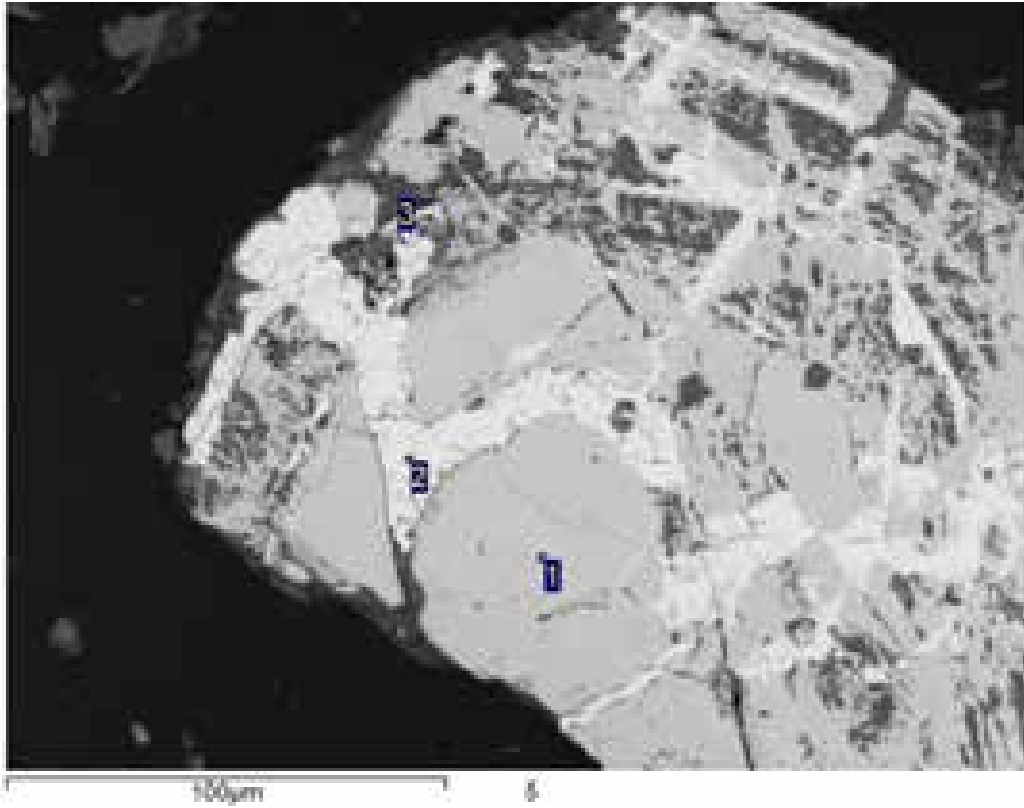


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ca	Fe	Total	Mineral ID
1	51.3			48.7				100.0	Quartz
2	47.6	1.1	15.2	23.3	9.0		3.8	100.0	K-feldspar
3	41.6	1.5	11.4	16.4	0.6	0.7	27.9	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

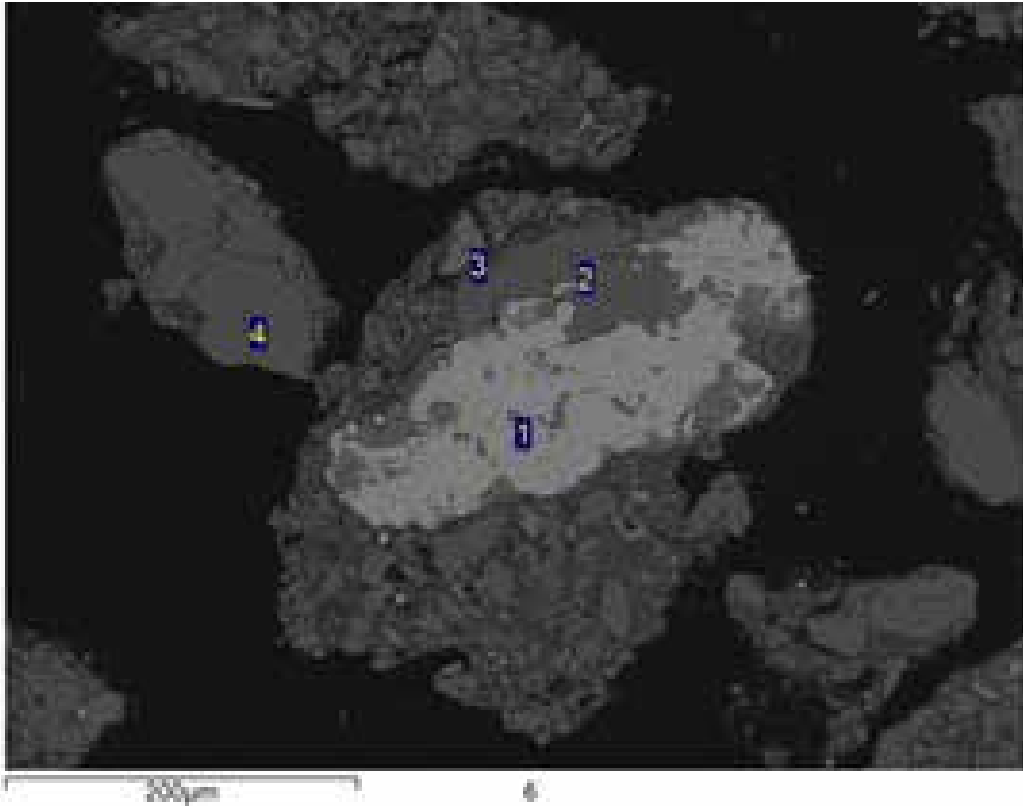


Processing option : All elements analysed (Normalised)

Spectrum	O	Si	P	Y	Zr	Yb	Ta	Total	Mineral ID
1	33.1	15.8			51.1			100.0	Zircon
2	40.1		18.0	35.6		3.4	2.9	100.0	Xenotime
3	50.6	46.7			2.7			100.0	Quartz

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

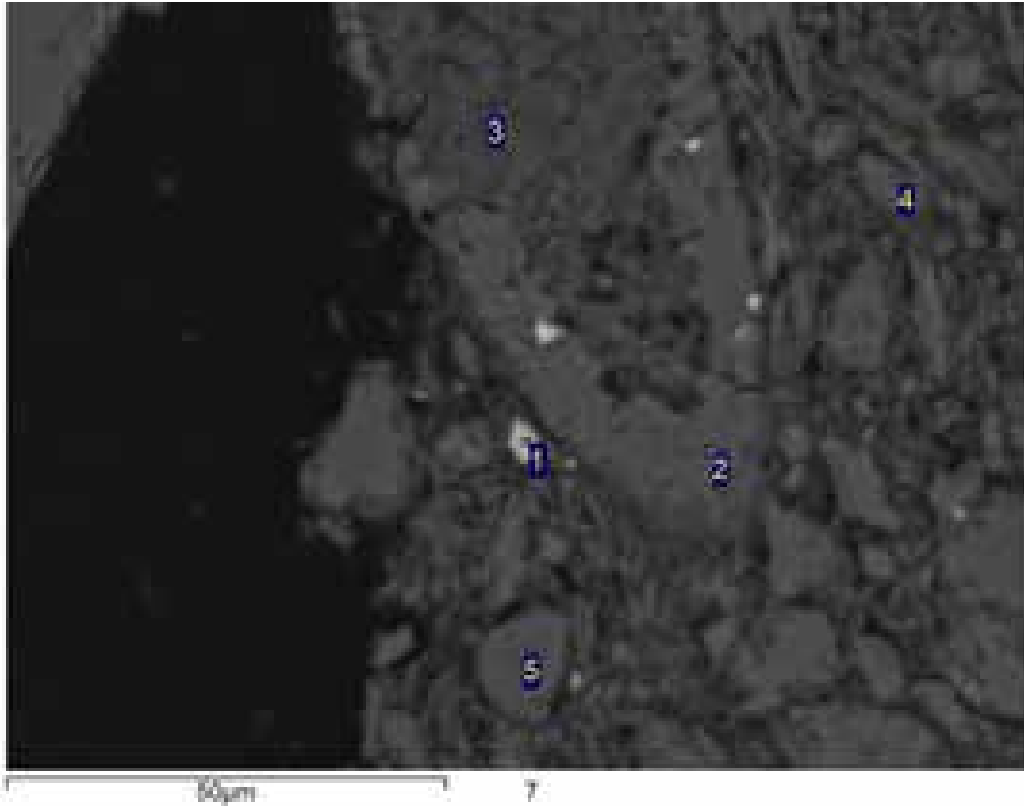


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	K	Ti	Fe	Total	Mineral ID
1	41.0				59.0		100.0	Rutile
2	51.2		48.8				100.0	Quartz
3	44.5	9.5	32.0	14.0			100.0	K-Feldspar
4	51.2	3.6	42.7	1.7	0.3	0.4	100.0	Quartz

All results in weight%

Sample Notes:
S-7677_3_DPT08AP2

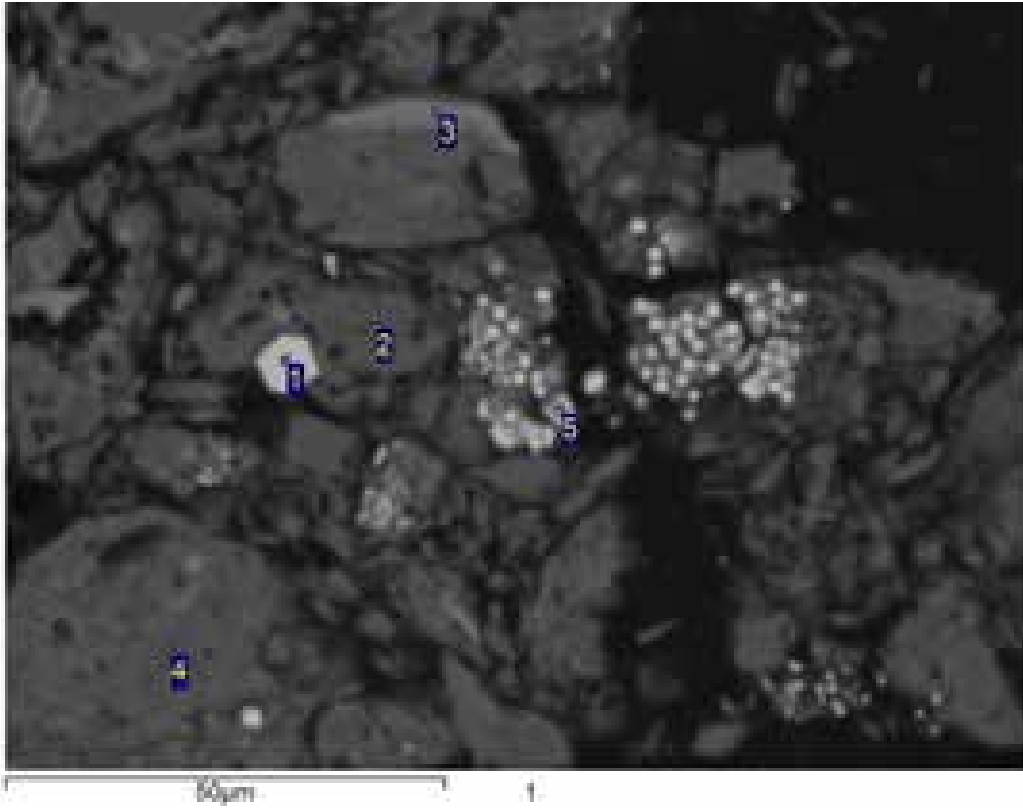


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	S	K	Fe	As	Total	Mineral ID
1	10.2	1.5	3.1	47.3		36.3	1.6	100.0	Pyrite
2	51.0	0.3	48.7					100.0	Quartz
3	51.1	23.1	25.8					100.0	Kaolinite
4	49.0	1.4	49.4		0.2			100.0	Quartz
5	52.2		47.8					100.0	Quartz

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

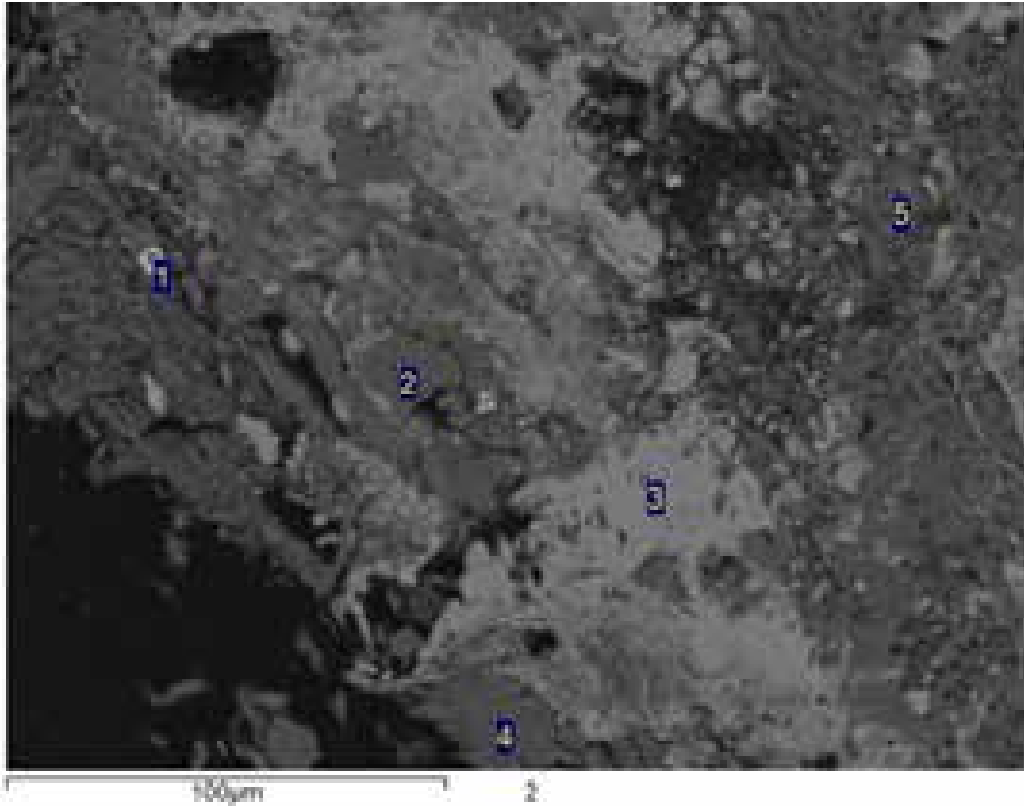


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ti	Fe	Total	Mineral ID
1						55.5			44.5	100.0	Pyrite
2	51.9			3.3	43.4		0.8		0.6	100.0	Quartz
3	44.7		3.8	13.4	13.9		0.6		23.6	100.0	Chlorite?
4	47.3	0.4	1.1	13.9	30.2		5.0	0.3	1.9	100.0	K-Feldspar
5	8.2			1.0	1.6	49.2			39.9	100.0	Pyrite

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

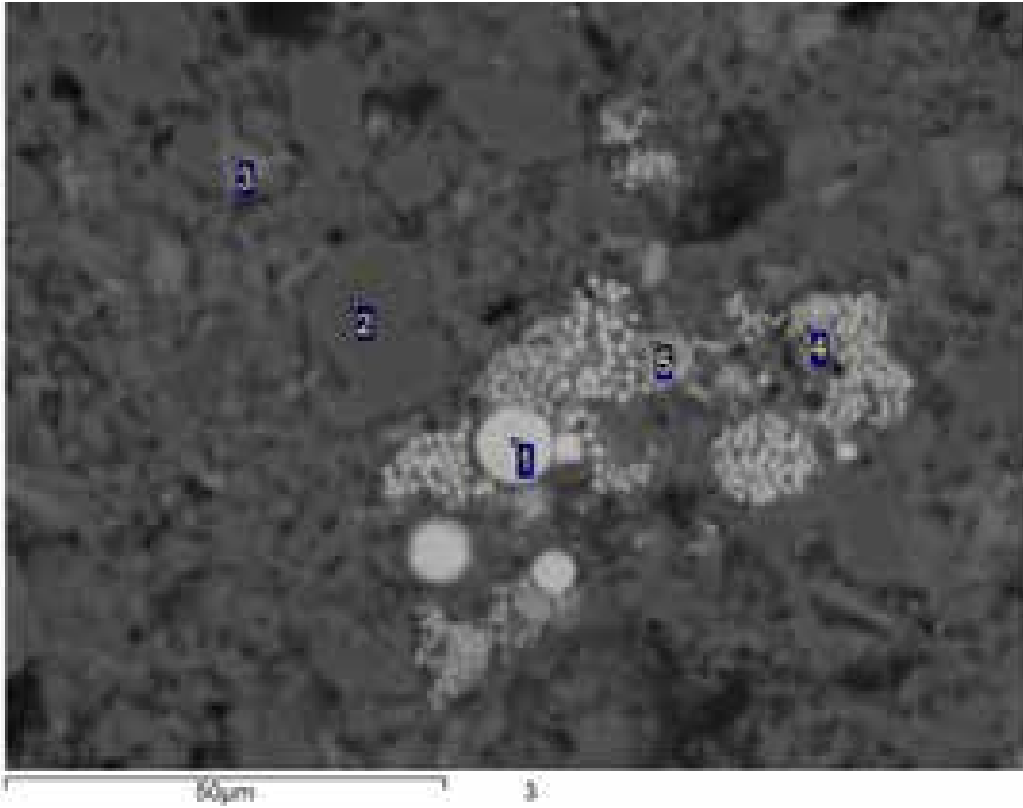


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ca	Mn	Fe	Total	Mineral ID
1						54.9				45.1	100.0	Pyrite
2	47.9	8.1		9.9	33.1			0.4		0.5	100.0	Albite
3	42.9							5.0	2.7	49.5	100.0	Siderite?
4	46.3	0.4	1.3	18.0	26.3		4.1			3.6	100.0	Altered K-Feldspar
5	51.4	0.3	0.7	10.3	32.4		2.9			2.1	100.0	Altered K-Feldspar

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

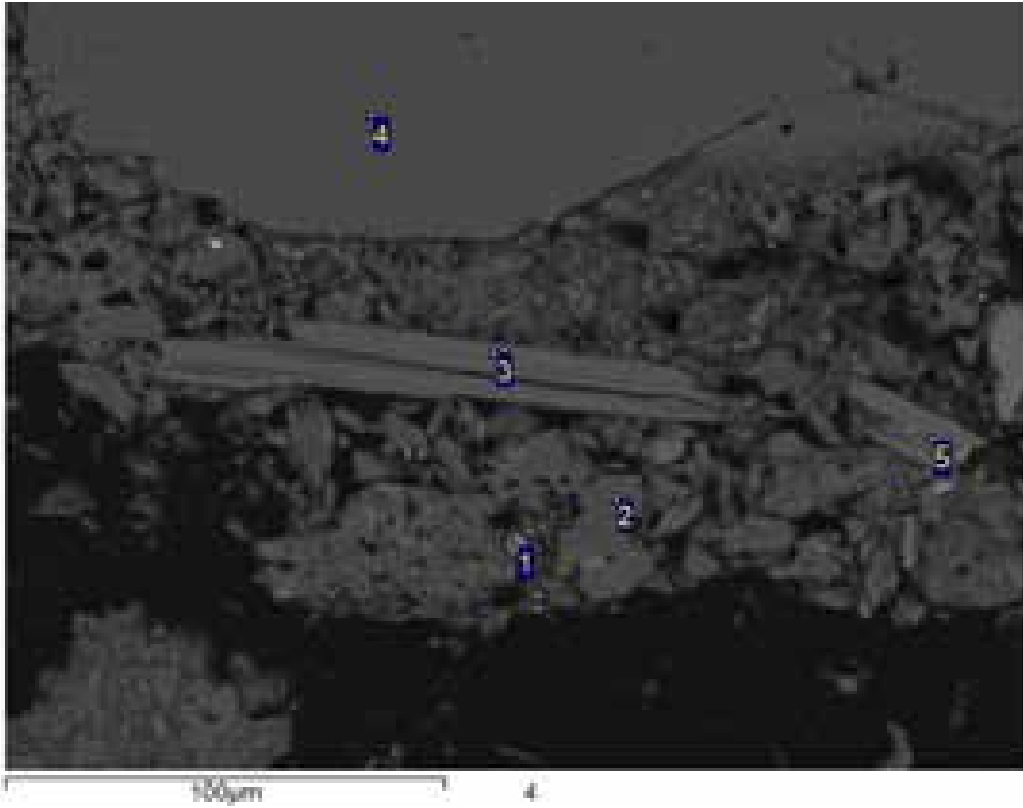


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ti	Fe	Total	Mineral ID
1					54.8			45.2	100.0	Pyrite
2	51.2			48.8					100.0	Quartz
3	43.5	2.7	10.0	21.7				22.2	100.0	Fe-Oxide/Oxyhydroxide/Kaolinite mixture
4	29.7	1.3	4.4	16.5	22.5	0.4	0.5	24.7	100.0	Pyrite/Kaolinite mixture
5	28.7	1.5	5.4	7.2	27.1			30.1	100.0	Pyrite/Kaolinite mixture

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

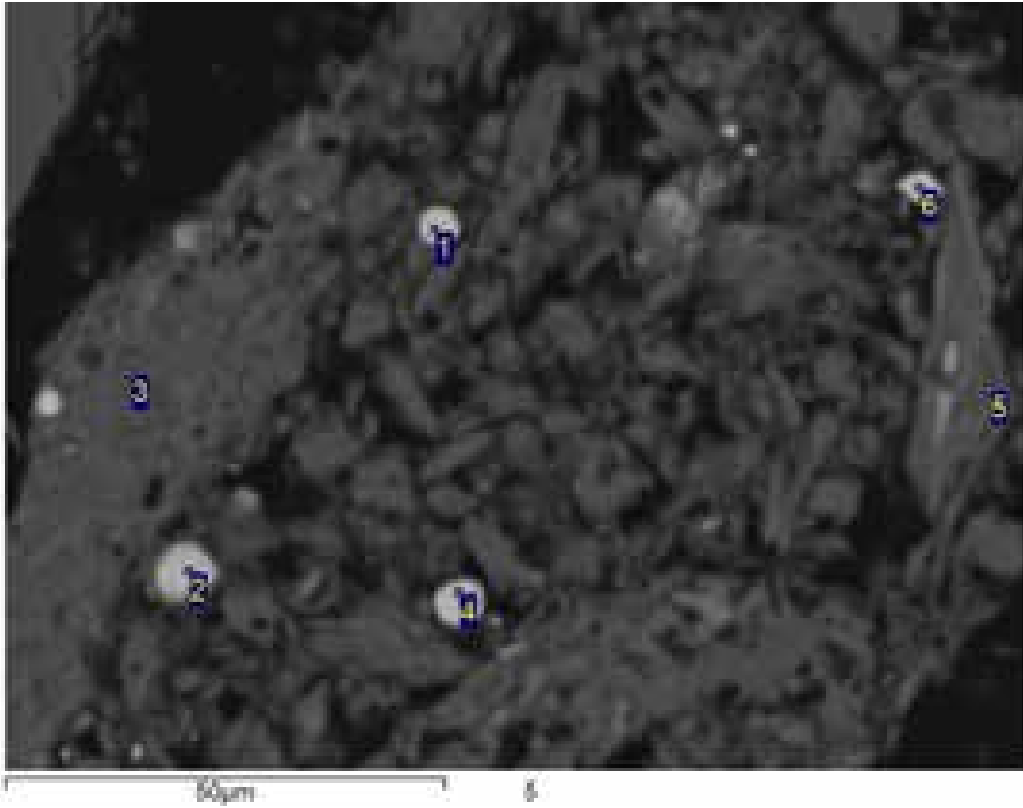


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Ca	Ti	Fe	Total	Mineral ID
1					0.9	56.2				43.0	100.0	Pyrite
2	54.5				34.0			11.1		0.4	100.0	Quartz
3	48.4	0.6		18.8	22.8		8.3		0.4	0.8	100.0	Mica
4	50.1				49.9						100.0	Quartz
5	48.1	0.4	0.8	16.6	22.7		8.2		0.5	2.6	100.0	Mica

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

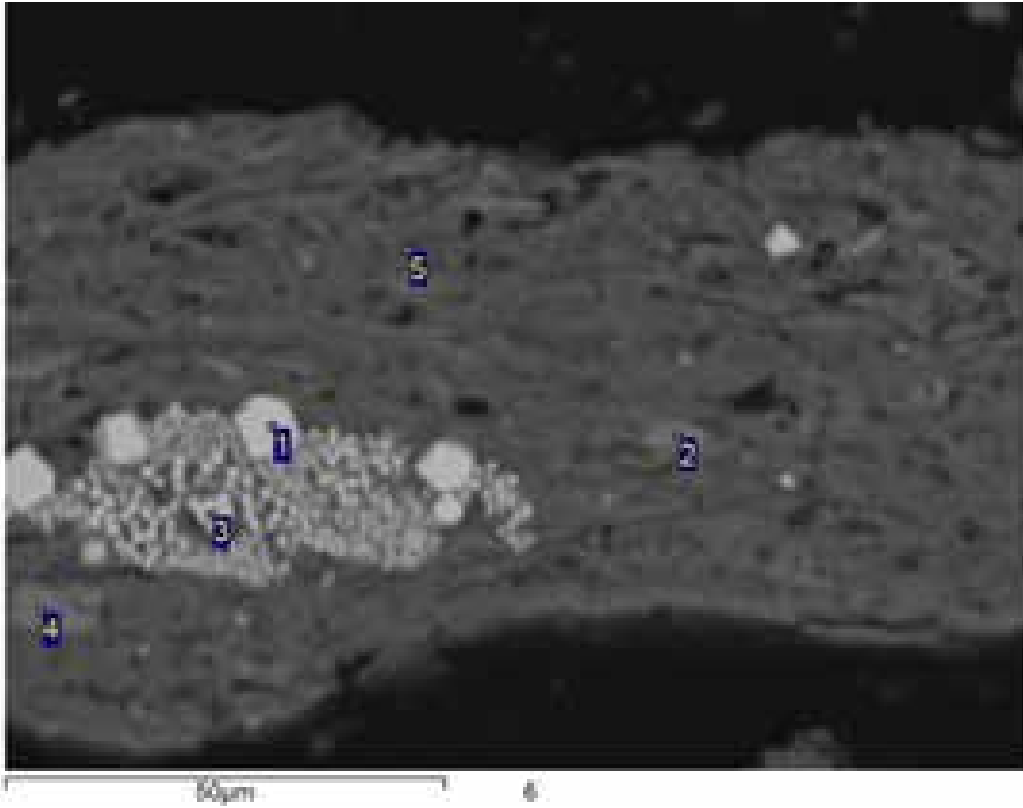


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1				0.7	54.8					44.4	100.0	Pyrite
2			0.5	1.1	54.1					44.3	100.0	Pyrite
3	48.7	1.1	14.3	27.8		5.1		0.4		2.6	100.0	Mica
4			0.8	1.5	52.9					44.7	100.0	Pyrite
5	47.8	1.0	11.8	33.7		3.3	0.5			2.0	100.0	Mica
6	22.7		6.6	11.9	31.0	2.0			0.4	25.3	100.0	Pyrite/K-Feldspar Mixture

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

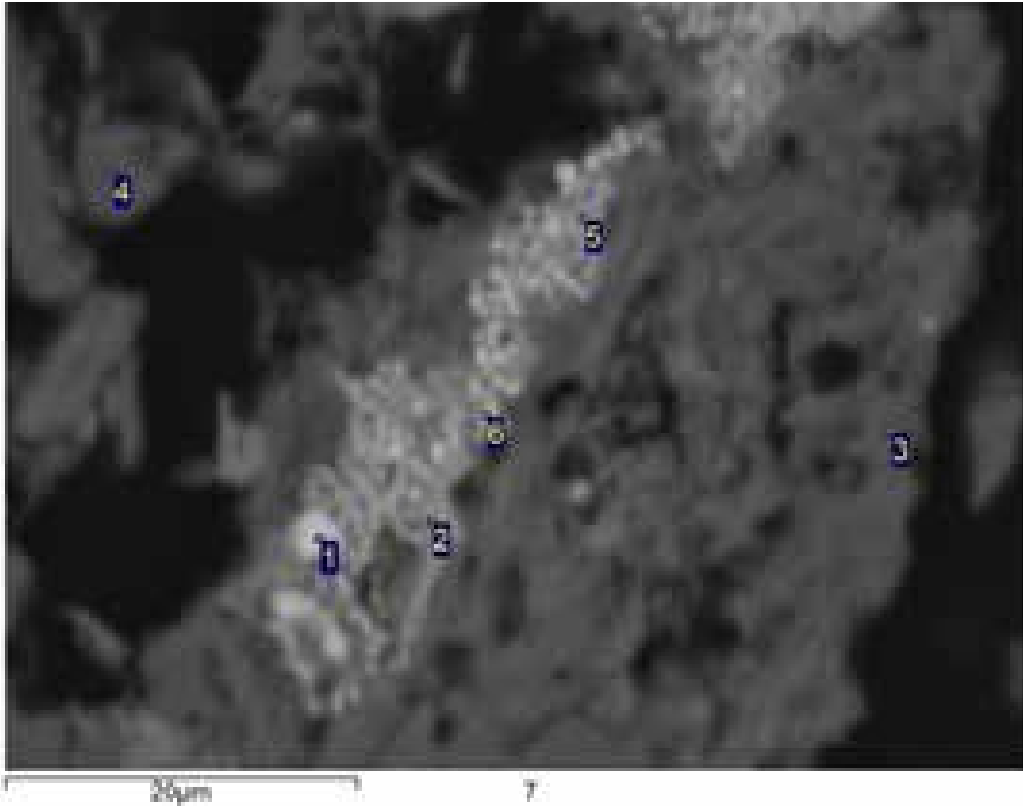


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	K	Ti	Mn	Fe	Total	Mineral ID
1					54.9				45.1	100.0	Pyrite
2	44.3	5.3	12.6	14.4		0.5		0.4	22.6	100.0	Chlorite
3	6.2		1.7	2.3	49.3				40.5	100.0	Pyrite
4	44.3	6.3	11.3	13.6					24.5	100.0	Chlorite
5	44.0	1.1	12.3	32.2		4.2	1.0		5.3	100.0	Mica

All results in weight%

Sample Notes:
S-7677_4_DPT07AP2

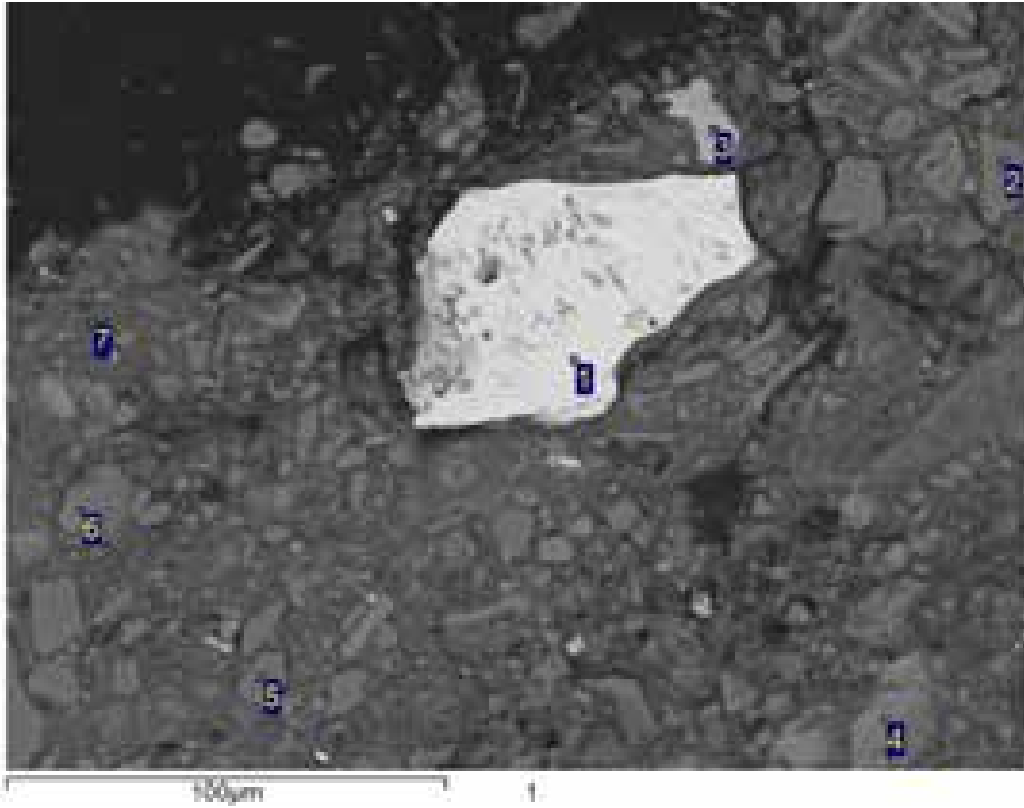


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	S	K	Fe	Total	Mineral ID
1				0.5	1.0	54.6		43.9	100.0	Pyrite
2	18.9		0.7	5.0	8.7	29.5	0.9	36.4	100.0	Pyrite
3	52.2			2.7	44.0		0.7	0.4	100.0	Quartz
4	47.1	8.1		9.9	34.9				100.0	Kaolinite
5	24.3		1.2	4.0	5.9	30.7	0.3	33.5	100.0	Pyrite/Kaolinite mixture
6	24.9			4.5	7.7	32.3	0.5	30.1	100.0	Pyrite/Kaolinite mixture

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

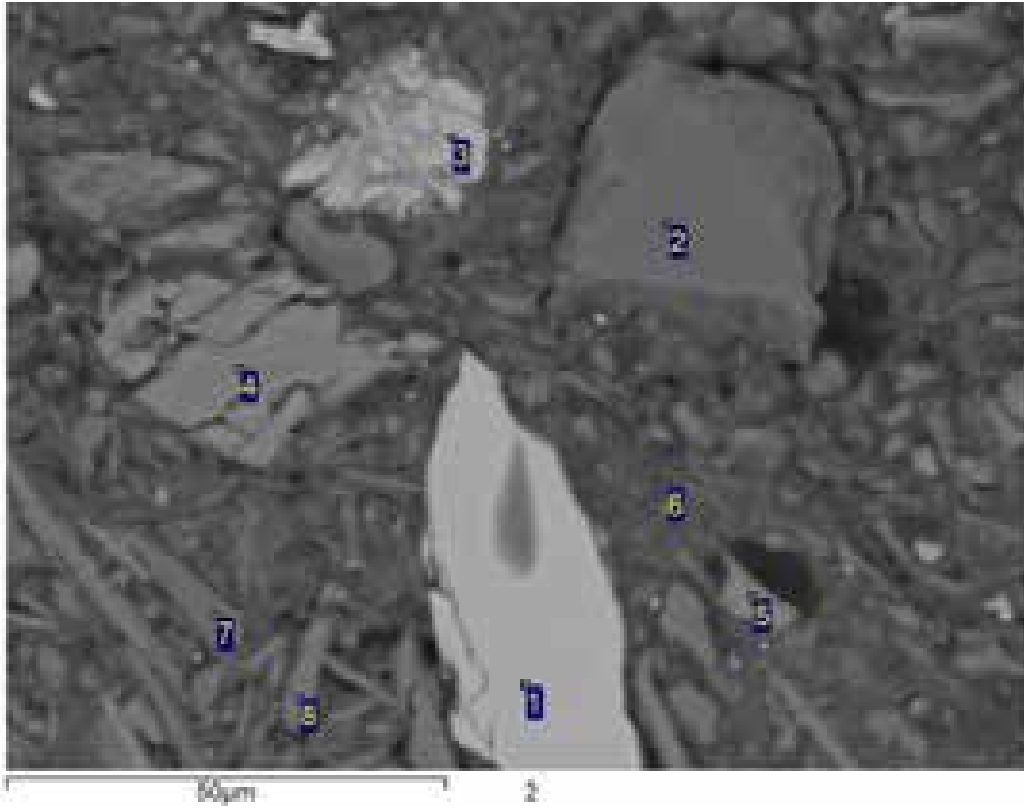


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	33.5							29.4	0.8	36.3	100.0	Ilmenite
2	51.2				48.8						100.0	Quartz
3	41.6			0.6	0.6		3.8		17.8	35.6	100.0	Fe-Mn-Oxide?
4	46.4		6.4	11.0	16.6		0.9	1.0		17.5	100.0	Fe-Oxide/Chlorite
5	51.6				48.4						100.0	Quartz
6	45.4	1.0	0.7	17.1	27.2	6.8				1.7	100.0	K-Feldspar
7	61.4			36.3	2.3						100.0	Al-Oxide

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

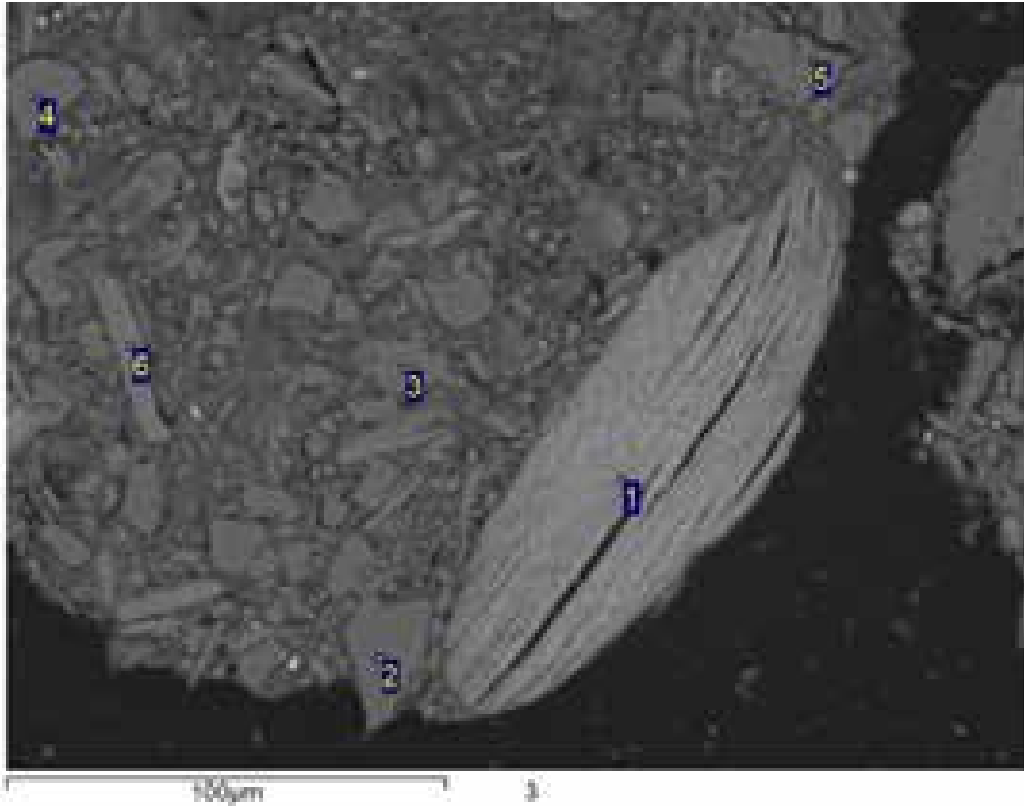


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	Cl	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	41.0								59.0			100.0	Rutile
2	51.0				49.0							100.0	Quartz
3	41.8			0.9	1.7			3.1		16.8	35.8	100.0	Fe-Mn-Oxide?
4	45.0	0.4		9.6	31.8		13.1					100.0	K-Feldspar
5	46.4	0.3		9.7	31.2		12.4					100.0	K-Feldspar
6	50.3		0.8	16.2	24.6	0.3	2.4	0.4	0.6		4.4	100.0	Fe-Oxide/K-Feldspar mixture
7	51.5				48.5							100.0	Quartz
8	48.6	0.6	0.9	17.3	23.2		6.8		0.6		1.9	100.0	K-Feldspar

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

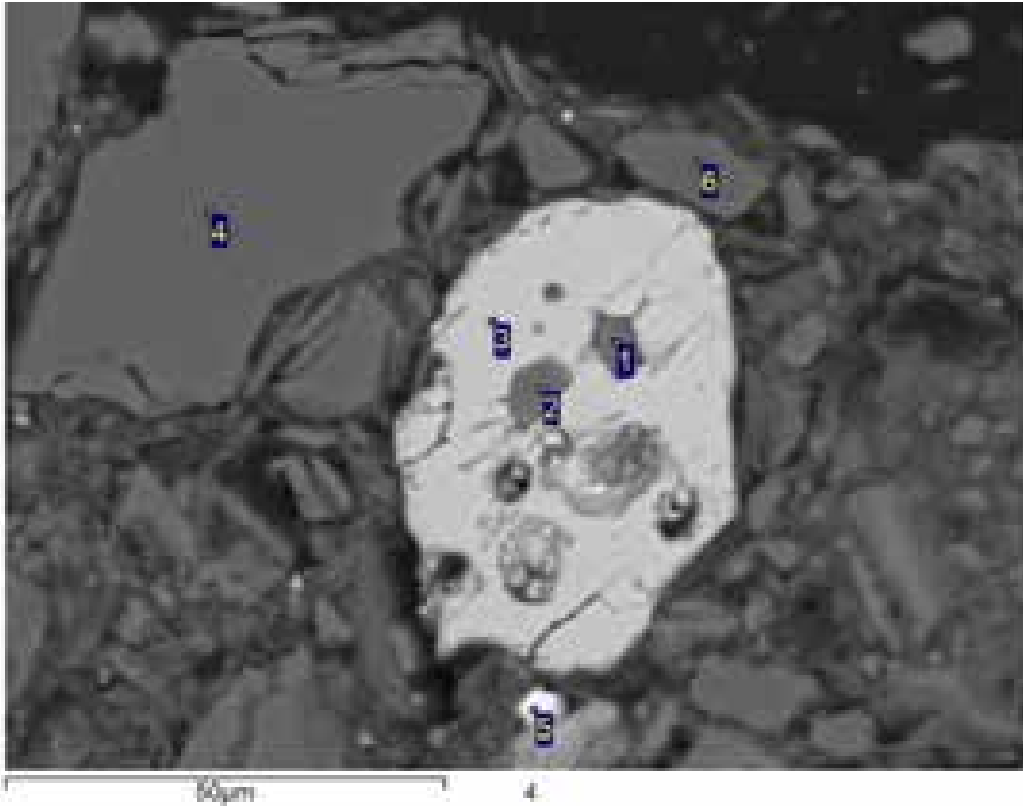


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	K	Ca	Ti	Fe	Total	Mineral ID
1	42.6	3.6	7.2	13.3	0.4	0.9	1.2	30.7	100.0	Mica
2	51.1			48.9					100.0	Quartz
3	51.3			48.7					100.0	Quartz
4	50.9			49.1					100.0	Quartz
5	51.8			48.2					100.0	Quartz
6	43.2	1.1	16.6	25.5	9.3			4.3	100.0	Mica

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

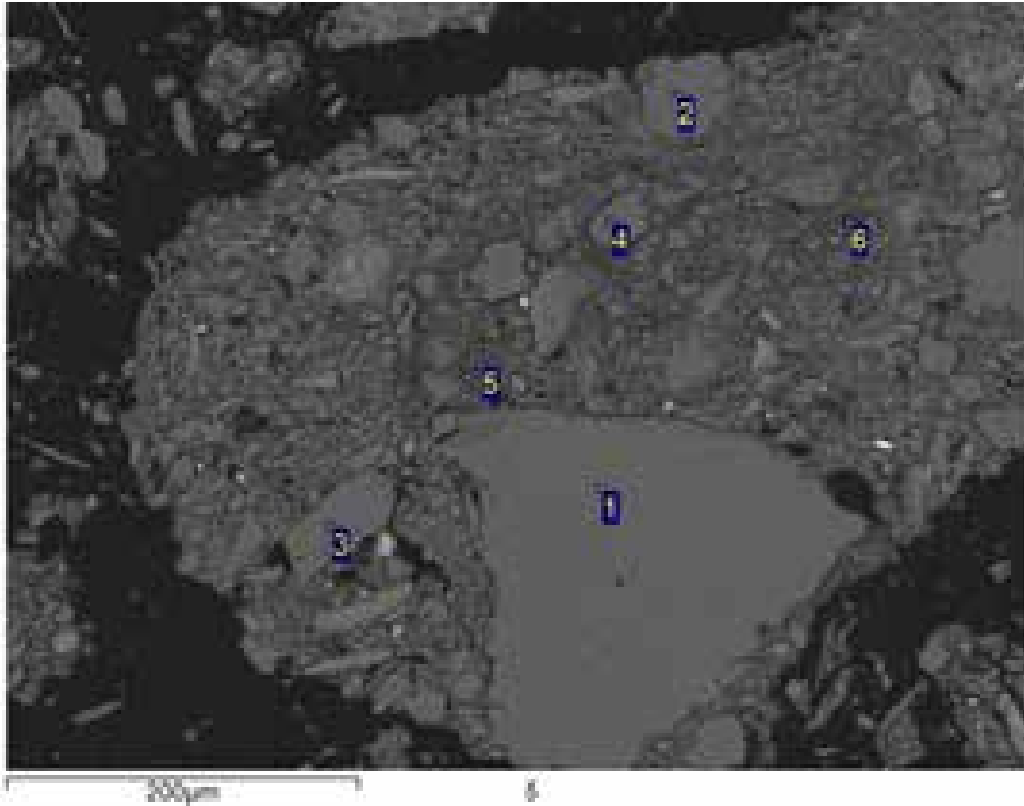


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Al	Si	Ca	Ti	Mn	Fe	Zr	Total	Mineral ID
1	53.1			44.6		1.3		1.0		100.0	Quartz
2	47.2	5.2	12.8	27.2	5.0	1.5		1.2		100.0	Plagioclase
3	33.4					31.2	1.1	34.3		100.0	Ilmenite
4	51.4			48.6						100.0	Quartz
5	41.4		1.2	14.8		0.4		0.5	41.7	100.0	Zircon
6	51.4			48.6						100.0	Quartz

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

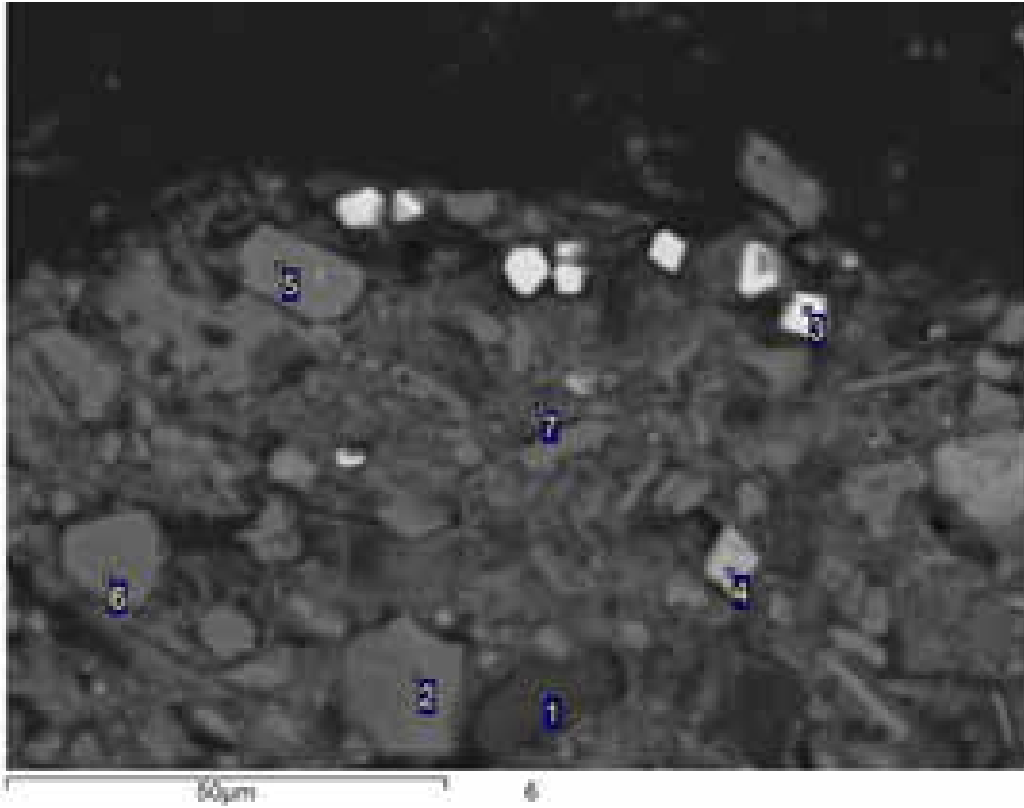


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	Cl	K	Ti	Fe	Total	Mineral ID
1	51.1			48.9						100.0	Quartz
2	45.5			54.5						100.0	Quartz
3	51.0			49.0						100.0	Quartz
4	50.4			49.6						100.0	Quartz
5	47.5	0.8	14.1	29.4	0.7		3.4	0.6	3.6	100.0	Fe-Oxide/Mica mixture
6	36.3	1.0	14.3	29.2	1.0	0.8	3.3		14.2	100.0	Fe-Oxide/Mica mixture

