Prepared for

Georgia Power Company
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2019 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PLANT HAMMOND HUFFAKER ROAD LANDFILL

Prepared by

engineers | scientists | innovators

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CERTIFICATION STATEMENT

This *2019 Annual Groundwater Monitoring and Corrective Action Report - Plant Hammond – Huffaker Road Landfill* has been prepared in accordance with the United States Environmental Protection Agency coal combustion residual rule [40 Code of Federal Regulations 257 Subpart D], specifically 40 CFR 257.90(e), and the Georgia Environmental Protection Division Rules for Solid Waste Management, Rule 391-3-4-.10 Coal Combustion Residuals and Rule 391-3-4-.14 Groundwater Monitoring and Corrective Action by a qualified groundwater scientist or engineer with Geosyntec Consultants.

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Date

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ASD	Alternate Source Demonstration
cm/sec	centimeters per second
CCR	coal combustion residual
CFR	Code of Federal Regulations
D&O	Design and Operations
DO	dissolved oxygen
ft	feet
ft MSL	feet mean sea level
ft/ft	feet per foot
ft/day	feet per day
GA EPD	Georgia Environmental Protection Division
GPC	Georgia Power Company
MCL	maximum contaminant level
mg/L	milligrams per liter
NELAP	National Environmental Laboratory Accreditation Program
NTU	Nephelometric Turbidity Unit
ORP	Oxidation/Reduction Potential
Pace Analytical	Pace Analytical Services, LLC.
PE	professional engineer
PL	prediction limit
PQL	practical quantitation limit
QA/QC	quality assurance/quality control
ROS	regression on order statistics
SAR	Site Acceptability Report
SCS	Southern Company Services
SSI	statistically significant increase
SM	standard method
TDS	total dissolved solids
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

Groundwater monitoring is currently conducted at the Georgia Power Company (GPC) Plant Hammond, Huffaker Road Landfill (the landfill or the site) to comply with the landfill's Solid Waste permit number 057-022D (LI) (the permit), as issued by the Georgia Environmental Protection Division (GA EPD), and in accordance with Georgia Solid Waste Management Rules for Groundwater Monitoring and Corrective Action of a municipal solid waste landfill, Rule 391-3-4.14. The landfill is also subject to the United States Environmental Protection Agency (USEPA) coal combustion residual rule (CCR Rule) [40 Code of Federal Regulations (CFR) 257 Subpart D] and the GA EPD Rules for Solid Waste Management 391-3-4-.10. Geosyntec Consultants has prepared this *2019 Annual Groundwater Monitoring and Corrective Action Report* to document groundwater monitoring activities at GPC Plant Hammond Huffaker Road Landfill. This report documents groundwater monitoring activities completed for the landfill during the 2019 calendar year. A semiannual groundwater report documenting activities from January through July 2019 was prepared and submitted to GA EPD in August 2019 (Geosyntec, 2019b). This report satisfies the reporting requirements of applicable GA EPD Solid Waste Management Rules (391-3-4-.14) and federal and state CCR Rule [40 CFR 257.90(e), 391-3-4-.10]. For ease of reference when discussing aspects of the CCR Rule, only the USEPA CCR rules are cited within this report.

1.1 Site Description and Background

The Huffaker Road Landfill is a GPC-owned property located in Floyd County approximately five miles northeast of Plant Hammond (**Figure 1**). The landfill was built between 2005 and 2007 over a closed surface clay mine, previously owned by Boral Bricks, Inc. The landfill is comprised of constructed Parcels A, B, and E, with Parcels C and D proposed for future expansion. The three existing parcels were permitted and constructed with a minimum 24-inch compacted clay liner with a maximum hydraulic conductivity of 1×10^{-6} centimeters per second (cm/sec) underlain with a compacted soil barrier designed to provide a minimum five-foot thick barrier between the bottom of the clay liner and seasonal high groundwater levels. GA EPD approved Solid Waste Permit No. 057-022D (LI) in a letter dated May 26, 2006, and disposal operations commenced on May 5, 2008. No CCR materials were stored in the landfill prior to May 2008 (ERM, 2018). In 2016, Parcels A and B were retrofitted with a leachate collection system and a 60-mil HDPE geomembrane overlaying the 24-inch clay liner, which was recompacted to obtain a maximum hydraulic conductivity of 1×10^{-7} cm/sec (GPC, 2016).

Based on discussions with GPC personnel, Parcels A and B have historically received coal ash whereas Parcel E has typically received gypsum. Currently, Parcels A and B are active, and Parcel E is temporarily inactive and covered with an intermediate closure system of 18-in of soil compacted to obtain a maximum hydraulic conductivity of 1×10^{-6} cm/sec.