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

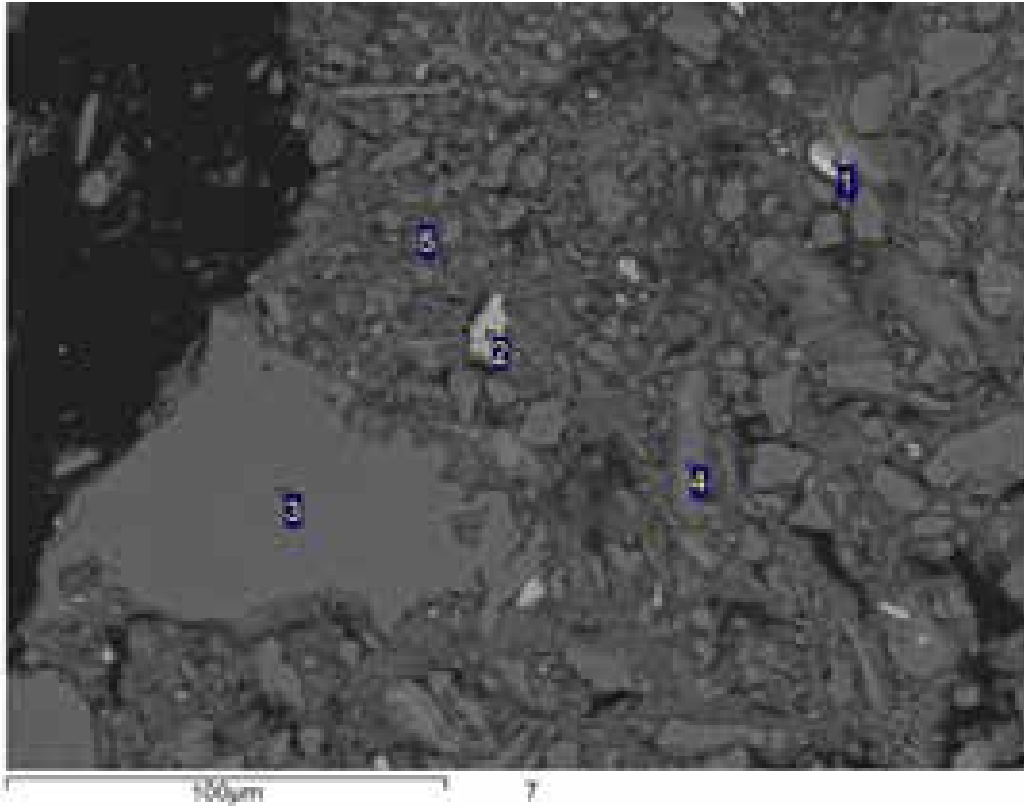


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	S	Cl	K	Ca	Ti	Fe	Ta	Total	Mineral ID
1	53.9	1.1	8.2	14.2	2.7		0.8	8.8	2.9	7.3		100.0	Altered amphibole?
2	55.4			44.6								100.0	Quartz
3					55.0					43.8	1.2	100.0	Pyrite
4	45.1		0.5	2.9					51.6			100.0	Rutile
5	47.2		18.6	23.4			9.6			1.2		100.0	K-Feldspar
6	50.1		1.3	47.9			0.3			0.3		100.0	Quartz
7	48.1	0.6	17.9	27.8		0.4	2.2	0.4		2.6		100.0	Altered K-Feldspar/Micas

All results in weight%

Sample Notes:
S-7677_9_DPT09AP2

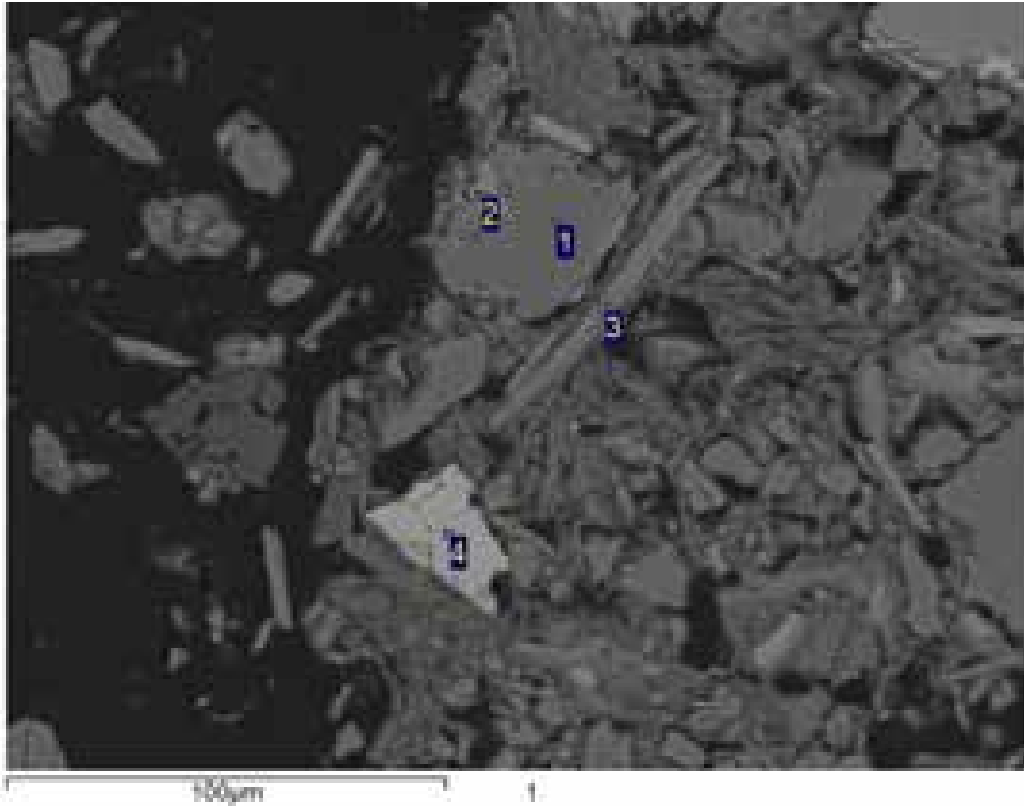


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ti	Mn	Fe	Total	Mineral ID
1	49.7			0.7	1.0		29.5	1.8	17.4	100.0	Ilmenite
2	43.5			2.4	3.5	1.0	48.5		1.1	100.0	Rutile
3	50.8				49.2					100.0	Quartz
4	48.0	0.9	0.7	16.6	24.0	5.7			4.0	100.0	Mica
5	40.0		1.2	16.1	26.9	3.8	0.6		11.5	100.0	Fe-Oxide/K-Feldspar mixture

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

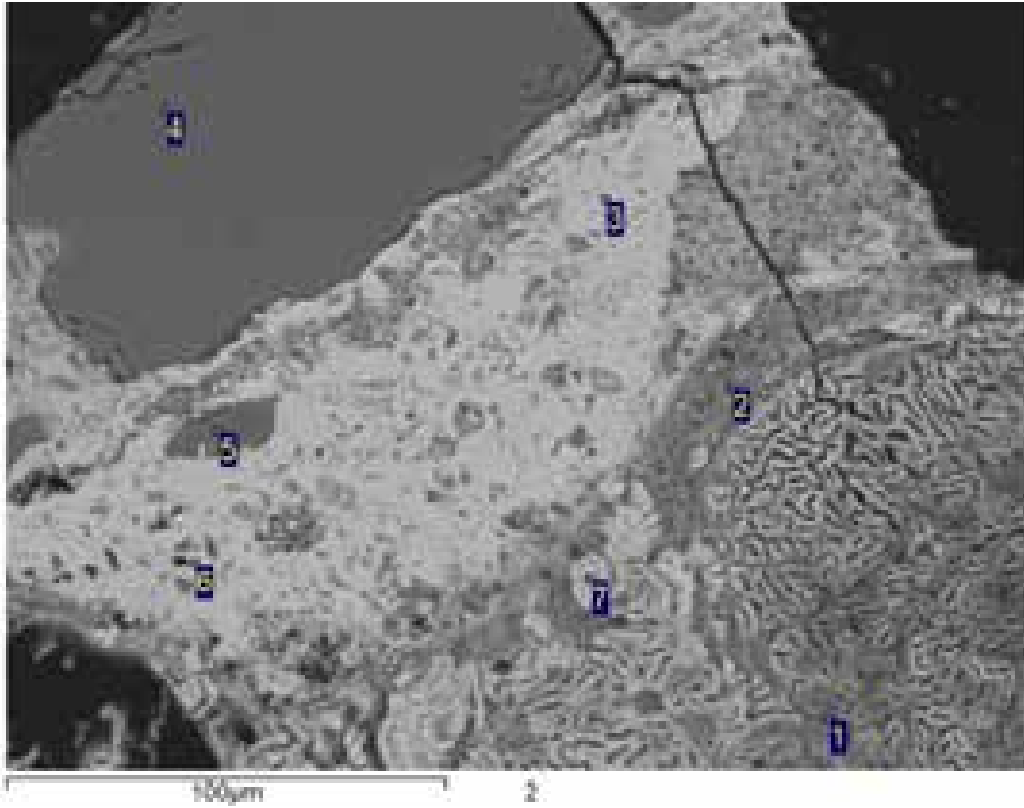


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	50.7				49.3						100.0	Quartz
2	49.9		6.5	9.5	15.3					18.8	100.0	Biotite
3	45.1	0.6	0.7	17.7	24.6	8.5		0.4		2.4	100.0	K-Feldspar
4	39.4		1.4	11.0	18.9		1.7		2.7	24.9	100.0	Garnet

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

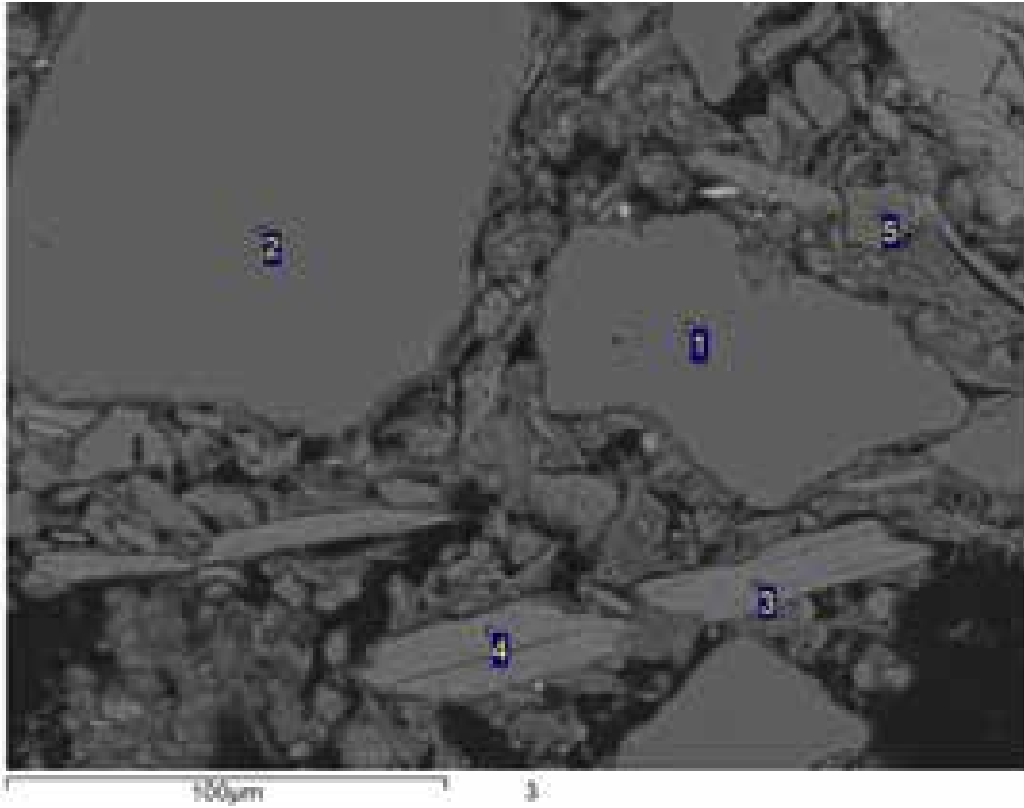


Processing option : All elements analysed (Normalised)

Spectrum	O	Al	Si	P	Cl	Fe	Total	Mineral ID
1	31.4	1.5	2.7	1.4	0.7	62.3	100.0	Fe-Oxide/Oxyhydroxide
2	33.6	1.6	2.3	1.3	0.7	60.5	100.0	Fe-Oxide/Oxyhydroxide
3	40.2	0.9	3.1			55.8	100.0	Fe-Oxide/Oxyhydroxide
4	51.2		48.8				100.0	Quartz
5	51.0		48.2			0.9	100.0	Quartz
6	40.0		2.7	0.6		56.7	100.0	Fe-Oxide/Oxyhydroxide
7	34.8		2.6	0.7		61.8	100.0	Fe-Oxide/Oxyhydroxide

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

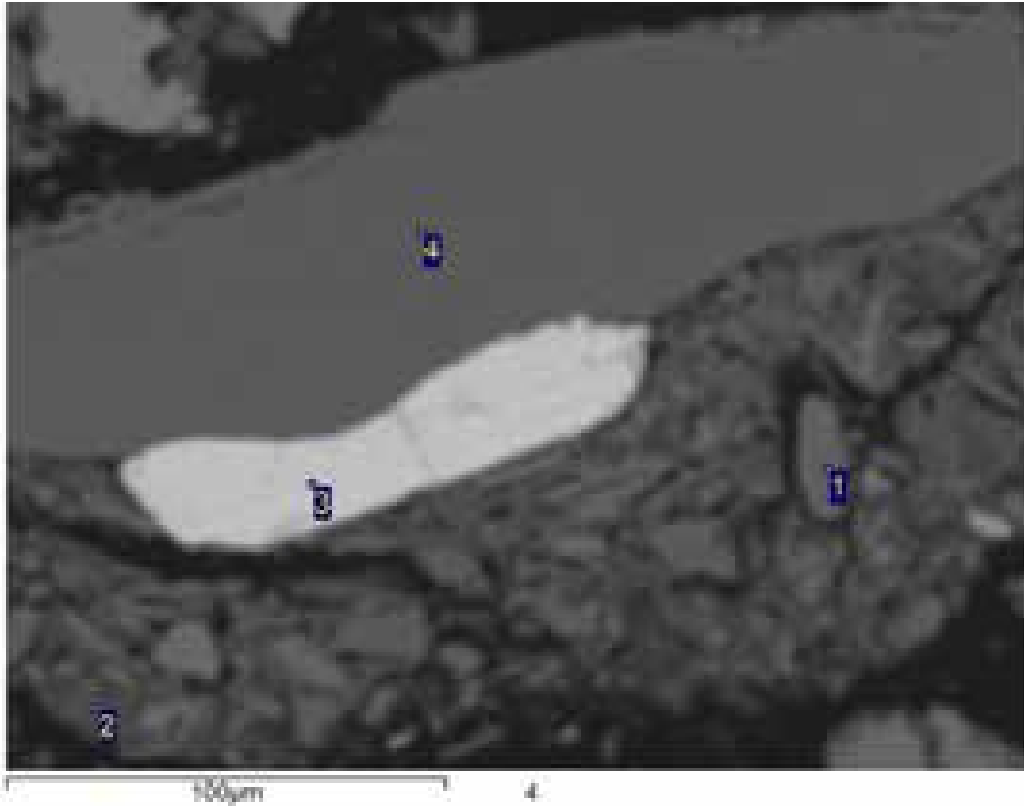


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ti	Fe	Total	Mineral ID
1	50.9				49.1				100.0	Quartz
2	50.7				49.3				100.0	Quartz
3	48.5		0.8	16.6	22.7	8.8	0.6	1.9	100.0	Muscovite
4	47.3	0.4	0.9	17.1	23.1	8.8	0.7	1.8	100.0	Muscovite
5	46.0		0.4	1.6	49.4			2.4	100.0	Quartz

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

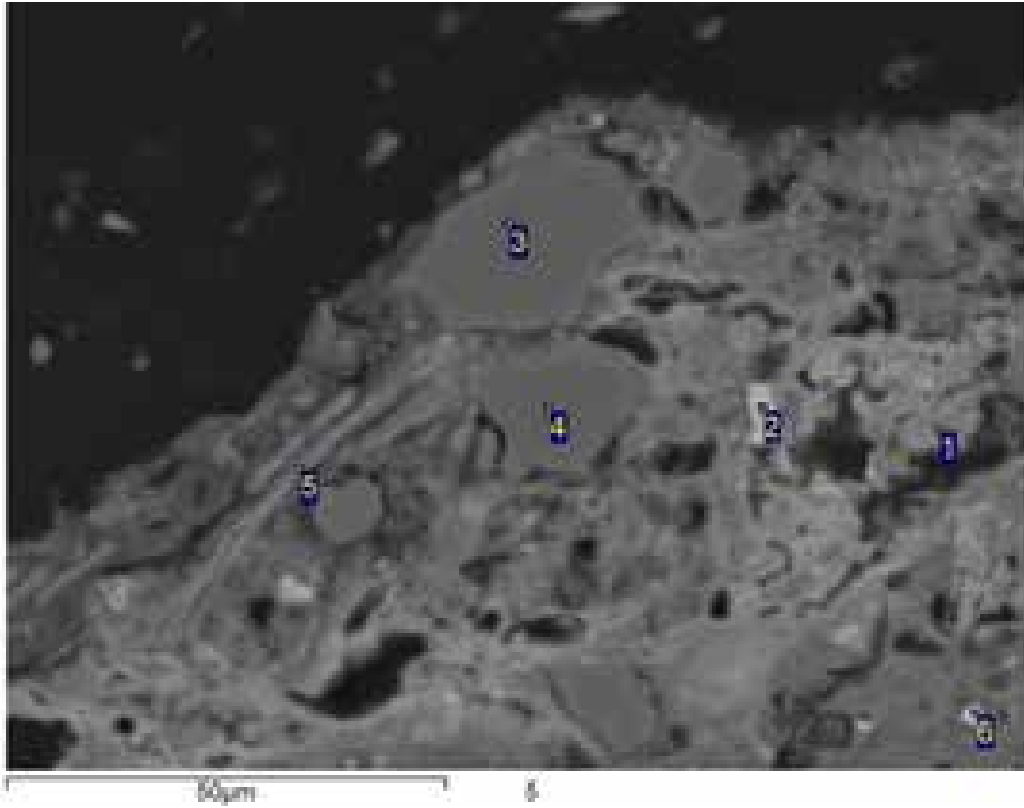


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ti	Fe	Total	Mineral ID
1	48.0	0.4	0.8	16.2	23.0	8.0	0.3	3.2	100.0	Muscovite
2	43.1		1.1	16.0	26.9	2.1	0.9	9.8	100.0	Fe-Oxide/Oxyhydroxide/K-Feldspar mixture
3	32.7						12.6	54.7	100.0	Ilmenite
4	51.9				48.1				100.0	Quartz

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

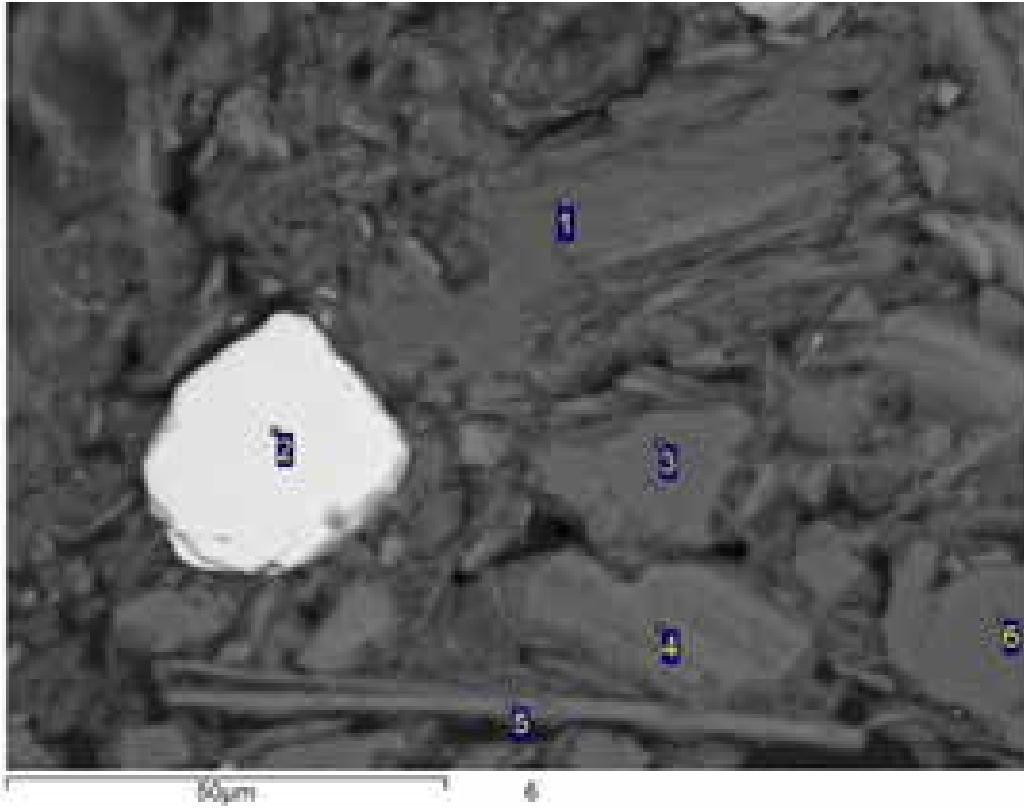


Processing option : All elements analysed (Normalised)

Spectrum	O	Mg	Al	Si	P	K	Ca	Ti	Cr	Mn	Fe	Zn	Total	Mineral ID
1	42.0	3.8	8.7	17.7		0.3	0.9			0.6	26.0		100.0	Fe-Oxide /Oxyhydroxide/Kaolinite mixture
2	42.6		4.6	4.2	0.7						47.9		100.0	Fe-Oxide
3	50.6			49.4									100.0	Quartz
4	50.0			50.0									100.0	Quartz
5	45.8	6.1	10.6	20.2		3.2		0.9			13.1		100.0	Mica
6	42.3	0.7	5.8	6.8		0.9			22.3	1.3	18.5	1.4	100.0	Chromite

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2

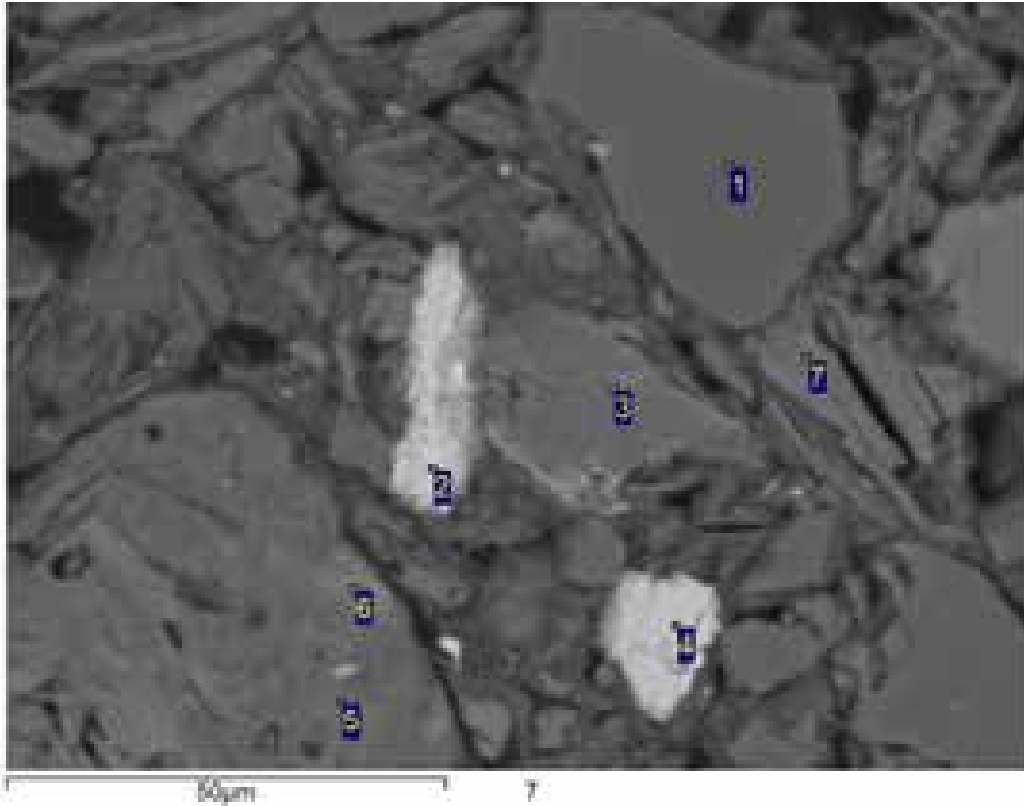


Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ti	Fe	Zr	Hf	Total	Mineral ID
1	55.0			19.7	22.6	0.5		2.2			100.0	Kaolinite
2	32.3				15.6				50.4	1.7	100.0	Zircon
3	52.1				47.9						100.0	Quartz
4	49.4		0.9	17.6	23.3	7.6		1.2			100.0	Mica
5	46.6	0.4	0.8	17.3	24.3	8.0	0.4	2.2			100.0	Mica
6	50.9				49.1						100.0	Quartz

All results in weight%

Sample Notes:
S-7677_10_DPT10AP2



Processing option : All elements analysed (Normalised)

Spectrum	O	Na	Mg	Al	Si	K	Ca	Ti	Mn	Fe	Total	Mineral ID
1	50.9				49.1						100.0	Quartz
2	31.1			0.7	0.9			1.8		65.4	100.0	Fe-Oxide/Oxyhydroxide
3	49.3	0.9	0.4	18.2	21.9	7.1				2.2	100.0	K-Feldspar
4	33.3							30.1	1.4	35.2	100.0	Ilmenite
5	46.9		2.8	10.4	29.3	2.1	0.4			8.2	100.0	Fe-Oxide/Oxyhydroxide/Mica mixture
6	47.8		5.3	12.1	17.8	1.5	0.5			15.1	100.0	Fe-Oxide/Oxyhydroxide/Mica mixture
7	47.3		6.0	11.5	21.3	2.8	0.7	1.3		9.1	100.0	Fe-Oxide/Oxyhydroxide/Mica mixture

All results in weight%

F402001 SGS LAKEFIELD RESEARCH
 PO BOX 4300
 185 CONCESSION STREET
 LAKEFIELD, ONTARIO ON K0L 2H0
 CANADA

Received: 31-Mar-2021
Completed: 29-Apr-2021
Order Reference: Kela Ashworth - S767 CEC

Laboratory ID:	GS21-00731.002
Client Sample #:	S-7677-2
Description:	S-7677_2_DPT11AP2
CEC Actual (meq/100g)	8.98

Report File Reference Number: 0000206181

NOTE:
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For and on behalf of SGS Canada Inc., Agriculture and Food



Jack Legg, CCA-ON, 4R NMS
 Branch Manager, Agronomist

Signed and dated in Guelph, ON
On 13-Jan-2022

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 CANADA

Received: 31-Mar-2021
Completed: 29-Apr-2021
Order Reference: Kela Ashworth - S767 CEC

Laboratory ID:	GS21-00731.003
Client Sample #:	S-7677-3
Description:	S-7677_3_DPT08AP2

CEC Actual (meq/100g)	6.61
-----------------------	------

Report File Reference Number: 0000206183

Page 1 of 1

NOTE:

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For and on behalf of SGS Canada Inc., Agriculture and Food



Jack Legg, CCA-ON, 4R NMS
 Branch Manager, Agronomist

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On 13-Jan-2022

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Received: 31-Mar-2021
Completed: 29-Apr-2021
Order Reference: Kela Ashworth - S767 CEC

Laboratory ID:	GS21-00731.004
Client Sample #:	S-7677-4
Description:	S-7677_4_DPT07AP2

CEC Actual (meq/100g)	10.25
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Report File Reference Number: 0000206185

NOTE:
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For and on behalf of SGS Canada Inc., Agriculture and Food



Jack Legg, CCA-ON, 4R NMS
 Branch Manager, Agronomist

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On 13-Jan-2022

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 CANADA

Received: 31-Mar-2021
Completed: 29-Apr-2021
Order Reference: Kela Ashworth - S767 CEC

Laboratory ID:	GS21-00731.009
Client Sample #:	S-7677-9
Description:	S-7677_9_DPT09AP2

CEC Actual (meq/100g)	11.91
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Report File Reference Number: 0000206195

NOTE:

The analysis report above refers to the time and place of testing, and strictly to the supplied sample(s) only, without reference to any other matter. This report does not evidence or refer to any consignment or shipment or/and SGS sampling and inspection.

**Signed and dated in Guelph, ON
 On 13-Jan-2022**

For and on behalf of SGS Canada Inc., Agriculture and Food



Jack Legg, CCA-ON, 4R NMS
 Branch Manager, Agronomist

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 CANADA

Received: 31-Mar-2021
Completed: 29-Apr-2021
Order Reference: Kela Ashworth - S767 CEC

Laboratory ID:	GS21-00731.010
Client Sample #:	S-7677-10
Description:	S-7677_10_DPT10AP2

CEC Actual (meq/100g)	10.62
-----------------------	-------

Report File Reference Number: 0000206197

NOTE:
 The analysis report above refers to the time and place of testing, and strictly to the supplied sample(s) only, without reference to any other matter. This report does not evidence or refer to any consignment or shipment or/and SGS sampling and inspection.

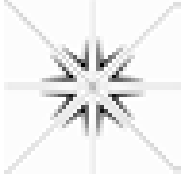
For and on behalf of SGS Canada Inc., Agriculture and Food



Jack Legg, CCA-ON, 4R NMS
 Branch Manager, Agronomist

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On 13-Jan-2022

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Specialty Analytical

9011 SE Janssen Rd
Clackamas, OR 97015
TEL: (503) 607-1331

Website: www.specialtyanalytical.com

January 25, 2022

Kela Ashworth
SiREM Lab
130 Stone Road West
Guelph, Ontario N1G3Z2
TEL: (519) 822-2265
FAX:

RE: S-7677

Order No.: 2201248

Dear Kela Ashworth:

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

Specialty Analytical

WO#: 2201248
Date Reported: 1/25/2022

CLIENT: SiREM Lab
Project: S-7677

Lab ID: 2201248-001 **Matrix:** SOIL
Client Sample ID S-7677_2_DPT11AP2 **Collection Date:** 3/25/2021

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY				SW9081		Analyst: EG
Anion Exchange Capacity	6.78	0.000200		meq/100g	1	4/1/2021 10:39:06 AM

Lab ID: 2201248-002 **Matrix:** SOIL
Client Sample ID S-7677_3_DPT08AP2 **Collection Date:** 3/25/2021

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY				SW9081		Analyst: EG
Anion Exchange Capacity	5.96	0.000200		meq/100g	1	4/1/2021 10:40:06 AM

Lab ID: 2201248-003 **Matrix:** SOIL
Client Sample ID S-7677_4_DPT07AP2 **Collection Date:** 3/25/2021

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY				SW9081		Analyst: EG
Anion Exchange Capacity	6.84	0.000200		meq/100g	1	4/1/2021 10:41:06 AM

Lab ID: 2201248-004 **Matrix:** SOIL
Client Sample ID S-7677_9_DPT09AP2 **Collection Date:** 3/25/2021

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY				SW9081		Analyst: EG
Anion Exchange Capacity	5.17	0.000200		meq/100g	1	4/1/2021 10:47:06 AM

Lab ID: 2201248-005 **Matrix:** SOIL
Client Sample ID S-7677_10_DPT10AP2 **Collection Date:** 3/25/2021

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ANION EXCHANGE CAPACITY				SW9081		Analyst: EG
Anion Exchange Capacity	6.19	0.000200		meq/100g	1	4/1/2021 10:48:06 AM

Qualifiers: H Holding times for preparation or analysis exceeded

QC SUMMARY REPORT

WO#: 2201248

1/25/2022

Specialty Analytical

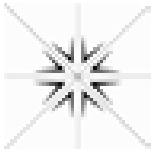
Client: SiREM Lab

Project: S-7677

TestCode: AEC_S

Sample ID: 2201248-003ADUP	SampType: DUP	TestCode: AEC_S	Units: meq/100g	Prep Date:	RunNo: 39875						
Client ID: S-7677_4_DPT07AP	Batch ID: R39875	TestNo: SW9081	Analysis Date: 4/1/2021	SeqNo: 513304							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anion Exchange Capacity	7.21	0.000200						6.836	5.36	20	

Qualifiers: H Holding times for preparation or analysis exceeded



Specialty Analytical
 9011 SE Jannsen Rd
 Clackamas, Oregon 97015
 TEL: 503-607-1331 FAX: 503-607-1336
 Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Name SIREM

Work Order Number 2201248

RcptNo: 1

Date and Time Received 3/29/2021 9:10:00 AM

Received by: Katherine Lynch

Completed by

Reviewed by:

Completed Date: 1/25/2022 11:11:39 AM

Reviewed Date: 1/25/2022 11:11:42 AM

Carrier name: FedEx

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No Not Present
- Are matrices correctly identified on Chain of custody? Yes No
- Is it clear what analyses were requested? Yes No
- Custody seals intact on sample bottles? Yes No Not Present
- Samples in proper container/bottle? Yes No
- Were correct preservatives used and noted? Yes No NA
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- Were container labels complete (ID, Pres, Date)? Yes No
- All samples received within holding time? Yes No
- Was an attempt made to cool the samples? Yes No NA
- All samples received at a temp. of > 0° C to 6.0° C? Yes No NA

Approved by client.

Preservative added to bottles:

- Sample Temp. taken and recorded upon receipt? Yes No To 10.1 °C
- Water - Were bubbles absent in VOC vials? Yes No No Vials
- Water - Was there Chlorine Present? Yes No NA
- Water - pH acceptable upon receipt? Yes No NA
- Are Samples considered acceptable? Yes No

- Custody Seals present? Yes No
- Traffic Report or Packing Lists present? Yes No
- Airbill or Sticker? Air Bill Sticker Not Present
- Airbill No:
- Sample Tags Present? Yes No
- Sample Tags Listed on COC? Yes No
- Tag Numbers:
- Sample Condition? Intact Broken Leaking

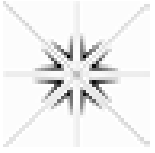
Case Number:

SDG:

SAS:

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section be



Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Contacted? Yes No NA Person Contacted: _____
Contact Mode: Phone: Fax: Email: In Person: _____
Client Instructions: _____
Date Contacted: _____ Contacted By: _____
Regarding: _____
CorrectiveAction: _____

Specialty Analytical

3011 St. Georges Rd
 Columbia, MO 65205
 Phone 502.662.1501
 Fax 502.662.1506

Chain of Custody Report

Page 1 of 1

Customer: 2105272
 Sample Name: FAUX
 Date: 1/10/10

Method: 100
 Unit: mg
 Matrix: FAUX

Lot: 100
 Date: 1/10/10

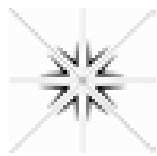
Client: Specialty Analytical
 Address: 3011 St. Georges Rd West
 City: Columbia, MO 65205

Order No: 2105272
 Method: 100
 Date: 1/10/10
 Analyst: 100

Sample ID	Sample Name	Matrix	Unit	Method	Lot	Date	Analyst
S-0001	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0002	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0003	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0004	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0005	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0006	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0007	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0008	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0009	OP-10000	OP-10000	mg	100	100	1/10/10	100
S-0010	OP-10000	OP-10000	mg	100	100	1/10/10	100

Turn-around Time: _____ Sample ID: _____ Batch: _____
 Date: _____

Specialty Analytical
 3011 St. Georges Rd
 Columbia, MO 65205
 Phone 502.662.1501
 Fax 502.662.1506



Definition Only

WO#: 2201248
Date: 1/25/2022

Definitions:

KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results 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.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an 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.

FS: Follow-up testing is suggested.

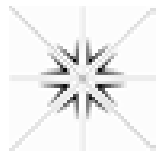
G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an



Definition Only

WO#: 2201248
Date: 1/25/2022

Definitions:

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.

N: Gasoline 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.

NH: Sample matrix is non-homogeneous

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: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

ANALYTICAL REPORT

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-22793-1
Client Project/Site: S-7677 SiREMNA
Revision: 1

For:
Sirem, div of Geosyntec Consultants
130 Stone Rd West
Guelph, Ontario N1G 3Z2

Attn: Kela Ashworth



Authorized for release by:
7/14/2021 4:34:00 PM

Ryan Henry, Project Manager I
(865)291-3000
williamr.henry@eurofinset.com

LINKS

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results through
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The
Expert**

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www.eurofins.com/na

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

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



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Definitions/Glossary

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Job ID: 140-22793-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative 140-22793-1

Receipt

The samples were received on 4/22/2021 at 10:30am and arrived in good condition. The temperature of the cooler at receipt was 9.6° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: S-7677_2_DPT11AP2 (140-22793-1), S-7677_3_DPT08AP2 (140-22793-2) and S-7677_4_DPT07AP2 (140-22793-3). The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

Metals

7 Step Sequential Extraction Procedure

These soil samples were prepared and analyzed using Eurofins TestAmerica Knoxville standard operating procedure KNOX-MT-0008, "7 Step Sequential Extraction Procedure". SW-846 Method 6010B as incorporated in Eurofins TestAmerica Knoxville standard operating procedure KNOX-MT-0007 was used to perform the final instrument analyses.

An aliquot of each sample was sequentially extracted using the steps listed below:

- Step 1 - Exchangeable Fraction: A 5 gram aliquot of sample was extracted with 25 mL of 1M magnesium sulfate (MgSO₄), centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 2 - Carbonate Fraction: The sample residue from step 1 was extracted with 25 mL of 1M sodium acetate/acetic acid (NaOAc/HOAc) at pH 5, centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 3 - Non-crystalline Materials Fraction: The sample residue from step 2 was extracted with 25 mL of 0.2M ammonium oxalate (pH 3), centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 4 - Metal Hydroxide Fraction: The sample residue from step 3 was extracted with 25 mL of 1M hydroxylamine hydrochloride solution in 25% v/v acetic acid, centrifuged and filtered. 5 mL of the resulting leachate was digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 5 - Organic-bound Fraction: The sample residue from step 4 was extracted three times with 25 mL of 5% sodium hypochlorite (NaClO) at pH 9.5, centrifuged and filtered. The resulting leachates were combined and 5 mL were digested using method 3010A and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 6 - Acid/Sulfide Fraction: The sample residue from step 5 was extracted with 25 mL of a 3:1:2 v/v solution of HCl-HNO₃-H₂O, centrifuged and filtered. 5 mL of the resulting leachate was diluted to 50 mL with reagent water and analyzed by method 6010B. Results are reported in mg/kg on a dry weight basis.
- Step 7 - Residual Fraction: A 1.0 g aliquot of the sample residue from step 6 was digested using HF, HNO₃, HCl and H₃BO₃. The digestate was analyzed by ICP using method 6010B. Results are reported in mg/kg on a dry weight basis.

In addition, a 1.0 g aliquot of the original sample was digested using HF, HNO₃, HCl and H₃BO₃. The digestate was analyzed by ICP using method 6010B. Total metal results are reported in mg/kg on a dry weight basis.

Results were calculated using the following equation:

$$\text{Result, } \mu\text{g/g or mg/Kg, dry weight} = (C \times V \times V1 \times D) / (W \times S \times V2)$$

Where:

- C = Concentration from instrument readout, $\mu\text{g/mL}$
- V = Final volume of digestate, mL
- D = Instrument dilution factor
- V1 = Total volume of leachate, mL
- V2 = Volume of leachate digested, mL

Case Narrative

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Job ID: 140-22793-1 (Continued)

Laboratory: Eurofins TestAmerica, Knoxville (Continued)

W = Wet weight of sample, g
S = Percent solids/100

A method blank, laboratory control sample and laboratory control sample duplicate were prepared and analyzed with each SEP step in order to provide information about both the presence of elements of interest in the extraction solutions, and the recovery of elements of interest from the extraction solutions. Results outside of laboratory QC limits do not reflect out of control performance, but rather the effect of the extraction solution upon the analyte.

A laboratory sample duplicate was prepared and analyzed with each batch of samples in order to provide information regarding the reproducibility of the procedure.

SEP Report Notes:

The final report lists the results for each step, the result for the total digestion of the sample, and a sum of the results of steps 1 through 7 by element.

Magnesium was not reported for step 1 because the extraction solution for this step (magnesium sulfate) contains high levels of magnesium. Sodium was not reported for steps 2 and 5 since the extraction solutions for these steps contain high levels of sodium. The sum of steps 1 through 7 is much higher than the total result for sodium and magnesium due to the magnesium and sodium introduced by the extraction solutions.

The digestates for steps 1, 2 and 5 were analyzed at a dilution due to instrument problems caused by the high solids content of the digestates. The reporting limits were adjusted accordingly.

Methods 6010B, 6010B SEP: The following samples were diluted due to the presence of titanium which interferes with Cobalt: S-7677_2_DPT11AP2 (140-22793-1), S-7677_3_DPT08AP2 (140-22793-2) and S-7677_4_DPT07AP2 (140-22793-3). Elevated reporting limits (RLs) are provided.

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

General Chemistry

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

Sample Summary

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
140-22793-1	S-7677_2_DPT11AP2	Solid	04/20/21 00:00	04/22/21 10:30	
140-22793-2	S-7677_3_DPT08AP2	Solid	04/20/21 00:00	04/22/21 10:30	
140-22793-3	S-7677_4_DPT07AP2	Solid	04/20/21 00:00	04/22/21 10:30	

1

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Client Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_2_DPT11AP2

Lab Sample ID: 140-22793-1

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 78.0

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		13	0.23	mg/Kg	☼	04/29/21 08:00	05/05/21 13:39	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		9.6	0.24	mg/Kg	☼	04/30/21 08:00	05/05/21 15:16	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.33	J	3.2	0.058	mg/Kg	☼	05/03/21 08:00	05/05/21 16:35	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.1	J	3.2	0.068	mg/Kg	☼	05/04/21 08:00	05/10/21 14:47	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		48	0.77	mg/Kg	☼	05/06/21 08:00	05/10/21 16:25	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.0	J	3.2	0.059	mg/Kg	☼	05/06/21 08:00	05/10/21 17:44	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.4	J	16	0.17	mg/Kg	☼	05/10/21 08:00	05/11/21 17:59	5

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	5.9		2.5	0.023	mg/Kg			05/13/21 10:05	1

Method: 6010B - SEP Metals (ICP) - Total

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	7.0	J	16	0.17	mg/Kg	☼	04/27/21 08:00	05/11/21 19:03	5

Client Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_3_DPT08AP2

Lab Sample ID: 140-22793-2

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 88.1

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.0	J	11	0.20	mg/Kg	☼	04/29/21 08:00	05/05/21 13:58	4

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.30	J	8.5	0.21	mg/Kg	☼	04/30/21 08:00	05/05/21 15:21	3

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	5.7		2.8	0.051	mg/Kg	☼	05/03/21 08:00	05/05/21 16:55	1

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	2.6	J	2.8	0.060	mg/Kg	☼	05/04/21 08:00	05/10/21 15:06	1

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		43	0.68	mg/Kg	☼	05/06/21 08:00	05/10/21 16:30	5

Method: 6010B SEP - SEP Metals (ICP) - Step 6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	1.8	J	2.8	0.052	mg/Kg	☼	05/06/21 08:00	05/10/21 18:04	1

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.41	J	5.7	0.059	mg/Kg	☼	05/10/21 08:00	05/11/21 18:04	2

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	12		2.5	0.023	mg/Kg			05/13/21 10:05	1

Method: 6010B - SEP Metals (ICP) - Total

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	7.5		5.7	0.059	mg/Kg	☼	04/27/21 08:00	05/11/21 19:08	2

Client Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_4_DPT07AP2

Lab Sample ID: 140-22793-3

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 84.0

Method: 6010B SEP - SEP Metals (ICP) - Step 1										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	7.7	J	12	0.21	mg/Kg	☼	04/29/21 08:00	05/05/21 14:03	4	
Method: 6010B SEP - SEP Metals (ICP) - Step 2										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	0.79	J	8.9	0.23	mg/Kg	☼	04/30/21 08:00	05/05/21 15:26	3	
Method: 6010B SEP - SEP Metals (ICP) - Step 3										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	0.25	J	3.0	0.054	mg/Kg	☼	05/03/21 08:00	05/05/21 17:00	1	
Method: 6010B SEP - SEP Metals (ICP) - Step 4										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	0.68	J	3.0	0.063	mg/Kg	☼	05/04/21 08:00	05/10/21 15:11	1	
Method: 6010B SEP - SEP Metals (ICP) - Step 5										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	2.2	J	45	0.71	mg/Kg	☼	05/06/21 08:00	05/10/21 16:35	5	
Method: 6010B SEP - SEP Metals (ICP) - Step 6										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	2.2	J	3.0	0.055	mg/Kg	☼	05/06/21 08:00	05/10/21 18:09	1	
Method: 6010B SEP - SEP Metals (ICP) - Step 7										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	0.64	J	6.0	0.062	mg/Kg	☼	05/10/21 08:00	05/11/21 18:08	2	
Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	14		2.5	0.023	mg/Kg			05/13/21 10:05	1	
Method: 6010B - SEP Metals (ICP) - Total										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Cobalt	11		6.0	0.062	mg/Kg	☼	04/27/21 08:00	05/11/21 19:13	2	

Default Detection Limits

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Method: 6010B SEP - SEP Metals (ICP) - Step 1

Prep: 3010A

SEP: Exchangeable

Analyte	RL	MDL	Units
Cobalt	2.5	0.045	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 2

Prep: 3010A

SEP: Carbonate

Analyte	RL	MDL	Units
Cobalt	2.5	0.063	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 3

Prep: 3010A

SEP: Non-Crystalline

Analyte	RL	MDL	Units
Cobalt	2.5	0.045	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 4

Prep: 3010A

SEP: Metal Hydroxide

Analyte	RL	MDL	Units
Cobalt	2.5	0.053	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 5

Prep: 3010A

SEP: Organic-Bound

Analyte	RL	MDL	Units
Cobalt	7.5	0.12	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 6

SEP: Acid/Sulfide

Analyte	RL	MDL	Units
Cobalt	2.5	0.046	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Step 7

Prep: Residual

Analyte	RL	MDL	Units
Cobalt	2.5	0.026	mg/Kg

Method: 6010B SEP - SEP Metals (ICP) - Sum of Steps 1-7

Analyte	RL	MDL	Units
Cobalt	2.5	0.023	mg/Kg

Method: 6010B - SEP Metals (ICP) - Total

Prep: Total

Analyte	RL	MDL	Units
Cobalt	2.5	0.026	mg/Kg

QC Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Method: 6010B - SEP Metals (ICP) - Total

Lab Sample ID: MB 140-49213/13-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 49213

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		2.5	0.026	mg/Kg		04/27/21 08:00	05/11/21 12:55	1

Lab Sample ID: LCS 140-49213/14-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 49213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	5.03		mg/Kg		101	80 - 125

Lab Sample ID: LCSD 140-49213/15-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 49213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cobalt	5.00	5.04		mg/Kg		101	80 - 125	0	30

Method: 6010B SEP - SEP Metals (ICP)

Lab Sample ID: MB 140-49214/12-B ^4
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Method Blank
Prep Type: Step 1
Prep Batch: 49305

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		10	0.18	mg/Kg		04/29/21 08:00	05/05/21 13:00	4

Lab Sample ID: LCS 140-49214/13-B ^5
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample
Prep Type: Step 1
Prep Batch: 49305

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	4.82	J	mg/Kg		96	80 - 120

Lab Sample ID: LCSD 140-49214/14-B ^5
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 1
Prep Batch: 49305

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Cobalt	5.00	4.81	J	mg/Kg		96	80 - 120	0	30

Lab Sample ID: MB 140-49306/12-B ^3
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Method Blank
Prep Type: Step 2
Prep Batch: 49358

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		7.5	0.19	mg/Kg		04/30/21 08:00	05/05/21 14:22	3

QC Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Method: 6010B SEP - SEP Metals (ICP) (Continued)

Lab Sample ID: LCS 140-49306/13-B ^5
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample
Prep Type: Step 2
Prep Batch: 49358

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	4.44	J	mg/Kg		89	80 - 120

Lab Sample ID: LCSD 140-49306/14-B ^5
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 2
Prep Batch: 49358

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	5.00	4.49	J	mg/Kg		90	80 - 120	1	30

Lab Sample ID: MB 140-49359/12-B
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Method Blank
Prep Type: Step 3
Prep Batch: 49393

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		2.5	0.045	mg/Kg		05/03/21 08:00	05/05/21 15:56	1

Lab Sample ID: LCS 140-49359/13-B
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample
Prep Type: Step 3
Prep Batch: 49393

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	4.75		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 140-49359/14-B
Matrix: Solid
Analysis Batch: 49543

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 3
Prep Batch: 49393

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	5.00	4.69		mg/Kg		94	80 - 120	1	30

Lab Sample ID: MB 140-49394/12-B
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Method Blank
Prep Type: Step 4
Prep Batch: 49441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		2.5	0.053	mg/Kg		05/04/21 08:00	05/10/21 14:08	1

Lab Sample ID: LCS 140-49394/13-B
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample
Prep Type: Step 4
Prep Batch: 49441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	5.32		mg/Kg		106	80 - 120

Lab Sample ID: LCSD 140-49394/14-B
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 4
Prep Batch: 49441

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	5.00	5.15		mg/Kg		103	80 - 120	3	30

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QC Sample Results

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Method: 6010B SEP - SEP Metals (ICP)

Lab Sample ID: MB 140-49442/12-B ^5
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Method Blank
Prep Type: Step 5
Prep Batch: 49541

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		38	0.60	mg/Kg		05/06/21 08:00	05/10/21 15:31	5

Lab Sample ID: LCS 140-49442/13-B ^5
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample
Prep Type: Step 5
Prep Batch: 49541

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	15.0	0.795	J	mg/Kg		5	1 - 60

Lab Sample ID: LCSD 140-49442/14-B ^5
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 5
Prep Batch: 49541

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	15.0	0.638	J	mg/Kg		4	1 - 60	22	30

Lab Sample ID: MB 140-49542/12-A
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Method Blank
Prep Type: Step 6
Prep Batch: 49542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		2.5	0.046	mg/Kg		05/06/21 08:00	05/10/21 17:05	1

Lab Sample ID: LCS 140-49542/13-A
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample
Prep Type: Step 6
Prep Batch: 49542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	4.97		mg/Kg		99	80 - 120

Lab Sample ID: LCSD 140-49542/14-A
Matrix: Solid
Analysis Batch: 49686

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 6
Prep Batch: 49542

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	5.00	4.74		mg/Kg		95	80 - 120	5	30

Lab Sample ID: MB 140-49611/12-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Method Blank
Prep Type: Step 7
Prep Batch: 49611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		2.5	0.026	mg/Kg		05/10/21 08:00	05/11/21 12:41	1

Lab Sample ID: LCS 140-49611/13-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Lab Control Sample
Prep Type: Step 7
Prep Batch: 49611

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	5.00	5.06		mg/Kg		101	80 - 125

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QC Sample Results

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Method: 6010B SEP - SEP Metals (ICP)

Lab Sample ID: LCSD 140-49611/14-A
Matrix: Solid
Analysis Batch: 49736

Client Sample ID: Lab Control Sample Dup
Prep Type: Step 7
Prep Batch: 49611

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	5.00	5.01		mg/Kg		100	80 - 125	1	30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Metals

Prep Batch: 49213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Total/NA	Solid	Total	
140-22793-2	S-7677_3_DPT08AP2	Total/NA	Solid	Total	
140-22793-3	S-7677_4_DPT07AP2	Total/NA	Solid	Total	
MB 140-49213/13-A	Method Blank	Total/NA	Solid	Total	
LCS 140-49213/14-A	Lab Control Sample	Total/NA	Solid	Total	
LCSD 140-49213/15-A	Lab Control Sample Dup	Total/NA	Solid	Total	

SEP Batch: 49214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 1	Solid	Exchangeable	
140-22793-2	S-7677_3_DPT08AP2	Step 1	Solid	Exchangeable	
140-22793-3	S-7677_4_DPT07AP2	Step 1	Solid	Exchangeable	
MB 140-49214/12-B ^4	Method Blank	Step 1	Solid	Exchangeable	
LCS 140-49214/13-B ^5	Lab Control Sample	Step 1	Solid	Exchangeable	
LCSD 140-49214/14-B ^5	Lab Control Sample Dup	Step 1	Solid	Exchangeable	

Prep Batch: 49305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 1	Solid	3010A	49214
140-22793-2	S-7677_3_DPT08AP2	Step 1	Solid	3010A	49214
140-22793-3	S-7677_4_DPT07AP2	Step 1	Solid	3010A	49214
MB 140-49214/12-B ^4	Method Blank	Step 1	Solid	3010A	49214
LCS 140-49214/13-B ^5	Lab Control Sample	Step 1	Solid	3010A	49214
LCSD 140-49214/14-B ^5	Lab Control Sample Dup	Step 1	Solid	3010A	49214

SEP Batch: 49306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 2	Solid	Carbonate	
140-22793-2	S-7677_3_DPT08AP2	Step 2	Solid	Carbonate	
140-22793-3	S-7677_4_DPT07AP2	Step 2	Solid	Carbonate	
MB 140-49306/12-B ^3	Method Blank	Step 2	Solid	Carbonate	
LCS 140-49306/13-B ^5	Lab Control Sample	Step 2	Solid	Carbonate	
LCSD 140-49306/14-B ^5	Lab Control Sample Dup	Step 2	Solid	Carbonate	

Prep Batch: 49358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 2	Solid	3010A	49306
140-22793-2	S-7677_3_DPT08AP2	Step 2	Solid	3010A	49306
140-22793-3	S-7677_4_DPT07AP2	Step 2	Solid	3010A	49306
MB 140-49306/12-B ^3	Method Blank	Step 2	Solid	3010A	49306
LCS 140-49306/13-B ^5	Lab Control Sample	Step 2	Solid	3010A	49306
LCSD 140-49306/14-B ^5	Lab Control Sample Dup	Step 2	Solid	3010A	49306

SEP Batch: 49359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 3	Solid	Non-Crystalline	
140-22793-2	S-7677_3_DPT08AP2	Step 3	Solid	Non-Crystalline	
140-22793-3	S-7677_4_DPT07AP2	Step 3	Solid	Non-Crystalline	
MB 140-49359/12-B	Method Blank	Step 3	Solid	Non-Crystalline	
LCS 140-49359/13-B	Lab Control Sample	Step 3	Solid	Non-Crystalline	
LCSD 140-49359/14-B	Lab Control Sample Dup	Step 3	Solid	Non-Crystalline	

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QC Association Summary

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Metals

Prep Batch: 49393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 3	Solid	3010A	49359
140-22793-2	S-7677_3_DPT08AP2	Step 3	Solid	3010A	49359
140-22793-3	S-7677_4_DPT07AP2	Step 3	Solid	3010A	49359
MB 140-49359/12-B	Method Blank	Step 3	Solid	3010A	49359
LCS 140-49359/13-B	Lab Control Sample	Step 3	Solid	3010A	49359
LCSD 140-49359/14-B	Lab Control Sample Dup	Step 3	Solid	3010A	49359

SEP Batch: 49394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 4	Solid	Metal Hydroxide	
140-22793-2	S-7677_3_DPT08AP2	Step 4	Solid	Metal Hydroxide	
140-22793-3	S-7677_4_DPT07AP2	Step 4	Solid	Metal Hydroxide	
MB 140-49394/12-B	Method Blank	Step 4	Solid	Metal Hydroxide	
LCS 140-49394/13-B	Lab Control Sample	Step 4	Solid	Metal Hydroxide	
LCSD 140-49394/14-B	Lab Control Sample Dup	Step 4	Solid	Metal Hydroxide	

Prep Batch: 49441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 4	Solid	3010A	49394
140-22793-2	S-7677_3_DPT08AP2	Step 4	Solid	3010A	49394
140-22793-3	S-7677_4_DPT07AP2	Step 4	Solid	3010A	49394
MB 140-49394/12-B	Method Blank	Step 4	Solid	3010A	49394
LCS 140-49394/13-B	Lab Control Sample	Step 4	Solid	3010A	49394
LCSD 140-49394/14-B	Lab Control Sample Dup	Step 4	Solid	3010A	49394

SEP Batch: 49442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 5	Solid	Organic-Bound	
140-22793-2	S-7677_3_DPT08AP2	Step 5	Solid	Organic-Bound	
140-22793-3	S-7677_4_DPT07AP2	Step 5	Solid	Organic-Bound	
MB 140-49442/12-B ^5	Method Blank	Step 5	Solid	Organic-Bound	
LCS 140-49442/13-B ^5	Lab Control Sample	Step 5	Solid	Organic-Bound	
LCSD 140-49442/14-B ^5	Lab Control Sample Dup	Step 5	Solid	Organic-Bound	

Prep Batch: 49541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 5	Solid	3010A	49442
140-22793-2	S-7677_3_DPT08AP2	Step 5	Solid	3010A	49442
140-22793-3	S-7677_4_DPT07AP2	Step 5	Solid	3010A	49442
MB 140-49442/12-B ^5	Method Blank	Step 5	Solid	3010A	49442
LCS 140-49442/13-B ^5	Lab Control Sample	Step 5	Solid	3010A	49442
LCSD 140-49442/14-B ^5	Lab Control Sample Dup	Step 5	Solid	3010A	49442

SEP Batch: 49542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 6	Solid	Acid/Sulfide	
140-22793-2	S-7677_3_DPT08AP2	Step 6	Solid	Acid/Sulfide	
140-22793-3	S-7677_4_DPT07AP2	Step 6	Solid	Acid/Sulfide	
MB 140-49542/12-A	Method Blank	Step 6	Solid	Acid/Sulfide	
LCS 140-49542/13-A	Lab Control Sample	Step 6	Solid	Acid/Sulfide	
LCSD 140-49542/14-A	Lab Control Sample Dup	Step 6	Solid	Acid/Sulfide	

Eurofins TestAmerica, Knoxville

QC Association Summary

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Metals

Analysis Batch: 49543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 1	Solid	6010B SEP	49305
140-22793-1	S-7677_2_DPT11AP2	Step 2	Solid	6010B SEP	49358
140-22793-1	S-7677_2_DPT11AP2	Step 3	Solid	6010B SEP	49393
140-22793-2	S-7677_3_DPT08AP2	Step 1	Solid	6010B SEP	49305
140-22793-2	S-7677_3_DPT08AP2	Step 2	Solid	6010B SEP	49358
140-22793-2	S-7677_3_DPT08AP2	Step 3	Solid	6010B SEP	49393
140-22793-3	S-7677_4_DPT07AP2	Step 1	Solid	6010B SEP	49305
140-22793-3	S-7677_4_DPT07AP2	Step 2	Solid	6010B SEP	49358
140-22793-3	S-7677_4_DPT07AP2	Step 3	Solid	6010B SEP	49393
MB 140-49214/12-B ^4	Method Blank	Step 1	Solid	6010B SEP	49305
MB 140-49306/12-B ^3	Method Blank	Step 2	Solid	6010B SEP	49358
MB 140-49359/12-B	Method Blank	Step 3	Solid	6010B SEP	49393
LCS 140-49214/13-B ^5	Lab Control Sample	Step 1	Solid	6010B SEP	49305
LCS 140-49306/13-B ^5	Lab Control Sample	Step 2	Solid	6010B SEP	49358
LCS 140-49359/13-B	Lab Control Sample	Step 3	Solid	6010B SEP	49393
LCSD 140-49214/14-B ^5	Lab Control Sample Dup	Step 1	Solid	6010B SEP	49305
LCSD 140-49306/14-B ^5	Lab Control Sample Dup	Step 2	Solid	6010B SEP	49358
LCSD 140-49359/14-B	Lab Control Sample Dup	Step 3	Solid	6010B SEP	49393

Prep Batch: 49611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 7	Solid	Residual	
140-22793-2	S-7677_3_DPT08AP2	Step 7	Solid	Residual	
140-22793-3	S-7677_4_DPT07AP2	Step 7	Solid	Residual	
MB 140-49611/12-A	Method Blank	Step 7	Solid	Residual	
LCS 140-49611/13-A	Lab Control Sample	Step 7	Solid	Residual	
LCSD 140-49611/14-A	Lab Control Sample Dup	Step 7	Solid	Residual	

Analysis Batch: 49686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 4	Solid	6010B SEP	49441
140-22793-1	S-7677_2_DPT11AP2	Step 5	Solid	6010B SEP	49541
140-22793-1	S-7677_2_DPT11AP2	Step 6	Solid	6010B SEP	49542
140-22793-2	S-7677_3_DPT08AP2	Step 4	Solid	6010B SEP	49441
140-22793-2	S-7677_3_DPT08AP2	Step 5	Solid	6010B SEP	49541
140-22793-2	S-7677_3_DPT08AP2	Step 6	Solid	6010B SEP	49542
140-22793-3	S-7677_4_DPT07AP2	Step 4	Solid	6010B SEP	49441
140-22793-3	S-7677_4_DPT07AP2	Step 5	Solid	6010B SEP	49541
140-22793-3	S-7677_4_DPT07AP2	Step 6	Solid	6010B SEP	49542
MB 140-49394/12-B	Method Blank	Step 4	Solid	6010B SEP	49441
MB 140-49442/12-B ^5	Method Blank	Step 5	Solid	6010B SEP	49541
MB 140-49542/12-A	Method Blank	Step 6	Solid	6010B SEP	49542
LCS 140-49394/13-B	Lab Control Sample	Step 4	Solid	6010B SEP	49441
LCS 140-49442/13-B ^5	Lab Control Sample	Step 5	Solid	6010B SEP	49541
LCS 140-49542/13-A	Lab Control Sample	Step 6	Solid	6010B SEP	49542
LCSD 140-49394/14-B	Lab Control Sample Dup	Step 4	Solid	6010B SEP	49441
LCSD 140-49442/14-B ^5	Lab Control Sample Dup	Step 5	Solid	6010B SEP	49541
LCSD 140-49542/14-A	Lab Control Sample Dup	Step 6	Solid	6010B SEP	49542

QC Association Summary

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Metals

Analysis Batch: 49736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Step 7	Solid	6010B SEP	49611
140-22793-1	S-7677_2_DPT11AP2	Total/NA	Solid	6010B	49213
140-22793-2	S-7677_3_DPT08AP2	Step 7	Solid	6010B SEP	49611
140-22793-2	S-7677_3_DPT08AP2	Total/NA	Solid	6010B	49213
140-22793-3	S-7677_4_DPT07AP2	Step 7	Solid	6010B SEP	49611
140-22793-3	S-7677_4_DPT07AP2	Total/NA	Solid	6010B	49213
MB 140-49213/13-A	Method Blank	Total/NA	Solid	6010B	49213
MB 140-49611/12-A	Method Blank	Step 7	Solid	6010B SEP	49611
LCS 140-49213/14-A	Lab Control Sample	Total/NA	Solid	6010B	49213
LCS 140-49611/13-A	Lab Control Sample	Step 7	Solid	6010B SEP	49611
LCSD 140-49213/15-A	Lab Control Sample Dup	Total/NA	Solid	6010B	49213
LCSD 140-49611/14-A	Lab Control Sample Dup	Step 7	Solid	6010B SEP	49611

Analysis Batch: 49785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Sum of Steps 1-7	Solid	6010B SEP	
140-22793-2	S-7677_3_DPT08AP2	Sum of Steps 1-7	Solid	6010B SEP	
140-22793-3	S-7677_4_DPT07AP2	Sum of Steps 1-7	Solid	6010B SEP	

General Chemistry

Analysis Batch: 49285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-22793-1	S-7677_2_DPT11AP2	Total/NA	Solid	Moisture	
140-22793-2	S-7677_3_DPT08AP2	Total/NA	Solid	Moisture	
140-22793-3	S-7677_4_DPT07AP2	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_2_DPT11AP2

Lab Sample ID: 140-22793-1

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			49785	05/13/21 10:05	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			49285	04/28/21 07:50	BKD	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: S-7677_2_DPT11AP2

Lab Sample ID: 140-22793-1

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 78.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		5			49736	05/11/21 19:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			49543	05/05/21 13:39	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			49543	05/05/21 15:16	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 16:35	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 14:47	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 16:25	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 17:44	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		5			49736	05/11/21 17:59	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_3_DPT08AP2

Lab Sample ID: 140-22793-2

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			49785	05/13/21 10:05	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			49285	04/28/21 07:50	BKD	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: S-7677_3_DPT08AP2

Lab Sample ID: 140-22793-2

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			49736	05/11/21 19:08	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			49543	05/05/21 13:58	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			49543	05/05/21 15:21	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 16:55	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 15:06	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 16:30	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 18:04	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			49736	05/11/21 18:04	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: S-7677_4_DPT07AP2

Lab Sample ID: 140-22793-3

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Sum of Steps 1-7	Analysis	6010B SEP		1			49785	05/13/21 10:05	DKW	TAL KNX
	Instrument ID: NOEQUIP									
Total/NA	Analysis	Moisture		1			49285	04/28/21 07:50	BKD	TAL KNX
	Instrument ID: NOEQUIP									

Client Sample ID: S-7677_4_DPT07AP2

Lab Sample ID: 140-22793-3

Date Collected: 04/20/21 00:00

Matrix: Solid

Date Received: 04/22/21 10:30

Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		2			49736	05/11/21 19:13	KNC	TAL KNX
	Instrument ID: DUO									
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			49543	05/05/21 14:03	KNC	TAL KNX
	Instrument ID: DUO									
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			49543	05/05/21 15:26	KNC	TAL KNX
	Instrument ID: DUO									
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 17:00	KNC	TAL KNX
	Instrument ID: DUO									
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 15:11	KNC	TAL KNX
	Instrument ID: DUO									
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 16:35	KNC	TAL KNX
	Instrument ID: DUO									
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 18:09	KNC	TAL KNX
	Instrument ID: DUO									
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		2			49736	05/11/21 18:08	KNC	TAL KNX
	Instrument ID: DUO									

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49213/13-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			49736	05/11/21 12:55	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49214/12-B ^4

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		4			49543	05/05/21 13:00	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49306/12-B ^3

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		3			49543	05/05/21 14:22	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49359/12-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 15:56	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49394/12-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 14:08	KNC	TAL KNX
Instrument ID: DUO										

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49442/12-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 15:31	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49542/12-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 17:05	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Method Blank

Lab Sample ID: MB 140-49611/12-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			49736	05/11/21 12:41	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49213/14-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			49736	05/11/21 13:00	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49214/13-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		5			49543	05/05/21 13:05	KNC	TAL KNX
Instrument ID: DUO										

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49306/13-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		5			49543	05/05/21 14:27	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49359/13-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 16:01	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49394/13-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 14:13	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49442/13-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 15:36	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49542/13-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 17:10	KNC	TAL KNX
Instrument ID: DUO										

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-49611/13-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			49736	05/11/21 12:46	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49213/15-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Total			1.000 g	50 mL	49213	04/27/21 08:00	KNC	TAL KNX
Total/NA	Analysis	6010B		1			49736	05/11/21 13:05	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49214/14-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 1	SEP	Exchangeable			5.000 g	25 mL	49214	04/28/21 08:00	KNC	TAL KNX
Step 1	Prep	3010A			5 mL	50 mL	49305	04/29/21 08:00	KNC	TAL KNX
Step 1	Analysis	6010B SEP		5			49543	05/05/21 13:10	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49306/14-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 2	SEP	Carbonate			5.000 g	25 mL	49306	04/29/21 08:00	KNC	TAL KNX
Step 2	Prep	3010A			5.00 mL	50.0 mL	49358	04/30/21 08:00	KNC	TAL KNX
Step 2	Analysis	6010B SEP		5			49543	05/05/21 14:32	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49359/14-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 3	SEP	Non-Crystalline			5.00 g	25.0 mL	49359	04/30/21 08:00	KNC	TAL KNX
Step 3	Prep	3010A			5.00 mL	50.0 mL	49393	05/03/21 08:00	KNC	TAL KNX
Step 3	Analysis	6010B SEP		1			49543	05/05/21 16:05	KNC	TAL KNX
Instrument ID: DUO										

Lab Chronicle

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49394/14-B

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 4	SEP	Metal Hydroxide			5.00 g	25.0 mL	49394	05/03/21 08:00	KNC	TAL KNX
Step 4	Prep	3010A			5.00 mL	50.0 mL	49441	05/04/21 08:00	KNC	TAL KNX
Step 4	Analysis	6010B SEP		1			49686	05/10/21 14:17	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49442/14-B ^5

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 5	SEP	Organic-Bound			5.00 g	75.00 mL	49442	05/04/21 08:00	KNC	TAL KNX
Step 5	Prep	3010A			5.00 mL	50.0 mL	49541	05/06/21 08:00	KNC	TAL KNX
Step 5	Analysis	6010B SEP		5			49686	05/10/21 15:41	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49542/14-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 6	SEP	Acid/Sulfide			5.00 g	250.0 mL	49542	05/06/21 08:00	KNC	TAL KNX
Step 6	Analysis	6010B SEP		1			49686	05/10/21 17:15	KNC	TAL KNX
Instrument ID: DUO										

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-49611/14-A

Date Collected: N/A

Matrix: Solid

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Step 7	Prep	Residual			1.000 g	50 mL	49611	05/10/21 08:00	KNC	TAL KNX
Step 7	Analysis	6010B SEP		1			49736	05/11/21 12:50	KNC	TAL KNX
Instrument ID: DUO										

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Sirem, div of Geosyntec Consultants
 Project/Site: S-7677 SiREMNA

Job ID: 140-22793-1

Laboratory: Eurofins TestAmerica, Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-22
ANAB	Dept. of Energy	L2311.01	02-13-22
ANAB	ISO/IEC 17025	L2311	02-13-22
Arkansas DEQ	State	88-0688	06-17-21
California	State	2423	06-30-22
Colorado	State	TN00009	02-28-22
Connecticut	State	PH-0223	09-30-21
Florida	NELAP	E87177	06-30-21
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-21
Kansas	NELAP	E-10349	10-31-21
Kentucky (DW)	State	90101	12-31-21
Louisiana	NELAP	83979	06-30-21
Louisiana (DW)	State	LA019	12-31-21
Maryland	State	277	03-31-22
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-12-21
New Hampshire	NELAP	299919	01-17-22
New Jersey	NELAP	TN001	06-30-21
New York	NELAP	10781	03-31-22
North Carolina (DW)	State	21705	07-31-21
North Carolina (WW/SW)	State	64	12-31-21
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-21
Oregon	NELAP	TNI0189	01-01-22
Pennsylvania	NELAP	68-00576	12-31-21
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-21
Virginia	NELAP	460176	09-14-21
Washington	State	C593	01-19-22
West Virginia (DW)	State	9955C	01-02-22
West Virginia DEP	State	345	04-30-22
Wisconsin	State	998044300	08-31-21

Method Summary

Client: Sirem, div of Geosyntec Consultants
Project/Site: S-7677 SIREMNA

Job ID: 140-22793-1

Method	Method Description	Protocol	Laboratory
6010B	SEP Metals (ICP) - Total	SW846	TAL KNX
6010B SEP	SEP Metals (ICP)	SW846	TAL KNX
Moisture	Percent Moisture	EPA	TAL KNX
3010A	Preparation, Total Metals	SW846	TAL KNX
Acid/Sulfide	Sequential Extraction Procedure, Acid/Sulfide Fraction	TAL-KNOX	TAL KNX
Carbonate	Sequential Extraction Procedure, Carbonate Fraction	TAL-KNOX	TAL KNX
Exchangeable	Sequential Extraction Procedure, Exchangeable Fraction	TAL-KNOX	TAL KNX
Metal Hydroxide	Sequential Extraction Procedure, Metal Hydroxide Fraction	TAL-KNOX	TAL KNX
Non-Crystalline	Sequential Extraction Procedure, Non-crystalline Materials	TAL-KNOX	TAL KNX
Organic-Bound	Sequential Extraction Procedure, Organic Bound Fraction	TAL-KNOX	TAL KNX
Residual	Sequential Extraction Procedure, Residual Fraction	TAL-KNOX	TAL KNX
Total	Preparation, Total Material	TAL-KNOX	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

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

TAL-KNOX = TestAmerica Laboratories, Knoxville, Facility Standard Operating Procedure.

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken													
1. Are the shipping containers intact?	/																	
2. Were ambient air containers received intact?			/	<input type="checkbox"/> Containers, Broken														
3. The coolers/containers custody seal if present, is it intact?			/	<input type="checkbox"/> Checked in lab <input type="checkbox"/> Yes <input type="checkbox"/> NA														
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : <u>SC70</u> Correction factor: <u>-0.2 °C</u>		/		<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt														
5. Were all of the sample containers received intact?	/			<input type="checkbox"/> Containers, Broken														
6. Were samples received in appropriate containers?	/			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel														
7. Do sample container labels match COC? (IDs, Dates, Times)	/			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received														
8. Were all of the samples listed on the COC received?	/			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received <input type="checkbox"/> COC; No Date/Time; Client Contacted														
9. Is the date/time of sample collection noted?	/			<input type="checkbox"/> Sampler Not Listed on COC														
10. Was the sampler identified on the COC?	/		/	<input type="checkbox"/> COC Incorrect/Incomplete														
11. Is the client and project name/# identified?	/			<input type="checkbox"/> COC No tests on COC														
12. Are tests/parameters listed for each sample?	/			<input type="checkbox"/> COC Incorrect/Incomplete														
13. Is the matrix of the samples noted?	/			<input type="checkbox"/> COC Incorrect/Incomplete														
14. Was COC relinquished? (Signed/Dated/Timed)	/			<input type="checkbox"/> COC Incorrect/Incomplete														
15. Were samples received within holding time?				<input type="checkbox"/> Holding Time - Receipt														
16. Were samples received with correct chemical preservative (excluding Encore)?			/	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative														
17. Were VOA samples received without headspace?			/	<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine														
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			/															
19. For 1613B water samples is pH<9?			/	<input type="checkbox"/> If no, notify lab to adjust														
20. For rad samples was sample activity info. Provided?			/	<input type="checkbox"/> Project missing info														
Project #: <u>14006308</u> PM Instructions: <u>NA</u>																		
Sample Receiving Associate: <u>Randy Brown</u> Date: <u>4-28-21</u>																		
Labeling Verified by: _____ Date: _____																		
pH test strip lot number: _____																		
<table border="1"> <tr> <td>Box 16A: pH Preservation</td> <td>Box 18A: Residual Chlorine</td> </tr> <tr> <td>Preservative: _____</td> <td></td> </tr> <tr> <td>Lot Number: _____</td> <td></td> </tr> <tr> <td>Exp Date: _____</td> <td></td> </tr> <tr> <td>Analyst: _____</td> <td></td> </tr> <tr> <td>Date: _____</td> <td></td> </tr> <tr> <td>Time: _____</td> <td></td> </tr> </table>					Box 16A: pH Preservation	Box 18A: Residual Chlorine	Preservative: _____		Lot Number: _____		Exp Date: _____		Analyst: _____		Date: _____		Time: _____	
Box 16A: pH Preservation	Box 18A: Residual Chlorine																	
Preservative: _____																		
Lot Number: _____																		
Exp Date: _____																		
Analyst: _____																		
Date: _____																		
Time: _____																		

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SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2H0
Phone: 705-652-2000 FAX: 705-652-6365

SiREM Laboratory
Attn : Michael Healey

130 Stone Road W
Guelph, ON
N1G 3Z2, Canada

Phone: 519-822-2265
Fax: 519-822-3151

Project : Hammond MNA

20-July-2021

Date Rec. : 09 July 2021
LR Report: CA13335-JUL21
Reference: P.O# 80000321DA

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: HAP2DPT07_13 a	6: HAP2DPT07_14 a	7: HAP2DPT07_15 a	8: HAP2DPT07_16 a	9: HAP2DPT07_17 a	10: HAP2DPT07_18 a	11: HAP2DPT07_19 a
Sample Date & Time					05-Jul-21	05-Jul-21	05-Jul-21	05-Jul-21	06-Jul-21	06-Jul-21	07-Jul-21
Temperature Upon Receipt [°C]	---	---	---	---	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Silver (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	20.9	20.7	19.6	18.8	20.0	22.7	20.8
Arsenic (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.0052	0.0050	0.0050	0.0049	0.0051	0.0058	0.0050
Barium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.00527	0.00535	0.00645	0.00630	0.00541	0.00530	0.00560
Beryllium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.0199	0.0197	0.0196	0.0199	0.0219	0.0231	0.0245
Boron (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.016	0.007	0.009	0.007	0.020	0.010	0.021
Bismuth (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.00001	0.00002	0.00001	0.00001	0.00001	0.00002	0.00025
Calcium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	165	165	150	157	174	179	177
Cadmium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.0638	0.0636	0.0597	0.0599	0.0609	0.0734	0.0673
Cobalt (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	1.54	1.49	1.43	1.50	1.65	1.84	1.76
Chromium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.0405	0.0344	0.0286	0.0357	0.0257	0.0278	0.0227
Copper (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.406	0.389	0.371	0.386	0.364	0.417	0.370
Iron (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	103	102	88.1	89.2	98.7	108	102
Potassium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.221	0.219	0.247	0.248	0.217	0.237	0.186
Lithium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	0.0600	0.0586	0.0574	0.0609	0.0679	0.0724	0.0799
Magnesium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:36	17.8	18.0	17.4	18.5	20.4	21.9	24.0
Manganese (dissolved) [mg/L]	14-Jul-21	09:11	20-Jul-21	10:08	15.9	15.1	14.2	14.9	16.0	18.5	16.9
Molybdenum (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004

Online LIMS

0002571988



SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - K0L 2H0
Phone: 705-652-2000 FAX: 705-652-6365

Project : Hammond MNA
LR Report : CA13335-JUL21

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: HAP2DPT07_13 a	6: HAP2DPT07_14 a	7: HAP2DPT07_15 a	8: HAP2DPT07_16 a	9: HAP2DPT07_17 a	10: HAP2DPT07_18 a	11: HAP2DPT07_19 a
Sodium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	3.07	3.17	3.02	3.17	3.50	3.24	3.74
Nickel (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	2.89	2.81	2.63	2.76	2.79	3.19	2.94
Lead (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.00018	0.00017	0.00021	0.00018	0.00019	0.00020	0.00026
Antimony (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.127	0.125	0.119	0.115	0.122	0.139	0.131
Tin (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Strontium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.231	0.232	0.212	0.213	0.231	0.253	0.228
Titanium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.00011	0.00013	0.00009	0.00013	0.00010	0.00008	0.00014
Thallium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.000017	0.000019	0.000019	0.000018	0.000019	0.000019	0.000016
Uranium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.0215	0.0212	0.0214	0.0209	0.0178	0.0216	0.0181
Vanadium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.00048	0.00042	0.00032	0.00035	0.00038	0.00042	0.00045
Tungsten (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.00012	0.00013	0.00012	0.00010	0.00014	0.00013	0.00014
Yttrium (dissolved) [mg/L]	14-Jul-21	09:11	16-Jul-21	16:37	0.945	0.950	0.887	0.873	0.927	1.04	0.876
Zinc (dissolved) [mg/L]	14-Jul-21	09:11	20-Jul-21	10:08	16.6	16.1	15.0	15.6	15.8	18.1	16.9

Analysis	12: HAP2DPT07_20 a	13: HAP2DPT07_21 a	14: HAP2DPT07_22 a	15: HAP2DPT08_23 a	16: HAP2DPT08_24 a	17: HAP2DPT08_25 a	18: HAP2DPT08_26 a	19: HAP2DPT08_27 a	20: HAP2DPT08_28 a	21: HAP2DPT08_29 a	22: HAP2DPT08_30 a
Sample Date & Time	07-Jul-21	08-Jul-21	08-Jul-21	05-Jul-21	05-Jul-21	05-Jul-21	05-Jul-21	06-Jul-21	06-Jul-21	07-Jul-21	07-Jul-21
Temperature Upon Receipt [°C]	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Silver (dissolved) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Aluminum (dissolved) [mg/L]	21.6	13.0	14.9	0.011	0.002	0.003	0.003	0.003	0.020	0.011	0.023
Arsenic (dissolved) [mg/L]	0.0053	0.0038	0.0042	0.0002	0.0002	0.0003	0.0002	< 0.0002	0.0002	0.0002	0.0002
Barium (dissolved) [mg/L]	0.00537	0.00756	0.00728	0.00388	0.00414	0.00390	0.00394	0.00378	0.00403	0.00605	0.00605
Beryllium (dissolved) [mg/L]	0.0248	0.0199	0.0218	0.000046	0.000007	0.000022	0.000007	< 0.000007	0.000088	0.000075	0.000063
Boron (dissolved) [mg/L]	0.014	0.023	0.023	0.400	0.419	0.376	0.454	0.344	0.447	0.376	0.413
Bismuth (dissolved) [mg/L]	0.00024	0.00002	0.00002	0.00002	0.00002	0.00003	0.00002	0.00002	0.00003	0.00029	0.00030
Calcium (dissolved) [mg/L]	197	142	146	42.0	42.4	40.5	42.1	40.1	43.8	40.4	41.7
Cadmium (dissolved) [mg/L]	0.0660	0.0475	0.0525	0.00172	0.00172	0.00188	0.00163	0.00144	0.00150	0.00221	0.00163
Cobalt (dissolved) [mg/L]	1.82	1.49	1.57	0.0844	0.0789	0.102	0.0926	0.120	0.113	0.138	0.150
Chromium (dissolved) [mg/L]	0.0253	0.0154	0.0147	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	0.00020	0.00018
Copper (dissolved) [mg/L]	0.391	0.259	0.312	0.0004	0.0002	0.0003	0.0002	< 0.0002	0.0005	0.0004	0.0006
Iron (dissolved) [mg/L]	100	71.1	77.6	0.043	< 0.007	0.008	< 0.007	< 0.007	0.097	0.036	0.096
Potassium (dissolved) [mg/L]	0.190	0.280	0.254	2.58	2.52	2.49	2.59	2.20	2.60	2.54	2.47
Lithium (dissolved) [mg/L]	0.0795	0.0753	0.0792	0.0062	0.0063	0.0068	0.0065	0.0055	0.0065	0.0063	0.0063

OnLine LIMS

0002571988



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Project : Hammond MNA

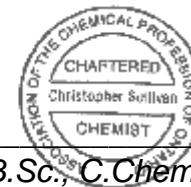
LR Report : CA13335-JUL21

Analysis	12:	13:	14:	15:	16:	17:	18:	19:	20:	21:	22:
	HAP2DPT07_20 a	HAP2DPT07_21 a	HAP2DPT07_22 a	HAP2DPT08_23 a	HAP2DPT08_24 a	HAP2DPT08_25 a	HAP2DPT08_26 a	HAP2DPT08_27 a	HAP2DPT08_28 a	HAP2DPT08_29 a	HAP2DPT08_30 a
Magnesium (dissolved) [mg/L]	23.2	23.4	24.0	8.74	9.09	8.82	9.23	8.43	9.10	8.73	9.02
Manganese (dissolved) [mg/L]	16.8	12.7	13.7	1.03	1.09	1.06	1.07	1.02	1.04	0.998	1.06
Molybdenum (dissolved) [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00004	0.00005	< 0.00004	0.00006	< 0.00004	0.00004	< 0.00004
Sodium (dissolved) [mg/L]	3.72	4.95	4.57	7.78	7.94	7.88	8.03	7.50	7.95	8.08	8.11
Nickel (dissolved) [mg/L]	3.04	2.16	2.45	0.0742	0.0687	0.0694	0.0678	0.0619	0.0696	0.0731	0.0703
Lead (dissolved) [mg/L]	0.00025	0.00014	0.00013	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	0.00013	0.00013
Antimony (dissolved) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Selenium (dissolved) [mg/L]	0.132	0.0873	0.101	0.00554	0.00597	0.00606	0.00656	0.00503	0.00661	0.00578	0.00610
Tin (dissolved) [mg/L]	< 0.00006	< 0.00006	< 0.00006	0.00009	0.00010	0.00011	0.00009	0.00009	0.00009	0.00009	0.00010
Strontium (dissolved) [mg/L]	0.259	0.195	0.194	0.0939	0.0955	0.0906	0.0931	0.0900	0.0951	0.0913	0.0934
Titanium (dissolved) [mg/L]	0.00010	0.00012	0.00011	< 0.00005	0.00005	< 0.00005	0.00006	< 0.00005	0.00006	0.00007	0.00005
Thallium (dissolved) [mg/L]	0.000017	0.000016	0.000015	0.000007	0.000006	0.000008	0.000007	0.000006	0.000006	0.000007	0.000006
Uranium (dissolved) [mg/L]	0.0183	0.0123	0.0136	0.000029	0.000017	0.000014	0.000013	0.000014	0.000044	0.000043	0.000039
Vanadium (dissolved) [mg/L]	0.00045	0.00013	0.00016	0.00003	0.00003	0.00003	0.00002	0.00004	0.00003	0.00003	0.00002
Tungsten (dissolved) [mg/L]	0.00012	0.00010	0.00011	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Yttrium (dissolved) [mg/L]	0.960	0.659	0.748	0.00098	0.00066	0.00060	0.00060	0.00056	0.00132	0.00083	0.00138
Zinc (dissolved) [mg/L]	16.9	9.32	13.3	0.040	0.034	0.033	0.033	0.027	0.045	0.041	0.046

Analysis	23:	24:
	HAP2DPT08_31 a	HAP2DPT08_32 a
Sample Date & Time	08-Jul-21	08-Jul-21
Temperature Upon Receipt [°C]	4.0	4.0
Silver (dissolved) [mg/L]	< 0.00005	< 0.00005
Aluminum (dissolved) [mg/L]	0.017	0.004
Arsenic (dissolved) [mg/L]	0.0002	0.0002
Barium (dissolved) [mg/L]	0.00429	0.00409
Beryllium (dissolved) [mg/L]	0.000086	< 0.000007
Boron (dissolved) [mg/L]	0.406	0.418
Bismuth (dissolved) [mg/L]	0.00002	0.00002
Calcium (dissolved) [mg/L]	43.2	40.6
Cadmium (dissolved) [mg/L]	0.00206	0.00182
Cobalt (dissolved) [mg/L]	0.191	0.168
Chromium (dissolved) [mg/L]	< 0.00008	< 0.00008
Copper (dissolved) [mg/L]	0.0005	0.0002

Analysis	23:	24:
	HAP2DPT08_31 a	HAP2DPT08_32 a
Iron (dissolved) [mg/L]	0.078	< 0.007
Potassium (dissolved) [mg/L]	2.55	2.44
Lithium (dissolved) [mg/L]	0.0064	0.0060
Magnesium (dissolved) [mg/L]	8.95	8.92
Manganese (dissolved) [mg/L]	1.15	1.05
Molybdenum (dissolved) [mg/L]	< 0.00004	0.00005
Sodium (dissolved) [mg/L]	8.24	8.02
Nickel (dissolved) [mg/L]	0.0758	0.0698
Lead (dissolved) [mg/L]	< 0.00009	< 0.00009
Antimony (dissolved) [mg/L]	< 0.0009	< 0.0009
Selenium (dissolved) [mg/L]	0.00654	0.00584
Tin (dissolved) [mg/L]	0.00010	0.00009
Strontium (dissolved) [mg/L]	0.0957	0.0919
Titanium (dissolved) [mg/L]	0.00010	0.00009
Thallium (dissolved) [mg/L]	0.000005	0.000005
Uranium (dissolved) [mg/L]	0.000049	0.000014
Vanadium (dissolved) [mg/L]	0.00003	0.00003
Tungsten (dissolved) [mg/L]	< 0.00002	< 0.00002
Yttrium (dissolved) [mg/L]	0.00116	0.00057
Zinc (dissolved) [mg/L]	0.045	0.037

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Project : Hammond MNA

27-July-2021

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Date Rec. : 16 July 2021
LR Report: CA13515-JUL21
Reference: P.O# 800003210A

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: HAP2DPT07_13 b	6: HAP2DPT07_14 b	7: HAP2DPT07_15 b	8: HAP2DPT07_16 b	9: HAP2DPT07_17 b
Sample Date & Time					12-Jul-21	12-Jul-21	12-Jul-21	12-Jul-21	13-Jul-21
Temp Upon Receipt [°C]	---	---	---	---	14.0	14.0	14.0	14.0	14.0
Ag (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	51.2	51.8	28.9	62.0	61.8
As (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.0179	0.0187	0.0149	0.0208	0.0203
Ba (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.00928	0.00917	0.0109	0.00872	0.0108
Be (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.0807	0.0791	0.0501	0.0885	0.0879
B (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.207	0.123	0.133	0.104	0.098
Bi (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.00002	0.00002	0.00004	0.00003	0.00007
Ca (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	381	368	392	365	383
Cd (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.133	0.145	0.137	0.148	0.140
Co (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	3.25	3.46	3.35	3.74	3.65
Cr (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.0186	0.0218	0.00892	0.0558	0.0325
Cu (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	1.59	1.19	0.625	1.58	1.77
Fe (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	236	249	310	236	229
K (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	2.76	2.68	3.63	2.87	2.63
Li (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.228	0.254	0.256	0.274	0.267
Mg (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	74.0	81.7	87.3	78.2	79.7
Mn (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	41.5	45.3	51.0	41.4	38.1
Mo (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.00037	0.00005	< 0.00004	< 0.00004	< 0.00004
Na (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	9.83	9.96	10.3	9.33	9.33
Ni (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	6.13	6.45	6.10	7.01	6.61
Pb (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	0.00012	0.00019	0.00017	0.00017	0.00016
Sb (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:32	< 0.0009	< 0.0009	< 0.0009	< 0.0009	0.0011
Se (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.255	0.263	0.251	0.249	0.267
Sn (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.00013	0.00008	0.00008	0.00016	0.00022
Sr (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.658	0.559	0.552	0.584	0.651
Ti (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.00057	0.00017	0.00011	0.00035	0.00022
Tl (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.000070	0.000100	0.000090	0.000090	0.000090
U (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.0270	0.0265	0.0130	0.0314	0.0300
V (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.00194	0.00261	0.00119	0.00474	0.00436
W (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	0.00103	0.00107	0.00100	0.00102	0.00115
Y (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	2.49	2.49	2.04	2.68	2.66
Zn (diss) [mg/L]	20-Jul-21	11:35	26-Jul-21	13:33	28.5	30.2	28.4	32.1	31.1

Online LIMS

0002589914



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LR Report : CA13515-JUL21

Analysis	10:	11:	12:	13:	14:	15:	16:	17:
	HAP2DPT07_18 b	HAP2DPT07_19 b	HAP2DPT07_20 b	HAP2DPT07_21 b	HAP2DPT07_22 b	HAP2DPT07_23 b	HAP2DPT07_24 b	HAP2DPT07_25 b
Sample Date & Time	13-Jul-21	14-Jul-21	14-Jul-21	15-Jul-21	15-Jul-21	12-Jul-21	12-Jul-21	12-Jul-21
Temp Upon Receipt [°C]	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Ag (diss) [mg/L]	< 0.00005	0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	30.5	56.5	58.5	66.7	50.8	0.019	0.016	0.008
As (diss) [mg/L]	0.0164	0.0211	0.0208	0.0234	0.0207	0.0012	0.0013	0.0012
Ba (diss) [mg/L]	0.0104	0.00809	0.00808	0.00713	0.00828	0.0277	0.0358	0.0351
Be (diss) [mg/L]	0.0538	0.0824	0.0838	0.0866	0.0758	0.000080	0.000063	0.000031
B (diss) [mg/L]	0.123	0.103	0.098	0.093	0.111	0.894	0.742	0.805
Bi (diss) [mg/L]	0.00006	0.00006	0.00003	0.00002	0.00002	0.00004	0.00002	0.00003
Ca (diss) [mg/L]	407	412	397	409	431	51.8	48.9	55.8
Cd (diss) [mg/L]	0.143	0.155	0.155	0.154	0.157	0.00432	0.00455	0.00390
Co (diss) [mg/L]	3.73	3.90	3.82	4.10	4.06	0.114	0.116	0.122
Cr (diss) [mg/L]	0.0106	0.0200	0.0217	0.0389	0.0151	0.00047	0.00012	0.00015
Cu (diss) [mg/L]	0.628	1.60	1.68	1.79	1.43	0.0019	0.0011	0.0008
Fe (diss) [mg/L]	352	230	221	229	252	0.690	< 0.007	< 0.007
K (diss) [mg/L]	3.06	3.14	2.02	1.85	2.34	5.57	6.30	6.52
Li (diss) [mg/L]	0.291	0.292	0.283	0.283	0.291	0.0206	0.0126	0.0132
Mg (diss) [mg/L]	86.5	85.5	84.2	81.0	93.0	13.6	10.3	11.9
Mn (diss) [mg/L]	60.9	47.6	47.0	44.2	55.2	3.39	3.29	3.62
Mo (diss) [mg/L]	< 0.00004	0.00013	< 0.00004	< 0.00004	< 0.00004	0.00009	< 0.00004	< 0.00004
Na (diss) [mg/L]	10.2	11.0	9.59	8.93	9.78	11.4	8.72	9.20
Ni (diss) [mg/L]	6.66	7.01	6.93	7.22	7.14	0.110	0.113	0.116
Pb (diss) [mg/L]	0.00016	0.00041	0.00014	0.00015	0.00018	0.00023	0.00020	0.00013
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.272	0.266	0.256	0.251	0.257	0.0139	0.0150	0.0149
Sn (diss) [mg/L]	0.00011	0.00064	0.00013	0.00015	0.00028	0.00064	0.00026	0.00022
Sr (diss) [mg/L]	0.577	0.569	0.539	0.549	0.559	0.142	0.138	0.151
Ti (diss) [mg/L]	0.00036	0.00055	0.00023	0.00032	0.00029	0.00035	< 0.00005	0.00005
Tl (diss) [mg/L]	0.000090	0.000110	0.000110	0.000100	0.000100	0.00030	0.00020	0.00017
U (diss) [mg/L]	0.0134	0.0272	0.0301	0.0318	0.0236	0.00050	0.00012	0.00011
V (diss) [mg/L]	0.00130	0.00277	0.00268	0.00397	0.00170	0.00010	0.00005	0.00007
W (diss) [mg/L]	0.00090	0.00120	0.00107	0.00102	0.00108	0.00028	< 0.00002	< 0.00002
Y (diss) [mg/L]	2.15	2.58	2.68	2.76	2.62	0.00075	0.00139	0.00084
Zn (diss) [mg/L]	30.2	32.4	32.3	32.8	32.6	0.145	0.080	0.061

Analysis	18:	19:	20:	21:	22:	23:	24:
	HAP2DPT07_26 b	HAP2DPT07_27 b	HAP2DPT07_28 b	HAP2DPT07_29 b	HAP2DPT07_30 b	HAP2DPT07_31 b	HAP2DPT07_32 b
Sample Date & Time	12-Jul-21	13-Jul-21	13-Jul-21	14-Jul-21	14-Jul-21	15-Jul-21	15-Jul-21
Temp Upon Receipt [°C]	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Ag (diss) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.012	0.005	0.004	0.002	0.003	0.011	0.004
As (diss) [mg/L]	0.0010	0.0015	0.0016	0.0007	0.0012	0.0016	0.0012
Ba (diss) [mg/L]	0.0348	0.0336	0.0334	0.0336	0.0317	0.0351	0.0342
Be (diss) [mg/L]	0.000055	0.000029	0.000032	0.000025	0.000027	0.000040	0.000029
B (diss) [mg/L]	0.854	0.869	0.894	0.810	0.920	0.886	0.869
Bi (diss) [mg/L]	0.00002	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	0.00001
Ca (diss) [mg/L]	57.8	60.5	57.7	55.7	58.3	60.1	59.3
Cd (diss) [mg/L]	0.00426	0.00635	0.00469	0.00238	0.00323	0.00430	0.00324
Co (diss) [mg/L]	0.138	0.149	0.129	0.0948	0.131	0.168	0.140
Cr (diss) [mg/L]	0.00013	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008

Online LIMS

0002580914

Analysis	18:	19:	20:	21:	22:	23:	24:
	HAP2DPT07_26 b	HAP2DPT07_27 b	HAP2DPT07_28 b	HAP2DPT07_29 b	HAP2DPT07_30 b	HAP2DPT07_31 b	HAP2DPT07_32 b
Cu (diss) [mg/L]	0.0010	0.0007	0.0007	0.0004	0.0005	0.0010	0.0005
Fe (diss) [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	0.007	< 0.007
K (diss) [mg/L]	6.57	6.83	6.59	6.27	6.26	6.95	6.72
Li (diss) [mg/L]	0.0131	0.0150	0.0140	0.0119	0.0129	0.0169	0.0144
Mg (diss) [mg/L]	11.5	12.5	12.0	11.3	12.2	12.4	12.0
Mn (diss) [mg/L]	4.09	4.51	3.46	2.87	3.54	4.85	3.83
Mo (diss) [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Na (diss) [mg/L]	9.15	10.5	8.92	8.93	9.41	8.93	8.96
Ni (diss) [mg/L]	0.124	0.126	0.111	0.0914	0.114	0.141	0.111
Pb (diss) [mg/L]	0.00010	< 0.00009	0.00013	< 0.00009	< 0.00009	0.00016	< 0.00009
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.0134	0.0164	0.0138	0.0130	0.0144	0.0151	0.0149
Sn (diss) [mg/L]	0.00024	0.00020	0.00021	0.00020	0.00018	0.00021	0.00022
Sr (diss) [mg/L]	0.164	0.166	0.152	0.152	0.150	0.163	0.155
Ti (diss) [mg/L]	0.00011	< 0.00005	0.00005	0.00008	0.00005	< 0.00005	< 0.00005
Tl (diss) [mg/L]	0.000027	0.000019	0.000017	0.000015	0.000016	0.000026	0.000019
U (diss) [mg/L]	0.000012	0.000012	0.000010	0.000011	0.000010	0.000011	0.000011
V (diss) [mg/L]	0.00008	0.00006	0.00005	0.00004	0.00005	0.00005	0.00004
W (diss) [mg/L]	< 0.00002	0.00005	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y (diss) [mg/L]	0.00159	0.00136	0.00089	0.00078	0.00084	0.00127	0.00089
Zn (diss) [mg/L]	0.087	0.063	0.062	0.042	0.060	0.085	0.058