A groundwater monitoring plan was developed as part of the landfill's pre-construction Design and Operations (D&O) Plan and approved in September 2004 with subsequent modifications submitted to GA EPD in September 2005, April 2009, and May 2013. Groundwater monitoring in accordance with the D&O Plan began in 2007, prior to disposal activities, and continues to date. The D&O Plan stipulated the following parameters are to be analyzed by an accredited laboratory: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc. Field parameters that are to be recorded include: pH, temperature, turbidity, dissolved oxygen, specific conductance, and oxidation-reduction potential.

Groundwater monitoring and reporting activities in accordance with 40 CFR 257.90 through 257.94 of the federal CCR Rule were initiated in 2016. Pursuant to 40 CFR 257.94(b), the eight baseline sampling events were conducted March 2016 to March 2017, with the initial detection monitoring event occurring October 2017.

Groundwater samples from wells in the detection monitoring system are collected from each monitoring well and analyzed for:

- Appendix III constituents according to 40 CFR § 257.94(a); and

- A state-modified Appendix I list of detection parameters according to GA EPD Rules for Solid Waste Management 391-3-4-.14 and the approved D&O plan. The state-modified analyte list includes antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc.

1.2 Regional Geology and Hydrogeologic Setting

The regional geology was summarized in the Southern Company Services (SCS) prepared Site Acceptability Report (SAR) (SCS, 2002) based on the work of Cressler (1970). The landfill is located in the Floyd Shale member of the Judy Mountain Syncline. The Floyd Shale is Mississippian in age and ranges from 200 to 1,200 feet thick in Floyd County. The unit is composed of clay and shale, transitioning to limestone at its base.

Boring logs presented in the SAR indicate sandy clayey silt and silty clay with rock fragments described as shale extending to depths of up to approximately 30 feet below ground surface. Underlying this material is a medium gray to dark gray and dark olive gray, heavily to moderately weathered shale. Rock cores collected at the site are described as slightly weathered to unweathered, thinly bedded shale. Descriptions provided in the boring logs are representative of recorded observations on the Floyd Shale.

The landfill is underlain by a regional unconfined groundwater aquifer that occurs within the overburden. Groundwater recharge at the landfill is from infiltration of precipitation. Prior site investigations indicate groundwater within the unconfined aquifer flows predominantly through the heavily to moderately weathered shale layer (SCS, 2002). Groundwater occurring in bedrock below the site is controlled by the degree of enhanced secondary permeability. In general, groundwater occurring in the bedrock is a result of water infiltrating through areas in the overburden where enhanced permeability exists. Review of the available boring logs does not identify a confined aquifer beneath the landfill.

1.3 Groundwater Monitoring Well Network

The existing groundwater monitoring system meets the requirements listed in 40 CFR 257.91 and 391-3-4.14, and (1) consists of a sufficient number of wells, (2) installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer, and (3) represents the groundwater quality both upgradient of the unit (i.e., background conditions) and passing the waste boundary of the unit. The number, spacing, and depths of the groundwater monitoring wells were selected based on the characterization of site-specific hydrogeologic conditions. Pursuant to the 40 CFR 257.91, the well network was certified by a professional engineer (PE) on October 17, 2017; the certification is maintained in the site's operating records.

The certified compliance monitoring well network for the landfill consists of 17 wells installed between September 2001 and February 2007. Five monitoring well locations were designed to monitor background, upgradient groundwater quality conditions, with 12 wells installed downgradient of the landfill to serve as compliance wells. The locations of the compliance wells are presented on **Figure 2**; well construction details are listed in **Table 1**.

1.4 Landfill Underdrain Monitoring Point

In addition to the groundwater monitoring well network, the D&O Plan requires sampling the landfill underdrain monitoring point SWC-1 during each semiannual monitoring event and performing analysis for the same constituents monitored in groundwater. The monitoring point is located west of Parcels A and B, as shown on **Figure 2**. Historically, there has been no liquid discharge from this underdrain point in order to collect a sample. The discharge status of the monitoring point is confirmed during each sampling event.

2.0 GROUNDWATER MONITORING ACTIVITIES

The following describes monitoring-related activities performed during January through December 2019 and discusses any change in status of the monitoring program. All groundwater sampling was performed in accordance with 40 CFR 257.93 and the D&O Plan.

2.1 Monitoring Well Installation and Maintenance

The monitoring well network at the landfill has remained unchanged for the 2019 reporting period.

The well and piezometer networks are inspected during each groundwater monitoring event using GA EPD-based inspection criteria. Any issues identified with the wells (e.g., clogged weep holes within the outer protective casing, faded well identification signage, rusted locks and/or latches, etc.) are addressed before the following groundwater sampling event. Only routine maintenance of the well network was required during 2019. The well inspection forms are provided in **Appendix A**.