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Project : Hammond MNA

24-August-2021

Date Rec. : 12 August 2021
LR Report: CA15238-AUG21
Reference: P.O# 800003210A

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time Completed	3: Analysis Completed Date	4: Analysis Completed Time	5: HAP1DPT06_[1]	6: HAP1DPT06_[2]	7: HAP1DPT06_[3]	8: HAP1DPT06_[4]	9: HAP1DPT06_[5]	10: HAP1DPT06_[6]
Sample Date & Time					29-Jun-21	29-Jun-21	30-Jun-21	30-Jun-21	30-Jun-21	30-Jun-21
Temp Upon Receipt [°C]	---	---	---	---	13.0	13.0	13.0	13.0	13.0	13.0
Ag (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.004	0.004	< 0.001	< 0.001	< 0.001	< 0.001
As (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.0631	0.112	0.280	0.560	1.12	1.70
Ba (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.0435	0.0430	0.0411	0.0419	0.0427	0.0419
Be (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.018	0.018	0.017	0.016	0.017	0.017
Bi (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.00060	0.00050	0.00032	0.00031	0.00025	0.00020
Ca (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	129	125	129	128	127	125
Cd (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.000013	0.000015	0.000032	0.000088	0.000157	0.000357
Co (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	0.000051	0.000059	0.000052	0.000078	0.000058	0.000046
Cr (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:51	< 0.00008	0.00012	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.0003	0.0003	0.0002	< 0.0002	< 0.0002	< 0.0002
Fe (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.305	0.292	0.298	0.291	0.293	0.294
Li (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.0074	0.0131	0.0283	0.0412	0.0569	0.0709

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Project : Hammond MNA
LR Report : CA15238-AUG21

Analysis	1:	2:	3:	4:	5:	6:	7:	8:	9:	10:
	Analysis Start Date	Analysis Start Time	Analysis Completed Date	Analysis Completed Time	HAP1DPT06_[1]	HAP1DPT06_[2]	HAP1DPT06_[3]	HAP1DPT06_[4]	HAP1DPT06_[5]	HAP1DPT06_[6]
Mg (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	4.31	4.12	4.24	4.16	4.12	3.97
Mn (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.0242	0.0235	0.0235	0.0230	0.0205	0.0106
Mo (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.0142	0.0522	0.105	0.261	0.587	1.20
Na (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	56.6	55.4	56.2	56.5	56.0	60.9
Ni (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	0.0002	0.0003	0.0003	0.0002	0.0002	0.0002
Pb (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:52	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.00010	0.00010	0.00008	0.00011	0.00011	0.00012
Sn (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.390	0.389	0.389	0.425	0.402	0.387
Ti (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	< 0.00005	0.00010	< 0.00005	0.00011	0.00020	0.00026
Tl (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.000743	0.000734	0.000705	0.000677	0.000740	0.000730
V (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.00021	0.00018	0.00019	0.00018	0.00021	0.00018
W (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.00007	0.00007	0.00008	0.00010	0.00014	0.00018
Y (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.00007	0.00007	0.00006	0.00007	0.00007	0.00006
Zn (diss) [mg/L]	17-Aug-21	12:55	18-Aug-21	16:58	0.003	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	11:	12:	13:	14:	15:	16:	17:	18:	19:	20:
	HAP2DPT07&8_[1]	HAP2DPT07&8_[2]	HAP2DPT07&8_[3]	HAP2DPT07&8_[4]	HAP2DPT07&8_[5]	HAP3DPT01_[1]	HAP3DPT01_[2]	HAP3DPT01_[3]	HAP3DPT01_[4]	HAP3DPT01_[5]
Sample Date & Time	05-Jul-12	05-Jul-12	06-Jul-12	07-Jul-12	08-Jul-12	13-Jul-12	13-Jul-12	14-Jul-12	14-Jul-12	14-Jul-12
Temp Upon Receipt [°C]	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
Ag (diss) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.003	0.003	0.002	0.007	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
As (diss) [mg/L]	0.0008	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002
Ba (diss) [mg/L]	0.0397	0.0412	0.0410	0.0413	0.0403	0.0424	0.0414	0.0415	0.0413	0.0407
Be (diss) [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B (diss) [mg/L]	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.005
Bi (diss) [mg/L]	0.00001	< 0.00001	< 0.00001	0.00007	0.00001	0.00002	0.00001	0.00002	< 0.00001	< 0.00001

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LR Report : CA15238-AUG21

Analysis	11:	12:	13:	14:	15:	16:	17:	18:	19:	20:
	HAP2DPT07&8 _ [1]	HAP2DPT07&8 _ [2]	HAP2DPT07&8 _ [3]	HAP2DPT07&8 _ [4]	HAP2DPT07&8 _ [5]	HAP3DPT01 _ [1]	HAP3DPT01 _ [2]	HAP3DPT01 _ [3]	HAP3DPT01 _ [4]	HAP3DPT01 _ [5]
Ca (diss) [mg/L]	31.6	32.7	31.9	31.0	31.6	30.6	30.8	31.0	30.8	30.9
Cd (diss) [mg/L]	0.000010	0.000003	0.000003	0.000005	0.000007	0.000015	0.000013	0.000039	0.000031	0.000057
Co (diss) [mg/L]	0.0970	0.227	0.332	0.441	0.552	0.000643	0.000626	0.000627	0.000656	0.000659
Cr (diss) [mg/L]	< 0.00008	< 0.00008	< 0.00008	0.00011	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008	< 0.00008
Cu (diss) [mg/L]	0.0027	0.0013	0.0010	0.0011	0.0005	< 0.0002	0.0040	< 0.0002	< 0.0002	< 0.0002
Fe (diss) [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K (diss) [mg/L]	0.693	0.702	0.713	0.710	0.729	0.752	0.753	0.770	0.757	0.747
Li (diss) [mg/L]	0.0021	0.0021	0.0019	0.0019	0.0019	0.0149	0.0306	0.0430	0.0558	0.0705
Mg (diss) [mg/L]	6.29	6.24	6.16	6.04	6.14	6.06	5.91	6.26	6.04	5.97
Mn (diss) [mg/L]	0.0844	0.0863	0.0851	0.0858	0.0868	0.0852	0.0851	0.0865	0.0854	0.0856
Mo (diss) [mg/L]	0.0109	0.00017	0.00010	0.00011	0.00010	0.0330	0.0501	0.0886	0.103	0.165
Na (diss) [mg/L]	8.02	7.86	7.87	7.72	8.05	7.84	7.86	8.01	7.95	7.89
Ni (diss) [mg/L]	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0013	0.0004	0.0003	0.0004
Pb (diss) [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004	< 0.00004
Sn (diss) [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr (diss) [mg/L]	0.0764	0.0773	0.0753	0.0734	0.0746	0.0738	0.0739	0.0747	0.0734	0.0740
Ti (diss) [mg/L]	< 0.00005	0.00008	0.00008	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00007	< 0.00005	0.00008
Tl (diss) [mg/L]	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
U (diss) [mg/L]	0.000043	0.000024	0.000012	0.000012	0.000011	0.000035	0.000010	0.000032	0.000010	0.000030
V (diss) [mg/L]	0.00002	< 0.00001	0.00001	0.00002	0.00001	0.00002	0.00001	0.00002	< 0.00001	0.00001
W (diss) [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y (diss) [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Zn (diss) [mg/L]	0.012	0.006	0.005	0.005	0.004	0.002	< 0.002	< 0.002	< 0.002	< 0.002

Analysis	21:	22:	23:	24:	25:	26:
	BAP1DPT0543& 44 [1]	BAP1DPT0545& 46 [2]	BAP1DPT0547& 43 [3]	BAP1DPT0549& 50 [4]	BAP1DPT0551& 52 [5]	BAP1DT05 [6]
Sample Date & Time	22-Jul-12	29-Jul-12	29-Jul-12	30-Jul-12	30-Jul-12	03-Aug-21

OnLine LIMS

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Project : Hammond MNA
LR Report : CA15238-AUG21

Analysis	21: BAP1DPT0543& 44_[1]	22: BAP1DPT0545& 46_[2]	23: BAP1DPT0547& 43_[3]	24: BAP1DPT0549& 50_[4]	25: BAP1DPT0551& 52_[5]	26: BAP1DT05_[6]
Temp Upon Receipt [°C]	13.0	13.0	13.0	13.0	13.0	13.0
Ag (diss) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.001	< 0.001	< 0.001	0.001	0.001	0.002
As (diss) [mg/L]	0.0111	0.0218	0.0433	0.0659	0.0861	0.106
Ba (diss) [mg/L]	0.140	0.140	0.143	0.139	0.142	0.143
Be (diss) [mg/L]	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007	< 0.000007
B (diss) [mg/L]	0.008	0.008	0.008	0.007	0.007	0.007
Bi (diss) [mg/L]	0.00015	0.00011	0.00015	0.00008	0.00010	0.00011
Ca (diss) [mg/L]	47.3	48.0	46.6	48.0	46.4	45.9
Cd (diss) [mg/L]	0.000050	0.000080	0.000175	0.000248	0.000446	0.000679
Co (diss) [mg/L]	0.0102	0.0194	0.0384	0.0586	0.0761	0.0950
Cr (diss) [mg/L]	0.00032	0.00024	0.00029	0.00027	0.00026	0.00022
Cu (diss) [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0006
Fe (diss) [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K (diss) [mg/L]	1.79	1.77	1.80	1.77	1.77	1.78
Li (diss) [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Mg (diss) [mg/L]	21.7	21.5	22.0	21.6	21.3	21.5
Mn (diss) [mg/L]	0.00035	0.00020	0.00019	0.00023	0.00026	0.00018
Mo (diss) [mg/L]	0.113	0.276	0.566	0.860	1.39	2.18
Na (diss) [mg/L]	3.50	3.50	3.71	3.86	4.03	4.59
Ni (diss) [mg/L]	< 0.0001	< 0.0001	0.0001	0.0001	< 0.0001	0.0002
Pb (diss) [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.00040	0.00043	0.00043	0.00037	0.00044	0.00039
Sn (diss) [mg/L]	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr (diss) [mg/L]	0.0546	0.0545	0.0528	0.0546	0.0534	0.0534
Ti (diss) [mg/L]	0.00006	0.00010	0.00021	0.00023	0.00036	0.00055
Tl (diss) [mg/L]	0.000157	0.000166	0.000154	0.000161	0.000164	0.000167
U (diss) [mg/L]	0.000670	0.000678	0.000662	0.000614	0.000643	0.000640
V (diss) [mg/L]	0.00060	0.00058	0.00059	0.00060	0.00058	0.00056
W (diss) [mg/L]	0.00005	0.00008	0.00010	0.00013	0.00020	0.00030



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Analysis	21: BAP1DPT0543& 44_[1]	22: BAP1DPT0545& 46_[2]	23: BAP1DPT0547& 43_[3]	24: BAP1DPT0549& 50_[4]	25: BAP1DPT0551& 52_[5]	26: BAP1DT05_[6]
Y (diss) [mg/L]	0.00008	0.00008	0.00009	0.00009	0.00009	0.00009
Zn (diss) [mg/L]	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002

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LR Report: CA12171-SEP21
Reference: P.O# 800003210A

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	1: Analysis Start Date	2: Analysis Start Time	3: Analysis Completed Date	4: Analysis Completed Time	5: HAP1DPT02_1a	6: HAP1DPT02_2a	7: HAP1DPT04XR F_3/5a	8: HAP1DPT04XR F_4/6a	9: HAP2DPT08_7a
Sample Date & Time					31-Aug-21	31-Aug-21	31-Aug-21	31-Aug-21	31-Aug-21
Temp Upon Receipt [°C]	---	---	---	---	11.0	11.0	11.0	11.0	11.0
Ag (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.003	0.002	0.003	0.003	0.002
As (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	< 0.0002	< 0.0002	0.0007	0.0007	< 0.0002
Ba (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.0421	0.0420	0.0403	0.0405	0.00396
Be (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	< 0.000007	< 0.000007	0.000008	0.000016	0.000007
B (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.165	0.148	0.106	0.113	0.293
Bi (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	124	122	110	112	40.0
Cd (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.000003	0.000003	< 0.000003	< 0.000003	0.00176
Co (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.000053	0.000053	0.000084	0.000095	0.0571
Cr (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:43	0.00055	0.00049	0.00059	0.00045	0.00048
Cu (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002
Fe (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.007	< 0.007	0.008	0.008	< 0.007
K (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	1.91	1.88	2.38	2.36	2.16
Li (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.0012	0.0013	0.0043	0.0046	0.0078
Mg (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	6.74	6.69	5.94	5.77	8.23
Mn (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00316	0.00232	0.0182	0.0196	0.997
Mo (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00725	0.00752	0.00658	0.00656	0.00011
Na (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	46.4	47.1	54.7	54.6	7.41
Ni (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.0003	0.0003	0.0009	0.0010	0.0667
Pb (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00010	0.00010	0.00097	0.00084	0.00709
Sn (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.00006	< 0.00006	0.00081	0.00080	0.00006
Sr (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.771	0.755	0.573	0.568	0.0992
Ti (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00013	0.00007	0.00015	0.00015	0.00011
Tl (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.000005	< 0.000005	0.000012	0.000013	0.000008
U (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.000540	0.000567	0.000739	0.000738	0.000015
V (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00007	0.00007	0.00030	0.00029	0.00004
W (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	0.00029	0.00026	0.00080	0.00079	0.00062
Zn (diss) [mg/L]	10-Sep-21	15:00	14-Sep-21	11:48	< 0.002	0.003	< 0.002	< 0.002	0.049

Online LIMS

0002640169

Analysis	10: HAP2DPT08_8a	11: HAP3DPT02_9a	12: HAP3DPT02_10 a	13: BAP1DPT02_11 a	14: BAP1DPT02_12 a
Sample Date & Time	31-Aug-21	31-Aug-21	31-Aug-21	31-Aug-21	31-Aug-21
Temp Upon Receipt [°C]	11.0	11.0	11.0	11.0	11.0
Ag (diss) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.001	0.001	0.002	0.005	0.005
As (diss) [mg/L]	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Ba (diss) [mg/L]	0.00396	0.0270	0.0276	0.0373	0.0382
Be (diss) [mg/L]	0.000009	< 0.000007	< 0.000007	0.000009	0.000009
B (diss) [mg/L]	0.324	0.227	0.230	0.108	0.110
Bi (diss) [mg/L]	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Ca (diss) [mg/L]	40.0	66.7	69.0	42.3	42.2
Cd (diss) [mg/L]	0.00200	< 0.000003	< 0.000003	0.000011	0.000014
Co (diss) [mg/L]	0.0605	0.000027	0.000032	0.000142	0.000164
Cr (diss) [mg/L]	0.00039	0.00098	0.00088	0.00125	0.00108
Cu (diss) [mg/L]	0.0003	0.0004	< 0.0002	< 0.0002	< 0.0002
Fe (diss) [mg/L]	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
K (diss) [mg/L]	2.22	1.86	2.03	1.58	1.59
Li (diss) [mg/L]	0.0083	0.0057	0.0065	0.0005	0.0005
Mg (diss) [mg/L]	8.59	5.48	5.91	13.6	13.7
Mn (diss) [mg/L]	1.02	0.00050	0.00042	0.0137	0.0131
Mo (diss) [mg/L]	0.00022	0.0112	0.0139	0.00026	0.00029
Na (diss) [mg/L]	7.57	5.22	5.13	3.97	4.07
Ni (diss) [mg/L]	0.0714	0.0002	0.0002	0.0014	0.0013
Pb (diss) [mg/L]	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.00767	0.00074	0.00073	0.00041	0.00048
Sn (diss) [mg/L]	0.00006	< 0.00006	< 0.00006	< 0.00006	< 0.00006
Sr (diss) [mg/L]	0.103	0.427	0.454	0.0861	0.0866
Ti (diss) [mg/L]	0.00006	0.00012	0.00013	0.00018	0.00019
Tl (diss) [mg/L]	0.000006	0.000007	< 0.000005	0.000021	0.000030
U (diss) [mg/L]	0.000016	0.000472	0.000485	0.000081	0.000089
V (diss) [mg/L]	0.00002	0.00028	0.00029	0.00006	0.00007
W (diss) [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y (diss) [mg/L]	0.00071	0.00007	0.00008	0.00143	0.00142
Zn (diss) [mg/L]	0.056	< 0.002	< 0.002	< 0.002	< 0.002

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SGS Canada Inc.

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Project : Hammond MNA

22-September-2021

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Phone: 519-822-2265
Fax:519-822-3151

Date Rec. : 16 September 2021
LR Report: CA15375-SEP21
Reference: P.O# 800003210A

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: HAP1DPT02_1 b	6: HAP1DPT02_2 b	7: HAP1DPT04XR F_3b	8: HAP1DPT04XR F_4b	9: HAP1DPT04XR F_5b
Sample Date & Time					15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21
Temp Upon Receipt [°C]	---	---	---	---	9.0	9.0	9.0	9.0	9.0
Ag (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.002	0.002	0.006	0.004	0.003
As (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.0002	< 0.0002	0.0031	0.0030	0.0012
Ba (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.0382	0.0399	0.0462	0.0433	0.0496
Be (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.000007	0.000009	0.000034	0.000025	0.000022
B (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.651	0.602	0.281	0.312	0.281
Bi (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00002	0.00001	0.00001	0.00001	0.00002
Ca (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	89.2	89.4	74.2	80.1	83.1
Cd (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.000013	< 0.000003	0.000004	0.000006	0.000009
Co (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.000077	0.000074	0.000122	0.000165	0.000617
Cr (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00174	0.00214	0.00108	0.00095	0.00053
Cu (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.0002	< 0.0002	0.0005	0.0005	0.0005
Fe (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.007	< 0.007	0.016	0.016	0.010
K (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	3.44	3.42	4.56	4.46	2.89
Li (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.0005	0.0007	0.0048	0.0040	0.0015
Mg (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	9.55	8.93	5.41	5.76	6.11
Mn (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00296	0.00213	0.0339	0.0324	0.231
Mo (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00956	0.00967	0.0124	0.0113	0.00896
Na (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	38.6	36.9	58.6	63.7	61.3
Ni (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.0005	0.0005	0.0016	0.0015	0.0011
Pb (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.00009	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00020	0.00022	0.00134	0.00115	0.00070
Sn (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00013	0.00012	0.00121	0.00118	0.00135
Sr (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.727	0.720	0.392	0.413	0.441
Ti (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.00005	0.00022	0.00021	0.00023	0.00017
Tl (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.000005	< 0.000005	0.000016	0.000015	0.000013
U (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.000173	0.000190	0.00285	0.00240	0.00104
V (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00013	0.00010	0.00065	0.00075	0.00066
W (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.00002	< 0.00002	0.00004	0.00004	< 0.00002
Y (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	0.00013	0.00009	0.00046	0.00047	0.00043
Zn (diss) [mg/L]	21-Sep-21	15:10	22-Sep-21	14:19	< 0.002	0.003	0.002	0.003	0.002

Online LIMS

0002450084

Analysis	10: HAP1DPT04XR F_6b	11: HAP2DPT08_7 b	12: HAP2DPT08_8 b	13: HAP2DPT02_9 b	14: HAP2DPT02_1 0b	15: BAP1DPT02_1 1b	16: BAP1DPT02_1 2b
Sample Date & Time	15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21	15-Sep-21
Temp Upon Receipt [°C]	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Ag (diss) [mg/L]	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Al (diss) [mg/L]	0.002	0.007	0.014	0.007	0.003	0.005	0.003
As (diss) [mg/L]	0.0012	0.0016	0.0028	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Ba (diss) [mg/L]	0.0430	0.0280	0.0306	0.0291	0.0302	0.0112	0.0113
Be (diss) [mg/L]	0.000018	0.000039	0.000068	< 0.000007	< 0.000007	0.000099	0.000086
B (diss) [mg/L]	0.309	0.872	0.836	0.285	0.290	0.498	0.547
Bi (diss) [mg/L]	0.00001	0.00001	< 0.00001	0.00001	0.00001	0.00002	< 0.00001
Ca (diss) [mg/L]	69.6	48.4	51.6	63.9	67.5	11.8	12.5
Cd (diss) [mg/L]	0.000016	0.00420	0.0120	0.000007	0.000005	0.000041	0.000035
Co (diss) [mg/L]	0.000911	0.114	0.167	0.000085	0.000076	0.000005	0.000012
Cr (diss) [mg/L]	0.00051	0.00045	0.00049	0.00215	0.00246	0.00136	0.00150
Cu (diss) [mg/L]	0.0006	0.0009	0.0028	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Fe (diss) [mg/L]	0.009	< 0.007	< 0.007	0.010	< 0.007	< 0.007	< 0.007
K (diss) [mg/L]	2.53	5.54	5.93	3.90	3.98	1.24	1.37
Li (diss) [mg/L]	0.0008	0.0172	0.0243	0.0077	0.0077	0.0005	0.0005
Mg (diss) [mg/L]	5.64	12.5	13.7	7.25	7.80	3.28	3.49
Mn (diss) [mg/L]	0.381	3.60	5.05	0.00059	0.00051	0.0120	0.0126
Mo (diss) [mg/L]	0.00414	0.00017	0.00047	0.0534	0.0542	0.00005	0.00010
Na (diss) [mg/L]	60.3	10.4	10.1	5.57	5.65	4.85	4.90
Ni (diss) [mg/L]	0.0015	0.117	0.151	0.0003	0.0003	0.0014	0.0016
Pb (diss) [mg/L]	< 0.00009	0.00011	0.00058	< 0.00009	< 0.00009	< 0.00009	< 0.00009
Sb (diss) [mg/L]	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Se (diss) [mg/L]	0.00050	0.0148	0.0159	0.00047	0.00066	0.00050	0.00043
Sn (diss) [mg/L]	0.00125	0.00014	0.00014	0.00011	0.00012	< 0.00006	< 0.00006
Sr (diss) [mg/L]	0.366	0.147	0.152	0.539	0.572	0.0297	0.0306
Ti (diss) [mg/L]	0.00017	0.00011	0.00007	0.00030	0.00010	0.00011	0.00010
Tl (diss) [mg/L]	0.000009	0.000014	0.000020	0.000006	0.000008	0.000020	0.000016
U (diss) [mg/L]	0.000268	0.000018	0.000027	0.00143	0.00171	0.000011	0.000025
V (diss) [mg/L]	0.00045	0.00007	0.00005	0.00041	0.00044	0.00008	0.00008
W (diss) [mg/L]	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Y (diss) [mg/L]	0.00047	0.00100	0.00157	0.00016	0.00012	0.00048	0.00034
Zn (diss) [mg/L]	0.004	0.087	0.127	< 0.002	< 0.002	0.008	0.004

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APPENDIX B

Reactive Transport Model Report



Prepared for

Georgia Power Company
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Atlanta, Georgia 30308

REACTIVE TRANSPORT MODEL REPORT

PLANT HAMMOND ASH POND 2 (AP-2)

Prepared by

Geosyntec 
consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW7300

August 2022

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Appendix A	PHREEQC Model Input Files
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LIST OF ACRONYMS AND ABBREVIATIONS

AP-2	Ash Pond 2
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Co	Cobalt
CSM	Conceptual Site Model
GA EPD	Georgia Environmental Protection Division
GCSM	Geochemical Conceptual Site Model
GWPS	Groundwater Protection Standard
HAR	Hydrogeologic Assessment Report
HFO	hydrous ferric oxide
HX	Proton Exchange
MNA	Monitored Natural Attenuation
SEP	Sequential Extraction Procedure
SSL	Statistically Significant Levels
XRD	X-Ray Diffraction

1.0 INTRODUCTION

1.1 Purpose

This reactive transport model report (Report) has been prepared for the Georgia Power Company (Georgia Power) Plant Hammond Ash Pond 2 (AP-2 or Site) and is included as Appendix B to the *Draft Remedy Selection Report – Plant Hammond Ash Pond 2 (AP-2)* (Remedy Selection Report) (Geosyntec, 2022b). The purpose of this report is to document the reactive transport model developed to evaluate potential remediation approaches to address statistically significant levels (SSLs) of cobalt (Co) above groundwater protection standards (GWPS) at certain locations at AP-2.

1.2 Site Background and Overview of AP-2 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. A Site location map is included in the Remedy Selection Report (**Figure 1**, Geosyntec, 2022b).

AP-2 is a 21-acre surface impoundment constructed in 1969 and was used primarily as a dewatering facility for coal combustion residuals (CCR) including fly ash and bottom ash. CCR placement in AP-2 ceased in 2019. Georgia Power initiated closure activities on January 4, 2021, in accordance with Georgia Environmental Protection Division (GA EPD) approved Closure permit No. 057-024D(CCR). Closure activities for AP-2 consist of closure by removal. Closure details can also be found at the GA EPD CCR permit website¹.

1.3 Site Geology and Hydrogeologic Setting

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

¹ <https://epd.georgia.gov/hammond-ap-2-permit>

1.3.1 Site Geology

AP-2 is located within the Great Valley District of the Valley and Ridge Physiographic Province (Valley and Ridge) of northwest Georgia which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. AP-2 is underlain primarily by five lithologic units: (i) terrace alluvium, (ii) colluvium, (iii) residuum, (iv) partially weathered shale bedrock, and (v) unweathered shale bedrock of the Cambrian Conasauga Formation. Additional lithology descriptions of these units can be found in the HAR Rev 01 (Geosyntec, 2019b).

1.3.2 Hydrogeology and Groundwater Flow

The uppermost aquifer at AP-2 is a regional unconfined groundwater aquifer that occurs primarily in the alluvial and residuum soils, and within the weathered and fractured bedrock. The movement of groundwater in the soil can be characterized as low-to moderate permeability, porous media flow. The groundwater flow in the shallow underlying bedrock is characterized as fracture flow. The regional groundwater flow direction is expected to be from north to south. However, under current conditions, the local groundwater flow direction beneath AP-2 is predominantly east to west toward the Unnamed Creek with an additional southwesterly component toward the Coosa River. Groundwater elevation data and potentiometric surface contours that depict groundwater flow direction are provided in the Remedy Selection Report (**Figure 5**, Geosyntec, 2022b). Monitoring well construction details are provided in the Remedy Selection Report (**Table 1**, Geosyntec, 2022b).

1.4 Groundwater Exceedances

At AP-2, Georgia Power has performed CCR groundwater monitoring-related activities since May 2016². As discussed in the Remedy Selection Report (Geosyntec, 2022b), the concentration of Co in groundwater exceeds the GWPS at HGWC-18, MW-33, and MW-35. Cobalt in groundwater has been horizontally and vertically delineated as shown in **Figure 6** of the Remedy Selection Report. Groundwater monitoring data confirm that Co is not migrating offsite, and impacts are likely limited in extent due to natural attenuation processes in the aquifer.

² Monitoring activities have been performed in accordance with the United States Environmental Protection Agency's (USEPA's) Coal Combustion Residuals (CCR) Rule, 40 Code of Federal Regulations (CFR) Parts 257 effective October 19, 2015 (CCR Rule) including subsequent revisions and Georgia Environmental Protection Division's (GA EPD's) Rule for Solid Waste Management Rule 391-3-4-10 for CCR.

1.5 Model Scope & Objectives

Geosyntec has developed a reactive transport model for Co to support the remedy selection process for AP-2. The Georgia Environmental Protection Division (GAEPD) Groundwater Contaminant Fate and Transport Modeling Guidance (GAEPD, 2016) was used as a guide for development of both models, where appropriate.

The primary objectives of the transport modeling effort are to:

- Develop a predictive reactive transport model for Co in the vicinity of HGWC-18 and MW-33/MW-35 under post-closure conditions;
- Assess the feasibility of monitored natural attenuation (MNA) processes to achieve the Co GWPS at or beyond the compliance boundary under predicted post-closure conditions; and
- Evaluate the feasibility of geochemical injections to achieve the Co GWPS at or beyond the compliance boundary under predicted post-closure conditions.

The geochemical conceptual site model (CSM), flow model, and transport model are described in detail in later sections.

2.0 GEOCHEMICAL CONCEPTUAL SITE MODEL

The following section summarizes the geochemical conceptual site model for AP-2, as described in the *Geochemical Conceptual Site Model Report – Plant Hammond Ash Pond 2 (AP-2)* (GCSM Report) included as **Appendix A** of the Remedy Selection Report (Geosyntec 2022a).

2.1 Cobalt Occurrence, Geochemistry, and Fate and Transport Properties

As discussed in detail in the GCSM Report, the presence of Co in soil samples collected from background locations at the Site indicates that Co occurs naturally in soils in the vicinity of AP-2. Additional soil characterization data generated through sequential extraction procedure (SEP) indicates that Co in Site soils is likely associated with metal oxyhydroxides, non-crystalline phases, and sulfide minerals. The fraction of Co associated with each of these phases is likely to be variable and uncertain at this time. For the purposes of this reactive transport model and to assess potential remedial alternatives, the primary source of Co was assumed to be Co associated with sulfide minerals. As additional data are collected as part of the remedy design and implementation process, the source of Co will continue to be evaluated and the CSM revised as appropriate.

Analysis of groundwater data indicates that Co in groundwater is strongly correlated with pH, with Co concentrations above the GWPS observed when the pH of the groundwater is less than 5.6 standard units (s.u.). The pH in temporary porewater piezometers within the AP-2 were 7.99 at PMW-04 and 5.59 to 5.73 in PMW-03 in 2021. In general, the Co exceedances in groundwater appear to be localized to areas of high acidity. At low pH (i.e., below 5.6 s.u.), Co from Site soils associated with oxyhydroxides, non-crystalline phases, or sulfide mineral phases, is likely mobilized to groundwater through dissolution of Co bearing mineral phases. Under Site pH and redox conditions, Co in groundwater is predominantly present as Co^{2+} , while geochemical conditions are generally favorable for the dissolution of Fe/Mn oxides and pyrite when low pH conditions are encountered.

Three potential sources of localized high acidity were identified at the Site: (i) oxidative dissolution of sulfide minerals such as pyrite (Larsen and Postma, 1997); (ii) biogeochemical reduction of Fe and Mn oxides (Gounot, 1994); and (iii) proton exchange with surfaces in the aquifer (Holmberg, 1986). Irrespective of the source of localized acidity, low pH groundwater likely leads to the mobilization of naturally occurring Co from Site soils. As additional data are collected as part of the remedy design and implementation process, the source of acidity will continue to be evaluated and the GCSM revised as appropriate. Based on data collected to date, pyrite oxidation and proton

exchange were assumed to be the primary sources of localized acidity in this transport model.

Adsorption (surface complexation) of Co on Fe and Mn-hydroxides under neutral to alkaline pH conditions and co-precipitation of Co are expected to drive the attenuation of Co in the overburden soils. Alkaline pH conditions induce a negative surface charge on these mineral surfaces, allowing Co cations to adsorb; this process appears to have been counter-acted at AP-2 due to the localized acidifying processes observed at the Site. Total metals, mineralogical and SEP data indicate that clay minerals and Al/Fe/Mn-hydroxides are present in significant amounts to favor adsorption and attenuation of Co. Iron and Mn hydroxides, due to their high surface area, tend to be excellent sorbents of trace elements (e.g., As, Co, Ni and Zn) and subsequently control their mobility, fate and transport in water (e.g., Herbert, 1996; Schemel et al., 2000).

In addition to adsorption, Co initially complexed with the mineral surfaces of Fe/Mn oxides and oxyhydroxides become entrained in the crystal structure as the mineral continues to grow. This process more commonly occurs with poorly crystalline, fast growing iron and manganese oxyhydroxides that precipitate under oxidizing conditions.

In summary, the GCSM Report suggests that as groundwater impacted by AP-2 interacts with sulfide minerals (such as pyrite) and proton exchange surfaces, localized acidity is generated leading to the subsequent release of Co associated with Site soils. As such, after closure of AP-2, the source of localized acidity is anticipated to be removed, leading to a reduction in Co concentrations to below GWPS. As additional data are collected as part of the remedy design and implementation process, the groundwater pH will continue to be monitored and the GCSM revised as appropriate. **Figure 1** and **Figure 2** present schematics of Co mobilization and attenuation at the Site, respectively.

Data in support of the CSM and associated analysis are described in detail in the GCSM Report included as **Appendix A** of the Remedy Selection Report (Geosyntec 2022a).

3.0 GROUNDWATER MODEL DESCRIPTIONS

Two reactive transport models were developed to evaluate the feasibility of MNA and geochemical injections as potential corrective measures for Co exceedances of GWPSs. A groundwater flow model was utilized to provide groundwater flow directions and velocities as inputs to the reactive transport models. The following sections describe the flow and transport model setups, scenarios, and results.

3.1 Groundwater Flow Model

To support the reactive transport models (described below), an updated version of the sitewide groundwater flow model (originally described in Geosyntec, 2019a) was utilized to simulate and provide steady state post-closure groundwater flow directions and velocities as inputs into the reactive transport models.

The closure design for AP-2 includes i) removal of existing CCR by excavation, ii) removing the western and northern dikes, and iii) grading the interior of AP-2 to direct stormwater runoff toward the southwestern corner of AP-2. To simulate post-closure groundwater conditions, model hydraulic conductivity and recharge were modified to represent the above summarized AP-2 closure design.

Inside the footprint of AP-2, model cells were updated to represent earthen backfill by assigning a horizontal hydraulic conductivity (K_h) and vertical hydraulic conductivity (K_v) of 2.9×10^{-2} feet per day (ft/d) and 5.2×10^{-3} ft/d, respectively (**Figure 3a**). These conductivity values were used as they represent a calibrated set of values for fill from the updated sitewide model. To simulate anticipated decreases in infiltration related to the earthen backfill and post closure final grades, recharge inside AP-2 and along the remaining southern and eastern dikes was reduced to assumed rates of 0.75 in/yr and 0.38 in/yr, respectively (**Figure 3b**).

Simulated post-closure groundwater contours and flow direction are shown in **Figure 4**. Under post-closure conditions, groundwater flow is predicted to flow from the north to the south toward the Coosa River.

Given the very localized impacts of Co at HGWC-18 and MW-33/MW-35, and large extent of the updated sitewide flow model, localized post-closure velocities were calculated for the areas of interest. Simulated post-closure hydraulic gradients, hydraulic conductivities estimated from recent slug test data (not available during the development of the updated sitewide model) from wells located within the areas of interest, and literature porosity values were used to calculate groundwater input velocities for the

reactive transport models. Simulated hydraulic gradients, hydraulic conductivity values estimated from slug testing, and calculated velocities are shown on **Table 1**.

3.2 Reactive Transport Model

One dimensional (1D) reactive transport models were developed for two areas where groundwater Co concentrations currently exceed the GWPS. The two areas of interest are: (i) West Area in the vicinity of monitoring well HGWC-18; and (ii) South Area in the vicinity of wells MW-33 and MW-35. The following sections describe the Co reactive transport model setup, scenarios, results, and sensitivity analysis.

3.2.1 Modeling Approach and Groundwater Velocities

As described in later sections, the 1D model was developed on a standalone geochemical modeling program. As such, transport information required by the model were derived from the groundwater flow model described above. A pre-closure reactive transport scenario was developed to select geochemical parameters that would result in Co concentrations similar to those measured at the site for use in the predictive post-closure reactive transport model. The post-closure scenario was developed based on the selected parameters from the pre-closure model to assess the potential viability of different remedial options, in accordance with the model objectives.

The geochemical models rely on groundwater direction and estimated groundwater velocities pre- and post-closure. **Table 1** presents a summary of simulated hydraulic gradients, measured hydraulic conductivities, and calculated post-closure groundwater velocities. **Table 2** presents a summary of pre-closure gradients, measured hydraulic conductivities, and calculated pre-closure groundwater velocities.

3.2.2 Reactive Transport Model Setup

The 1D reactive transport was developed using the PHREEQC version 3 geochemical modeling software (Parkhurst and Appelo, 2013). Equilibrium constants from the MINTEQ.V4 thermodynamic database (USEPA, 1999) were used for the Co model. Input parameters for the flow components of the reactive transport model were calculated from the results of the groundwater flow model described above (Section 3.1).

The following sections describe the reactive transport model setup for both the West and South Areas, and includes information on source areas and solid phases, groundwater composition, groundwater recharge, and applicable boundary conditions.

3.2.2.1 West Area (HGWC-18)

1D Model Setup

The advective-dispersive transport capabilities of PHREEQC are derived from a formulation of 1D, advective-dispersive transport presented by Appelo and Postma (1993). The 1D column is defined by a series of cells with the same pore volume. Lengths are defined for each cell and the time step provides the time necessary for a pore volume of water to move through each cell. The velocity of water in each cell is determined by the length of the cell divided by the time step.

A schematic of the 1D model for the West Area is presented in **Figure 5**. As depicted in the figure, the localized model extends from the temporary piezometer (TPZ-02) to Unnamed Creek with a total distance of approximately 120 ft. The 1D column consists of 10 cells, each 12 ft in length.

Simulation Settings – Duration & Closure Phasing

The model was run for a total simulation time of 100 years with distinct periods corresponding to pond status as shown on **Table 3**. The first period corresponds with pre-closure conditions. The primary purpose of this first period was to select solid phase parameters such that the observed concentrations of key constituents in groundwater (e.g., Co and pH) match with measured concentrations in groundwater samples collected from HGWC-18. The selection of solid phased parameters was informed by the GCSM. The second and third periods correspond with closure and post-closure, predictive simulations. Once the solid phases were selected based on results from the first period in the model, the extent, and concentration of solid phases was held constant over the duration of the model (i.e., for all three periods).

The first 50 years of the simulation correspond to pre-closure conditions where the time steps in the model (i.e., residence time in a single cell) were calculated based on pre-closure groundwater velocity in the vicinity of HGWC-18. Years 50 to 54 correspond to the closure period and the residence time in each cell was calculated assuming no change in groundwater velocity. Years 54 to 100 correspond to post-closure conditions with time steps calculated based on anticipated post-closure groundwater velocity in the vicinity of HGWC-18. Post-closure groundwater velocity was obtained from the results of the groundwater flow model.

The post-closure simulation has two distinct parts: (i) background groundwater replacement; and (ii) post-closure groundwater flow. Under the background groundwater

replacement part of the reactive transport model, the time for potentially impacted groundwater in the model to be replaced by unimpacted background groundwater was calculated based on post-closure groundwater velocity. As presented in the groundwater flow model results (**Figure 4**), the flow direction is anticipated to change post-closure. As a conservative assumption groundwater up to 100 ft upgradient (as defined based on post-closure groundwater flow direction) of HGWC-18 was assumed to be impacted by AP-2 (i.e., background groundwater would need to travel a distance of 100 ft to HGWC-18 before potentially impacted water in the model is replaced by background water).

HGWA-4 has the lowest pH among background wells and was selected as the source of background groundwater in the model. The time for background groundwater to reach HGWC-18 post-closure was calculated as described above. Calculations on simulation time frame and associated data used are presented in **Table 3**.

Source Definition and Solid Phases – Initial Conditions

As discussed in Section 2, the primary driver for Co mobilization at the Site is a localized increase in acidity and decrease in pH attributed to pyrite dissolution and proton exchange. The West source area was defined based on data collected from HGWC-18, the temporary piezometer TPZ-02, and Unnamed creek. Based on groundwater data, Co concentrations above GWPS appear to be localized to HGWC-18, with concentrations below the GWPS at TPZ-02 and the Unnamed creek. The distribution of solid phases and associated concentrations in the 1D column are presented in **Table 4**. A schematic of the solid phases in the model is presented in **Figure 5**.

Solid phases were selected based on available groundwater and solid characterization data to best match observed concentrations of pH and Co in well HGWC-18. The concentration and extent of solid phases were selected based on the results generated in the first period of the model (i.e., pre-closure). These results were compared to observed groundwater monitoring data to identify appropriate concentrations at the beginning of the model such that at the end of the first period (i.e., pre-closure period), the remaining solid phase concentrations in the model match with observed Site-specific solid characterization data. For example, the model assumes that the source of acidity is proton exchange and pyrite oxidation. As time progresses, cations in groundwater exchange for proton from the solid surface thereby depleting solid phase concentration of proton exchange surfaces. Similarly, pyrite in the aquifer is anticipated to dissolve over time and concentrations in the solid phase will reduce. As such the concentrations of proton exchange sites and pyrite were selected such that at the end of the pre-closure period of the model, the modeled pH of groundwater matches observed pH and the proton exchange

surfaces and pyrite mass remaining in the model are consistent with solid characterization data. Note that the model assumes that pyrite oxidation and proton exchange are the sole source of acidity in groundwater. Similarly, a source of cobalt was selected such that the modeled pre-closure concentrations are consistent with existing groundwater data. The remaining concentrations of solid phase species were then utilized for the second and third period in the model (i.e., closure and post-closure). The solid phase definition was therefore held constant over the duration of the model.

Four solid phases were defined for the West Area: (i) pyrite; (ii) proton exchange species; (iii) cobalt sulfide (CoS); and (iv) hydrous ferric oxide (HFO). Although pyrite was detected by x-ray diffraction (XRD) in site soils at a concentration of up to 1.3% by weight, pyrite was not detected by XRD in the soil sample collected in the vicinity of HGWC-18. However, pyrite in the vicinity of HGWC-18 was detected with electron microscopy. As such, the pyrite concentration was defined to be at the detection limit of XRD (approximately 0.1 % by volume), with a saturation index of 0. Given the importance of acidity induced by pyrite dissolution, a sensitivity analysis on the effect of pyrite concentration on groundwater pH was performed. The sensitivity of the reactive transport model to pyrite is discussed in detail in **Section 3.2.4**. A proton exchange species was defined in the model based on observed cation exchange capacity data. Note, that for the purposes of this model, the source of Co was assumed to be CoS. In reality, as presented in the GCSM Report, Co is likely associated with multiple phases including as adsorbed species on mineral surfaces. As such, CoS was used as a proxy source of Co and the equilibrium constant, and mass of CoS were selected to best match observed concentrations of Co and pH in wells HGWC-18. As additional data are collected as part of the remedy design and implementation process, the source of Co will be refined in the model as necessary. Since Co concentrations in samples from Unnamed Creek have been non-detects, a HFO surface was included between well HGWC-18 and Unnamed Creek to provide Co attenuation capacity. The mass of HFO was selected based on whole rock analysis in the vicinity of HGWC-18, and strong and weak sites of HFO were selected based on the Dzombak and Morel model (1990). As additional data are collected as part of the remedy design and implementation process, the extent of HFO will be refined in the model as necessary.

Groundwater Composition – Initial & Boundary Conditions

A summary of initial groundwater definitions in the reactive transport model are presented in **Table 5**. Groundwater chemistry data from the temporary piezometer TPZ-02 was used as the filling solution in the 1D column. Under initial conditions, groundwater from TPZ-02 is in equilibrium with the solid phases defined above. As the

model is run, groundwater from TPZ-02 flows through the column, reacting with the selected solid phases resulting in geochemical changes to the composition of water. HGWC-18 is defined at the effluent end of the column. Note that the 1D reactive transport model in PHREEQC does not include a recharge parameter and as such the effect of rainwater was not modeled.

3.2.2.2 South Area (MW-33 and MW-35)

1-D Model Setup

The advective-dispersive transport capabilities of PHREEQC are derived from a formulation of 1D, advective-dispersive transport presented by Appelo and Postma (1993). The 1D column is defined by a series of cells with the same pore volume. Lengths are defined for each cell and the time step provides the time necessary for a pore volume of water to move through each cell. The velocity of water in each cell is determined by the length of the cell divided by the time step.

A schematic of the 1D model for the South Area is presented in **Figure 6**. As depicted in the figure, the localized model extends from the compliance well HGWC-14 to the delineation well MW-51 with a total distance of approximately 208 ft. The 1D column also includes delineation wells MW-33, and MW-35. The 1D column consists of 8 cells, each 26 ft in length.

Simulation Settings – Duration & Closure Phasing

The model was run for a total simulation time of 100 years with distinct periods corresponding to pond status as shown on **Table 3**. The primary purpose of this approach is to select solid phase parameters such that the observed concentrations of key constituents in groundwater (e.g., Co and pH) match with measured concentrations in groundwater samples collected from MW-33, MW-35, and MW-51.

The first 50 years of the simulation correspond to pre-closure conditions where the time steps in the model (i.e., residence time in a single cell) were calculated based on pre-closure groundwater velocity in the vicinity of HGWC-14. Years 50 to 54 correspond to the closure period and the residence time in each cell was calculated assuming no change in groundwater velocity. Years 54 to 100 correspond to post-closure conditions with time steps calculated based on anticipated post-closure groundwater velocity in the vicinity of MW-33/MW-35. Post-closure groundwater velocity was obtained from the results of the groundwater flow model.

The post-closure simulation has two distinct parts: (i) background groundwater replacement; and (ii) post-closure groundwater flow. Under the background groundwater replacement part of the reactive transport model, the time for potentially impacted groundwater in the model to be replaced by unimpacted background groundwater was calculated based on post-closure groundwater velocity. As a conservative assumption, groundwater up to 1000 ft upgradient of HGWC-14 was assumed to be impacted (i.e., background unimpacted groundwater would need to travel a distance of 1000 ft to HGWC-14 before potentially impacted water in the model is replaced by background water).

HGWA-4 has the lowest pH among background wells and was conservatively selected as the source of background water in the model. The time for background water to reach HGWC-14 post-closure was calculated as described above. Calculations on simulation time frame and associated data used are presented in **Table 3**.

Source Definition and Solid Phases – Initial Conditions

As discussed in Section 2, the primary driver for Co mobilization at the Site is a localized increase in acidity and decrease in pH attributed to pyrite dissolution and proton exchange. The South source area was defined based on data collected from HGWC-14, MW-33, MW-35, and MW-51. The Co concentrations are below the GWPS at HGWC-14 but above GWPS at MW-33 and MW-35 and drop to below GWPS at MW-51. The pH of groundwater is generally at or below 5 s.u. at HGWC-14, MW-33, and MW-35 but rises to 6.1 s.u. at MW-51. The distribution of solid phases and associated concentrations in the 1D column are presented in **Table 4**. A schematic of the solid phases in the model is presented in **Figure 6**.

Solid phase minerals were selected based on available groundwater and solid characterization data to best match observed concentrations of pH and Co in wells MW-33, MW-35, and MW-51. The concentration and extent of solid phases were selected based on the results generated in the first period of the model (i.e., pre-closure). These results were compared to observed groundwater monitoring data to identify appropriate concentrations at the beginning of the model such that at the end of the first period (i.e., pre-closure period), the remaining solid phase concentrations in the model match with observed Site-specific solid characterization data. For example, the model assumes that the source of acidity is proton exchange and pyrite oxidation. As time progresses, cations in groundwater exchange for proton from the solid surface thereby depleting solid phase concentration of proton exchange surfaces. Similarly, pyrite in the aquifer is anticipated to dissolve over time and concentrations in the solid phase will reduce. As such the

concentrations of proton exchange sites and pyrite were selected such that at the end of the pre-closure period of the model, the modeled pH of groundwater matches observed pH and the proton exchange surfaces and pyrite mass remaining in the model are consistent with solid characterization data. Note that the model assumes that pyrite oxidation and proton exchange are the sole source of acidity in groundwater. Similarly, a source of cobalt was selected such that the modeled pre-closure concentrations are consistent with existing groundwater data. The remaining concentrations of solid phase species were then utilized for the second and third period in the model (i.e., closure and post-closure). The solid phase definition was therefore held constant over the duration of the model.

Five solid phases were defined based on groundwater data collected from HGWC-14, MW-33, MW-35, and MW-51. The solid phases defined were: (i) pyrite; (ii) proton exchange species; (iii) CoS as a source of Co similar to the West Area; (iii) calcite as a pH buffer in the vicinity of MW-51; and (v) HFO surface for surface complexation in the vicinity of MW-51

Similar to the West area, the concentration of pyrite was defined to be equal to the detection limit of XRD (0.1% by volume) with a saturation index of 0. Given the importance of pyrite and the acidity induced by pyrite dissolution, a sensitivity analysis of pyrite concentration on groundwater pH was performed. The sensitivity of the reactive transport model to pyrite is discussed in detail in **Section 3.2.4**. A proton exchange surface was defined in the model based on observed cation exchange capacity data. Note, that for the purposes of this model, the source of Co was assumed to be CoS. In reality, as presented in the GCSM Report, Co is likely associated with multiple phases including as adsorbed species on mineral surfaces. As such, the equilibrium constant and mass of CoS were selected to best match observed concentrations of Co and pH in wells MW-33, MW-35, and MW-51. As additional data are collected as part of the remedy design and implementation process, the source of Co will be refined in the model as necessary. HFO was defined as a reactive phase for surface complexation of Co around MW-51.

Groundwater Composition – Initial & Boundary Conditions

A summary of initial groundwater definitions in the reactive transport model are presented in **Table 5**. Groundwater chemistry data from the monitoring well HGWC-14 was used as the filling solution in the 1D column. Under initial conditions, groundwater from HGWC-14 is in equilibrium with the solid phases defined above. As the model is run, groundwater from HGWC-14 flows through the column, reacting with the selected solid phases resulting in geochemical changes to the composition of water. MW-51 was

defined at the effluent end of the column. Note that the 1D reactive transport model in PHREEQC does not include a recharge parameter and as such the effect of rainwater was not modeled.

3.2.3 Model Scenarios

The reactive transport model described above was used to evaluate the feasibility of two different remediation scenarios: (i) monitored natural attenuation (MNA) and (ii) in situ geochemical injections followed by MNA.

3.2.3.1 MNA Scenario

Under the MNA scenario, the reactive transport model was run for 50 years under ambient post-closure conditions. The source of acidity and Co in groundwater was defined as described in earlier sections. Additional manipulations of groundwater gradient or geochemistry were not performed under this scenario.

3.2.3.2 Injection Scenario

Under the injection scenario, groundwater injection wells were simulated by mixing a selected injectate with the groundwater in the PHREEQC model. At a proof-of-concept level, pure sodium bicarbonate was selected as the injectate to evaluate the feasibility of this remedial approach. In the model, sodium bicarbonate is added at a concentration of 0.10 moles to amend the pH of groundwater upgradient of the wells of interest. PHREEQC was then allowed to calculate the theoretical composition of groundwater amended with sodium bicarbonate. The geochemical composition of the injectate in the model is presented in **Table 6**. Note that other potential injectates may be viable alternatives and the injectate type, composition, and location of injection wells will be evaluated as part of the remedy design and implementation process.