2.2 Alternate Source Demonstrations

A statistically significant increase (SSI) of barium and pH in compliance well GWC-8 and sulfate in well GWC-20 was reported in the *First 2019 Semi-Annual Groundwater Monitoring Report* (Geosyntec, 2019b), which was submitted to GA EPD in August 2019. Pursuant to Rule 391-3-4-.14(23)(c), two Alternate Source Demonstrations (ASDs) were prepared that present multiple lines of evidence to demonstrate that the SSIs of barium and pH in well GWC-8 and the sulfate in well GWC-20 are not associated with a release from the landfill, but instead associated with natural variation in the groundwater quality. The completed ASD reports are provided in **Appendix B**.

ASDs have been previously prepared to address SSIs of the following parameters at the indicated wells: barium (GWC-10); chloride (GWC-8); cobalt (GWC-7); nickel (GWC-7); TDS (GWC-6 and GWC-8); and zinc (GWC-7). These ASDs were previously provided under separate report covers.

2.3 Detection Monitoring

GPC currently monitors groundwater associated with the landfill under the detection groundwater monitoring program in accordance with Solid Waste Management Rule 391-

3-4-.14(22) and federal CCR Rule 40 CFR 257.94. The two detection and four verification monitoring events occurred April, June, September/October, and November 2019 (**Table 2**). Groundwater samples were collected from each compliance monitoring well shown on **Figure 2** and analyzed for the state-modified list of Appendix I parameters and Appendix III parameters stipulated by the August 2017 permit modification (Section 1.1). The analytical and statistical results of these events are discussed in Sections 3 and 4, respectively.

3.0 SAMPLE METHODOLOGY & ANALYSIS

The following section presents a summary of the field sampling procedures that were implemented and the groundwater sampling results that were obtained in connection with the detection monitoring program conducted during January through December 2019.

3.1 Groundwater Level Measurement

Prior to a sitewide sampling event, a synoptic round of depth to groundwater level measurements are recorded from the monitoring well network and used to calculate the corresponding groundwater elevation. The calculated groundwater elevations for the April and September/October 2019 sampling events are presented in **Table 3**. The groundwater elevations observed for the April 2019 semiannual detection monitoring event ranged from 690.32 feet mean sea level (ft MSL) (referenced to the North American Vertical Datum of 1988) in well GWA-1 to 613.58 ft MSL in well GWC-21. For the September/October 2019 sampling event the groundwater elevations ranged from 683.66 ft MSL in well GWA-1 to 608.32 ft MSL in well GWC-21.

The groundwater elevation data were used to prepare potentiometric surface maps for the April and September/October 2019 sampling events, which are presented on **Figures 3** and **4**, respectively. Interpretation of the potentiometric surface contours indicate that groundwater flow beneath the landfill is generally to the southeast in vicinity of Parcels A and B, and then south-southwest beneath Parcel E. These observed flow directions are consistent with previous observations.

3.2 Groundwater Gradient and Flow Velocity

The groundwater hydraulic gradient beneath the landfill was calculated using the groundwater elevation data from the April and September/October 2019 events, and between two pairs of data points along interpreted groundwater flow paths to account for changing flow directions across the site, as discussed in Section 3.1. For Parcels A and B, the hydraulic gradient was calculated between wells GWA-1 and GWC-7; for Parcel E, wells GWC-9 and GWC-20 were used for the gradient calculation. The gradient calculations are presented in **Table 4.** The general trajectory of the flow paths used in the calculations are shown on **Figures 3** and **4**.

As presented in **Table 4**, the average hydraulic gradient underneath Parcels A and B, applying the 2019 data, was calculated to be 0.025 feet per foot (ft/ft), whereas the average hydraulic gradient underneath Parcel E equaled 0.016 ft/ft.

The horizontal groundwater flow velocity was calculated using Darcy's Law, as follows:

$$V = linear\ velocity = \frac{K\Delta h}{n\Delta l}$$

where:

$K = hydraulic\ conductivity$
$\frac{\Delta h}{\Delta l} = hydraulic\ gradient = \frac{(h_1 - h_2)}{L}$
$n = effective\ porosity$
$h_1\ and\ h_2 = groudwater\ elevation\ at\ location\ 1\ and\ 2$
$L = distance\ between\ location\ 1\ and\ 2$

Prior site investigations indicate groundwater within the unconfined aquifer flows predominantly through the heavily to moderately weathered shale layer (SCS, 2002). The average hydraulic conductivity for this zone [0.248 feet per day (ft/day)] was computed from slug test data derived from five locations across the site (SCS, 2002). An estimated effective porosity of 0.20 is used for the flow rate calculation, based on interpreted values for weathered shale (Freeze/Cherry, 1979). With these variables determined, and accounting for the hydraulic gradients discussed above, the 2019 average groundwater flow velocity underneath Parcels A and B was calculated to be 0.026 ft/day. Similarly, the average flow velocity underneath Parcel E was calculated to be 0.020 ft/day. The flow velocity calculations are provided in **Table 4**.

3.3 Groundwater Sampling Procedures

Groundwater samples were collected from the compliance monitoring well network in accordance with 40 CFR 257.93(a) and the D&O Plan using low-flow purging techniques performed with a peristaltic pump with disposable polyethylene tubing. The intake point of the tubing was lowered to the midpoint of the well screen. Each well was sampled with a new segment of tubing; all tubing was disposed of following the sampling event. All non-disposable equipment was decontaminated before use and between well locations.

A SmarTroll® (In-Situ® field instrument) was used to monitor and record field water quality parameters [i.e., pH, conductivity, dissolved oxygen (DO), temperature, and

oxidation reduction potential (ORP)] during well purging to verify stabilization prior to sampling. Turbidity was monitored using a LaMotte 2020we® turbidity meter. Groundwater samples were collected once the following stabilization criteria were met:

- ± 0.1 standard units for pH
- ± 5% for specific conductance
- ± 0.2 milligrams per liter (mg/L) or 10% for DO > 0.5 mg/L (whichever is greater). No criterion applies if DO < 0.5 mg/L, record only.
- Turbidity measured less than 10 nephelometric turbidity units (NTU)

Following purging, once stabilization was achieved, samples were collected in laboratory-supplied plastic bottles. Sample bottles were placed in ice-packed coolers and submitted to Pace Analytical Services, LLC. in Norcross, Georgia following chain-of-custody protocol. The field sampling forms generated during the monitoring events conducted during April through November 2019 are provided in **Appendix C**.

3.4 Laboratory Analyses

Laboratory analyses were performed by Pace Analytical Services, LLC. (Pace Analytical), which is accredited by the National Environmental Laboratory Accreditation Program (NELAP). Pace Analytical maintains a NELAP certification for the permit specified parameters analyzed for this project. Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in **Appendix C**.

The groundwater analytical results from the 2019 detection and verification monitoring events are summarized in **Table 5**. The Pace Analytical laboratory reports associated with these results are provided in **Appendix C**. The pH field measurements recorded during the detection monitoring and verification sampling events are also provided in **Table 5**.

3.5 Quality Assurance and Quality Control

Quality assurance/quality control (QA/QC) samples were collected during the groundwater monitoring events at the rate of one QA/QC sample per 10 groundwater samples and included the following: field duplicates, equipment blanks, and field blank samples. QA/QC samples were collected in laboratory-provided bottles and submitted

under the same chain of custody as the primary samples for analysis of the same parameters by Pace Analytical.

In addition to collecting QA/QC samples, the data were validated based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and applicable federal guidance documents (USEPA, 2011; USEPA, 2017). Where necessary, the data were qualified with supporting documentation and justifications. The associated data validation report is provided in **Appendix C** with the laboratory reports.

4.0 STATISTICAL ANALYSES

The following section presents a summary of the statistical approach applied to independently assess the April and September/October 2019 groundwater data for potential SSIs of permit stipulated parameters reported in downgradient compliance wells relative to the available historical dataset. Because the landfill is currently independently managed under both Georgia's Solid Waste Management Rule 391-3-4.14 and Georgia's CCR Rule 391-3-4.10, which references the federal CCR Rule, two datasets are statistically evaluated per semiannual monitoring event. One dataset contains Appendix III parameters, which is applicable to both of the beforementioned rule sets. The other dataset contains the D&O-specified state-modified list of Appendix I parameters, applicable to Rule 391-3-4.14.

Statistical analysis of the 2019 groundwater data for Appendix III parameters was performed pursuant to 40 CFR 257.93 and in accordance with the PE-certified statistical method. Statistical analysis of the April and September/October 2019 groundwater data for D&O Appendix I parameters was performed pursuant to Rule 391-3-4-.14 and in accordance with the *Background Data Screening & Recommended Statistical Methods* report prepared by Groundwater Stats Consulting in August 2019 and the USEPA document *Statistical Analysis of Groundwater Data at RCRA Facilities Unified Guidance* (Unified Guidance) (USEPA, 2009). The method proposed in the August 2019 report differed from that required by the D&O Plan. GPC submitted a minor permit modification request to GA EPD to change the statistical methods; the minor modification request was approved by GA EPD in a letter dated August 20, 2019 (EPD, 2019).