The model assumes that a single injection well upgradient of each well of interest will inject sodium bicarbonate into the aquifer. In practice, a network of injection wells will likely be designed and installed. Injection was assumed to achieve a steady state concentration of injectate (controlling the pH of groundwater) in the groundwater and assumed to begin as soon as closure is complete. **Figure 7** presents a schematic of the injection scenario.

Note that the primary purpose of the injection model is to assess the viability and feasibility of geochemical injections for Co remediation. As a result, the simulated injection parameters defined in the model (e.g., location of wells, injectate regime, and

injectate composition), and simulated results should be considered preliminary and “proof of concept”. If geochemical injections are selected as a component of the remedy, the results of treatability and pilot testing will be used to evaluate and select the actual injectate, number of injection wells, injection regime and injection rate as part of the remedy design process.

3.2.4 Model Results

3.2.4.1 Pre-Closure Results

Figure 8 shows the pre-closure modeled and measured results for pH and Co at monitoring well HGWC-18. The modeled concentrations over the last six years pre-closure (i.e., 2016 to 2022) were compared against measured concentrations. The pre-closure results suggest that the 1D model setup and selected initial parameters are largely consistent with observed data with a root mean square error (RMSE) in the West Area of 0.14 s.u., and 0.025 mg/L for pH and Co, respectively. Note that the RMSE of Co is lower than the Site-specific GWPS of 0.038 mg/L.

Figure 8 shows the pre-closure modeled and measured results for pH and Co at delineation wells MW-33. The modeled concentrations over the last six years pre-closure (i.e., 2016 to 2022) were compared against measured concentrations. The pre-closure results suggest that the 1D model setup and selected initial parameters are largely consistent with observed data. The RMSE at MW-33 was calculated to be 0.08 s.u., and 0.01 mg/L for pH and Co, respectively. The RMSE at well MW-35 (not shown in **Figure 8**) was calculated to be 0.83 s.u., and 0.01 mg/L for pH and Co, respectively. Note that the model marginally underestimates Co concentration at MW-33 likely due to uncertainties associated with solid phase concentrations. Note that the RMSE of Co at both wells is lower than the Site-specific GWPS of 0.038 mg/L. RMSE analysis was not performed for monitoring well MW-51 due to limited observed data.

3.2.4.2 MNA Model

Figure 9 presents time series charts of pH and Co concentration in HGWC-18 for the MNA scenario. As depicted in the figure, the pH at HGWC-18 continues to be below 5 s.u. for an extended period of time post-closure. This trend in pH can be attributed to potentially impacted water being replaced by the background groundwater in the vicinity of HGWC-18. After background groundwater replacement is complete, the pH begins to increase to background groundwater quality levels. The pH at HGWC-18 is anticipated to reach background levels approximately 15 years after the closure of AP-2. Correspondingly, the Co concentration at HGWC-18 continues to be above GWPS over

the duration of the background groundwater replacement period. After approximately 15 years following the closure of AP-2 the concentration of Co at HGWC-18 is predicted to decrease to below the GWPS. The duration to achieve GWPS is largely controlled by the anticipated low groundwater velocity post-closure.

Figure 9 presents time series charts of Co concentration in MW-33, MW-35, and MW-51 for the MNA scenario. Similar to the West Side model, the pH continues to be below 5 s.u for an extended period of time following the closure of AP-2. This trend in pH can be attributed to potentially impacted water being replaced by the background groundwater in the vicinity of MW-35. After background groundwater replacement is complete, the pH begins to increase to background groundwater quality levels. Approximately 8 years post-closure the pH at MW-33 and MW-35 is anticipated to reach background levels. Correspondingly, the Co concentration at MW-33 and MW-35 continues to be above GWPS over the duration of the background water replacement period. Approximately 8 years after the closure of AP-2 the Co concentration at MW-33 and MW-35 is predicted to decrease to below the GWPS. The duration to achieve the GWPS is largely controlled by the anticipated low groundwater velocity post-closure. Note that in the vicinity of MW-51 the solid phase concentrations were not adjusted to better match observed groundwater results (RMSE analysis not performed as indicated earlier) to avoid over-fitting the model to limited available groundwater data from MW-51. As such, MW-51 appears to show an increase in Co concentrations to above GWPS post-closure followed by a decrease. As additional groundwater monitoring data at MW-51 are collected, the solid phase concentrations in the vicinity of MW-51 may be adjusted to better match observed data.

The reactive transport model indicates that the dissolution pyrite and proton exchange caused by the interaction of impacted groundwater with the aquifer matrix can result in localized areas of high acidity that subsequently mobilizes Co from aquifer materials. As closure is completed and the source of impacts to groundwater are removed, the pH is anticipated to increase resulting in a decrease in Co concentrations to below the GWPS. The primary driver for time to achieve the GWPS is post-closure groundwater velocity. Groundwater monitoring data will continue to be evaluated following closure of AP-2, and the CSM will be refined, as necessary.

3.2.4.3 *Injection Model*

Figure 10 presents time series charts of modeled Co concentrations in HGWC-18, MW-33, and MW-35 under the injection scenario. **Figure 11** presents a comparison of modeled Co concentrations between the MNA and injection scenarios at the wells of interest.

In the West area, the injection model shows the concentration of Co at the compliance well HGWC-18 decreases to below the GWPS in less than 5 years. This proof-of-concept model shows that the injection of a buffering agent such as bicarbonate is likely to be a viable groundwater corrective measure in the West Area. The time required to achieve the GWPS is primarily driven by the location of injection wells, and concentration of buffer solution injected into the aquifer. As additional data are collected as part of remedy design and implementation, the number of injection wells, composition and selected concentration of injectate will be revised in the model, as appropriate.

In the South Area, the injection model shows that the concentration of Co at well MW-35 decreases to below the GWPS in less than 2 years of injection. This proof-of-concept model suggests that geochemical injection of a buffering agent is likely to be a viable corrective measure for the South Area. Similar to the West Area, the time required to achieve the GWPS is primarily driven by the location of injection wells, groundwater velocity, and concentration of buffer solution injected into the aquifer. As additional data are collected as part of remedy design and implementation, the number of injection wells, composition and selected concentration of injectate will be revised.

In general, the injection models show that geochemical injection is a viable remedy for accelerated Co cleanup at the Site. Injection of a buffer counteracts the acidity generated by pyrite dissolution and proton exchange. Compared to MNA, injection of sodium bicarbonate significantly accelerates the time to reduce Co concentrations to below GWPS at HGWC-18, MW-33, and MW-35 (**Figure 11**). For both the West and South Areas, the time to achieve cleanup of the Co plume is ultimately dependent on remedy design parameters such as composition and concentration of the buffering agent, and the location of the injection wells. As remedy design progresses, these design parameters will be incorporated into the model, as necessary.

3.2.5 Model Sensitivity Analysis

The dissolution of pyrite, proton exchange, and associated decrease in pH is a critical component of the model. To better assess the effect of initial pyrite and proton exchange surface concentrations on pH decrease, a sensitivity analysis was performed. **Figure 12** presents charts of pH as a function of initial pyrite and proton exchange surface concentrations over a 20-year MNA period. As presented in the figure, even if the pyrite concentration was two log orders lower than the current assumed concentration (i.e., pyrite at 0.001% by volume in the aquifer), the pH of groundwater would consistently remain below 5 s.u., resulting in the mobilization of Co from aquifer materials to groundwater. Conversely, the mass of proton exchange surface available in the aquifer

matrix appears to be a critical parameter that controls pH. As depicted in the figure, a decrease in concentration of 25% in proton exchange species on the surface of the aquifer matrix results in an appreciable change in pH. As such, data collected as part of the remedy design and implementation process will continue to be evaluated and used to refine the CSM and update this model, as necessary.

3.2.6 Model Uncertainty and Limitations

The reactive transport model was developed in accordance with standard industry practices, using the best information available at the time of model development, and widely accepted and publicly available numerical modeling software. However, reactive transport models are necessarily simplified mathematical representations of complex natural systems. Therefore, all models have associated uncertainties in model predictions and limits to their accuracy. Some of the primary limitations and sources of uncertainty in this model are:

- The transport model was developed for post-closure conditions. Post-closure, the flow velocity, and direction are anticipated to be significantly different from current conditions. As such, the transport model could not be calibrated aside from comparing modeled concentrations to measured concentrations of Co under pre-closure conditions.
- Typically, sulfide minerals including pyrite and trace metal sulfides (e.g., CoS) are anticipated to be heterogenous in the subsurface. The distribution of these mineral phases in the model is based on available groundwater and soil characterization data. The distribution of mineral phases is a source of uncertainty and may be refined based on additional data collected as part of the remedy design process.
- CoS is assumed to be the primary source of Co in the subsurface of AP-2. Although the concentration of CoS was defined based on available data, the speciation of Co in solid materials is uncertain. Additional data collected as part of remedy design and implementation may be evaluated to refine the source of Co in the CSM and this model.
- The primary mechanism of localized acidity assumed in this model is pyrite oxidation and proton exchange with surfaces. Although oxidative dissolution of pyrite and proton exchange are consistent with available geochemical data, other mechanisms including biogeochemical reactions may contribute to acidity. As

additional data are collected as part of the remedy design process, the mechanisms for acidity may be refined in the CSM and this model, as appropriate.

- Time frames predicted in this model are based on assumptions developed using available data. As such, refinements to the CSM may affect predicted timeframes to achieve Co concentration below GWPS.
- The model and associated CSM assumes that closure activities do not significantly change the geochemistry of groundwater at the Site. As closure progresses, groundwater monitoring data will be evaluated to assess geochemical changes to groundwater composition.
- The injection regime was assumed to develop a proof-of-concept injection model. The injection model assumes one injection wells in the vicinity of HGWC-18 and one injection well in the vicinity of MW-33/MW-35. In practice, the number of injection wells, location of wells, injectate composition, and injection regime will be evaluated in the design phase and selected to accelerate cleanup goals.

4.0 REACTIVE TRANSPORT MODEL CONCLUSION

4.1 Model Findings

The reactive transport modeling presented here indicates that pyrite oxidation and proton exchange could lead to naturally occurring cobalt mobilization at levels similar to those measured at the Site. The model suggests that MNA alone will likely result in concentrations of Co decreasing to below GWPS in approximately 15 years in the West Area and approximately 8 years in the South Area post-closure. Post-closure, the mechanisms causing localized acidity are anticipated to decrease resulting in a corresponding decrease in Co concentrations. The time to achieve GWPS under MNA is likely governed by the low groundwater velocity post closure, and the time taken for unimpacted background groundwater to replace potentially impacted groundwater in the vicinity of the wells of interest. In areas outside the zones of localized acidity, Co is likely to be attenuated through surface complexation to reactive surfaces such as ferrihydrite.

The reactive transport models indicate that injecting a buffer such as sodium bicarbonate is a viable remedy for reducing Co concentrations in groundwater at AP-2. The models suggest that the system responds favorably to buffer injection and Co concentrations are reduced to below GWPS within 5 years in the West Area, and within 2 years in the South Area. Injection of a buffer reduces the dissolution of Co from sulfide minerals and enhances the effectiveness of natural attenuation processes (e.g., surface complexation to ferrihydrite). The time to achieve cleanup goals is ultimately dependent on the mass of buffer supplied to the system, the source of localized acidity, and groundwater velocity post-closure. As additional data are collected as part of the remedy design and implementation, the source of acidity and optimum buffering agents, concentrations, and number of injection wells will continue to be evaluated.

Overall, this modeling study suggests that localized acidity could be caused by the dissolution of pyrite and proton exchange which could lead to the release of Co from Site soils. While MNA would require approximately 8 to 15 years to achieve GWPS at AP-2, the injection of a buffer such as sodium bicarbonate could reduce the concentration of Co in groundwater to below the GWPS in approximately 2 to 5 years.

4.2 Conclusions

This reactive transport model supports the CSM and suggests that the likely mechanism of Co mobilization to groundwater at AP-2 is the dissolution of naturally occurring sulfide minerals. The dissolution of Co bearing sulfide minerals is enhanced by localized acidity created by the oxidative dissolution of pyrite and proton exchange with surfaces in the

aquifer. The model shows that pyrite, even when present at much lower concentrations than the detection limit of XRD, could result in localized areas of high acidity with pH less than 5 s.u. even after the closure of AP-2. In areas outside of zones of localized acidity, Co is likely attenuated to reactive surfaces such as ferrihydrite.

The reactive transport model shows MNA or the injection of a buffer solution, such as sodium bicarbonate, would result in a decrease in Co concentration to below the GWPS. While MNA would likely require between 8 and 15 years to achieve GWPS in the West and South Areas, respectively, geochemical injections could achieve Co in approximately 5 years in the West Area and in approximately 2 years in the South Area. Ultimately, the time to achieve Co concentrations below GWPS is dependent on the source of localized acidity and the time required for background groundwater to replace potentially impacted groundwater following closure of AP-2. Additional data collected during the remedy design and implementation process will be evaluated to further assess the source of localized acidity at the Site. Treatability studies and pilot studies will be required prior to any injection-based remedy. These studies will provide vital information on the number of injection wells, optimum well locations, injectate composition, and injection rates required to achieve remediation objectives.

5.0 REFERENCES

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TABLES

Table 1
 AP-2 Calculated Post-Closure Flow Velocities
 Plant Hammond AP-2, Floyd County, Georgia

Calculated Groundwater Velocities For West Area					
Modeled Post-Closure Gradient (ft/ft)	Slug Tested Well	Slug Test Derived K (ft/d)	Effective Porosity	Groundwater Velocity (ft/d)	Mean Calculated Groundwater Velocity (ft/d)
0.008	HGWC-18	0.33	0.1	0.03	0.02
			0.15	0.02	
			0.2	0.01	
Calculated Groundwater Velocities For South Area					
Modeled Post-Closure Gradient (ft/ft)	Slug Tested Well	Slug Test Derived K (ft/d)	Effective Porosity	Groundwater Velocity (ft/d)	Mean Calculated Groundwater Velocity (ft/d)
0.0067	HGWC-14	6.59	0.2	0.22	1.64
			0.1	0.44	
			0.03	1.47	
			0.01	4.41	
0.0067	MW-33	1.97	0.2	0.07	0.49
			0.1	0.13	
			0.03	0.44	
0.0067	MW-51	0.23	0.01	1.32	0.06
			0.2	0.01	
			0.1	0.02	
			0.03	0.05	
			0.01	0.15	

Notes:

1. ft/d = feet per day.
2. K = hydraulic conductivity.
3. Modeled post-closure gradients were derived from the last stress period of updated version of the 50 year Site-wide groundwater flow model (Geosyntec, 2019a) where groundwater flow has achieved steady state.

Sources For Slug Test Derived K Values:

- A. HGWC-14 & HGWC-18: *SemiAnnual Remedy Selection & Design Progress Report. Plant Hamond Ash Pond 2. Geosyntec, August 2020.*
- B. MW-33 & MW-51: Geosyntec slug testing field event, October 2021.

Sources/Rationale For Effective Porosity:

C. Effective porosities are literature values from Domenico & Schwartz (1990). Given the heterogeneity of the alluvial subsurface beneath AP-2, a range of effective porosity values were used to calculate mean groundwater velocity. For each well, the various effective porosities selected were based on the lithologies (fine sand, sandy clay, and clay) observed in the screen interval of the well.

Table 2
 AP-2 Calculated Pre-Closure Flow Velocities
 Plant Hammond AP-2, Floyd County, Georgia

Calculated Groundwater Velocities For West Area					
Pre-Closure Gradient (ft/ft)	Slug Tested Well	Slug Test Derived K (ft/d)	Effective Porosity	Groundwater Velocity (ft/d)	Mean Calculated Groundwater Velocity (ft/d)
0.28	HGWC-18	0.33	0.1	0.92	0.67
			0.15	0.62	
			0.2	0.46	
Calculated Groundwater Velocities For South Area					
Pre-Closure Gradient (ft/ft)	Slug Tested Well	Slug Test Derived K (ft/d)	Effective Porosity	Groundwater Velocity (ft/d)	Mean Calculated Groundwater Velocity (ft/d)
0.026	HGWC-14	6.59	0.2	0.86	6.35
			0.1	1.71	
			0.03	5.71	
			0.01	17.13	
0.026	MW-33	1.97	0.2	0.26	1.90
			0.1	0.51	
			0.03	1.71	
0.026	MW-51	0.23	0.01	5.12	0.22
			0.2	0.03	
			0.1	0.06	
			0.03	0.20	
			0.01	0.60	

Notes:

1. ft/d = feet per day.
2. K = hydraulic conductivity.
3. Pre-closure gradients derived from water level data collected in August 2021.

Sources For Slug Test Derived K Values:

- A. HGWC-14 & HGWC-18: *Semiannual Remedy Selection & Design Progress Report. Plant Hamond Ash Pond 2. Geosyntec, August 2020.*
- B. MW-33 & MW-51: Geosyntec slug testing field event, October 2021.

Sources/Rationale For Effective Porosity:

C. Effective porosities are literature values from Domenico & Schwartz (1990). Given the heterogeneity of the alluvial subsurface beneath AP-2, a range of effective porosity values were used to calculate mean groundwater velocity. For each well, the various effective porosities selected were based on the lithologies (fine sand, sandy clay, and clay) observed in the screen interval of the well.

Table 3
 1D Reactive Transport Model - Simulation Duration and Calculations
 Plant Hammond AP-2, Floyd County, Georgia

Time Period (years)	Closure Condition	Groundwater Velocity (ft/day)	Notes
West Area			
0-50	Pre-Closure	0.67	Refer to Table 2
50-54	Closure in Progress	0.67	Assumes no change in velocity during closure
54-100	Post-Closure	0.02	Refer to Table 1
South Area			
0-50	Pre-Closure	1.9	Refer to Table 2; median velocity based on MW-33
50-54	Closure in Progress	1.9	Assumes no change in velocity during closure
54-100	Post-Closure	0.49	Refer to Table 1; median velocity based on MW-33
Background Water Replacement Duration Calculations - Post Closure			
Assumed Distance from Background (ft)	Groundwater Velocity (ft/day)	Time to Background Replacement (days)	Notes
West Area			
100	0.02	5000	Approximately 14 years to background groundwater replacement post closure
South Area			
1000	0.49	2041	Approximately 6 years to background groundwater replacement post closure

Notes:

1. ft/day indicates feet per day.
2. ft indicates feet.

Table 4
 1D Reactive Transport Model - Aquifer Solid Phase Composition
 Plant Hammond AP-2, Floyd County, Georgia

Model Area	Solid Phase	Concentration (mol/kg _{water})	Concentration (mg/kg)	Saturation Index	Rationale
West Area (HGWC-18)	HX (Proton Exchange)	1.50E-01	150	--	Approximately 15 mEq/100 gram prior to closure
	Pyrite	8.33E-03	6.06E+02	0	Pyrite concentration at XRD Detection Limit
	CoS	4.50E-04	2.00E+01	-1.55	Assumed total CoS of approximately 20 mg/Kg prior to closure
	HFO	--	3.90E+04	--	Whole rock analysis (WRA) - 100% of total Fe.
South Area (MW-33/MW-35)	Pyrite	8.33E-03	6.06E+02	0	Pyrite concentration at XRD Detection Limit
	CoS	2.90E-04	1.71E+01	-1.55	Assumed total CoS of approximately 20 mg/Kg prior to closure
	HX	1.50E-01	150	--	Approximately 15 mEq/100 gram prior to closure
	HFO	--	6.23E+04	--	Whole rock analysis (WRA) - 100% of total Fe.

Notes:

1. mol/kg_{water} indicates moles per kilogram of groundwater. mg/kg indicates milligrams per kg; mEq indicates milliequivalents
2. XRD indicates X-Ray Diffraction. WRA indicates Whole Rock Analysis.
3. Pyrite concentration calculated based on XRD detection limit of 0.1% by volume.
4. Hydrous ferric oxide (HFO) concentration based on WRA of samples in the vicinity of wells of interest.
5. Soil characterization data including XRD and WRA are presented in Appendix A of the Draft Remedy Selection Report.

Table 5
 1D Reactive Transport Model - Geochemical Composition of Aqueous Phase
 Plant Hammond AP-2, Floyd County, Georgia

Well	Calcium		Chloride		Sulfur, S (VI)		Cobalt		Magnesium		Manganese		Potassium		Sodium		Oxygen O(0)		pH
	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L	mol/l	mg/L		(s.u.)
HGWC-18	9.93E-03	398	2.59E-03	91.9	1.08E-02	347	2.41E-06	0.142	1.75E-03	42.6	5.74E-05	3.2	2.62E-04	10.2	5.17E-04	11.9	1.60E-05	0.26	4.55
TPZ-02	1.07E-02	430	3.98E-03	141	1.39E-02	444	--	--	3.35E-03	81.3	7.41E-05	4.1	3.33E-04	13.0	1.07E-03	25	1.60E-05	0.26	6.75
HGWA-4	1.48E-04	5.9	6.46E-04	22.9	1.25E-05	0.40	--	--	1.08E-04	2.6	--	--	1.67E-05	0.65	7.83E-05	1.8	1.60E-05	0.26	5.28
HGWC-14	2.17E-03	87.0	1.81E-02	642	7.99E-03	256	5.60E-07	0.0330	2.02E-03	49.1	9.10E-05	5.0	3.22E-04	12.6	4.74E-04	10.9	1.60E-05	0.26	7.4

Notes:

1. mol/L indicates moles per liter, s.u indicates standard units.
2. HGWC-18 composition was used to define solid phases in the vicinity of the well of interest in the West Area model.
3. TPZ-02 composition was used to define the filling solution in the 1D column for the West Area model.
4. HGWC-14 composition was used to define the filling solution in the 1D column for the South Area model.
5. HGWA-4 was used to define the composition of background water in West Area and South Area models.

Table 6
 1D Reactive Transport Model - Geochemical Composition of Injectate
 Plant Hammond AP-2, Floyd County, Georgia

Constituent	Calculated Concentration										
	Bicarbonate (HCO ₃)		Sodium		Calcium		Chloride		Sulfate (SO ₄)		pH
Units	mol/L	mg/L	mol/L	mg/L	mol/L	mg/L	mol/L	mg/L	mol/L	mg/L	s.u.
West Area	9.10E-02	5553	1.00E-01	2299	1.07E-02	429	2.20E-03	78	1.38E-02	1326	7.88
South Area	8.90E-02	5431	1.00E-01	2299	1.46E-02	585	1.81E-02	642	7.90E-03	759	7.70

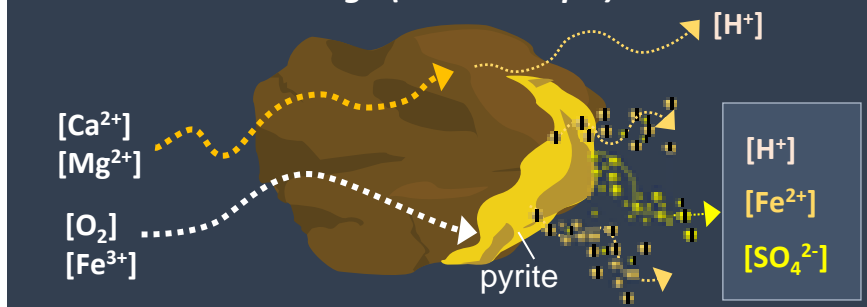
Notes:

1. mol/L indicates moles per liter, s.u. indicates standard units.
2. Equilibrium composition calculated using a batch PHREEQC model.
3. Chloride calculation calculated to achieve charge balance.
4. Concentrations presented based on output of PHREEQC simulation.
5. Only major constituents presented in Table 6.

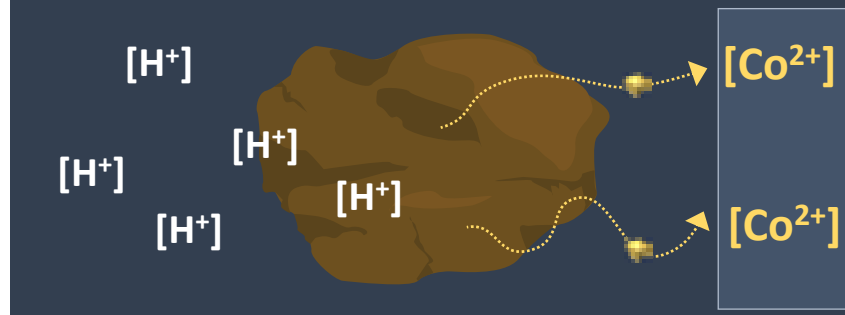
FIGURES

Cobalt Mobilization Mechanisms

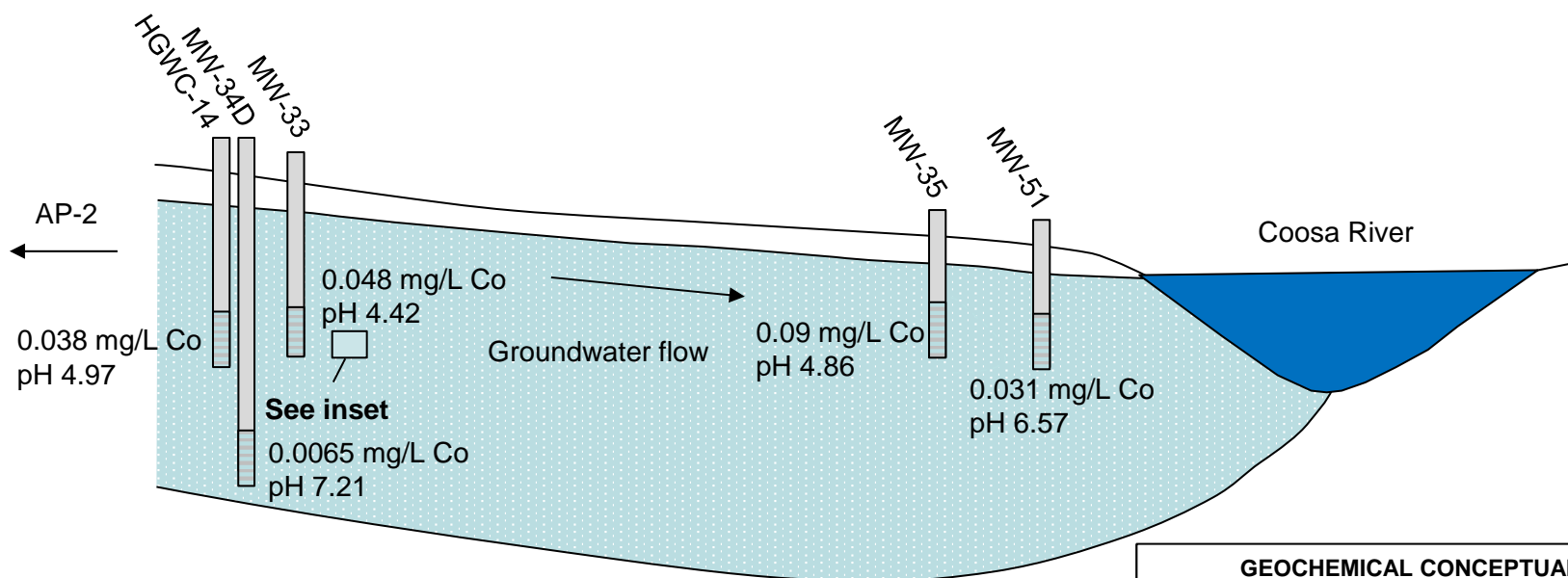
Step 1: Pyrite (FeS_2) dissolution and cation exchange (decreases pH)



Step 2: pH driven dissolution



pH driven desorption not pictured



[Not to Scale]

**GEOCHEMICAL CONCEPTUAL SITE MODEL
ILLUSTRATION – COBALT MOBILIZATION**

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA



**FIGURE
1**

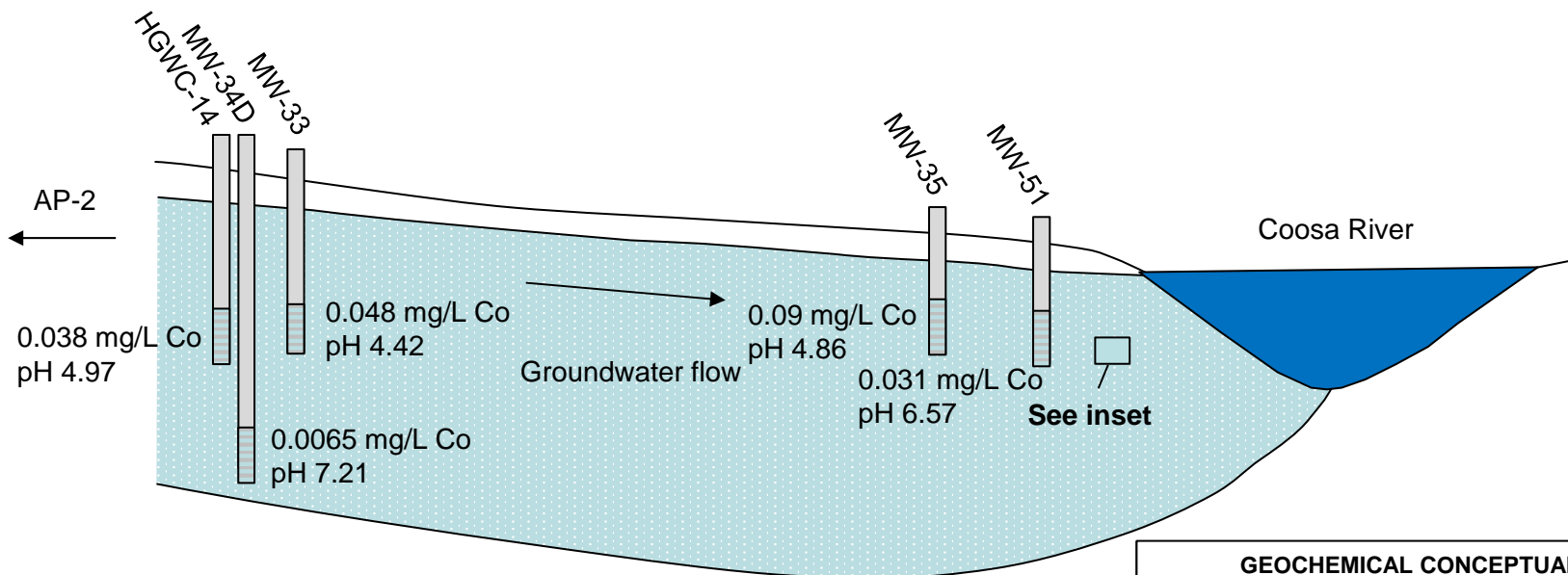
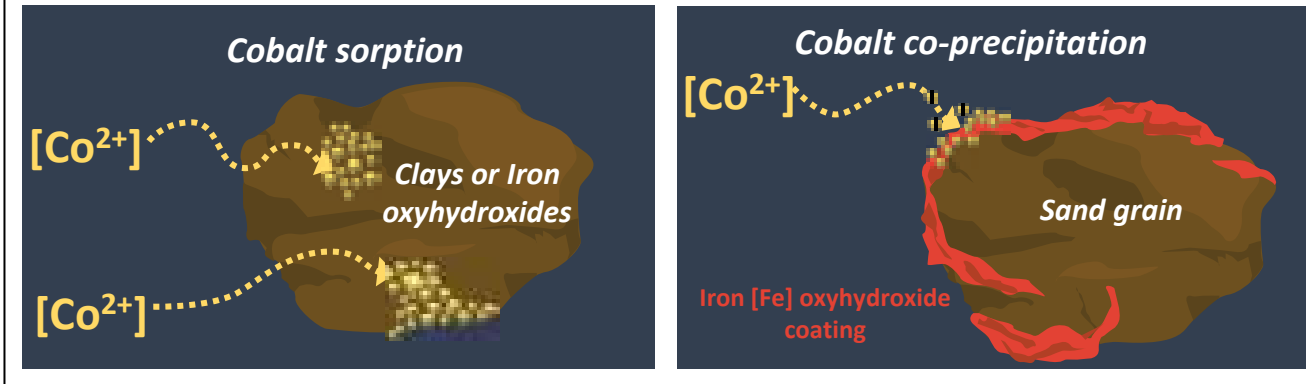
KENNESAW, GA

AUGUST 2022

Notes:

1. Cobalt (Co) concentrations in milligrams per liter (mg/L) and pH values in standard units (s.u.) measured in February 2022.

Cobalt Attenuation Mechanisms



[Not to Scale]

Notes:
 1. Cobalt (Co) concentrations in milligrams per liter (mg/L) and pH values in standard units (s.u.) measured in February 2022.

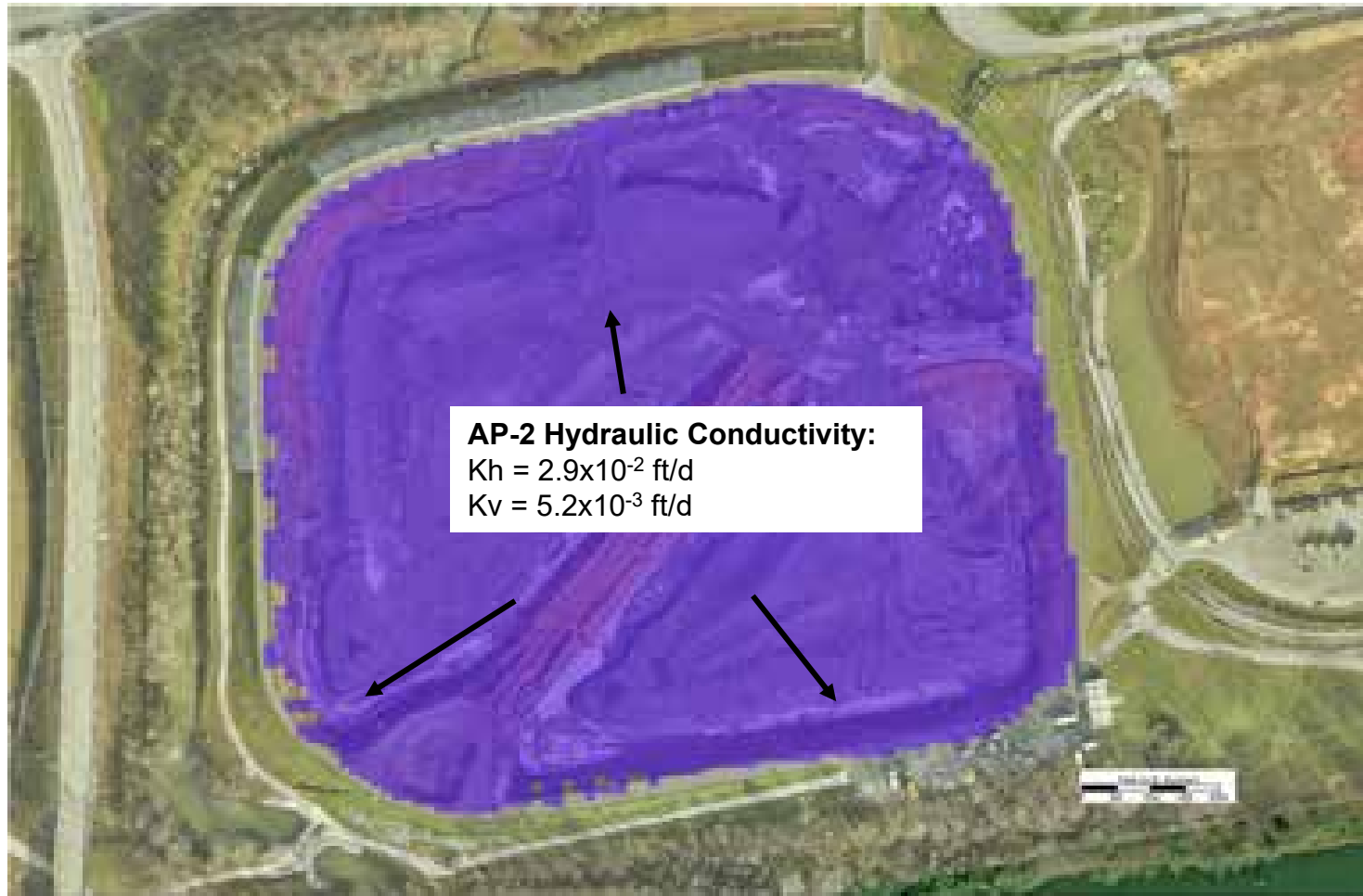
**GEOCHEMICAL CONCEPTUAL SITE MODEL
 ILLUSTRATION – COBALT ATTENUATION**
 GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA



**FIGURE
2**

KENNESAW, GA

AUGUST 2022



Notes:

1. Kh = Horizontal Hydraulic Conductivity
2. Kv = Vertical Hydraulic Conductivity
3. ft/d = feet per day.
4. Hydraulic conductivity values above represent assumed values for clean earthen fill that will be placed inside AP-2, after Coal Combustion Residuals (CCR) have been removed from AP-2.

**AP-2 POST CLOSURE SIMULATED
HYDRAULIC CONDUCTIVITY**

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:

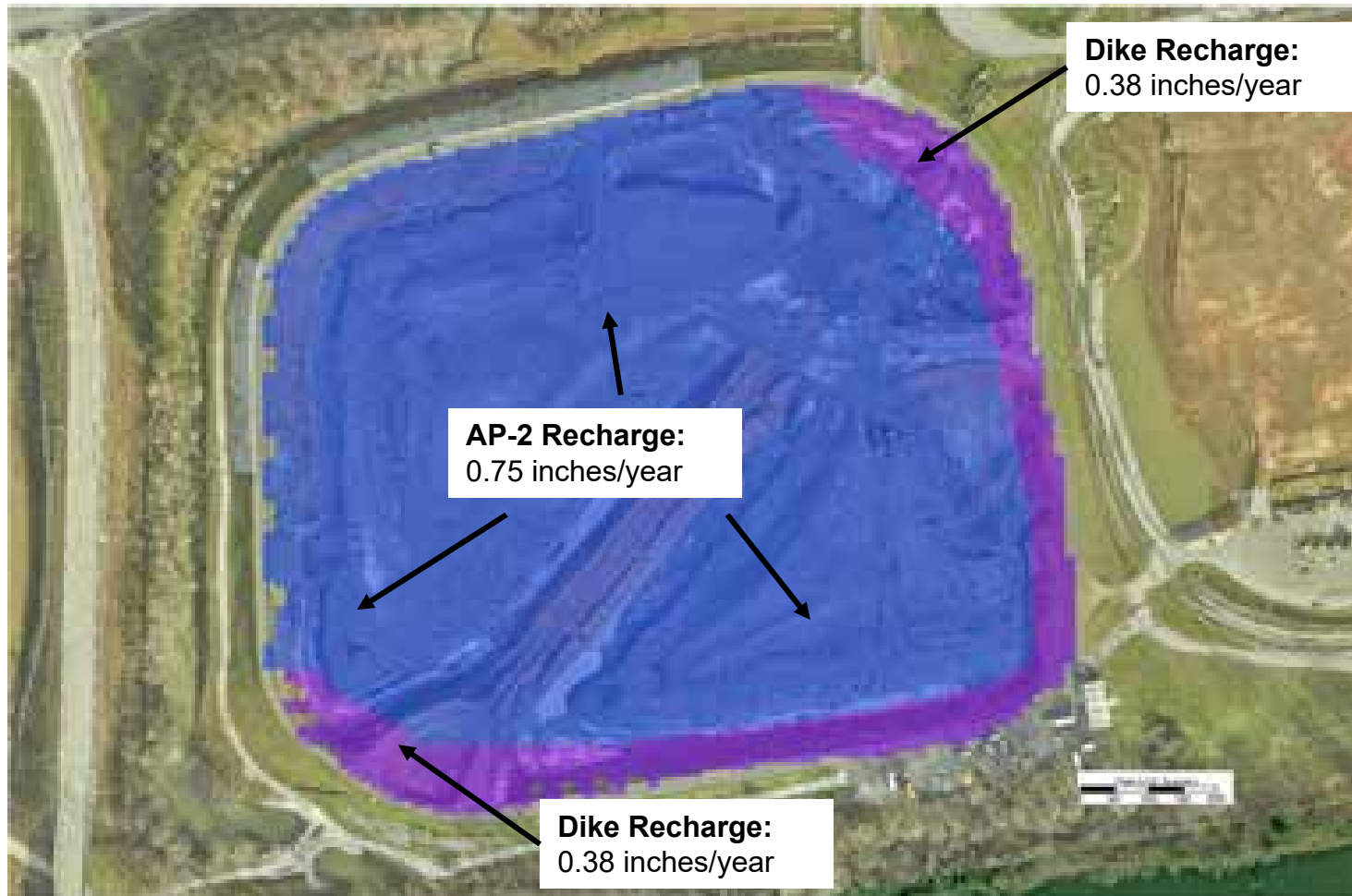


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Figure

3a



AP-2 POST CLOSURE SIMULATED RECHARGE RATES

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



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Figure

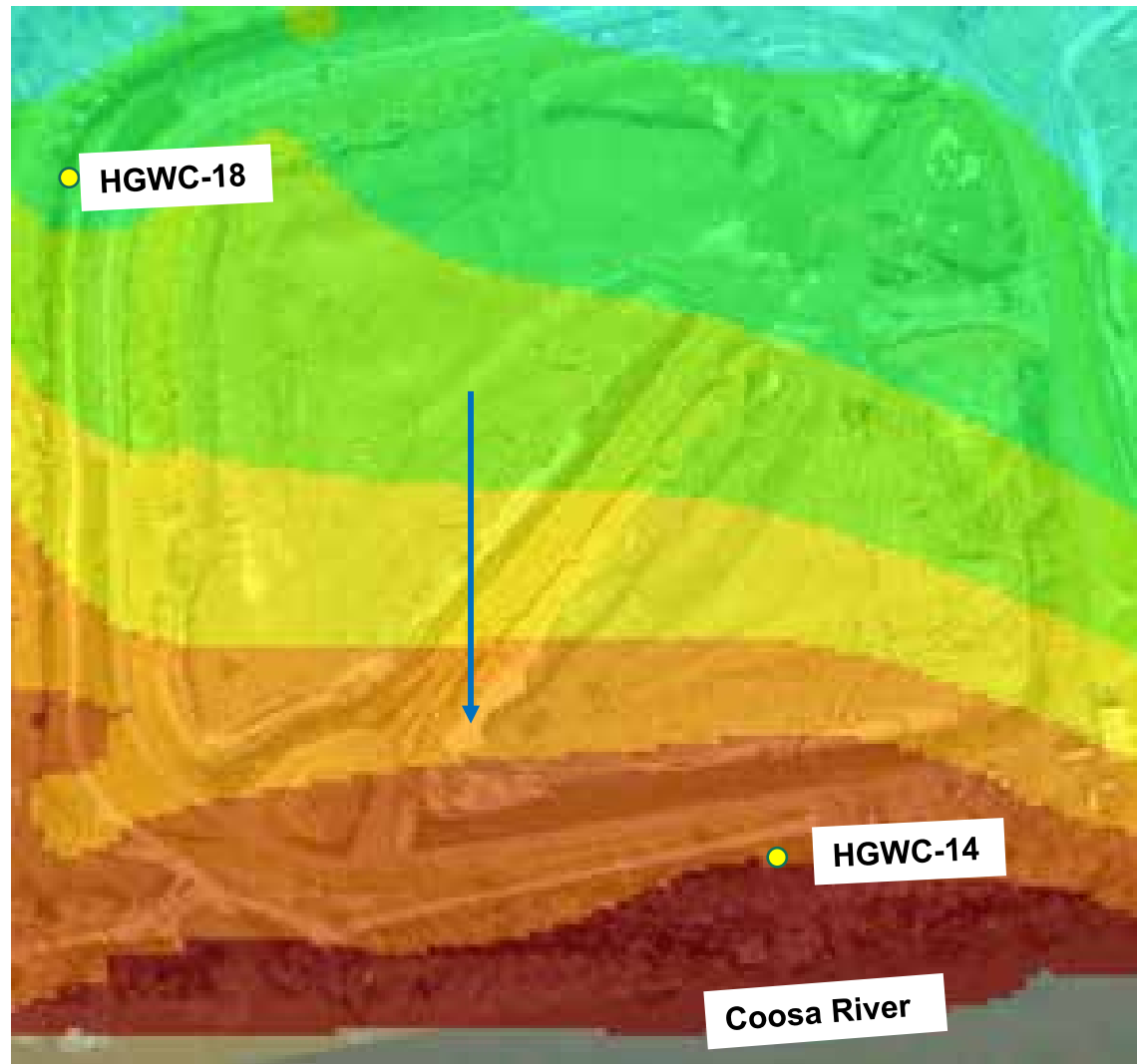
3b

Legend

- Monitoring Well
- Modeled Groundwater Flow Direction

Simulated Post-Closure
Groundwater Elevation (ft)

- 565.4 - 566.0
- 566.1 - 568.0
- 568.1 - 570.0
- 570.1 - 572.0
- 572.1 - 574.0
- 574.1 - 576.0
- 576.1 - 578.0
- 578.1 - 580.0



Notes:
1. Groundwater elevation contour interval is 2ft.

**AP-2 POST CLOSURE
SIMULATED GROUNDWATER ELEVATIONS**

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:



KENNESAW, GA

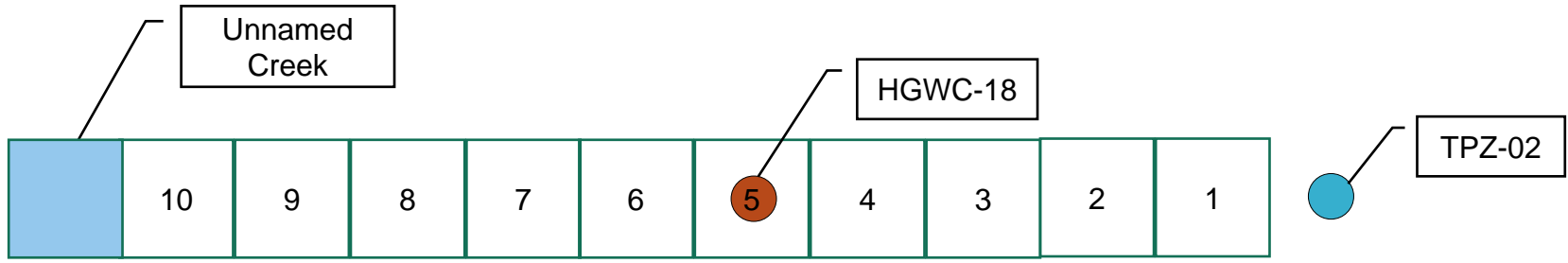
Prepared By:



AUGUST 2022

Figure

4



Cells	Solid Phase	Concentration
1-5	Pyrite	6.06E+02 mg/Kg
1-5	Cobalt Sulfide	30 mg/Kg
3-5	Proton Exchange Surface	20 mEq/100 g
7	Hydrous Ferric Oxide	3.9 E+04 mg/Kg

- Notes:
1. mg/Kg indicates milligrams per kilogram.
 2. Cobalt Sulfide (CoS) is the assumed Co phase in the aquifer. Initial CoS concentration and equilibrium constants conservatively selected to achieve observed pre-closure Co concentrations at HGWC-18.
 3. Initial pyrite concentration based on detection limit of XRD (0.1% by volume).
 4. Other solid phases including quartz, and kaolinite not considered in this model.
 5. Proton exchange surface concentration selected based on cation exchange capacity data. Equilibrium constants modified to match observed pre-closure pH at HGWC-18.
 6. Hydrous Ferric Oxide (HFO) concentration selected based on total Fe observed in Whole Rock Analysis at DPT-08.

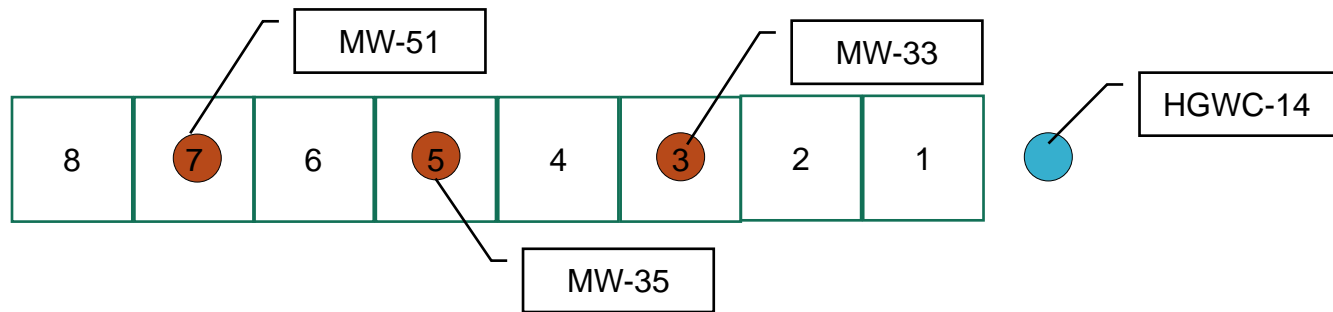
WEST AREA – 1D MODEL SETUP SCHEMATIC

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For: Prepared By:

KENNESAW, GA AUGUST 2022

FIGURE
5



Cells	Solid Phase	Concentration
1-5	Pyrite	6.06E+02 mg/Kg
1-4	Cobalt Sulfide	15 mg/Kg
1-5	Proton Exchange Surface	20 mEq/100 g
7-8	Hydrous Ferric Oxide	6.23 E+04 mg/Kg

Notes:

1. mg/Kg indicates milligrams per kilogram.
2. Cobalt Sulfide (CoS) is the assumed Co phase in the aquifer. Initial CoS concentration and equilibrium constants conservatively selected to achieve observed pre-closure Co concentrations at MW-33 and MW-35.
3. Initial pyrite concentration based on detection limit of XRD (0.1% by volume).
4. Other solid phases including quartz, and kaolinite not considered in this model.
5. Proton exchange surface concentration selected based on cation exchange capacity data. Equilibrium constants modified to match observed pre-closure pH at MW-33 and MW-35.
6. Hydrous Ferric Oxide (HFO) concentration selected based on total Fe observed in Whole Rock Analysis at DPT-11.