The Sanitas groundwater statistical software was used to perform the statistical analyses. Sanitas is a decision-support software package that incorporates the statistical tests required of Subtitle C and D facilities by USEPA regulations and guidance as recommended in the Unified Guidance.

Section 5.3 of the Unified Guidance recommends recalculating the PLs every 2 to 3 years once an adequate data set (i.e., 4 or more new measurements) is compiled for statistical comparison with the existing data set developed from the initial 8 background monitoring events (i.e., conducted between March 2016 and March 2017). Per this guidance, the PLs for Appendix III parameters were recalculated after the first 2019 semiannual sampling event. The PLs for the Appendix I D&O parameters were established with data for March 2007 to October 2018 and will be recalculated after the second 2020 semiannual sampling event, which corresponds to 4+ events after the October 2018 sampling event.

4.1 Statistical Methods – Appendix III Parameters

The PE-certified statistical approach used to evaluate groundwater data for the landfill for Appendix III parameters is the intrawell prediction limit (PL) method combined with a 1-of-3 resample plan. The intrawell PLs utilize historical data from within a given well to establish a statistical limit for comparison of compliance data at the same well. In this case, the data from the monitoring events conducted between March 2016 and June 2019 to establish background conditions. An "initial exceedance" occurs when any data from the well exceeds the PL.

If data from a detection monitoring sampling event initially exceed the PL, the resampling strategy will be used to verify the result. In the 1-of-3 resampling, up to two independent resamples may be collected and evaluated within 90 days to determine whether the initial exceedance is verified. If both resamples exceed the PL, the initial exceedance is verified, and an SSI of that Appendix III parameter is determined. When a single resample result does not verify the initial result, and does not exceed the PL, there is no SSI. If resampling is not performed, the initial exceedance is treated as a confirmed exceedance.

4.2 Statistical Methods – Appendix I D&O Parameters

The intrawell PL statistical approach was also used to evaluate groundwater data for the landfill for Appendix I D&O parameters with a 1-of-2 resample plan (Groundwater Stats, 2019). A 1-of-2 resample plan is sufficient because the dataset used to derive the PLs for the Appendix I constituents is larger since they have been monitored since 2007 and the data encompass sampling events from March 2007 to October 2018. In the 1-of-2 resampling, up to one independent resample may be collected and evaluated within 90 days to determine whether the initial exceedance is verified.

The following guidance is also applicable to the Appendix I and Appendix III statistical analysis methods:

- Statistical analyses are not performed on analytes containing 100% non-detects (USEPA, 2009).

- When data contain less than or equal to 15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis.

The reporting limit utilized for non-detects is the practical quantitation limit (PQL) as reported by the laboratory.

- When data contain between 15-50% non-detects, a non-detect adjustment such as the Kaplan-Meier or Regression on Order Statistics (ROS) method for adjustment of the mean and standard deviation will be used prior to constructing a parametric PL.

- Nonparametric PLs are used on data containing greater than 50% non-detects.

4.3 Statistical Analysis Results

A summary of the Sanitas outputs for the 2019 detection monitoring events, and the associated verification sampling events, is provided in **Appendix D**. **Table D-1** of Appendix D compares the 2019 groundwater data to PLs for Appendix III parameters, whereas the Appendix I D&O parameter PLs are presented in **Table D-2**. However, prior to the derivation of the PLs, the background data were assessed for trends and outliers.

4.3.1 First Semiannual Event

The background data for D&O parameters were established in the first semiannual statistical analysis after evaluation of the historical dataset (March 2007 to October 2018) with the exception of special cases for selected well/parameter combinations. Data with statistically significant trends are typically not included as part of the background data used for construction of prediction limits. After testing with the Sen's Slope/Mann Kendall method, several records were truncated in order to utilize more recent measurements that do not contain trending data which results in statistical limits that better represent present-day conditions. A list of special cases where the record was truncated for construction of statistical limits is provided in **Appendix D**.

Time series plots generated by Sanitas were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for D&O parameters were formally tested using Tukey's box plot method. Several values identified by Tukey's method were flagged in the database. Several other values were flagged in addition to those identified by Tukey's because the values were higher than all remaining concentrations and would cause the statistical limits to be elevated. A summary of all flagged values is included in **Appendix D**.

As presented in the first semiannual groundwater monitoring report (Geosyntec, 2019b), statistical analysis of the April 2019 groundwater data identified the following verified Appendix III SSIs:

- pH (GWC-8)
- Sulfate (GWC-20)

The statistical analyses of the Appendix I D&O parameters resulted in a barium PL exceedance in GWC-8. As discussed in Section 2.2, ASDs were prepared presenting multiple lines of evidence to conclude that the SSIs in wells GWC-8 and GWC-20 are not associated with a release from the landfill. The ASDs are provided in **Appendix B**.

4.3.2 Second Semiannual Event

As mentioned in Section 4.1, the PLs for Appendix III parameters were recalculated before statistically evaluating the September/October 2019 data. The original background Appendix III parameter data set (i.e., March 2016 to March 2017) was expanded to include data from October 2017 to June 2019 (i.e., corresponding to the final verification sampling event conducted for the April 2019 semiannual monitoring event). The original background data set and expanded data set were statistically compared using a Wilcoxon Rank Sum test. The background dataset of well/constituent pairs with identified significant differences was further reviewed, and well/constituent pairs with an ASD in place were updated. Additionally, close inspection of the remaining well/constituent pairs evidenced that most of the reported measurements are consistent with those observed in upgradient wells, so the data ranges can be attributed to natural variability at the site. Therefore, all PLs for Appendix III parameters were updated. **Appendix D** provides a summary of the statistical evaluation. Suspected outliers of Appendix III parameters were evaluated by Tukey's method and two values were flagged in the database. A summary of the Appendix III flagged values is also included in **Appendix D**.

Although initial statistical exceedances were observed in the September sampling results, subsequent verification samples did not confirm the exceedances. Therefore, no verified SSIs were observed for Appendix III parameters during the second semiannual sampling event. The statistical analyses of the Appendix I D&O parameters resulted in an arsenic PL exceedance in GWC-7. In accordance with GA EPD Rules for Solid Waste Management 391-3-4-.14(23)(c), an ASD is being prepared to address the SSI of arsenic in well GWC-7 and will be submitted to the EPD.

5.0 MONITORING PROGRAM STATUS

Groundwater monitoring at the landfill is currently being conducted under a detection monitoring program pursuant to both the Georgia Rule 391-3-4.14(21) and the federal CCR Rule 40 CFR 257.94. GPC is currently preparing a demonstration that a source other than the landfill was the cause for an arsenic SSI identified during the second semiannual monitoring event per Georgia Rule 391-3-4.14(23)(c).

6.0 CONCLUSIONS AND FUTURE ACTIONS

This *2019 Annual Groundwater Monitoring and Corrective Action Report* for GPC's Plant Hammond Huffaker Road Landfill was prepared to fulfill the requirements of both applicable federal and state CCR Rules and GA EPD Solid Waste Management Rules (40 CFR 257.90(e), 391-3-4-.10, and 391-3-4-.14). Statistical evaluations of the 2019 groundwater monitoring data identified SSIs of arsenic, barium, pH, and sulfate during the first semiannual monitoring period. ASDs were prepared presenting multiple lines of evidence to conclude that the SSI of barium and pH in well GWC-8 and the SSI of sulfate in well GWC-20 are not associated with a release from the landfill. An SSI of arsenic was verified during the second semiannual monitoring event. GPC is currently preparing an alternate source demonstration to document that the SSI is not the result of a release from the CCR unit.

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TABLES

Table 1

Monitoring Well Network Summary

Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Well ID	Hydraulic Location	Installation Date	Northing [1]	Easting [1]	Top of Casing Elevation [2] (ft MSL)	Top of Screen Elevation [2] (ft MSL)	Bottom of Screen Elevation [2] (ft MSL)	Well Depth [3] (ft BTOC)	Screen Interval Length
GWA-1	Upgradient	9/11/2001	1565643.23	1952068.06	702.05	672.52	662.52	39.83	10
GWA-2	Upgradient	2/5/2007	1565589.74	1952641.00	681.46	665.84	655.84	25.92	10
GWA-3	Upgradient	2/6/2007	1565519.19	1953199.71	659.25	648.10	638.10	21.45	10
GWA-4	Upgradient	2/6/2007	1565518.65	1953686.93	656.87	645.66	635.66	21.51	10
GWA-11	Upgradient	7/21/2006	1564945.85	1952008.14	682.48	656.57	646.57	36.21	10
GWC-5	Downgradient	2/7/2007	1565158.40	1953566.09	649.46	638.22	628.22	21.54	10
GWC-6	Downgradient	7/20/2006	1564396.99	1953919.43	656.37	623.77	613.77	42.90	10
GWC-7	Downgradient	7/19/2006	1564078.74	1953595.62	657.05	635.23	625.23	32.12	10
GWC-8	Downgradient	7/18/2006	1564000.11	1953095.59	656.63	639.53	629.53	27.40	10
GWC-9	Downgradient	7/18/2006	1563875.99	1952393.22	659.41	617.36	607.36	52.35	10
GWC-10	Downgradient	7/20/2006	1564307.60	1951975.60	667.52	643.53	633.53	34.29	10
GWC-18	Downgradient	7/12/2006	1563319.48	1953391.01	641.30	594.65	584.65	56.95	10
GWC-19	Downgradient	7/11/2006	1562842.42	1952979.50	642.93	595.72	585.72	57.51	10
GWC-20	Downgradient	7/17/2006	1562472.09	1952332.09	625.65	601.59	591.59	34.36	10
GWC-21	Downgradient	7/12/2006	1562098.80	1951612.93	618.36	610.43	600.43	18.23	10
GWC-22	Downgradient	7/13/2006	1562778.11	1951618.87	624.92	593.17	583.17	42.05	10
GWC-23	Downgradient	7/19/2006	1563557.96	1951605.45	654.87	615.15	605.15	50.02	10