SOUTH AREA – 1D MODEL SETUP SCHEMATIC

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:



Prepared By:



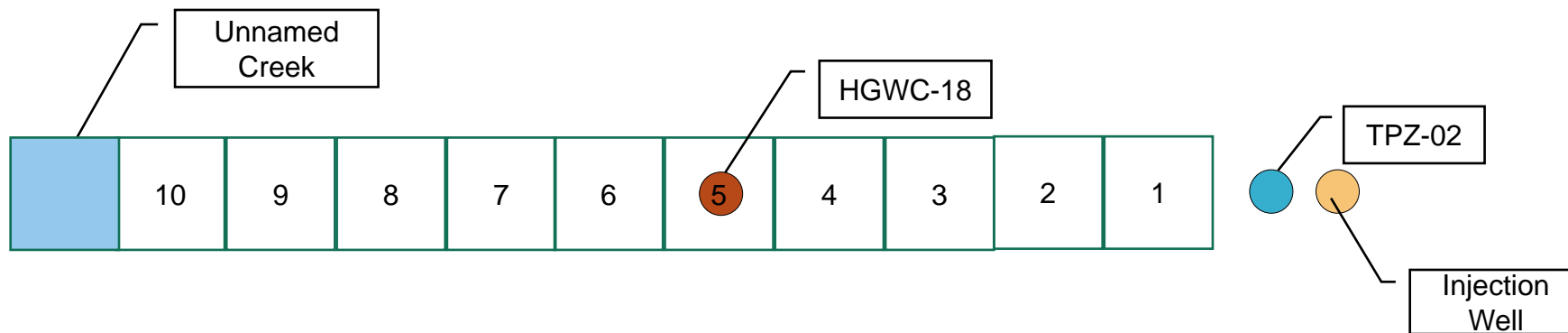
KENNESAW, GA

AUGUST 2022

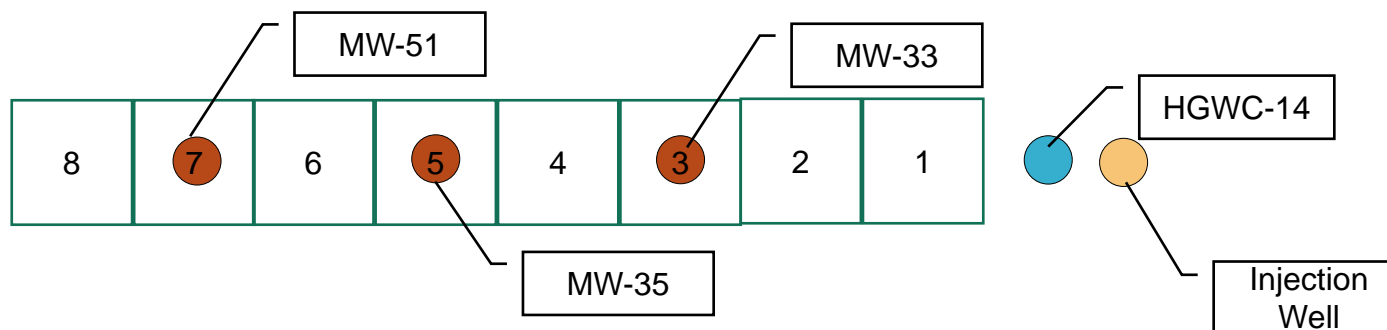
FIGURE

6

West Area



South Area



Notes:

1. Proof of concept injection model considers placement of a single injection well upgradient of wells of interest.
2. Actual number of wells and flow rates to be evaluated as part of remedy design and implementation.

1D MODEL INJECTION SETUP SCHEMATIC

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



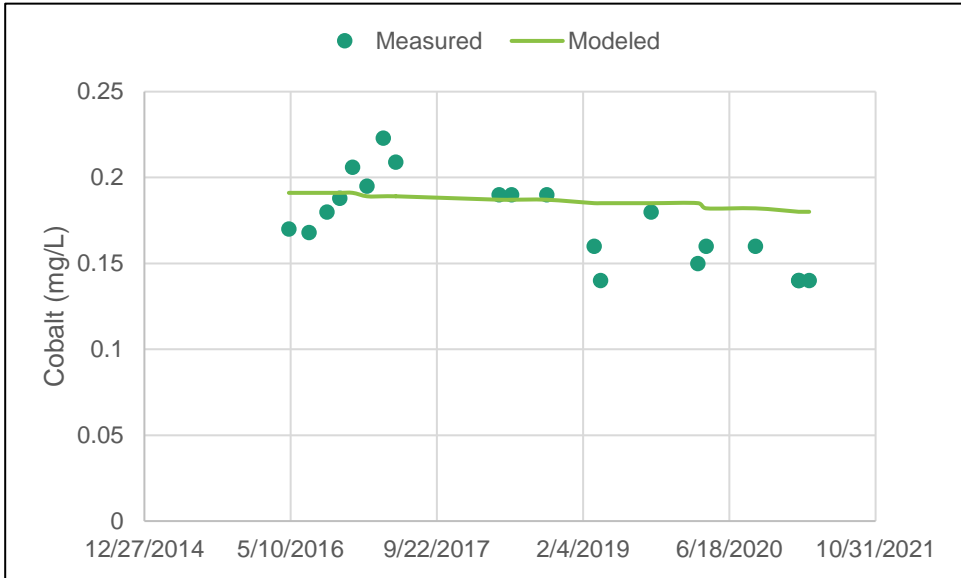
KENNESAW, GA

AUGUST 2022

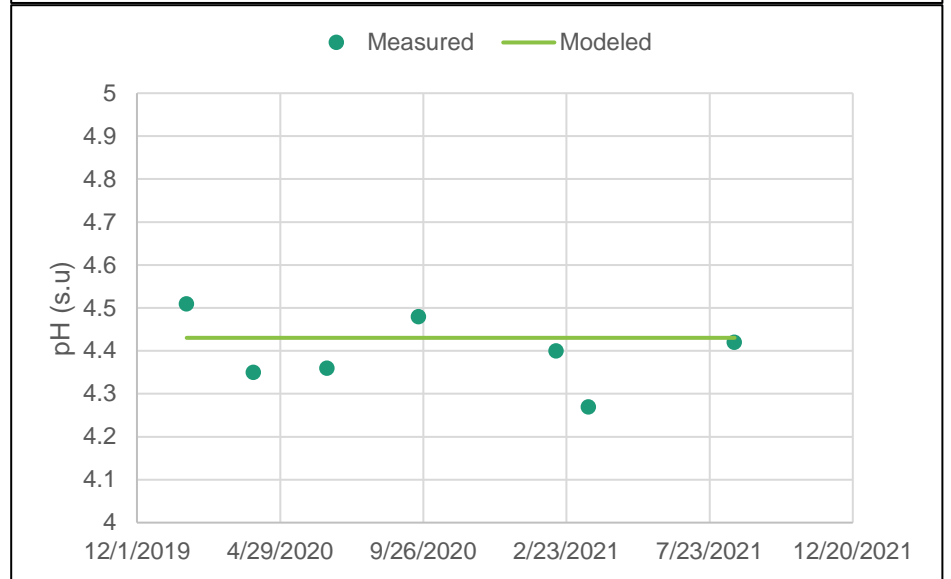
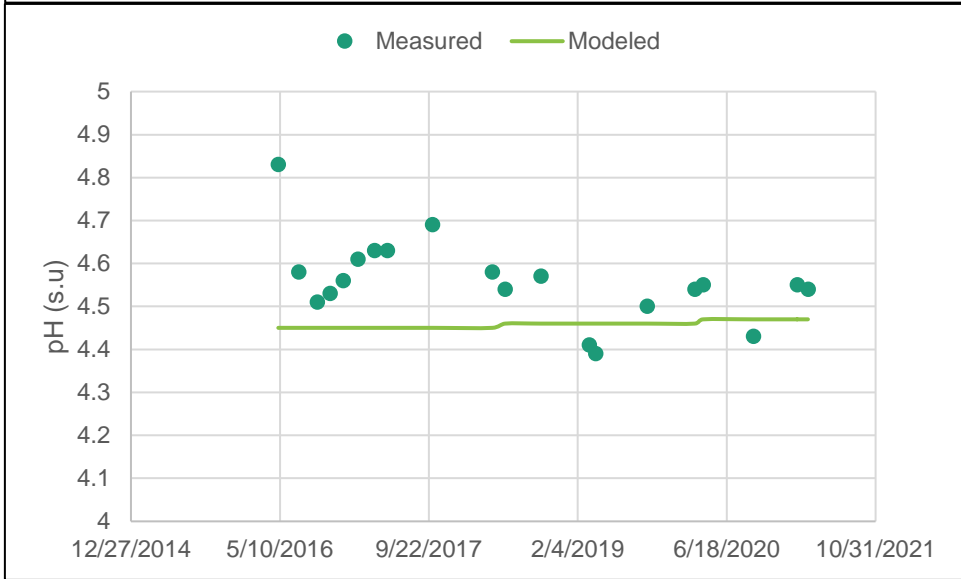
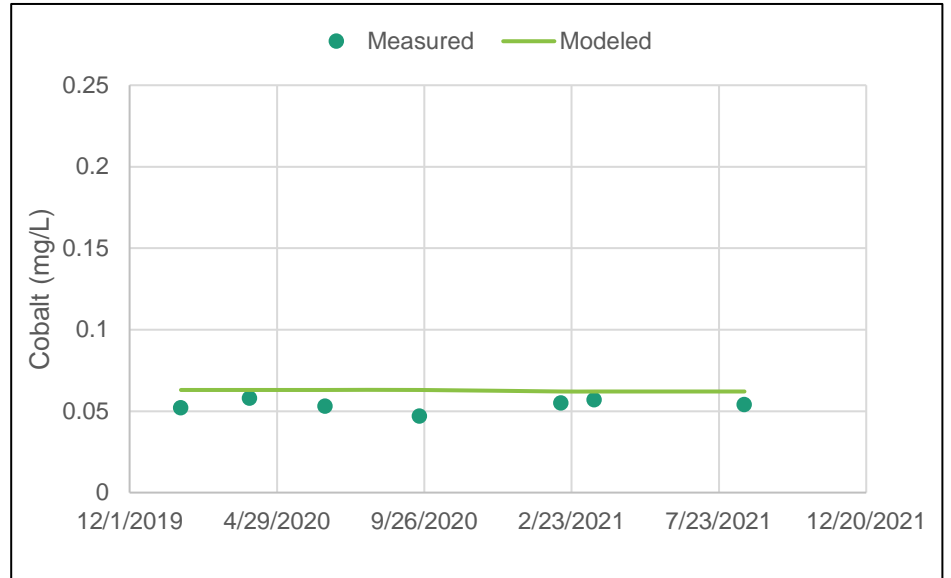
FIGURE

7

West Area – HGWC 18



South Area – MW-33



Notes:

1. GWPS indicates groundwater protection standard. Cobalt GWPS at AP-2 = 0.038 mg/L.
2. mg/L indicated milligrams per liter.
3. s.u. indicate standard units.

PREDICTED PRE-CLOSURE CONCENTRATION OF COBALT AND pH VS. TIME

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



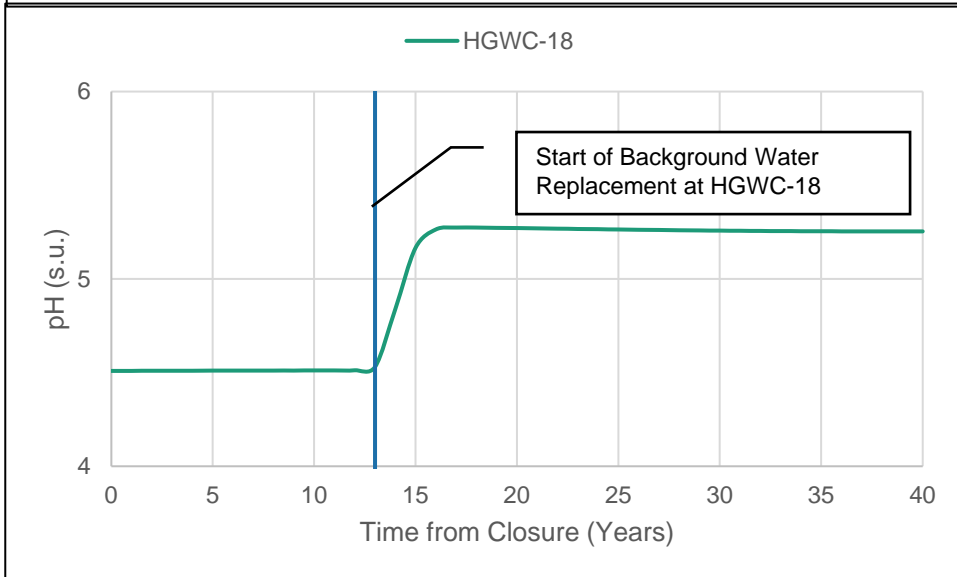
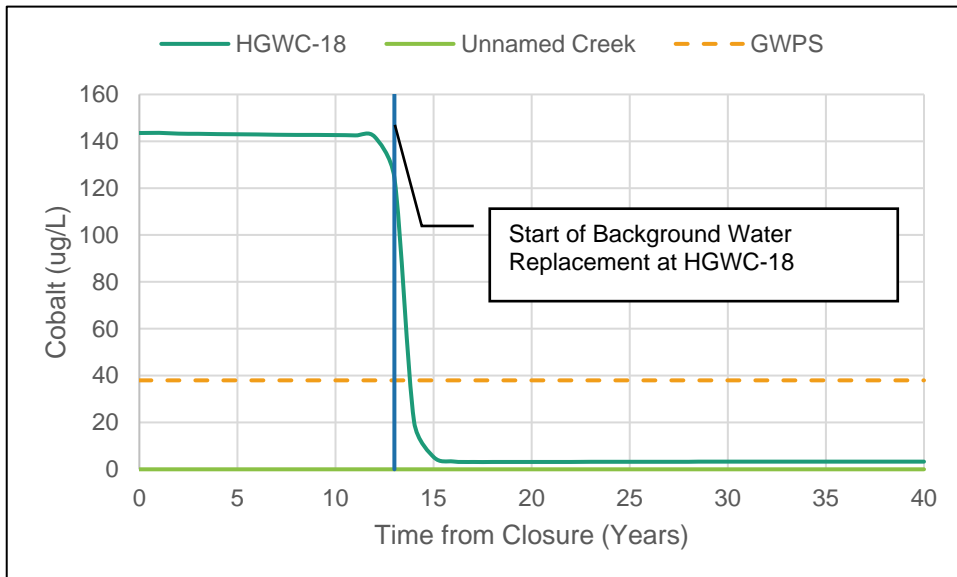
KENNESAW, GA

AUGUST 2022

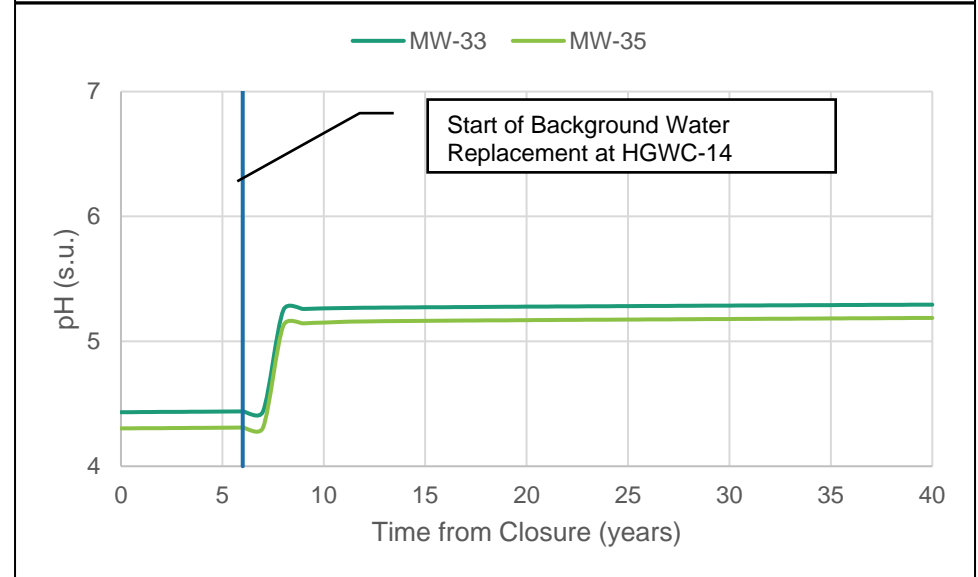
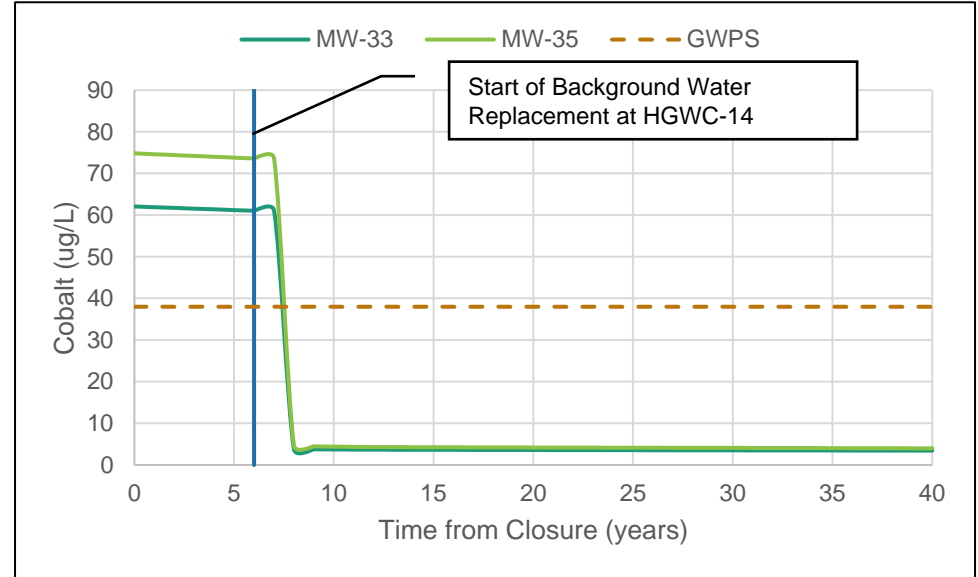
FIGURE

8

West Area



South Area



Notes:

1. GWPS indicates groundwater protection standard. Cobalt GWPS at AP-2 = 38 ug/L.
2. ug/L indicated micrograms per liter.
3. s.u. indicate standard units.
4. Time 0 indicates completion of closure.
5. In the South Area model, concentration of Co at MW-51 is marginally over estimated likely due to the conservative assumption on CoS concentration.

PREDICTED CONCENTRATION OF COBALT AND pH VS. TIME – MONITORED NATURAL ATTENUATION

GEORGIA POWER COMPANY
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



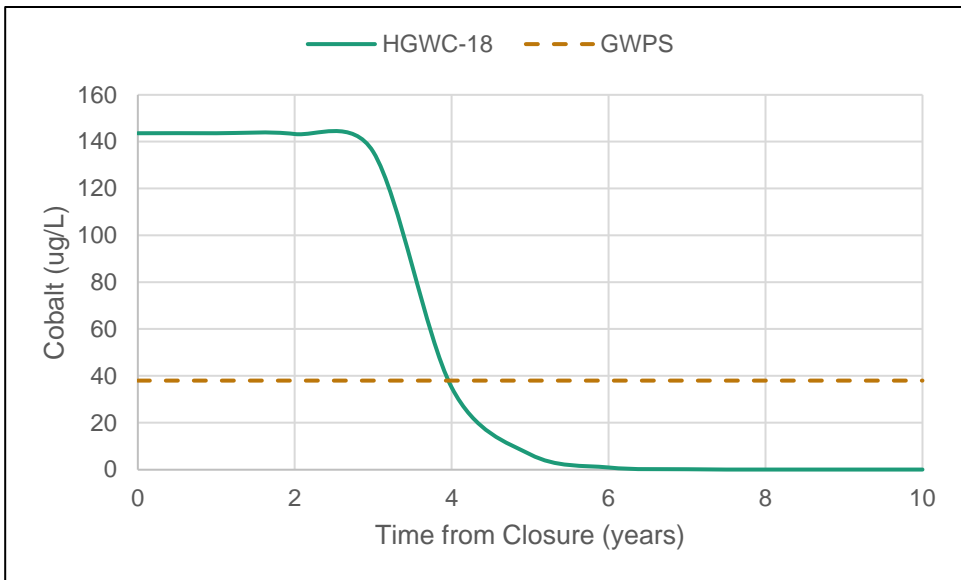
FIGURE

9

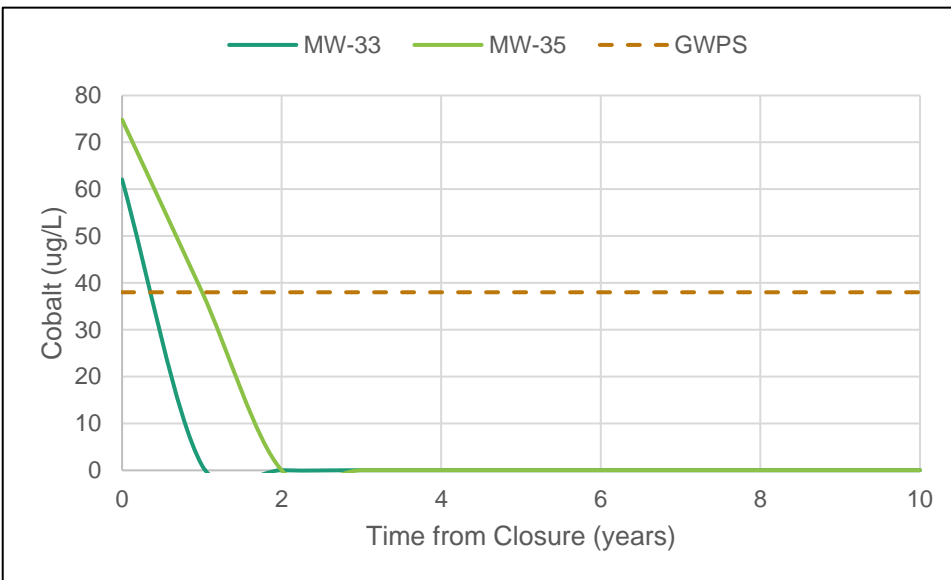
KENNESAW, GA

AUGUST 2022

West Area



South Area



Notes:

1. GWPS indicates groundwater protection standard. Cobalt GWPS at AP-2 = 0.038 mg/L.
2. ug/L indicates micrograms per liter.
3. Model assumes injection starts at time 0 (i.e., as soon as closure is complete). Injection is continuous to amend pH of the water.

PREDICTED CONCENTRATION OF COBALT VS. TIME – GEOCHEMICAL INJECTION

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



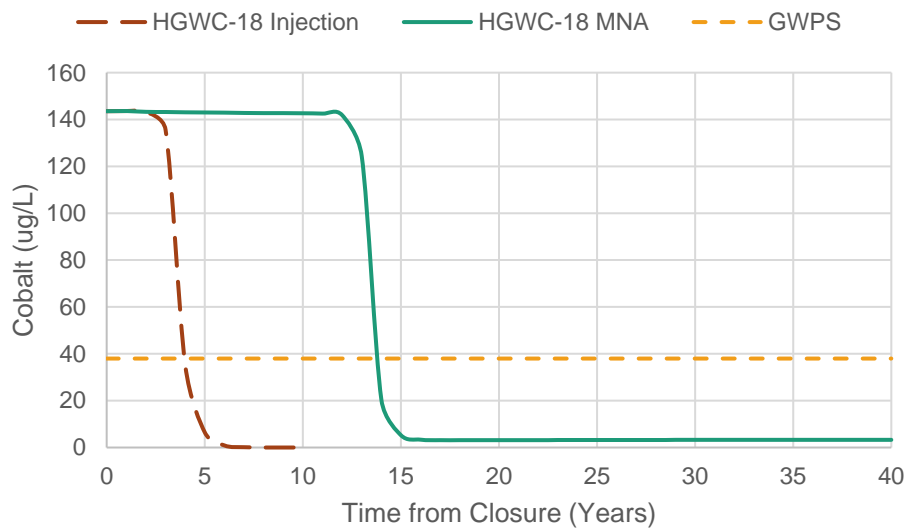
FIGURE

10

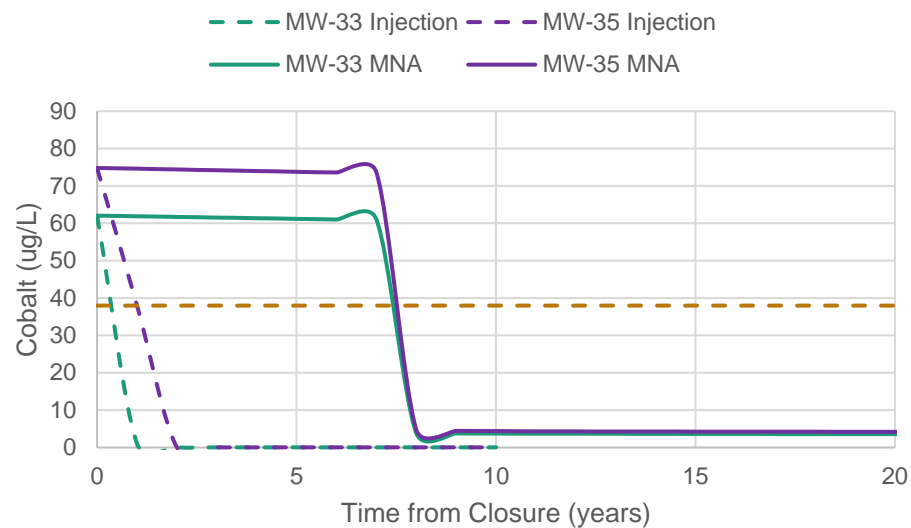
KENNESAW, GA

AUGUST 2022

West Area



South Area



Notes:

1. GWPS indicates groundwater protection standard. Cobalt GWPS at AP-2 = 0.038 mg/L.
2. ug/L indicated micrograms per liter.
3. Injection is assumed continuous to amend pH of the water.

COMPARISON OF PREDICTED COBALT CONCENTRATIONS – MONITORED NATURAL ATTENUATION AND GEOCHEMICAL INJECTION

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



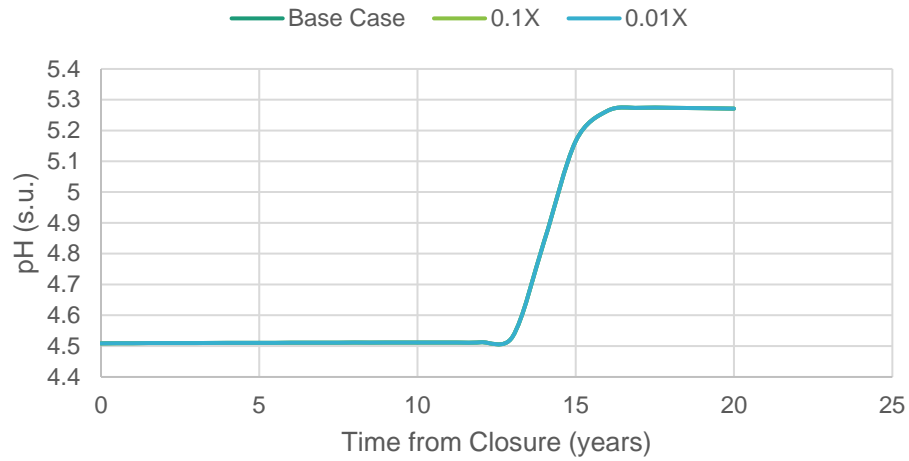
KENNESAW, GA

AUGUST 2022

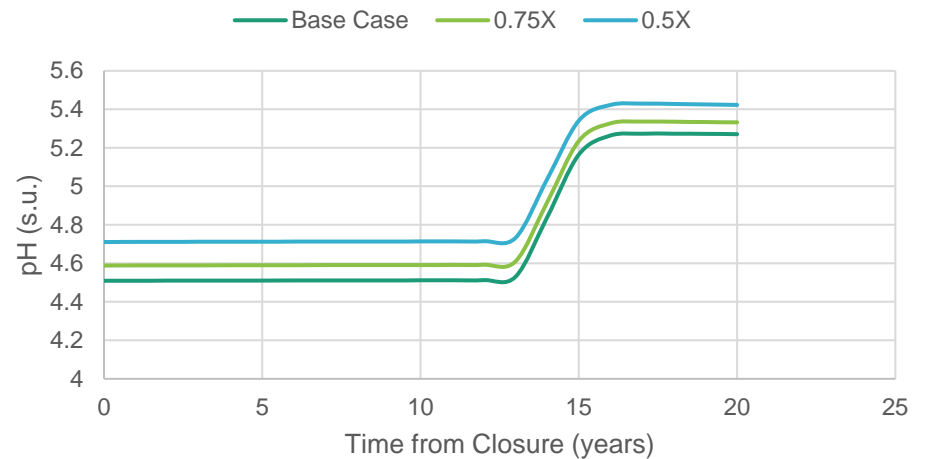
FIGURE

11

Sensitivity to Pyrite - HGWC-18



Sensitivity to Proton Exchange - HGWC-18



Notes:

1. mol/L indicates moles per liter.
2. The legend indicates the range of pyrite concentrations (in mol/L) modeled for sensitivity analysis. 8.33E-02 mol/L the base case scenario (0.1% by volume of pyrite in the aquifer matrix). 0.1x and 0.01X indicate multiplier to pyrite initial concentrations. Model appears to have low sensitivity to pyrite in the range of concentrations tested.
3. s.u. indicates standard units.
4. Proton exchange base case concentration selected to achieve 20 meq/100 g of cation exchange capacity. 0.75X and 0.5X indicate multipliers to initial proton exchange surface concentration.

SENSITIVITY OF GROUNDWATER pH TO INITIAL PYRITE AND PROTON EXCHANGE SURFACE CONCENTRATIONS

GEORGIA POWER COMPANY
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For:

Prepared By:



KENNESAW, GA

AUGUST 2022

FIGURE

12

APPENDIX A

PHREEQC Model Input Files

West Area MNA

DATABASE C:\Program Files (x86)\USGS\Phreeqc Interactive 3.4.0-12927\database\minteq.v4.dat

SOLUTION 0 TPZ-02 # Filling solution under current conditions

temp 16.4
pH 6.75
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 429
Cl 109 charge
Co 0.009
Fe 55
K 13
Mg 80
Mn 4
Na 24.6
O(0) 0.27
S(6) 1330
-water 1 # kg

SOLUTION 1-10 TPZ-02 # Filling solutions under current conditions

temp 16.4
pH 6.75
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 429
Cl 109 charge
Co 0.0091
Fe 55
K 13
Mg 80
Mn 4
Na 24.6
S(6) 1330
O(0) 0.27
-water 1 # kg

EXCHANGE_MASTER_SPECIES

X X-

EXCHANGE_SPECIES

X- = X-

log_k 0

Ca+2 + 2X- = CaX2

log_k 0.66 #literature CAJ Apello 1994

Na+ + X- = NaX

log_k 0 #literature CAJ Apello 1994

K+ + X- = KX
log_k 1.1 #literature CAJ Apello 1994

H+ + X- = HX
log_k 3.95 #calibrated

END

EXCHANGE 3-5

HX 0.2 #calibrated to post-simulation value of approx 15-20 mEq per 100 g SiREM Value 10-20 mEq per 100g
-pitzer_exchange_gammas true

EQUILIBRIUM_PHASES 1

CoS(beta) -2.55 0.002 #Calibrated to post-simulation value of approx 30 mg/Kg
pyrite 0 0.008 #calibrated for pH control
Goethite -4 1 precipitate_only #calibrated for iron and pH control

EQUILIBRIUM_PHASES 2-5

CoS(beta) -2.55 0.002 #Calibrated to post-simulation value of approx 30 mg/Kg
pyrite 0 0.008 #calibrated for pH control

SURFACE 7

Hfo_sOH 0.93 600 39
Hfo_wOH 0.02

TRANSPORT

-cells 5
-shifts 1091
-time_step 1560422 # seconds
-boundary_conditions constant flux
-lengths 5*3.66
-dispersivities 5*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2-5
-punch_cells 2-5
-punch_frequency 20
-warnings false

SELECTED_OUTPUT

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_18CLPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co
-active true
-user_punch true

USER_PUNCH 1

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

```
10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end
END
```

TRANSPORT

```
-cells      10
-shifts     8
-time_step  54532638 # seconds
-boundary_conditions  constant flux
-lengths    10*3.66
-dispersivities  10*0.1
-correct_disp  true
-diffusion_coefficient 1e-09
-thermal_diffusion  2 1e-09
-print_cells  2-10
-punch_cells  2-10
-punch_frequency  1
-warnings     false
```

SELECTED_OUTPUT

```
-file      C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_18BGPeriod.sel
-high_precision  true
-distance      true
-time         true
-step        true
-pH         true
-totals      Ca S(6) Na Cl Co
-active      true
-user_punch   true
```

USER_PUNCH 1

```
-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start
```

```
10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end
```

END

SOLUTION 0 HGWA-4 # Filling solution under bg conditions

```
temp  16.4
pH    5.26
pe    1.23
redox  pe
units  mg/kgw
density  1
C(4)  108.75 as Ca0.5(CO3)0.5
Ca    5.4
Cl    2.4 charge
Co    0.0007
Fe    1
K     1
```

Mg 1
Mn 4
Na 2
O(0) 2 #assumed
S(6) 1
-water 1 # kg

TRANSPORT

-cells 10
-shifts 31
-time_step 54532638# seconds
-lengths 10*3.66
-dispersivities 10*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2-10
-punch_cells 2-10
-punch_frequency 1
-warnings false

SELECTED_OUTPUT 2

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_18MNAPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co
-active true
-user_punch true

USER_PUNCH 2

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000, TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end

END

South Area MNA Model

DATABASE C:\Program Files (x86)\USGS\Phreeqc Interactive 3.4.0-12927\database\minteq.v4.dat

SOLUTION 0 HGWC-14 # Filling solution under current conditions

temp 16.4
pH 4.7
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 583
Cl 141 charge
Co 0.033
Fe 0.9
K 12.6
Mg 49.2
Mn 5
Na 10.9
O(0) 0.27
S(6) 768
-water 1 # kg

SOLUTION 1-8 HGWC-14 # Filling solutions under current conditions

temp 16.4
pH 4.7
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 583
Cl 141 charge
Co 0.033
Fe 0.9
K 12.6
Mg 49.2
Mn 5
Na 10.9
O(0) 0.27
S(6) 768
-water 1 # kg

EXCHANGE_MASTER_SPECIES

X X-

EXCHANGE_SPECIES

X- = X-

log_k 0

Ca+2 + 2X- = CaX2

log_k 0.66 #literature CAJ Apello 1994

Na+ + X- = NaX

log_k 0 #literature CAJ Apello 1994

K+ + X- = KX

log_k 1.1 #literature CAJ Apello 1994

H+ + X- = HX

log_k 3.95 #calibrated for pH control

END

EXCHANGE 1-5

HX 0.2 #calibrated to post-simulation value of approx 10 mEq per 100 g SiREM Value 10-20 mEq per 100g

-pitzer_exchange_gammas true

EQUILIBRIUM_PHASES 1-4

CoS(beta) -2.55 0.001 #Calibrated to post-simulation value of approx 30 mg/Kg

pyrite 0 0.008 #calibrated to post-simulation value of approx 12000 mg/Kg

EQUILIBRIUM_PHASES 5

pyrite 0 0.008

SURFACE 7-8

Hfo_sOH 2.225 600 62.3

Hfo_wOH 0.055

TRANSPORT

-cells 8

-shifts 1441

-time_step 1181541 # seconds

-boundary_conditions constant flux

-lengths 8*7.924

-dispersivities 8*0.1

-correct_disp true

-diffusion_coefficient 1e-09

-thermal_diffusion 2 1e-09

-print_cells 2 3 5 8

-punch_cells 2 3 5 8

-punch_frequency 27

-warnings false

SELECTED_OUTPUT 1

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final Report Model - 07012022\Transport_Cation_14CLPeriod.sel

-high_precision true

-distance true

-time true

-step true

-pH true

-totals Ca S(6) Na Cl Co Fe

-active true

-user_punch true

USER_PUNCH 1

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000

-end

END

TRANSPORT #rechargeperiod

-cells 8
-shifts 42
-time_step 4581484 # seconds
-boundary_conditions constant flux
-lengths 8*7.924
-dispersivities 8*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2 3 5 8
-punch_cells 2 3 5 8
-punch_frequency 7
-warnings false

SELECTED_OUTPUT 1

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport
Model\Final Report Model - 07012022\Transport_Cation_14BGPeriod.sel

-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co Fe
-active true
-user_punch true

USER_PUNCH 1

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000

-end

END

SOLUTION 0 HGWA-4 # Filling solution under bg conditions

temp 16.4
pH 5.26
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 5.4
Cl 2.4 charge
Co 0.0007
Fe 1

K 1
Mg 1
Mn 4
Na 2
O(0) 2 #assumed
S(6) 1
-water 1 # kg

TRANSPORT

-cells 8
-shifts 275
-time_step 4581454# seconds
-lengths 8*3.66
-dispersivities 8*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2 3 5 8
-punch_cells 2 3 5 8
-punch_frequency 7
-warnings false

SELECTED_OUTPUT 2

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_14MNAPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co
-active true
-user_punch true

USER_PUNCH 2

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000

-end

END

West Area Injection Model

DATABASE C:\Program Files (x86)\USGS\Phreeqc Interactive 3.4.0-12927\database\minteq.v4.dat

SOLUTION 0 TPZ-02 # Filling solution under current conditions

temp 16.4
pH 6.75
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 429
Cl 109 charge
Co 0.009
Fe 55
K 13
Mg 80
Mn 4
Na 24.6
O(0) 0.27
S(6) 1330
-water 1 # kg

SOLUTION 1-10 TPZ-02 # Filling solutions under current conditions

temp 16.4
pH 6.75
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 429
Cl 109 charge
Co 0.0091
Fe 55
K 13
Mg 80
Mn 4
Na 24.6
S(6) 1330
O(0) 0.27
-water 1 # kg

EXCHANGE_MASTER_SPECIES

X X-

EXCHANGE_SPECIES

X- = X-

log_k 0

Ca+2 + 2X- = CaX2

log_k 0.66 #literature CAJ Apello 1994

Na+ + X- = NaX

log_k 0 #literature CAJ Apello 1994

K+ + X- = KX
log_k 1.1 #literature CAJ Apello 1994

H+ + X- = HX
log_k 3.95 #calibrated

END

EXCHANGE 3-5

HX 0.2 #calibrated to post-simulation value of approx 15-20 mEq per 100 g SiREM Value 10-20 mEq per 100g
-pitzer_exchange_gammas true

EQUILIBRIUM_PHASES 1

CoS(beta) -2.55 0.002 #Calibrated to post-simulation value of approx 30 mg/Kg
pyrite 0 0.008 #calibrated for pH control
Goethite -4 1 precipitate_only #calibrated for iron and pH control

EQUILIBRIUM_PHASES 2-5

CoS(beta) -2.55 0.002 #Calibrated to post-simulation value of approx 30 mg/Kg
pyrite 0 0.008 #calibrated for pH control

SURFACE 7

Hfo_sOH 0.93 600 39
Hfo_wOH 0.02

TRANSPORT

-cells 5
-shifts 1091
-time_step 1560422 # seconds
-boundary_conditions constant flux
-lengths 5*3.66
-dispersivities 5*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2-5
-punch_cells 2-5
-punch_frequency 20
-warnings false

SELECTED_OUTPUT

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_18BicCLPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co
-active true
-user_punch true

USER_PUNCH 1

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)

```
-start
10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end
END
```

SOLUTION 0 TPZ-02 # Filling solution under bg conditions

```
temp 16.4
pH 6.75
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 429
Cl 109 charge
Co 0.009
Fe 55
K 13
Mg 80
Mn 4
Na 24.6
O(0) 0.27
S(6) 1330
-water 1 # kg
```

REACTION

```
NaHCO3 1
0.1 moles
```

TRANSPORT

```
-cells 10
-shifts 31
-time_step 54532638# seconds
-lengths 10*3.66
-dispersivities 10*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2-10
-punch_cells 2-10
-punch_frequency 1
-warnings false
```

SELECTED_OUTPUT 2

```
-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_18BiCPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co
-active true
-user_punch true
```

USER_PUNCH 2

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)

-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000

-end

END

South Area Injection Model

DATABASE C:\Program Files (x86)\USGS\Phreeqc Interactive 3.4.0-12927\database\minteq.v4.dat

SOLUTION 0 HGWC-14 # Filling solution under current conditions

temp 16.4
pH 4.7
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 583
Cl 141 charge
Co 0.033
Fe 0.9
K 12.6
Mg 49.2
Mn 5
Na 10.9
O(0) 0.27
S(6) 768
-water 1 # kg

SOLUTION 1-8 HGWC-14 # Filling solutions under current conditions

temp 16.4
pH 4.7
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 583
Cl 141 charge
Co 0.033
Fe 0.9
K 12.6
Mg 49.2
Mn 5
Na 10.9
O(0) 0.27
S(6) 768
-water 1 # kg

EXCHANGE_MASTER_SPECIES

X X-

EXCHANGE_SPECIES

X- = X-

log_k 0

Ca+2 + 2X- = CaX2

log_k 0.66 #literature CAJ Apello 1994

Na+ + X- = NaX

log_k 0 #literature CAJ Apello 1994

K+ + X- = KX

log_k 1.1 #literature CAJ Apello 1994

H+ + X- = HX

log_k 3.95 #calibrated for pH control

END

EXCHANGE 1-5

HX 0.2 #calibrated to post-simulation value of approx 10 mEq per 100 g SiREM Value 10-20 mEq per 100g

-pitzer_exchange_gammas true

EQUILIBRIUM_PHASES 1-4

CoS(beta) -2.55 0.001 #Calibrated to post-simulation value of approx 30 mg/Kg

pyrite 0 0.008 #calibrated to post-simulation value of approx 12000 mg/Kg

EQUILIBRIUM_PHASES 5

pyrite 0 0.008

SURFACE 7-8

Hfo_sOH 2.225 600 62.3

Hfo_wOH 0.055

TRANSPORT

-cells 8
-shifts 1441
-time_step 1181541 # seconds
-boundary_conditions constant flux
-lengths 8*7.924
-dispersivities 8*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2 3 5 8
-punch_cells 2 3 5 8
-punch_frequency 27
-warnings false

SELECTED_OUTPUT 1

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final Report Model - 07012022\Transport_Cation_14BicCLPeriod.sel

-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co Fe
-active true
-user_punch true

USER_PUNCH 1

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end

END

SOLUTION 0 HGWC-14 # Filling solution under bg conditions

temp 16.4
pH 4.7
pe 1.23
redox pe
units mg/kgw
density 1
C(4) 108.75 as Ca0.5(CO3)0.5
Ca 583
Cl 141 charge
Co 0.033
Fe 0.9
K 12.6
Mg 49.2
Mn 5
Na 10.9
O(0) 0.27
S(6) 768
-water 1 # kg

REACTION

NaHCO3 1
0.1 moles

TRANSPORT

-cells 8
-shifts 275
-time_step 4581454# seconds
-lengths 8*3.66
-dispersivities 8*0.1
-correct_disp true
-diffusion_coefficient 1e-09
-thermal_diffusion 2 1e-09
-print_cells 2 3 5 8
-punch_cells 2 3 5 8
-punch_frequency 7
-warnings false

SELECTED_OUTPUT 2

-file C:\Users\hParthasarathy\Desktop\Geochem Modeling\PHREEQC\Simple Transport Model\Final
Report Model - 07012022\Transport_Cation_14BiCPeriod.sel
-high_precision true
-distance true
-time true
-step true
-pH true
-totals Ca S(6) Na Cl Co

-active true
-user_punch true

USER_PUNCH 2

-headings Ca(mg/L) SO4(mg/L) Na(mg/L) Cl(mg/L) Co(ug/L) Fe(mg/L)
-start

10 PUNCH TOT("Ca")*40.1*1000, TOT("S(6)")*96.1*1000, TOT("Na")*23*1000,TOT("Cl")*35.4*1000,
TOT("Co")*58.9*1000000, TOT("Fe")*56*1000
-end

END

APPENDIX C

Risk Evaluation Report



RISK EVALUATION REPORT

PLANT HAMMOND

ASH POND 2

ROME, GEORGIA

Prepared for

Georgia Power

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Atlanta, Georgia 30308

Prepared by

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August 2022

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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
ISWQC	Georgia In-Stream Water Quality Criteria
MCL	Maximum Contaminant Level
mg/L	Milligrams per liter
NAWQC	National Ambient Water Quality Criteria
ProUCL	ProUCL software version 5.1
RAGS	Risk Assessment Guidance for Superfund
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-2.

AP-2 was constructed in 1969, and CCR sluicing and placement began upon its commission. AP-2 was used as a dewatering facility for fly ash and bottom ash. To support operations, dewatered ash was excavated and transported to the Huffaker Road Landfill, a permitted solid waste disposal facility owned and operated by Georgia Power and located approximately five miles northeast of Plant Hammond. Georgia Power will close AP-2 through removal of the CCR material from the unit. The CCR material will be disposed in a permitted landfill or transported off-site for beneficial use. AP-2 is subject to the Federal CCR Rule, 40 C.F.R. § 257, Subpart D (USEPA, 2020) and the State CCR Rule, Ga. Comp. R. & Regs. 391-3-4-.10 (EPD, 2022). Closure Permit No. 057-024D (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-2's Closure Permit.

This report presents the results of a risk evaluation for CCR constituents¹ exhibiting statistically significant levels (SSLs) in groundwater at AP-2 from samples collected by Georgia Power in compliance with the Federal and State CCR Rules between 2016 and February 2022. The risk evaluation was performed in support of the *Draft Remedy Selection Report*, which is an attachment to the *2022 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2 (AP-2)* (Geosyntec, 2022a). 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. Cobalt has been identified as an SSL-related constituent using the groundwater protection standard (GWPS) established for AP-2 in accordance with the Federal and State CCR Rules (Geosyntec, 2022a).

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-2.

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

2. Initial groundwater risk screening: Compare 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 any 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. Surface water risk screening: For constituents identified as groundwater constituents of interest (COIs), comparison of surface water concentrations to conservative, health-protective criteria to assess whether they pose a potential risk to human health or the environment as an additional line of evidence.
5. Development of risk conclusions and identification of associated uncertainties.

Using this approach that includes multiple conservative assumptions, SSL-related constituent, cobalt, identified at AP-2 is not expected to pose a risk to human health or the environment; therefore, no further risk evaluation for groundwater or surface water is warranted. Compliance monitoring for AP-2 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-2 at Plant Hammond (site) located in Rome, Georgia (**Figure 1**). The risk evaluation was performed in support of the *Draft Remedy Selection Report* and is used to ensure that the proposed remedy will protect human health and the environment. AP-2 is located on the west side of the site and is bounded to the west by an unnamed creek and to the south by the Coosa River. Georgia Power will close AP-2 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-2 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 closure of AP-2 with respect to constituent concentrations in groundwater identified at SSLs above GWPS. USEPA revised the Federal CCR Rule on July 30, 2018, updating the GWPS for cobalt, lead, lithium, and molybdenum values. On February 22, 2022, EPD adopted the federal GWPS for cobalt, lead, lithium, and molybdenum under 40 CFR §257.95(h) (EPD, 2022), which established the GWPS for these constituents as the higher of background concentrations or 0.006 mg/L, 0.015 mg/L, 0.040 mg/L, and 0.100 mg/L, respectively.

The risk 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; EPD, 2009) and components of the Risk Assessment Guidance for Superfund (RAGS) as included in the USEPA Regional Screening Level (RSL) User's Guide (USEPA, 2022a). 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-2. Cobalt was identified as an SSL-related constituent under the Federal and State CCR Rules in HGWC-18, MW-33, and MW-35 (Geosyntec, 2022a).

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, Groundwater 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 process for refined evaluation of groundwater COPIs, including calculation of exposure point concentrations (EPCs) and analysis of concentration trends over time as well as the risk screening process for those constituents evaluated for surface water in the nearest adjacent downgradient surface water bodies.
- ***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 AP-2 documents, including the *Hydrogeologic Assessment Report (HAR) (Revision 01) for Ash Pond 2* (Geosyntec, 2019), *2021 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2* (Geosyntec, 2021); *2021 Annual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2* (Geosyntec, 2022b). The CEM includes a conservative evaluation of assumed potential transport pathways, potential 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 about 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 and a detailed site map is included as **Figure 1**.