Notes:

ft MSL = feet mean sea level

ft BTOC = feet below top of casing

(1) Coordinates in North American Datum (NAD) 1983, State Plane, Georgia-West, feet.

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

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

Table 2

Groundwater Sampling Event Summary for 2019

Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Well ID	Hydraulic Location	Apr 5-9, 2019	Jun 18-19, 2019	Jun 27, 2019	Sep 29-Oct 1, 2019	Nov 6, 2019	Nov 26, 2019	Status of Monitoring Well
Purpose of Sampling Event:		**Detection**	**Verification**	**Verification**	**Detection**	**Verification**	**Verification**	
GWA-1	Upgradient	D01	-	-	D02	-	-	Detection
GWA-2	Upgradient	D01	-	-	D02	-	-	Detection
GWA-3	Upgradient	D01	-	-	D02	-	-	Detection
GWA-4	Upgradient	D01	-	-	D02	-	-	Detection
GWA-11	Upgradient	D01	-	-	D02	-	-	Detection
GWC-5	Downgradient	D01	-	-	D02	-	-	Detection
GWC-6	Downgradient	D01	V01	-	D02	-	-	Detection
GWC-7	Downgradient	D01	-	-	D02	V01	-	Detection
GWC-8	Downgradient	D01	V01	V02	D02	-	-	Detection
GWC-9	Downgradient	D01	-	-	D02	-	-	Detection
GWC-10	Downgradient	D01	-	-	D02	-	-	Detection
GWC-18	Downgradient	D01	-	-	D02	-	-	Detection
GWC-19	Downgradient	D01	-	-	D02	-	-	Detection
GWC-20	Downgradient	D01	V01	V02	D02	V01	-	Detection
GWC-21	Downgradient	D01	-	-	D02	V01	V02	Detection
GWC-22	Downgradient	D01	-	-	D02	V01	-	Detection
GWC-23	Downgradient	D01	-	-	D02	-	-	Detection

Notes:

D## = Detection monitoring event number

V## = Verification event number

Table 3

Summary of Groundwater Elevations

Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Well ID	Top of Casing Elevation [1] (ft MSL)	Apr 8, 2019		Sep 30, 2019	
		Depth to Water (ft BTOC)	Groundwater Elevations (ft MSL)	Depth to Water (ft BTOC)	Groundwater Elevations (ft MSL)
GWA-1	702.05	11.73	690.32	18.39	683.66
GWA-2	681.46	6.13	675.33	9.63	671.83
GWA-3	659.25	4.88	654.37	7.71	651.54
GWA-4	656.87	9.83	647.04	13.35	643.52
GWA-11	682.48	15.65	666.83	20.58	661.90
GWC-5	649.46	4.54	644.92	6.70	642.76
GWC-6	656.37	15.11	641.26	18.33	638.04
GWC-7	657.05	13.50	643.55	18.55	638.50
GWC-8	656.63	10.09	646.54	15.15	641.48
GWC-9	659.41	12.99	646.42	18.54	640.87
GWC-10	667.52	12.79	654.73	19.62	647.90
GWC-18	641.30	12.43	628.87	16.28	625.02
GWC-19	642.93	18.23	624.70	22.19	620.74
GWC-20	625.65	3.12	622.53	7.38	618.27
GWC-21	618.36	4.78	613.58	10.04	608.32
GWC-22	624.92	1.88	623.04	6.61	618.31
GWC-23	654.87	7.96	646.91	18.69	636.18

Notes:

ft BTOC = feet below top of casing

ft MSL = feet mean sea level

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

Table 4

Groundwater Gradient and Flow Velocity Calculations for 2019

Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

	Hydraulic Gradient - April 8, 2019 Data				Hydraulic Gradient - September 30, 2019 Data				
Landfill Parcels	**h_1 (ft)**	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**h_1 (ft)**	**h_2 (ft)**	**Δl (ft)**	**Δh/Δl (ft/ft)**	**Average Δh/Δl (ft/ft)**
A & B	690.32	643.55	2,185	0.021	683.66	638.50	2,185	0.021	0.021
E	646.42	622.53	1,450	0.016	640.87	618.27	1,450	0.016	0.016