AP-2 was constructed in 1969, and CCR sluicing and placement began upon its commission. AP-2 was used as a dewatering facility for fly ash and bottom ash. To support operations, dewatered ash was excavated and transported to the Huffaker Road Landfill, a permitted solid waste disposal facility owned and operated by Georgia Power. Georgia Power will close AP-2 through removal of the CCR material from the 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-2's Closure Permit was approved 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-2's Closure Permit.

As detailed in the *2022 Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2* (Geosyntec, 2022a), the groundwater monitoring network at AP-2 consists of 14 compliance wells for the upgradient and downgradient groundwater monitoring system at the site. Nine of these wells (HGWA-1, HGWA-2, HGWA-3, HGWA-4, HGWA-5, HGWA-6, HGWA-42D, HGWA-43D, and HGWA-44D) are designated for monitoring of background conditions upgradient of the ash ponds, five compliance wells (HGWC-14, HGWC-15, HGWC-16, HGWC-17, and HGWC-18) are intended for monitoring of conditions downgradient of AP-2, and 12 piezometers (MW-8, MW-9, MW-12, MW-16, MW-17, MW-18, MW-33, MW-34D, MW-35, MW-36D, MW-51, and MW-52) have been

installed for groundwater elevation monitoring. As part of the assessment monitoring program, four additional groundwater delineation wells (MW-21D, MW-22, MW-23D, and MW-37D) have been installed since 2018 to characterize groundwater quality and flow conditions downgradient of AP-2.

The monitoring well network for AP-2 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 southern and western 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-2 is located in the western portion of the Plant Hammond property. The area surrounding AP-2 slopes gently south towards the Coosa River and southwest towards the unnamed creek. Topographic relief across the site is approximately 30 feet (ft), with a natural topographic high at an elevation of nearly 600 ft above mean sea level (amsl) north of AP-2, and with a topographic low approximately 570 ft amsl south of AP-2 at the banks of the Coosa River (Geosyntec, 2019).

2.1.2 Geology and Hydrogeology

The following information is provided in the *2021 Annual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2* (Geosyntec, 2022b).

The Site is located in the Valley and Ridge Physiographic Province of northwest Georgia, which is characterized by Paleozoic sedimentary rocks that have been folded and faulted into the ridges and valleys that gave this region its name. Geologic mapping performed at the Site by Petrologic Solutions, Inc. under the direction of Golder (Golder, 2018) indicates that AP-2 is underlain by the lower units of the Cambrian age Conasauga Formation, consisting of mostly calcareous shale. Based on review of subsurface investigations at AP-2, the bedrock was identified as predominantly calcareous shale and fissile black shale. AP-2 is underlain primarily by five lithologic units; (i) terrace alluvium, (ii) colluvium, (iii) residuum, (iv) partially weathered shale bedrock, and (v) unweathered shale bedrock.

....

The uppermost aquifer at AP-2 is a regional groundwater aquifer that occurs primarily in the residuum and within the weathered and fractured bedrock. Based on observations of residuum soil types and horizontal conductivity values, the movement of groundwater in the soil can be characterized as low-to moderate permeability, porous media flow. The groundwater flow in the shallow underlying bedrock is

characterized as fracture flow, and due to the preponderance of shale beneath AP-2, is expected to be very low permeability. The regional groundwater flow direction is expected to be from north to south; however, the local flow direction beneath AP-2 is predominantly east to west with an additional southwesterly component.

The potentiometric surface contours provided in the 2022 *Semiannual Groundwater Monitoring & Corrective Action Report – Plant Hammond - Ash Pond 2* (Geosyntec, 2022a) 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**.

The unnamed creek and the Coosa River abut AP-2 to the west and south, respectively. The surface water flow direction for the unnamed creek is south where it enters the Coosa River which flows from east to west. A conservative assumption for this assessment was made that groundwater from the site flows to either the unnamed creek or the Coosa River. In addition, for the purposes of this evaluation, both the unnamed creek and the Coosa River were assumed to represent a hydraulic discharge boundary for groundwater flow in the upper aquifer from the nearby region.

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, 2022).
- 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, 2022). 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**. A desktop review was performed in January 2022 to search for additional wells added since 2020. Results of the survey and the January 2022 update 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 unnamed creek or the Coosa River, which for the purpose of this risk evaluation were assumed to represent hydraulic discharge boundaries for groundwater downgradient of AP-2.

Concentrations of the SSL-related constituent cobalt in on-site groundwater monitoring wells and piezometers was either below health-protective screening levels in wells on-site or was not detected above health-protective screening criteria in the adjacent downgradient surface water body (i.e., the unnamed creek). As a conservative measure, hypothetical off-site residential exposure to cobalt was evaluated using data collected from on-site groundwater wells between 2016 and February 2022 downgradient of AP-2. This comparison makes the conservative assumption that on-site groundwater may potentially migrate to off-site drinking water wells through advective transport in groundwater without any attenuation within the aquifer media through factors such as dilution, dispersion, or adsorption, and disregards the presence of the unnamed creek and the Coosa River which represent assumed hydraulic discharge boundaries for groundwater downgradient of AP-2. Accordingly, the risk evaluation screening assumed the hypothetical off-site residential receptor could be exposed by ingestion and

dermal contact with cobalt in groundwater through its use as a future potable water source.

- Recreational surface water receptor: The potentially complete surface water exposure pathway for hypothetical recreational receptors was addressed quantitatively through the evaluation of surface water data collected from the the unnamed creek in two events in 2020 and 2021 and one event in 2022. The surface water risk evaluation conservatively assumed that hypothetical recreators' exposure included ingestion of aquatic organisms (mainly fish) and potential incidental ingestion and dermal contact with surface water by hypothetical adult and child recreational receptors.
- Ecological surface water receptors: The potential surface water exposure pathway for hypothetical ecological receptors was addressed quantitatively through the evaluation of surface water data collected from the unnamed creek in two events in 2020 and 2021 and one event in 2022. Ecological receptors were assumed to be exposed to surface water through direct contact to surface water as well as through the food chain pathway.

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 February 2022 to relevant, health-protective levels or background. 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 EPD allows for the evaluation of risk to support site-specific remedial approaches 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 of SSL-related constituents in groundwater samples from wells determined to have SSL-related constituents to appropriate health-protective screening criteria and/or background. These criteria included the risk reduction standards (RRS)² established under the Hazardous Site Response Act (HSRA) for drinking water and the site-specific background levels for the protection of human health. If the maximum concentration of an 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 assessment 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 and February 2022 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 identified in the *2022 Semiannual Groundwater Monitoring & Corrective Action Report* (Geosyntec, 2022a) with SSL-related constituents identified under the Federal and State CCR Rules is as follows:

- Cobalt: HGWC-18, MW-33, and MW-35

² HSRA was amended in 2018 to make the methods used for calculating RRSs consistent with USEPA's RAGS for the calculation of RSLs.

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

Groundwater data used in the risk evaluation screening 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-1**. 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 are performed at the site pursuant to §257.93-95 following the professional engineer certified Statistical Analysis Method Certification (October, 2017, revised January 2020) (Geosyntec, 2020) and the Unified Guidance (USEPA, 2009) for AP-2; background values are routinely updated under the program. Six monitoring wells in the certified monitoring well network are designated as upgradient (background) locations for AP-2, including HGWA-1, HGWA-2, HGWA-3, HGWA-4, HGWA-5, HGWA-6, HGWA-42D, HGWA-43D, and HGWA-44D. The statistical analyses performed on the groundwater data were described in the *2021 Annual Groundwater Monitoring & Corrective Action Report* (Geosyntec, 2022b); and text from that document is presented below.

The Sanitas groundwater statistical software was used to perform the 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 are formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits. 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 RRS for cobalt

evaluated under the VRP approach presented herein is consistent with the Type 2 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 industry standards and 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.
- In accordance with standard methodologies approved by the Georgia EPD and because an RRS for cobalt has not already been established under HSRA, site-specific risk-based screening value was calculated using the default exposure factors for residential receptors and the methodology found in Appendix III of the HSRA rule (EPD, 2018). Accordingly, the calculated screening value is equivalent to a Type 2 groundwater RRS protective of residential exposures. The toxicity value for cobalt used in the calculation was the USEPA-preferred value contained in the RSL Calculator (USEPA, 2022). The risk-based screening value was calculated using USEPA’s RSL Calculator assuming a target hazard quotient of 1, consistent with Georgia EPD guidance applicable in other contexts (EPD, 2018). The calculation of the risk-based screening value for cobalt is presented in **Appendix C**. As noted below, the site-specific background concentration was used for cobalt.
- If the site-specific background concentrations are greater than the criterion 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, 2020). Accordingly, in this evaluation, the background concentration was used as a screening level for cobalt.

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 or the relevant background concentration.

Table 1 presents the maximum detected concentration of cobalt (0.22 milligrams per liter (mg/L)) which was used to represent potential off-site groundwater quality for comparison to the selected background-based screening level for cobalt (0.038 mg/L), for hypothetical off-site residential receptors. As noted in **Table 1**, cobalt was detected at a concentration that

exceeded its screening level and was retained for further evaluation in the refined risk evaluation.

4 REFINED RISK EVALUATION

A refined risk evaluation was conducted for the groundwater COPI (cobalt) that was detected at concentrations that exceeded the site-specific background value. The refined risk evaluation identified EPCs for cobalt in groundwater for the purposes of characterizing potential risk to human and ecological receptors. Due to cobalt being identified as a COPI in multiple wells with different groundwater flow directions (HGWC-18 due west and MW-33 and MW-35 due south), two exposure units (West and South) were used in the refined risk evaluation. A cobalt EPC was developed for each exposure unit and if the EPC is greater than the screening level, then the constituent is identified as having the potential for risk that warrants additional evaluation (e.g., performing a surface water evaluation). Cobalt was evaluated in the adjacent downgradient surface water body (i.e., the unnamed creek) for the west exposure unit because it was identified as a groundwater COI in the refined groundwater risk evaluation.

4.1 Refined Groundwater Risk Evaluation

Potential risk associated with exposure to cobalt by hypothetical off-site residential receptors was refined using the methodology described in HSRA and VRP and other supporting guidance (EPD, 2018; EPD, 2009; EPD, 2015a) and is presented in the following section and on **Figure 8**.

For the refined risk evaluation, groundwater data from samples collected between 2016 and February 2022 from the on-site wells (HGWC-18, MW-33, and MW-35) that were identified to have an 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-1**.

4.1.1 Groundwater Exposure Point Calculation

The refined risk evaluation for cobalt included the development of an EPC. 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, 2015a).

For the refined risk evaluation, UCLs for the COPIs in groundwater were calculated for datasets with the following characteristics:

- UCL for the individual well with an SSL-related constituent;
- UCL 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
- UCL based on the combined data from the farthest downgradient well(s)/piezometers(s) that are hydraulically downgradient of the well(s) with an SSL-related constituent.

Other assumptions made in the calculations 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 the sole groundwater COPI, cobalt. **Appendix D-3** provides the input and output files associated with the ProUCL software.

Table 2 summarizes the groundwater EPCs selected for cobalt. This table shows the number of samples, the maximum detected concentrations, the UCLs recommended by ProUCL software, and the selected EPCs.

4.1.2 COPI Concentration Trend Analysis

Concentration trends over time were evaluated as one line of evidence in the refined risk evaluation for cobalt. 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-18, MW-33, MW-34D and MW-35 for cobalt to evaluate the trends in concentrations over time. The tests were conducted using the USEPA ProUCL 5.1 software (USEPA, 2016).

The Mann-Kendall results are presented on time series graphs in **Appendix D-4** and indicated:

- There is a statistically significant decreasing trend in cobalt concentrations over time in HGWC-18.
- There are no statistical trends in cobalt concentrations over time in MW-33, MW-34D, and MW-35.

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

Cobalt was identified as a groundwater COPI in the initial risk screening. In the refined risk evaluation, comparison of the calculated EPC to the screening level was used to identify 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) in an exposure unit 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). Cobalt was identified as a groundwater COI in the west exposure unit and was further evaluated with surface water samples collected from the unnamed creek.

4.1.3.1 West Exposure Unit

Cobalt was detected in 21 out of 21 groundwater samples in well HGWC-18 at concentrations that exceeded the groundwater screening level for hypothetical off-site residential receptors. For the refined risk evaluation, the following EPCs were calculated for cobalt using the monitoring wells shown in **Appendices D-1** and **D-2a**:

- Data from HGWC-18 was used to determine if the UCL is less than the screening level (EPC Step 1 in **Appendix D-1**).
- Data from HGWC-18 and the downgradient monitoring wells MW-21D and MW-37D were combined to represent groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).
- A third UCL was not calculated for the cobalt exceedance in HGWC-18. There is no well between the unnamed creek and HGWC-18, and therefore, a hydraulically downgradient well could not be used to represent groundwater downgradient of the exceedance.

Both the EPC Step 1 (0.18 mg/L) and the EPC Step 2 (0.16 mg/L) exceeded the applicable screening level.

Table 3 presents the results of the refined screening comparing the EPC Step 2 to the screening level. Cobalt was identified as a COI in groundwater and is further evaluated in Section 4.2, below.

4.1.3.2 South Exposure Unit

Cobalt was detected in 14 out of 14 groundwater samples in monitoring wells MW-33 and MW-35 at concentrations that exceeded the groundwater screening level for hypothetical off-site residential receptors. For the refined risk evaluation, the following EPCs were calculated for cobalt using the monitoring wells shown in **Appendices D-1** and **D-2b**:

- Data from MW-33 and MW-35 was used to determine if the UCL is less than the screening level (EPC Step 1 in **Appendix D-1**).
- Data from MW-33 and MW-35 and the downgradient monitoring wells MW-34D and MW-51 were combined to represent groundwater exposure in the same hydraulically downgradient direction (EPC Step 2 in **Appendix D-1**).
- Data from MW-51 was used to represent exposure using the well that is the farthest hydraulically downgradient of wells MW-33 and MW-35 (EPC Step 3 in **Appendix D-1**).

The Step 1 (0.079 mg/L), Step 2 (0.065 mg/L) EPCs for cobalt exceeded the applicable screening level. However, and Step 3 (0.031 mg/L) EPC for cobalt was below the applicable screening level of 0.038 mg/L.

Table 3 presents the results of the refined screening comparing the farthest hydraulically downgradient EPC to the screening level. As cobalt was not detected above the applicable screening level in the farthest hydraulically downgradient well on the site, cobalt in the south exposure unit was not identified as a COI in groundwater for hypothetical off-site residential receptors and is not expected to pose a risk to human health through potable water use.

4.2 Surface Water Screening Evaluation

A surface water screening evaluation was conducted for samples collected from the unnamed creek for the groundwater COI cobalt, identified in the refined groundwater risk evaluation for the west exposure unit. The surface water screening process is discussed below and presented in **Figure 9**.

Both human and ecological receptors have the potential to come into contact with surface water. Routes of exposure include ingestion of aquatic organisms (mainly fish) and potential incidental ingestion and dermal contact with surface water by adult and child recreational receptors. Potential routes of exposure for ecological receptors include direct contact to surface water and ingestion by aquatic receptors.

4.2.1 Surface Water Data

Surface water data for cobalt were collected during two events in 2020 and 2021 and one event in 2022 at three locations in the unnamed creek. The surface water sample locations are shown on **Figure 10**. The surface water dataset used in the risk evaluation is presented in **Appendix B-2**.

4.2.2 Human Health Screening

The following hierarchy of sources was considered in the process of selecting the surface water human health screening value for cobalt:

- Georgia In-Stream Water Quality Criteria (ISWQC) for human health (EPD, 2015b).
- National Ambient Water Quality Criteria (NAWQC) for human health protective through ingestion of water and organisms (USEPA, 2015b). For select constituents for which no numerical values for surface water are provided, USEPA (2015b) states that “EPA has issued an MCL [Maximum Contaminant Level] which may be more stringent” suggesting the use of the MCL for surface water screening. This is a conservative approach.
- In accordance with standard practice using methodologies approved by the Georgia EPD, the higher of the residential groundwater screening levels described in Section 3.2.2 was used for the remaining constituents due to lack of human health surface water screening levels for these constituents, which is a conservative approach.
- Maximum detected upstream concentration if the maximum upstream surface water concentration is greater than the surface water screening value. Upstream concentrations were not used in this evaluation.

The Type 2 RRS of 0.006 mg/L was used as a surface water screening value for cobalt. It is worth noting that the site-specific use of drinking water screening levels for surface water is a conservative approach likely to overestimate risk as domestic use of the unnamed creek surface water downgradient of the site for human receptors is an incomplete exposure pathway.

Cobalt was not detected in the surface water samples from the unnamed creek and the reporting limit was below the surface water human health screening level of 0.006 mg/L as shown in

Table 4. Therefore, cobalt was not retained as a human health COPI for further evaluation in surface water and is not expected to pose a risk to human health.

4.2.3 Ecological Screening

Surface water screening values for aquatic ecological receptors were selected from the following order of hierarchy for cobalt:

- Chronic freshwater Georgia ISWQC (EPD, 2015b), when available.
- USEPA Region 4 chronic freshwater screening levels (USEPA, 2018).
- Maximum detected upstream concentration if the maximum upstream surface water concentration is greater than the surface water screening value. Upstream concentrations were not used in this evaluation.

Because cobalt does not have chronic freshwater Georgia ISWQC (EPD, 2015b), the USEPA Region 4 chronic freshwater ecological screening value of 0.019 mg/L for total cobalt (USEPA, 2018) was used in the surface water screening for aquatic ecological receptors.

Cobalt was not detected in the surface water samples from the unnamed creek and the reporting limit was below the surface water ecological screening level of 0.019 mg/L as shown in **Table 5**. Therefore, cobalt was not retained as an ecological COPI for further evaluation in surface water and is not expected to pose a risk to ecological receptors.

4.2.4 Refined Risk Evaluation Summary and Conclusions

Detections of cobalt were reported at concentrations above the corresponding groundwater screening value. However, the results of the refined groundwater and surface water risk evaluations indicate the following:

- The individual data points in the south exposure unit used to calculate the cobalt EPC to represent potential groundwater exposure for hypothetical off-site residential receptors based on the farthest hydrologically downgradient monitoring well were below the background screening level.
- Cobalt was identified as a groundwater COI for hypothetical off-site residential receptors in the west exposure unit and was evaluated further in adjacent surface water in the unnamed creek for potential exposure to human and ecological receptors.
- Cobalt was not detected in surface water samples from the unnamed creek and the analytical reporting limits were below health-protective surface water screening criteria for human and ecological receptors. Therefore, cobalt was not retained as a COPI in

surface water for further evaluation and is not expected to pose a risk to human or ecological receptors.

Accordingly, based on the multiple lines of evidence and various conservative assumptions, further risk evaluation for groundwater and surface water 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, a background-based value equivalent to a Type 2 RRS was considered as a screening criterion for cobalt. Selection of the screening criteria is considered appropriate for risk quantification for AP-2. Georgia EPD 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”.
- Screening criteria based on RRSs represent the reasonable maximum exposure (RME), which are the highest exposures that are reasonably expected to occur at a site. The USEPA risk assessment guidance defines the RME 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). The same guidance document 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 cobalt were compared to background-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 and used in the screening process, 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-2. 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.
- An off-site well survey of potential groundwater wells within a three-mile radius of the site was conducted by NewFields in 2020 and updated in January of 2022 which 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 SSL-related constituents are either delineated in on-site groundwater or below health-protective screening levels in adjacent surface water.

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. For metals, humans, other animals, and plants have evolved in the presence of metals and are adapted to various levels of exposure (EPA, 2007). Therefore, a screening level exceedance does not necessarily equate to an adverse effect.

6 CONCLUSIONS

This risk evaluation for the SSL-related constituents in groundwater at AP-2 was conducted using methods consistent with Georgia EPD and USEPA guidance and included multiple conservative assumptions. Based on this evaluation, the SSL-related constituent cobalt is not expected to pose a risk to human health or the environment.

Accordingly, no further risk evaluation of groundwater or surface water is warranted. Compliance monitoring for AP-2 under the Federal and State CCR Rules will continue. Georgia Power will proactively evaluate the data and update this evaluation, if necessary

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TABLES

Table 1
SSL-Related Constituent Groundwater Screening
Plant Hammond AP-2 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	Cobalt	7440-48-4	35 / 35	30 / 35	0.22	0.038	Background	0.038	Y	ASL

Notes:

- [1] Evaluation includes 2016 to February 2022 groundwater analytical data from wells HGWC-18, MW-33, and MW-35.
- [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 for cobalt were calculated as described in the document "*Statistical Analysis Method Certification, 40 CFR §257.93(f), Plant Hammond- Ash Pond 2 (AP-2)*" (Geosyntec, 2020).
- [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

Table 2
Groundwater Exposure Point Concentration Summary
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituent	CAS No.	Exposure Unit	Detection Frequency ^[1]	Maximum Concentration (mg/L)	Wells Included in 95% UCL Calculation	95% UCL ^[1] (mg/L)	Recommended UCL Method	Selected EPC (mg/L)
Appendix IV	Cobalt	7440-48-4	West	24 / 38	0.22	HGWC-18, MW-21D, and MW-37D	0.16	95% KM (Chebyshev) UCL	0.16
	Cobalt	7440-48-4	South	20 / 20	0.1	MW-33, MW-35, MW-35D, and MW-51	0.031	Maximum	0.031

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.

Definitions:

CAS = Chemical Abstract Service

CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

EPA = United States Environmental Protection Agency

mg/L = milligrams per liter

Table 3
Downgradient Groundwater Refined Evaluation
Plant Hammond AP-2 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	Cobalt	7440-48-4	West	24 / 38	21 / 38	0.16	0.038	Background	0.038	Y	ASL
	Cobalt	7440-48-4	South	20 / 20	14 / 20	0.031	0.038	Background	0.038	N	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 2 (AP-2)*" (Geosyntec, 2020).

[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

Definitions:

Grey shading indicates that the constituent is a COI in groundwater

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

Table 4
Surface Water Human Health Screening
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency ^[1]	Exceedance Frequency ^[2]	Maximum Concentration ^[3] (mg/L)	Screening Level ^[4] (mg/L)	Screening Level Source ^[4]	Site-Specific Background ^[5] (mg/L)	COPI? (Y/N)	Rationale ^[6]
Appendix IV	Cobalt	7440-48-4	0 / 10	0 / 10	<0.005	0.006	Type 2 RRS	<0.005	N	ND/BSL

Notes:

[1] Evaluation includes surface water analytical data from the unnamed creek (AP-Up, AP-2 Mid and AP-2 Down).

[2] Selected exceedance frequency is for the specific constituent that exceeds the screening level presented in the table.

[3] Maximum detected concentration of total (unfiltered) results. Selected screening levels for COPIs are applicable to total results; therefore, no total-to-dissolved conversion was necessary for this evaluation.

[4] Screening levels were selected from the sources listed below, in the order of preference in which they are listed. If site-specific surface water background concentrations are greater than other applicable screening values, the site-specific background value is used for screening.

1. GA ISWQC = Georgia Instream Water Quality Criteria
2. NRWQC = National Recommended Water Quality Criteria
3. The maximum drinking water screening values from the following sources:
 - Type 1 RRS for drinking water listed in HSRA Appendix III, Table 1 (HSRA-regulated substances only).
 - Type 2 RRS for drinking water that are calculated by the EPA RSL calculator with exposure factors inputs from HSRA Appendix III.
 - Site-Specific values calculated using the EPA Regional Screening Level (RSL) calculator with default residential exposure factor listed in the RSL Users Guide.
 - EPA Maximum Contaminant Levels (MCLs).

[5] The site-specific background value is either the maximum detected concentration or maximum reporting limit in the unnamed creek upstream sample (AP-2 UP) collected in July 2020.

[6] Rationale for classification of constituent as a COPI or exclusion as a COPI:

- ASL = Above respective screening level
- BSL = Below respective screening level
- ND/BSL = Non-detect and below respective screening level

Definitions:

- 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
- HSRA = [GA EPD] Hazardous Site Response Act
- mg/L = milligram(s) per liter
- ND = not detected
- RRS = [GA EPD] Risk Reduction Standard

Table 5
Freshwater Surface Water Ecological Screening
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituents	CAS No.	Detection Frequency ^[1]	Exceedance Frequency ^[2]	Maximum Concentration ^[3] (mg/L)	Screening Level ^[4]		Hardness Dependent? (Y/N)	Screening Level Source ^[4]	Site-Specific Background ^[5] (mg/L)	COPI? (Y/N)	Rationale ^[6]
						Total (mg/L)	Dissolved (mg/L)					
Appendix IV	Cobalt	7440-48-4	0 / 10	0 / 10	<0.005	0.019	--	N	EPA Reg. 4	<0.005	N	ND/BSL

Notes:

[1] Evaluation includes surface water analytical data from the unnamed creek (AP-Up, AP-2 Mid and AP-2 Down).

[2] Selected exceedance frequency is for the specific constituent that exceeds the screening level presented in the table.

[3] Maximum detected concentration of total (unfiltered) results. Selected screening levels for COPIs are applicable to total results; therefore, no total-to-dissolved conversion was necessary for this evaluation.

[4] Screening levels were selected from the sources listed below, in the order of preference in which they are listed. If site-specific surface water background concentrations are greater than other applicable screening values, the site-specific background value is used for screening.

1. Georgia Instream Water Quality Criteria (GA ISWQC) from GA Administrative Code 391-3-6-.0 (5)(e)(iii).

2. EPA Region 4 screening values are from Table 1a of the Region 4 Ecological Risk Assessment Supplemental Guidance (EPA, 2018).

[5] The site-specific background value is either the maximum detected concentration or maximum reporting limit in the unnamed creek upstream sample (AP-2 UP) collected in July 2020.

[6] Rationale for classification of constituent as a COPI or exclusion as a COPI:

ASL = Above respective screening level

BSL = Below respective screening level

ND/BSL = Non-detect and below respective screening level

Definitions:

-- = Not applicable

CAS = Chemical Abstract Service

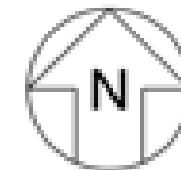
CCR = Coal Combustion Residuals

COPI = Constituent of Potential Interest

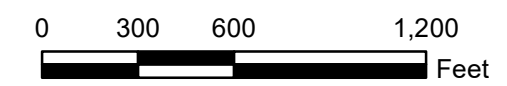
EPA = United States Environmental Protection Agency

mg/L = milligram(s) per liter

FIGURES



Notes:
 1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.



SITE LOCATION MAP

GEORGIA POWER
 PLANT HAMMOND AP-2
 FLOYD COUNTY, GEORGIA

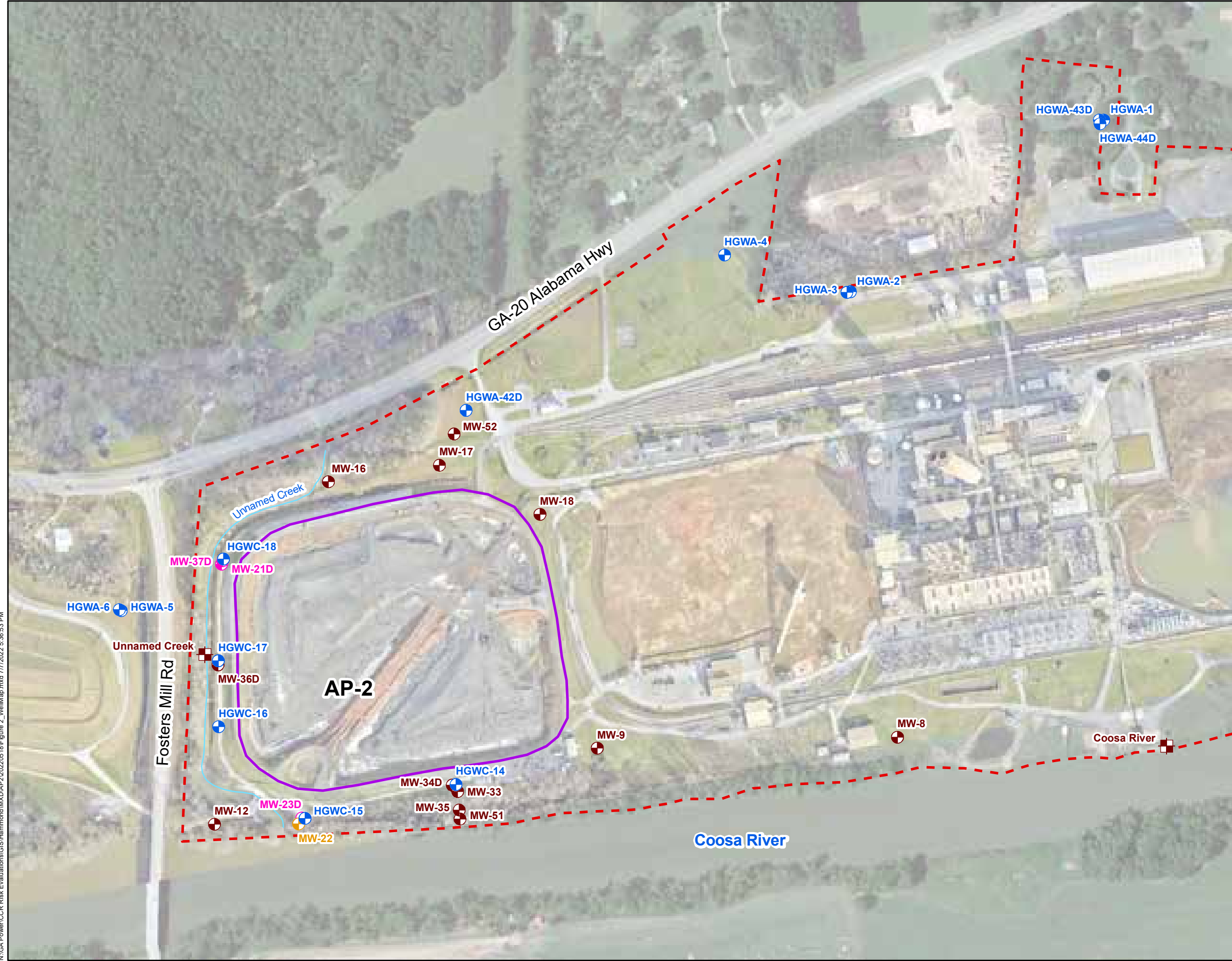
Prepared For:  Georgia Power

Prepared By:  Geosyntec
 consultants

KENNESAW, GA

AUGUST 2022

FIGURE
1



- LEGEND**
- Compliance Monitoring Well
 - Horizontal Delineation Well
 - Vertical Delineation Well
 - Piezometer
 - Surface Water Level Gauge Point
 - Unnamed Creek
 - Approximate AP-2 Boundary
 - Plant Hammond Property Boundary



Notes:
 1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.

0 175 350 700
 Feet

**SITE LAYOUT AND
 MONITORING WELL NETWORK**

GEORGIA POWER
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

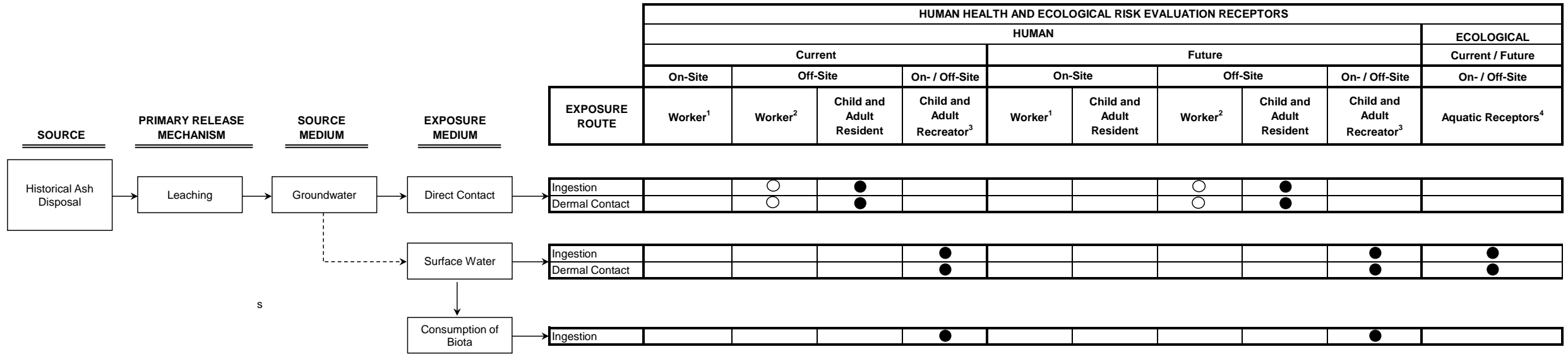
Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

KENNESAW, GA AUGUST 2022

**FIGURE
 2**

N:\GA Power\CCR Risk Evaluations\GIS\Hammond\MDX\AP2\20220518\Figure 2_WellMap.mxd 7/7/2022 5:36:53 PM



Legend

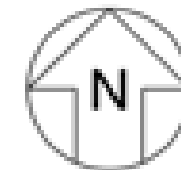
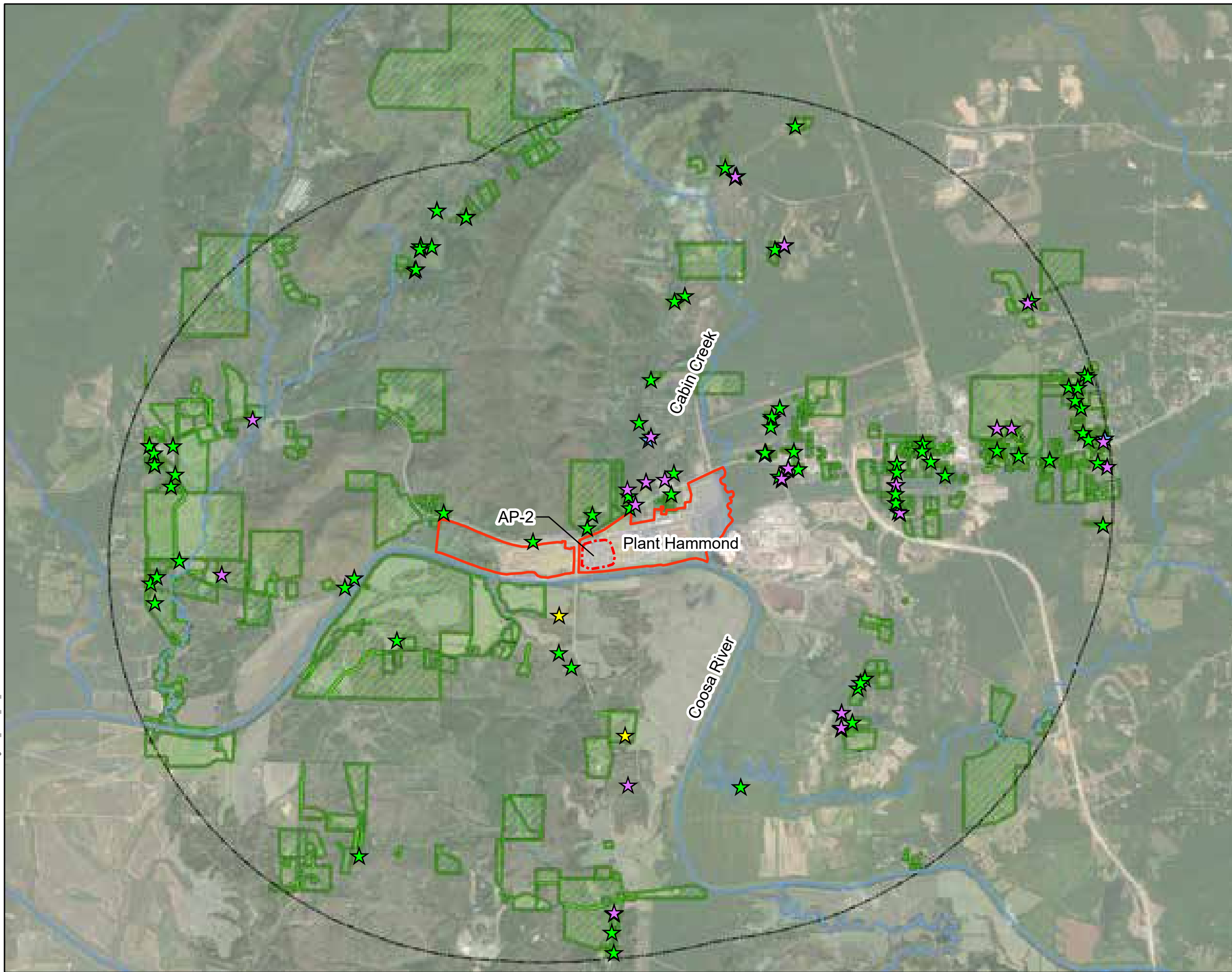
-▶ A conservative assumption for this assessment was made that groundwater from the site flows to the downgradient surface water.
- Indicates potentially complete pathway to receptors, which are evaluated quantitatively.
- Indicates potentially complete pathway to receptors, which are evaluated qualitatively.

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. Data from surface water samples collected in the unnamed creek were used to evaluate potential recreators.
4. Generalized receptor for ecological health risk evaluation.

Conceptual Exposure Model		
Georgia Power Plant Hammond AP-2		
Geosyntec consultants		Figure
Kennesaw, GA	August 2022	4

N:\GA Power\CCR Risk Evaluations\GIS\Hammond\MDAP2\202208\Figure 5_OffSite_well_Locations.mxd 7/8/2022 1:19:45 PM



- 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-2 Boundary
 - Approximate Plant Hammond Site Boundary



Notes:
 1. Aerial photograph source: ESRI World Imagery - Maxar, October 2017 and Georgia Power Company, January 2022.



OFF-SITE WELL SURVEY RESULTS

GEORGIA POWER
 PLANT HAMMOND AP-2
 FLOYD COUNTY, GEORGIA

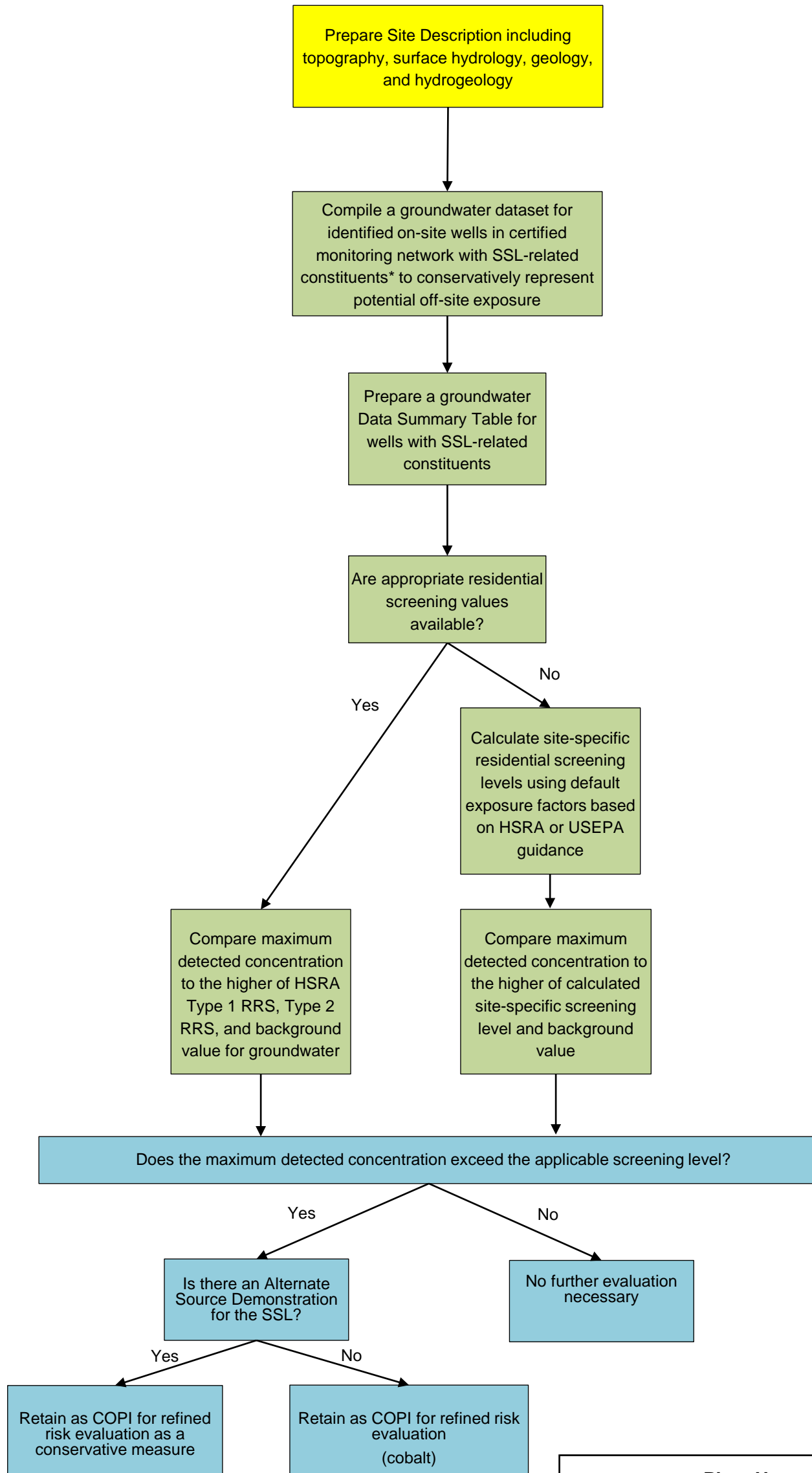
Prepared For: Georgia Power

Prepared By: Geosyntec
 consultants

FIGURE
5

KENNESAW, GA AUGUST 2022

Initial Risk Screening Approach (Groundwater) for AP-2



Notes:

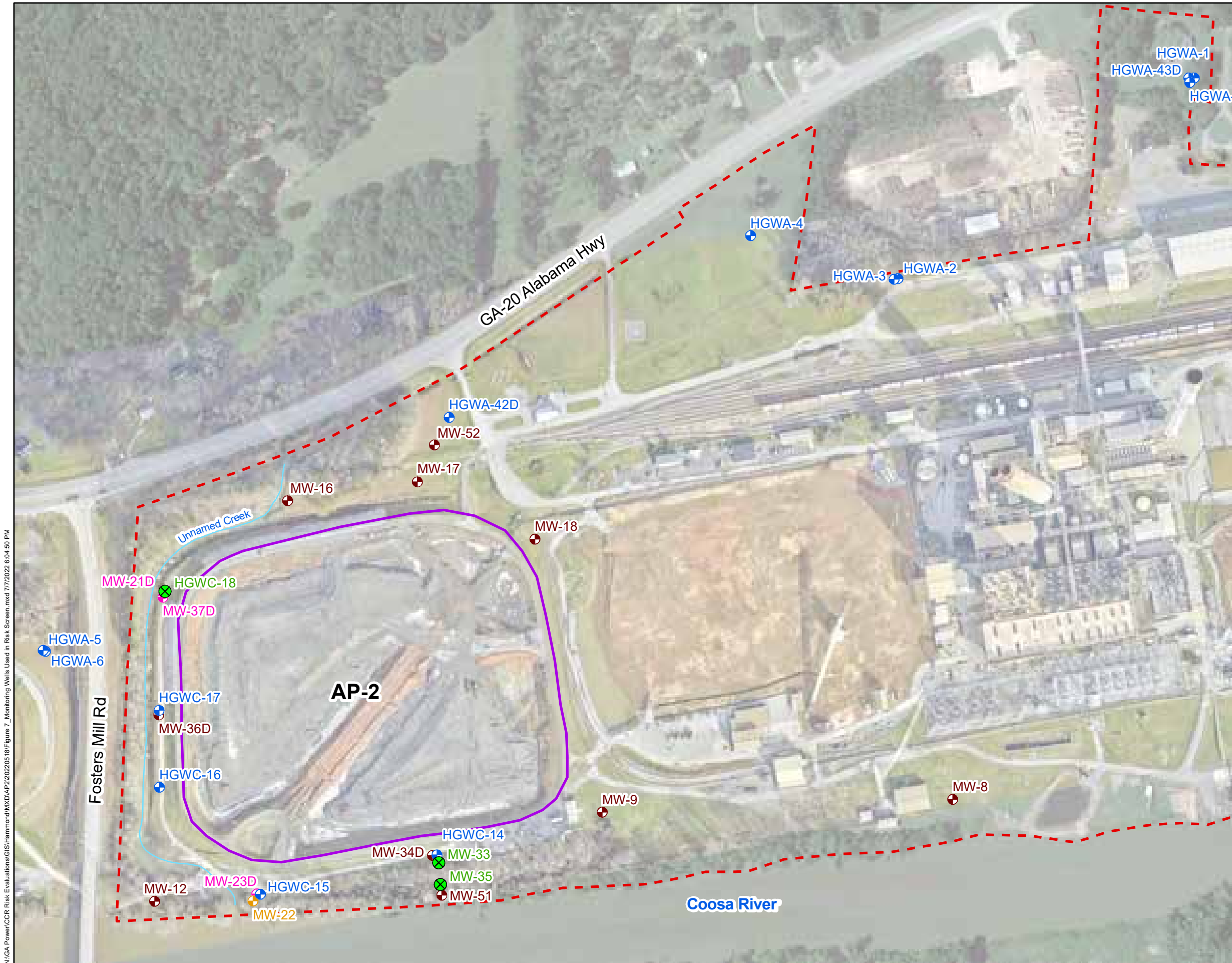
- Initial screen evaluates cobalt in HGWC-18, MW-33, and MW-35
- SSL = Statistically Significant Level
- COPI = Constituent of Potential Interest
- HSRA = Hazardous Site Response Act
- RRS = Risk Reduction Standard
- USEPA = United States Environmental Protection Agency

**Plant Hammond AP-2
Initial Groundwater Risk Screening Approach**

Figure 6

Project Number: GZ7112H

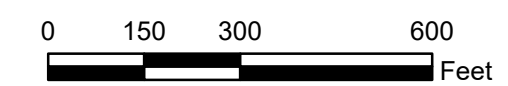
August 2022



- LEGEND**
- ⊗ Federal and State CCR Rule SSL Related Constituents
 - ⊕ Compliance Monitoring Well
 - ⊕ Horizontal Delineation Well
 - ⊕ Vertical Delineation Well
 - ⊕ Piezometer
 - Unnamed Creek
 - Approximate AP-2 Boundary
 - - - Plant Hammond Property Boundary



Note:
 1. Cobalt Federal and State CCR Rules SSL-Related Constituent: HGWC-18, MW-33, and MW-35
 2. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.



MONITORING WELLS USED IN RISK SCREEN

GEORGIA POWER
 PLANT HAMMOND AP-2
 ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

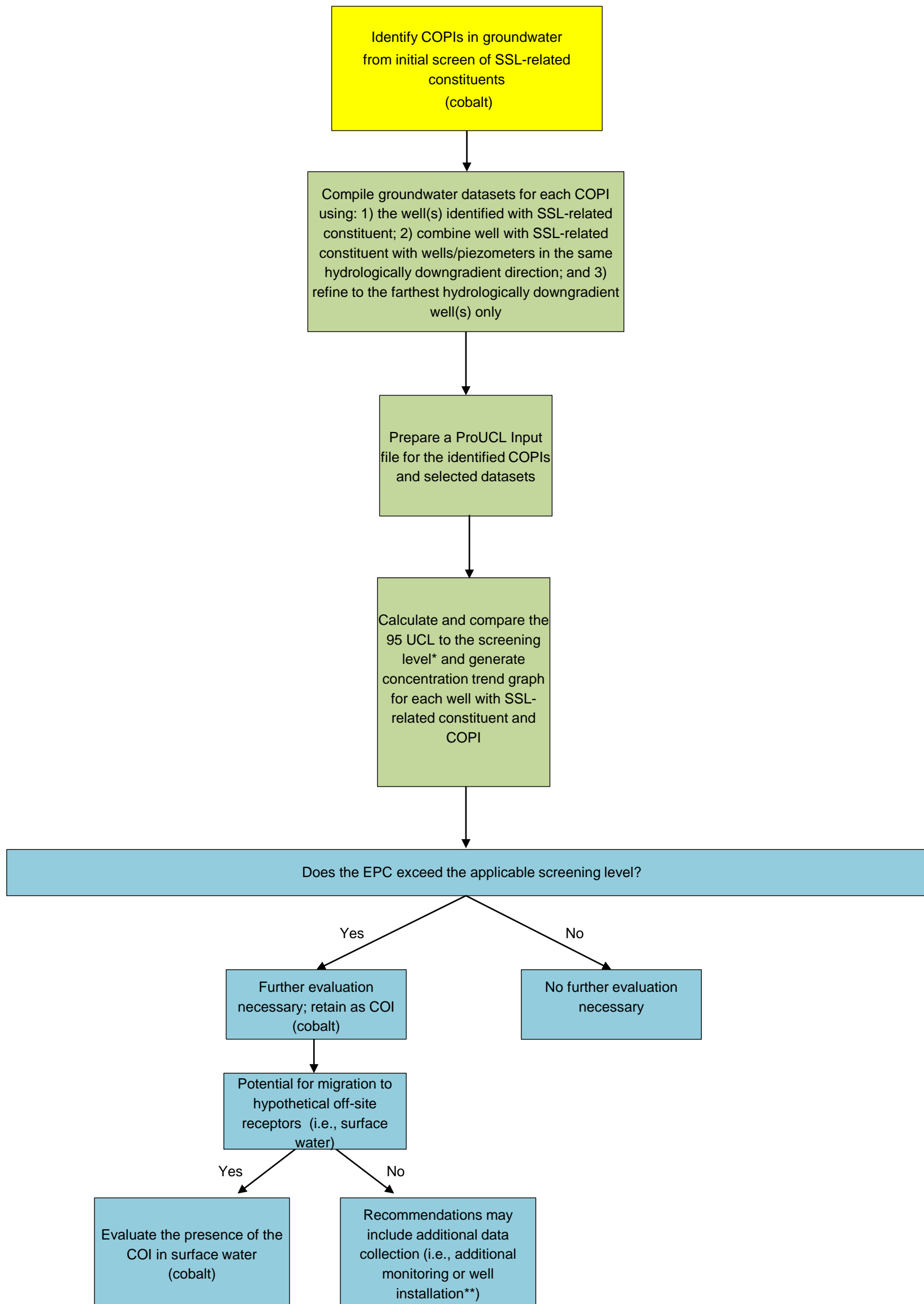
Prepared By: Geosyntec consultants

KENNESAW, GA AUGUST 2022

FIGURE 7

N:\GA Power\CCR Risk Evaluations\GIS\Hammond\MDX\AP2\20220518\Figure 7_Monitoring Wells Used in Risk Screen.mxd 7/7/2022 6:04:50 PM

Approach for Refined Risk Evaluation (Groundwater) for AP-2



Notes:

*If the 95 UCL exceeds the maximum concentration, use the maximum as the EPC.

**This step is not necessary for Hammond AP-2.

SSL = Statistically Significant Level

COPI = Constituent of Potential Interest

EPC = Exposure Point Concentration

UCL = Upper Confidence Limit

COI = Constituent of Interest

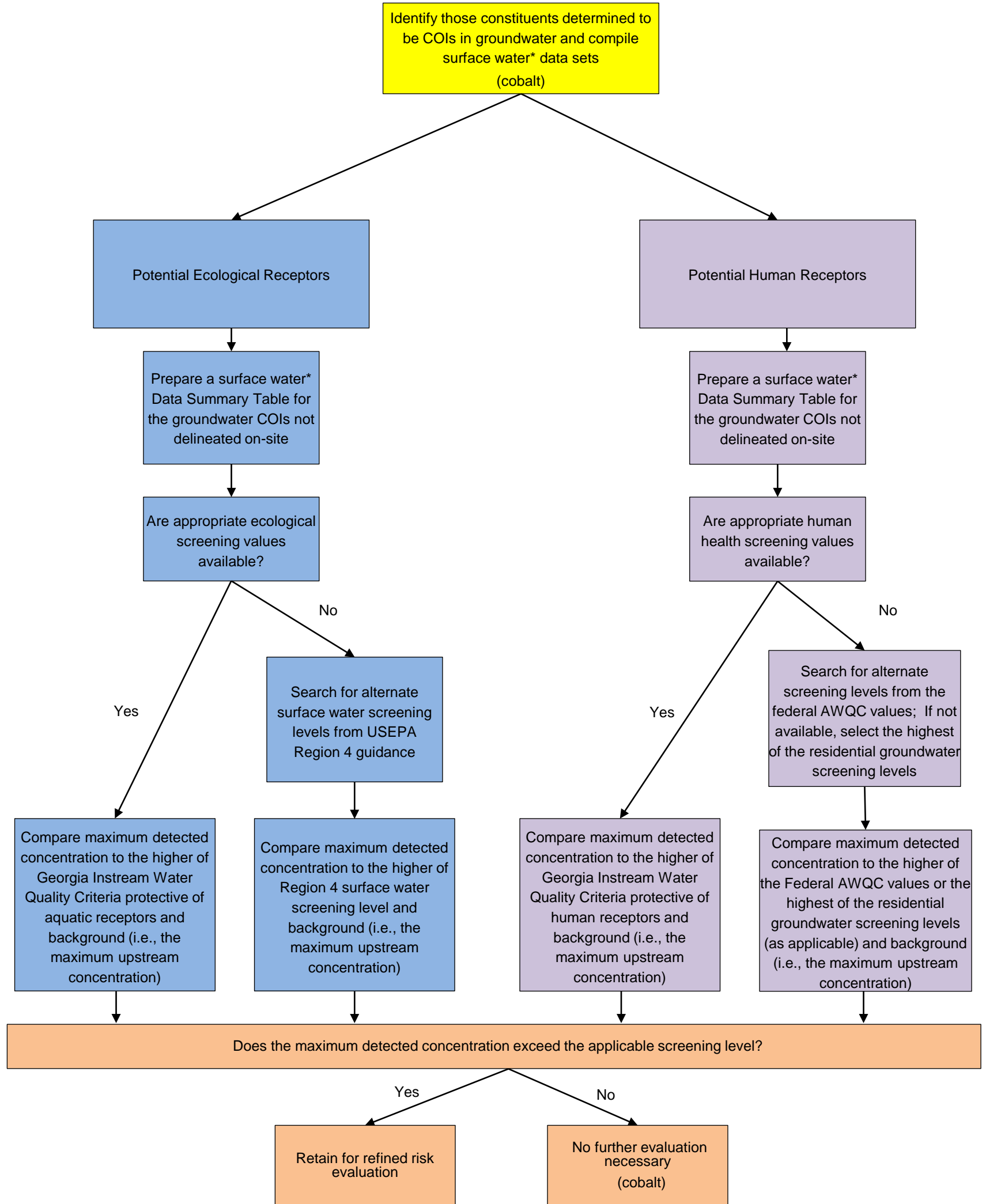
**Plant Hammond AP-2
Refined Groundwater Risk Evaluation Approach**

Figure 8

Project Number: GZ7112H

August 2022

Risk Screening Approach (Surface Water) for AP-2

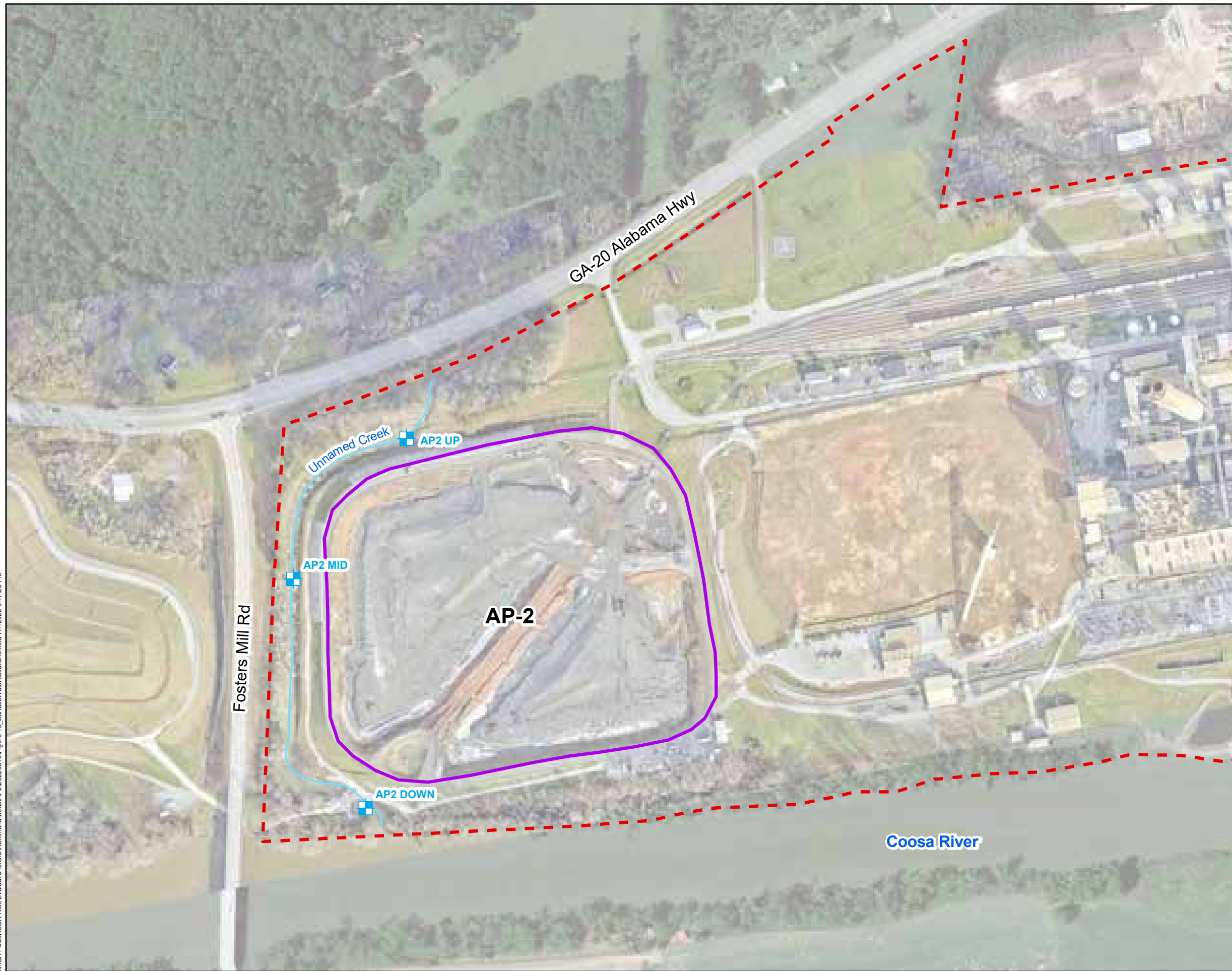


* Surface water data collected from the unnamed creek.





SSL = Statistically Significant Level
 AWQC = Ambient Water Quality Criteria
 COI = Constituent of Interest
 COPI = Constituent of Potential Interest

Plant Hammond AP-2 Surface Water Risk Screening Approach	
Figure 9	
Project Number: GZ7112H	August 2022

N:\GA Power\CCR Risk Evaluations\GIS\Hammond\MXD\AP2\20220518\Figure 10_SurfaceWaterLocations.mxd 7/7/2022 6:17:25 PM



LEGEND

-  Surface Water Sample Point
-  Unnamed Creek
-  Approximate AP-2 Boundary
-  Plant Hammond Property Boundary



Note:
1. Aerial photograph source: Google Earth Pro, August 2019 and Georgia Power Company, January 2022.



SURFACE WATER SAMPLE LOCATIONS

GEORGIA POWER
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For:  Georgia Power

Prepared By:  Geosyntec
consultants

KENNESAW, GA

AUGUST 2022

FIGURE
10

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 Hulseley 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. Hulseley 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.

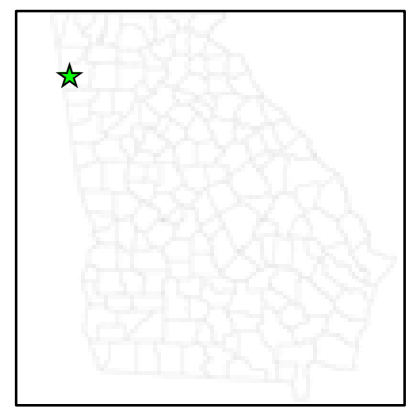
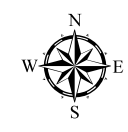
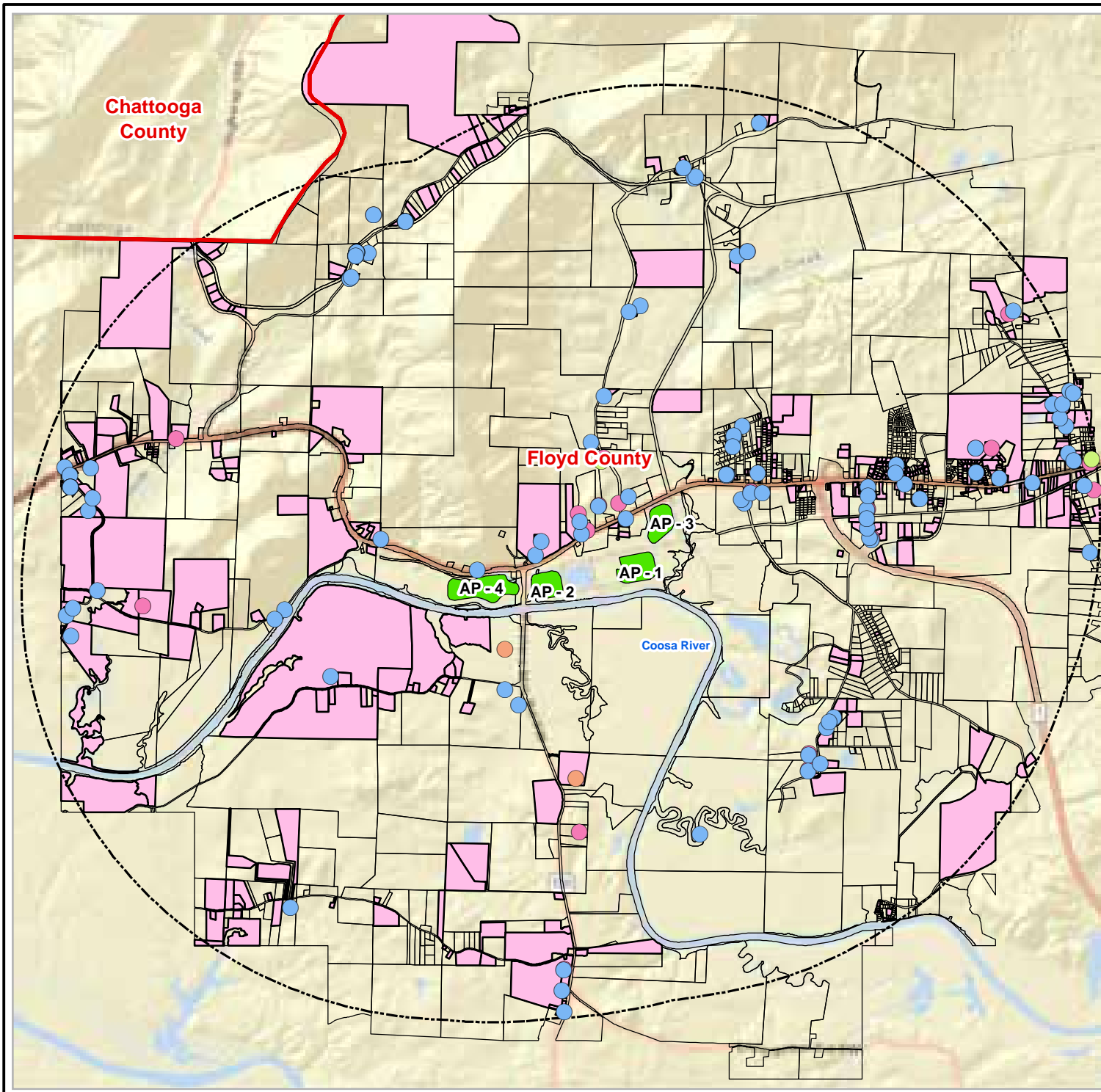
Summary

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.

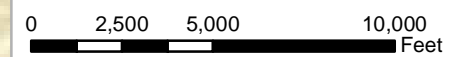
NewFields identified 707 actual and potential wells within the Investigated Area, the majority of which are likely private drinking water wells, but also some monitoring wells and commercial wells.³ There were no public drinking water wells within the Investigated Area.

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.



- Commercial Well
- Private Drinking Well
- Irrigation Well
- Monitoring Well
- County Line
- 3-Mile Radius
- Ash Pond
- Parcels
- Parcel identified as likely having a well



Title	Plant Hammond - Ash Ponds 1 - 4		
Project	GPC Plants Georgia		
	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
Appendix B-1
Groundwater Data
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Cobalt
		Units	mg/L
		Ash Pond	
HGWC-18	5/24/2016	AP-2	0.17
HGWC-18	7/12/2016	AP-2	0.17
HGWC-18	9/1/2016	AP-2	0.18
HGWC-18	10/25/2016	AP-2	0.19
HGWC-18	12/8/2016	AP-2	0.21
HGWC-18	1/26/2017	AP-2	0.20
HGWC-18	3/23/2017	AP-2	0.22
HGWC-18	5/25/2017	AP-2	0.21
HGWC-18	4/3/2018	AP-2	0.19
HGWC-18	6/5/2018	AP-2	0.19
HGWC-18	10/3/2018	AP-2	0.19
HGWC-18	3/14/2019	AP-2	0.16
HGWC-18	4/5/2019	AP-2	0.14
HGWC-18	9/25/2019	AP-2	0.18
HGWC-18	3/3/2020	AP-2	0.15
HGWC-18	3/31/2020	AP-2	0.16
HGWC-18	9/15/2020	AP-2	0.16
HGWC-18	2/11/2021	AP-2	0.14
HGWC-18	3/18/2021	AP-2	0.14
HGWC-18	8/19/2021	AP-2	0.15
HGWC-18	2/8/2022	AP-2	0.16
MW-21D	3/15/2019	AP-2	<0.01
MW-21D	4/4/2019	AP-2	0.00034
MW-21D	9/25/2019	AP-2	<0.0025
MW-21D	3/3/2020	AP-2	<0.005
MW-21D	4/1/2020	AP-2	<0.005
MW-21D	6/17/2020	AP-2	<0.005
MW-21D	9/21/2020	AP-2	< 0.0038
MW-21D	2/11/2021	AP-2	< 0.0038
MW-21D	3/18/2021	AP-2	< 0.0038
MW-21D	8/19/2021	AP-2	< 0.0039
MW-21D	2/8/2022	AP-2	< 0.0039
MW-37D	6/18/2020	AP-2	0.0015
MW-37D	9/23/2020	AP-2	< 0.00038
MW-37D	2/11/2021	AP-2	0.00048
MW-37D	3/12/2021	AP-2	< 0.00038
MW-37D	8/18/2021	AP-2	< 0.00039
MW-37D	2/8/2022	AP-2	< 0.00039

Appendix B
Appendix B-1
Groundwater Data
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

Well ID	Sample Date	Constituent	Cobalt
		Units	mg/L
		Ash Pond	
MW-33	1/22/2020	AP-2	0.052
MW-33	4/1/2020	AP-2	0.058
MW-33	6/17/2020	AP-2	0.053
MW-33	9/21/2020	AP-2	0.047
MW-33	2/12/2021	AP-2	0.055
MW-33	3/18/2021	AP-2	0.057
MW-33	8/18/2021	AP-2	0.054
MW-33	2/8/2022	AP-2	0.048
MW-34D	6/18/2020	AP-2	0.011
MW-34D	9/23/2020	AP-2	0.0056
MW-34D	8/16/2021	AP-2	0.0093
MW-34D	2/9/2022	AP-2	0.0065
MW-35	6/18/2020	AP-2	0.091
MW-35	9/21/2020	AP-2	0.084
MW-35	2/15/2021	AP-2	0.095
MW-35	3/19/2021	AP-2	0.10
MW-35	8/18/2021	AP-2	0.085
MW-35	2/8/2022	AP-2	0.09
MW-51	8/18/2021	AP-2	0.030
MW-51	2/8/2022	AP-2	0.031

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

Appendix B
Appendix B-2
Surface Water Data
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

Sample ID	Sample Location	River Sampled	Constituent	Cobalt
			Units	mg/L
AP-2 DOWN	Downstream	Unnamed Creek	Sample Date	
AP-2 DOWN	Downstream	Unnamed Creek	7/17/2020	< 0.005
AP-2 DOWN	Downstream	Unnamed Creek	12/14/2020	< 0.005
AP-2 DOWN	Downstream	Unnamed Creek	3/8/2021	< 0.005
AP-2 DOWN	Downstream	Unnamed Creek	9/13/2021	< 0.005
AP-2 DOWN	Downstream	Unnamed Creek	1/24/2022	< 0.005
AP-2 MID	Downstream	Unnamed Creek	7/17/2020	< 0.005
AP-2 MID	Downstream	Unnamed Creek	12/14/2020	< 0.005
AP-2 MID	Downstream	Unnamed Creek	3/8/2021	< 0.005
AP-2 MID	Downstream	Unnamed Creek	9/13/2021	< 0.005
AP-2 MID	Downstream	Unnamed Creek	1/24/2022	< 0.005
AP-2 UP	Upstream	Unnamed Creek	7/17/2020	< 0.005
AP-2 UP	Upstream	Unnamed Creek	12/14/2020	< 0.005
AP-2 UP	Upstream	Unnamed Creek	3/8/2021	< 0.005
AP-2 UP	Upstream	Unnamed Creek	9/13/2021	< 0.005
AP-2 UP	Upstream	Unnamed Creek	1/24/2022	< 0.005

Notes:

Bold = the constituent was detected in the sample

mg/L = milligrams(s) per liter

< = 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-2 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 17MAY2022:13:42:16

Appendix C
USEPA RSL Calculator Generated Residential Screening Levels
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

Chemical	Cobalt
CAS Number	7440-48-4
Mutagen?	No
Volatile?	No
Chemical Type	Inorganics
Sfo (mg/kg-day)-1	-
Sfo Ref	
IUR (ug/m3)-1	0.009
IUR Ref	P
RfD (mg/kg-day)	0.0003
RfD Ref	P
RfC (mg/m3)	0.000006
RfC Ref	P
GIABS	1
Kp (cm/hr)	0.0004
MW	58.9
B (unitless)	0.00118
t* (hr)	0.54
tevent (hr/event)	0.225
FA (unitless)	1
In EPD?	Yes
DAevent (ca)	-
DAevent (nc child)	0.000737
DAevent (nc adult)	0.00127
MCL (ug/L)	-
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
Dermal SL Child THQ=1 (ug/L)	3410
Inhalation SL Child THQ=1 (ug/L)	-
Noncarcinogenic SL Child THI=1 (ug/L)	6.01
Ingestion SL Adult THQ=1 (ug/L)	10
Dermal SL Adult THQ=1 (ug/L)	4480
Inhalation SL Adult THQ=1 (ug/L)	-
Noncarcinogenic SL Adult THI=1 (ug/L)	9.99
Screening Level (ug/L)	6.01E+00 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 Details^[1]
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

CCR Rule Designation	Constituent	Exposure Unit	Well IDs Included	Maximum Concentration (mg/L)	Detection Frequency	Exceedance Frequency	EPC Step 1	EPC Step 2	EPC Step 3
							Individual Target Well(s) 2016-2022 (mg/L)	Target Well(s) & Downgradient Well(s) 2016-2022 (mg/L)	Farthest Downgradient Well(s) 2016-2022 (mg/L)
Appendix IV	Cobalt	West	HGWC-18	0.22	21 / 21	21 / 21	0.18		
			HGWC-18 MW-21D MW-37D	0.22	24 / 38	21 / 38		0.16	
			[2]		--	--			Not Calculated ^[2]
		South	MW-33 MW-35	0.10	14 / 14	14 / 14	0.079		
			MW-33 MW-34D MW-35 MW-51	0.10	20 / 20	14 / 20		0.065	
			MW-51	0.031	2 / 2	0 / 2			0.031

Notes:

Highlighted value is the EPC selected for the refined screening.

[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 Step 3 EPC was not calculated for this constituent because there was no well located downgradient of the well with the exceedance.

Definitions:

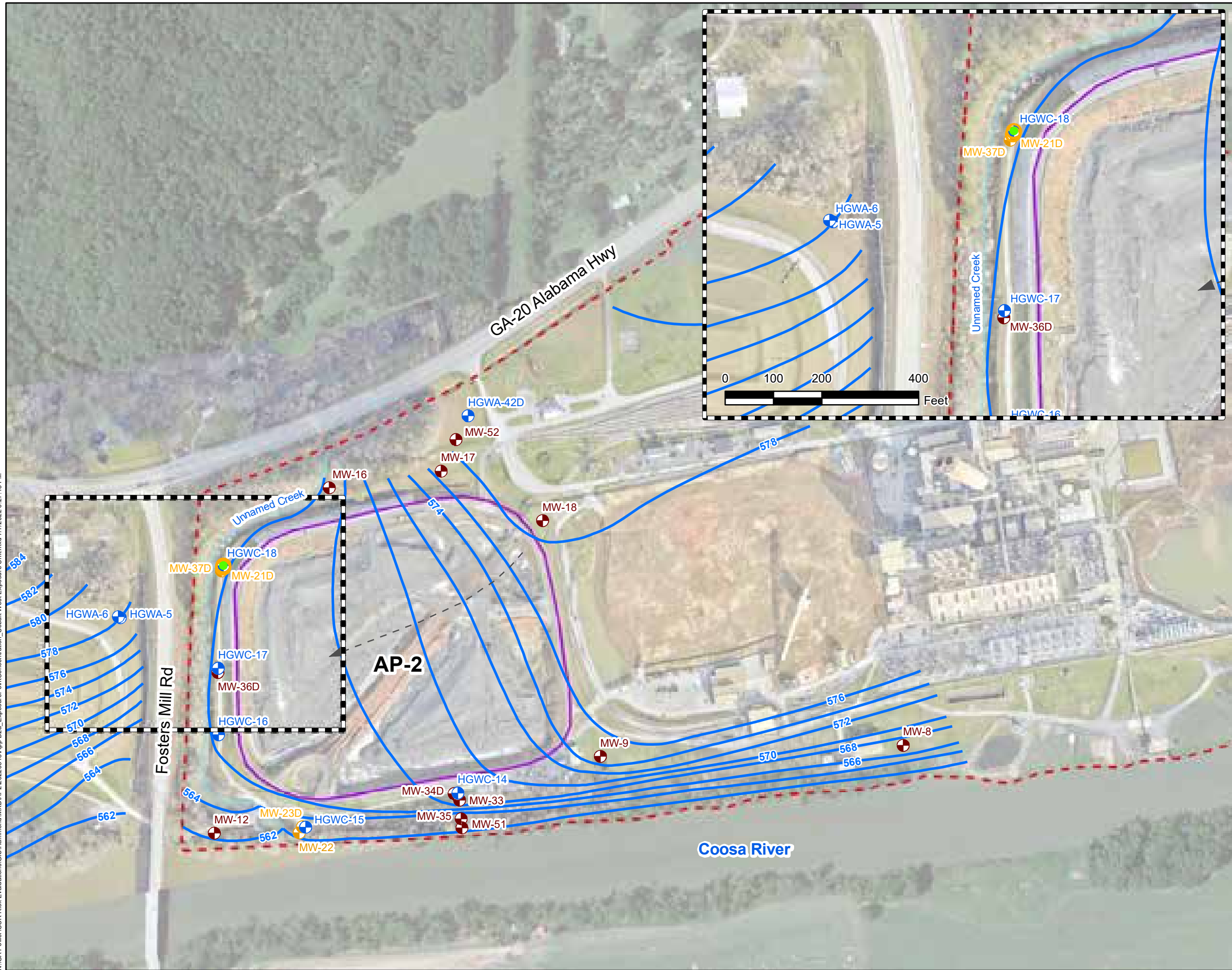
EPC = Exposure Point Concentration

mg/L = milligrams per liter

Appendix D-2

Exposure Point Concentration Figures

N:\GA Power\CCR Risk Evaluations\GIS\Hammond\Map2\20220518\Map_D2a_ExposurePointConcentration_Cobalt West Exposure Unit.mxd 7/7/2022 6:27:15 PM



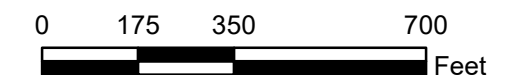
LEGEND

- Compliance Monitoring Well
- Delineation Monitoring Well
- Groundwater Level Monitoring Piezometer
- Unnamed Creek
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction
- Approximate AP-2 Boundary
- Plant Hammond Property Boundary

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) 2016-2022.
 3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2022.
 4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2022.
 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, August 2019 and Georgia Power Company, January 2022.



**EXPOSURE POINT CONCENTRATION MAP
COBALT WEST EXPOSURE UNIT**

GEORGIA POWER
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

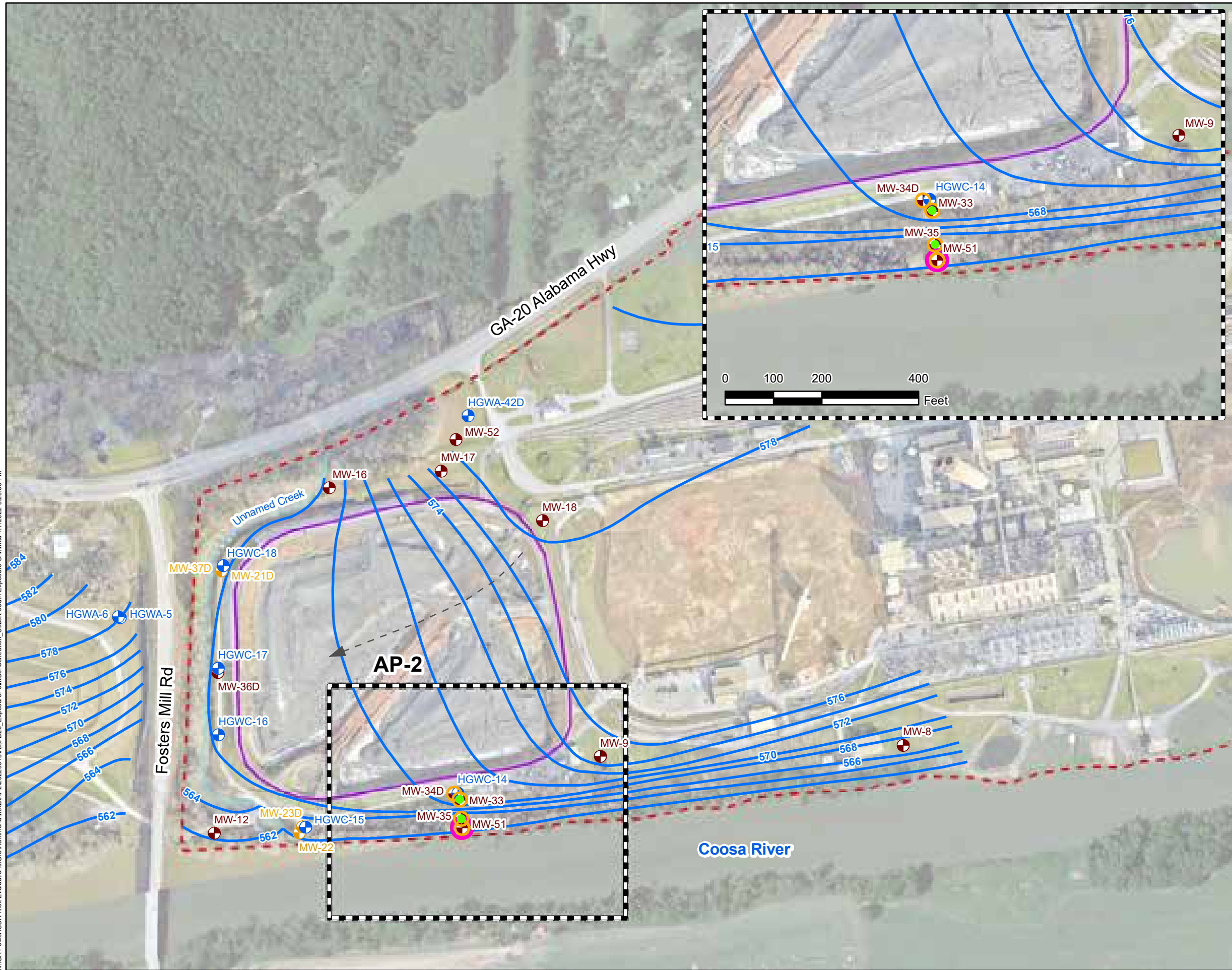
Prepared By: Geosyntec
consultants

**APPENDIX
D-2a**

KENNESAW, GA

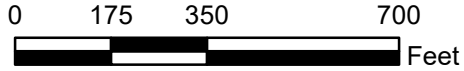
AUGUST 2022

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- LEGEND**
- Compliance Monitoring Well
 - Delineation Monitoring Well
 - Groundwater Level Monitoring Piezometer
 - Unnamed Creek
 - Groundwater Elevation Iso-Contour
 - Approximate Groundwater Flow Direction
 - Approximate AP-2
 - Plant Hammond Property Boundary
- 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) 2016-2022.
 3. EPC Step 2 - Target Well(s) & Adjacent Well(s) & Downgradient Well(s) 2016-2022.
 4. EPC Step 3 - Farthest Downgradient Well(s) 2016-2022.
 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, August 2019 and Georgia Power Company, January 2022.



**EXPOSURE POINT CONCENTRATION MAP
COBALT SOUTH EXPOSURE UNIT**

GEORGIA POWER
PLANT HAMMOND AP-2
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec
consultants

KENNESAW, GA AUGUST 2022

**APPENDIX
D-2b**

Appendix D-3

ProUCL Input / Output Files

Appendix D
Appendix D-3
ProUCL Input
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

West Exposure Unit				South Exposure Unit			
Step 1 EPC Calculation Input		Step 2 EPC Calculation Input		Step 1 EPC Calculation Input		Step 2 EPC Calculation Input	
Step1_Cobalt_West	D_Step1_Cobalt_West	Step2_Cobalt_West	D_Step2_Cobalt_West	Step1_Cobalt_South	D_Step1_Cobalt_South	Step2_Cobalt_South	D_Step2_Cobalt_South
0.17	1	0.17	1	0.052	1	0.052	1
0.168	1	0.168	1	0.058	1	0.058	1
0.18	1	0.18	1	0.053	1	0.053	1
0.188	1	0.188	1	0.047	1	0.047	1
0.206	1	0.206	1	0.055	1	0.055	1
0.195	1	0.195	1	0.057	1	0.057	1
0.223	1	0.223	1	0.054	1	0.054	1
0.209	1	0.209	1	0.048	1	0.048	1
0.19	1	0.19	1	0.091	1	0.011	1
0.19	1	0.19	1	0.084	1	0.0056	1
0.19	1	0.19	1	0.095	1	0.0093	1
0.16	1	0.16	1	0.1	1	0.0065	1
0.14	1	0.14	1	0.085	1	0.091	1
0.18	1	0.18	1	0.09	1	0.084	1
0.15	1	0.15	1			0.095	1
0.16	1	0.16	1			0.1	1
0.16	1	0.16	1			0.085	1
0.14	1	0.14	1			0.09	1
0.14	1	0.14	1			0.03	1
0.15	1	0.15	1			0.031	1
0.16	1	0.16	1				
		0.01	0				
		0.00034	1				
		0.0025	0				
		0.005	0				
		0.005	0				
		0.005	0				
		0.0038	0				
		0.0038	0				
		0.0038	0				
		0.0039	0				
		0.0039	0				
		0.0015	1				
		0.0038	0				
		0.00048	1				
		0.0038	0				
		0.0039	0				
		0.0039	0				

Notes:

EPC= Exposure point Concentration

Appendix D
Appendix D-3
ProUCL Output
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation ProUCL 5.15/17/2022 7:43:21 PM
 From File ap2.xls
 Full Precision OFF
 Confidence Coefficient 95%
 Number of Bootstrap Operations 2000

Step1_Cobalt_West

General Statistics

Total Number of Observations	21	Number of Distinct Observations	12
		Number of Missing Observations	0
Minimum	0.14	Mean	0.174
Maximum	0.223	Median	0.17
SD	0.0241	Std. Error of Mean	0.00525
Coefficient of Variation	0.138	Skewness	0.276

Normal GOF Test

Shapiro Wilk Test Statistic 0.954
 5% Shapiro Wilk Critical Value 0.908
 Lilliefors Test Statistic 0.145
 5% Lilliefors Critical Value 0.188

Shapiro Wilk GOF Test

Data appear Normal at 5% Significance Level

Lilliefors GOF Test

Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL

95% Student's-t UCL 0.183

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995) 0.183
 95% Modified-t UCL (Johnson-1978) 0.183

Gamma GOF Test

A-D Test Statistic 0.362
 5% A-D Critical Value 0.741
 K-S Test Statistic 0.141
 5% K-S Critical Value 0.189

Anderson-Darling Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov Gamma GOF Test

Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	55.16	k star (bias corrected MLE)	47.31
Theta hat (MLE)	0.00315	Theta star (bias corrected MLE)	0.00367
nu hat (MLE)	2317	nu star (bias corrected)	1987
MLE Mean (bias corrected)	0.174	MLE Sd (bias corrected)	0.0253
		Approximate Chi Square Value (0.05)	1884
Adjusted Level of Significance	0.0383	Adjusted Chi Square Value	1877

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when $n \geq 50$)	0.183	95% Adjusted Gamma UCL (use when $n < 50$)	0.184
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.955
5% Shapiro Wilk Critical Value	0.908
Lilliefors Test Statistic	0.131
5% Lilliefors Critical Value	0.188

Shapiro Wilk Lognormal GOF Test

Data appear Lognormal at 5% Significance Level

Lilliefors Lognormal GOF Test

Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-1.966	Mean of logged Data	-1.759
Maximum of Logged Data	-1.501	SD of logged Data	0.138

Assuming Lognormal Distribution

95% H-UCL	0.183	90% Chebyshev (MVUE) UCL	0.19
95% Chebyshev (MVUE) UCL	0.197	97.5% Chebyshev (MVUE) UCL	0.207
99% Chebyshev (MVUE) UCL	0.226		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.182	95% Jackknife UCL	0.183
95% Standard Bootstrap UCL	0.182	95% Bootstrap-t UCL	0.183
95% Hall's Bootstrap UCL	0.183	95% Percentile Bootstrap UCL	0.182
95% BCA Bootstrap UCL	0.183		
90% Chebyshev(Mean, Sd) UCL	0.19	95% Chebyshev(Mean, Sd) UCL	0.197
97.5% Chebyshev(Mean, Sd) UCL	0.207	99% Chebyshev(Mean, Sd) UCL	0.226

Suggested UCL to Use

95% Student's-t UCL 0.183

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.

General Statistics

Total Number of Observations	38	Number of Distinct Observations	20
Number of Detects	24	Number of Non-Detects	14
Number of Distinct Detects	15	Number of Distinct Non-Detects	5
Minimum Detect	3.4000E-4	Minimum Non-Detect	0.0025
Maximum Detect	0.223	Maximum Non-Detect	0.01
Variance Detects	0.00392	Percent Non-Detects	36.84%
Mean Detects	0.152	SD Detects	0.0626
Median Detects	0.164	CV Detects	0.411
Skewness Detects	-1.812	Kurtosis Detects	2.564
Mean of Logged Detects	-2.461	SD of Logged Detects	1.916

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.733
5% Shapiro Wilk Critical Value	0.916
Lilliefors Test Statistic	0.298
5% Lilliefors Critical Value	0.177

Shapiro Wilk GOF Test

Detected Data Not Normal at 5% Significance Level

Lilliefors GOF Test

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	0.0964	KM Standard Error of Mean	0.0145
KM SD	0.0878	95% KM (BCA) UCL	0.119
95% KM (t) UCL	0.121	95% KM (Percentile Bootstrap) UCL	0.121
95% KM (z) UCL	0.12	95% KM Bootstrap t UCL	0.121
90% KM Chebyshev UCL	0.14	95% KM Chebyshev UCL	0.16
97.5% KM Chebyshev UCL	0.187	99% KM Chebyshev UCL	0.241

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	5.859
5% A-D Critical Value	0.772
K-S Test Statistic	0.477
5% K-S Critical Value	0.183

Anderson-Darling GOF Test

Detected Data Not Gamma Distributed at 5% Significance Level

Kolmogorov-Smirnov GOF

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)	0.998	k star (bias corrected MLE)	0.901
Theta hat (MLE)	0.152	Theta star (bias corrected MLE)	0.169
nu hat (MLE)	47.91	nu star (bias corrected)	43.26
Mean (detects)	0.152		

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 3.4000E-4	Mean	0.13
-------------------	------	------

Maximum	0.223	Median	0.14
SD	0.0575	CV	0.441
k hat (MLE)	1.414	k star (bias corrected MLE)	1.32
Theta hat (MLE)	0.0921	Theta star (bias corrected MLE)	0.0986
nu hat (MLE)	107.5	nu star (bias corrected)	100.3
Adjusted Level of Significance (β)	0.0434		
Approximate Chi Square Value (100.33, α)	78.22	Adjusted Chi Square Value (100.33, β)	77.41
95% Gamma Approximate UCL (use when $n \geq 50$)	0.167	95% Gamma Adjusted UCL (use when $n < 50$)	0.169

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.0964	SD (KM)	0.0878
Variance (KM)	0.0077	SE of Mean (KM)	0.0145
k hat (KM)	1.206	k star (KM)	1.128
nu hat (KM)	91.63	nu star (KM)	85.73
theta hat (KM)	0.0799	theta star (KM)	0.0854
80% gamma percentile (KM)	0.153	90% gamma percentile (KM)	0.215
95% gamma percentile (KM)	0.277	99% gamma percentile (KM)	0.418

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (85.73, α)	65.39	Adjusted Chi Square Value (85.73, β)	64.65
95% Gamma Approximate KM-UCL (use when $n \geq 50$)	0.126	95% Gamma Adjusted KM-UCL (use when $n < 50$)	0.128

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.469	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.916	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.477	Lilliefors GOF Test
5% Lilliefors Critical Value	0.177	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	0.0992	Mean in Log Scale	-3.386
SD in Original Scale	0.0859	SD in Log Scale	1.987
95% t UCL (assumes normality of ROS data)	0.123	95% Percentile Bootstrap UCL	0.123
95% BCA Bootstrap UCL	0.123	95% Bootstrap t UCL	0.124
95% H-UCL (Log ROS)	0.823		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-4.272	KM Geo Mean	0.0139
KM SD (logged)	2.827	95% Critical H Value (KM-Log)	5.009
KM Standard Error of Mean (logged)	0.492	95% H-UCL (KM -Log)	7.78
KM SD (logged)	2.827	95% Critical H Value (KM-Log)	5.009
KM Standard Error of Mean (logged)	0.492		

DL/2 Statistics

DL/2 Normal

Mean in Original Scale	0.0969
SD in Original Scale	0.0884

DL/2 Log-Transformed

Mean in Log Scale	-3.824
SD in Log Scale	2.363

95% t UCL (Assumes normality) 0.121

95% H-Stat UCL 1.886

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 0.16

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_Cobalt_South

General Statistics

Total Number of Observations	14	Number of Distinct Observations	14
		Number of Missing Observations	0
Minimum	0.047	Mean	0.0692
Maximum	0.1	Median	0.0575
SD	0.02	Std. Error of Mean	0.00534
Coefficient of Variation	0.289	Skewness	0.374

Normal GOF Test

Shapiro Wilk Test Statistic	0.829	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.874	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.284	Lilliefors GOF Test
5% Lilliefors Critical Value	0.226	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	0.0787	95% Adjusted-CLT UCL (Chen-1995)	0.0786
		95% Modified-t UCL (Johnson-1978)	0.0788

Gamma GOF Test

A-D Test Statistic	1.124	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.734	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.274	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.229	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	13.25	k star (bias corrected MLE)	10.46
Theta hat (MLE)	0.00522	Theta star (bias corrected MLE)	0.00662

nu hat (MLE)	370.9 nu star (bias corrected)	292.8
MLE Mean (bias corrected)	0.0692 MLE Sd (bias corrected)	0.0214
	Approximate Chi Square Value (0.05)	254.2
Adjusted Level of Significance	0.0312 Adjusted Chi Square Value	249.4

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	0.0797 95% Adjusted Gamma UCL (use when n<50)	0.0813
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.841 Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.874 Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.258 Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.226 Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-3.058 Mean of logged Data	-2.709
Maximum of Logged Data	-2.303 SD of logged Data	0.285

Assuming Lognormal Distribution

95% H-UCL	0.0805 90% Chebyshev (MVUE) UCL	0.0852
95% Chebyshev (MVUE) UCL	0.0924 97.5% Chebyshev (MVUE) UCL	0.102
99% Chebyshev (MVUE) UCL	0.122	

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	0.078 95% Jackknife UCL	0.0787
95% Standard Bootstrap UCL	0.0776 95% Bootstrap-t UCL	0.0794
95% Hall's Bootstrap UCL	0.0772 95% Percentile Bootstrap UCL	0.0774
95% BCA Bootstrap UCL	0.0778	
90% Chebyshev(Mean, Sd) UCL	0.0852 95% Chebyshev(Mean, Sd) UCL	0.0925
97.5% Chebyshev(Mean, Sd) UCL	0.103 99% Chebyshev(Mean, Sd) UCL	0.122

Suggested UCL to Use

95% Student's-t UCL	0.0787 or 95% Modified-t UCL	0.0788
---------------------	------------------------------	--------

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_Cobalt_South

General Statistics

Total Number of Observations	20	Number of Distinct Observations	20
		Number of Missing Observations	0
Minimum	0.0056	Mean	0.0531
Maximum	0.1	Median	0.0535
SD	0.0308	Std. Error of Mean	0.00688
Coefficient of Variation	0.579	Skewness	-0.0965

Normal GOF Test

Shapiro Wilk Test Statistic	0.923	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.905	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.142	Lilliefors GOF Test
5% Lilliefors Critical Value	0.192	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL

95% Student's-t UCL

95% UCLs (Adjusted for Skewness)

0.065	95% Adjusted-CLT UCL (Chen-1995)	0.0643
	95% Modified-t UCL (Johnson-1978)	0.065

Gamma GOF Test

A-D Test Statistic	1.063	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.753	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.231	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.196	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.933	k star (bias corrected MLE)	1.677
Theta hat (MLE)	0.0275	Theta star (bias corrected MLE)	0.0317
nu hat (MLE)	77.33	nu star (bias corrected)	67.07
MLE Mean (bias corrected)	0.0531	MLE Sd (bias corrected)	0.041
		Approximate Chi Square Value (0.05)	49.22
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	48.01

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	0.0724	95% Adjusted Gamma UCL (use when n<50)	0.0742
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.817	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.905	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.269	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.192	Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-5.185	Mean of logged Data	-3.216
Maximum of Logged Data	-2.303	SD of logged Data	0.912

Assuming Lognormal Distribution

95% H-UCL	0.103	90% Chebyshev (MVUE) UCL	0.0991
95% Chebyshev (MVUE) UCL	0.117	97.5% Chebyshev (MVUE) UCL	0.142
99% Chebyshev (MVUE) UCL	0.192		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0644	95% Jackknife UCL	0.065
95% Standard Bootstrap UCL	0.0641	95% Bootstrap-t UCL	0.0651
95% Hall's Bootstrap UCL	0.0636	95% Percentile Bootstrap UCL	0.064
95% BCA Bootstrap UCL	0.0641		
90% Chebyshev(Mean, Sd) UCL	0.0738	95% Chebyshev(Mean, Sd) UCL	0.0831
97.5% Chebyshev(Mean, Sd) UCL	0.0961	99% Chebyshev(Mean, Sd) UCL	0.122

Suggested UCL to Use

95% Student's-t UCL 0.065

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 positively skewed data sets.

Step3_Cobalt_South

General Statistics			
Total Number of Observations	6	Number of Distinct Observations	6
		Number of Missing Observations	0
Minimum	0.084	Mean	0.0908
Maximum	0.1	Median	0.0905
SD	0.00605	Std. Error of Mean	0.00247
Coefficient of Variation	0.0666	Skewness	0.44

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 GOF Test	
Shapiro Wilk Test Statistic	0.951	Data appear Normal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.788		

Lilliefors Test Statistic	0.166	Lilliefors GOF Test
5% Lilliefors Critical Value	0.325	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	0.0958	95% Adjusted-CLT UCL (Chen-1995)	0.0954
		95% Modified-t UCL (Johnson-1978)	0.0959

Gamma GOF Test

A-D Test Statistic	0.24	Anderson-Darling Gamma GOF Test
5% A-D Critical Value	0.696	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.19	Kolmogorov-Smirnov Gamma GOF Test
5% K-S Critical Value	0.332	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	273.5	k star (bias corrected MLE)	136.9
Theta hat (MLE)	3.3206E-4	Theta star (bias corrected MLE)	6.6357E-4
nu hat (MLE)	3283	nu star (bias corrected)	1643
MLE Mean (bias corrected)	0.0908	MLE Sd (bias corrected)	0.00776
		Approximate Chi Square Value (0.05)	1549
Adjusted Level of Significance	0.0122	Adjusted Chi Square Value	1516

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	0.0963	95% Adjusted Gamma UCL (use when n<50)	0.0984
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Lognormal GOF Test

Shapiro Wilk Test Statistic	0.953	Shapiro Wilk Lognormal GOF Test
5% Shapiro Wilk Critical Value	0.788	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.169	Lilliefors Lognormal GOF Test
5% Lilliefors Critical Value	0.325	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-2.477	Mean of logged Data	-2.401
Maximum of Logged Data	-2.303	SD of logged Data	0.0661

Assuming Lognormal Distribution

95% H-UCL	N/A	90% Chebyshev (MVUE) UCL	0.0982
95% Chebyshev (MVUE) UCL	0.102	97.5% Chebyshev (MVUE) UCL	0.106
99% Chebyshev (MVUE) UCL	0.115		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	0.0949	95% Jackknife UCL	0.0958
95% Standard Bootstrap UCL	0.0945	95% Bootstrap-t UCL	0.0971
95% Hall's Bootstrap UCL	0.0971	95% Percentile Bootstrap UCL	0.0945
95% BCA Bootstrap UCL	0.095		
90% Chebyshev(Mean, Sd) UCL	0.0982	95% Chebyshev(Mean, Sd) UCL	0.102
97.5% Chebyshev(Mean, Sd) UCL	0.106	99% Chebyshev(Mean, Sd) UCL	0.115

Suggested UCL to Use

95% Student's-t UCL 0.0958

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
Plant Hammond AP-2 Risk Evaluation Report
Plant Hammond, Rome, GA