			Averaged for 2019	
Landfill Parcels	**K (ft/d)**	**n**	**Δh/Δl (ft/ft)**	**V (ft/d)[(1)]**
A & B	0.248	0.20	0.021	0.026
E			0.016	0.020

Notes:

ft = feet

ft/d = feet per day

ft/ft = feet per foot

h_1 and h_2 = groundwater elevation at designated measuring points

Δh/Δl = hydraulic gradient

K = hydraulic conductivity

Δl = distance between measuring points 1 and 2

n = effective porosity

V = groundwater flow velocity

(1) Groundwater flow velocity equation: $V = [K * (\Delta h/\Delta l)] / n$

Table 5
Summary of Groundwater Analytical Data
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

	Well ID:	GWA-1	GWA-1	GWA-2	GWA-2	GWA-3	GWA-3	GWA-4	GWA-4	GWA-11	GWA-11	GWC-5	GWC-5
	Sample Date:	4/8/2019	9/30/2019	4/8/2019	9/30/2019	4/5/2019	9/30/2019	4/8/2019	9/30/2019	4/8/2019	9/30/2019	4/9/2019	10/1/2019
	Parameter [1,2]												
D&O Plan	Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Arsenic	ND	ND	ND	ND	ND (0.00035 J)	ND (0.00058 J)	ND (0.00023 J)	ND	ND (0.00012 J)	ND	ND	ND
	Barium	0.031	0.042	0.15	0.17	0.13	0.14	0.047	0.051	0.031	0.030	0.067	0.090
	Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chromium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.0012 J)
	Cobalt	ND (0.00026 J)	ND (0.00042 J)	ND (0.000061 J)	ND	ND (0.00031 J)	ND	ND (0.00044 J)	ND (0.00079 J)	ND (0.00076 J)	ND (0.00054 J)	ND	ND
	Copper	ND	ND	ND (0.00029 J)	ND	ND	ND	ND	ND	ND (0.0013 J)	ND	ND	ND (0.00031 J)
	Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (0.00039 J)	ND (0.000065 J)
	Nickel	ND (0.00034 J)	ND (0.00037 J)	ND	ND	ND (0.00075 J)	ND	ND (0.00089 J)	ND (0.0013 J)	ND (0.0023 J)	ND (0.0017 J)	ND (0.00098 J)	ND (0.00088 J)
	Selenium	ND	ND	ND	ND	ND	ND	ND (0.00014 J)	ND	ND	ND	ND	ND
	Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Vanadium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Zinc	ND	ND (0.0032 J)	ND (0.0014 J)	ND (0.0043 J)	ND (0.0013 J)	ND (0.0045 J)	ND (0.0023 J)	ND (0.0059 J)	ND (0.0024 J)	ND (0.0040 J)	ND	ND (0.0053 J)
APPENDIX III	Boron	ND (0.019 J)	ND (0.025 J)	ND (0.071 J)	0.084	0.12	0.17	ND (0.057 J)	0.11	ND (0.034 J)	ND (0.039 J)	0.048	0.071
	Calcium	15.7	17.6	44.1	44.6	76.5	74.7	86.6	78.3	22.4	19.6	73.9	70.6
	Chloride	1.1	1.4	2.6	3.0	4.2	4.1	3.6	7.5	1.3	1.5	3.3	2.2
	Fluoride	ND (0.057 J)	ND (0.11 J)	ND (0.072 J)	ND (0.14 J)	0.31	ND (0.15 J)	ND (0.12 J)	ND (0.17 J)	ND (0.035 J)	ND (0.099 J)	ND (0.061 J)	ND (0.064 J)
	pH [3]	6.86	7.15	6.79	6.86	6.77	6.73	6.82	6.77	6.61	6.86	6.72	6.81
	Sulfate	4.6	4.9	18.1	17.5	131	118	248	117	13.2	11.5	83.6	68.1
	TDS	91.0	126	209	242	456	475	522	455	142	134	371	380

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
(1) Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units).
(2) Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in Appendix C.
(3) The pH value presented was recorded at the time of sample collection in the field.

Table 5
Summary of Groundwater Analytical Data
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

	Well ID:	GWC-6	GWC-6	GWC-6	GWC-7	GWC-7	GWC-7	GWC-8	GWC-8	GWC-8	GWC-8	GWC-9	GWC-9
	Sample Date:	4/8/2019	6/19/2019	10/1/2019	4/8/2019	10/1/2019	11/6/2019	4/8/2019	6/18/2019	6/27/2019	10/1/2019	4/8/2019	10/1/2019
	Parameter [1,2]												
D&O Plan	Antimony	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Arsenic	ND	--	ND	0.0057	0.010	0.011	ND (0.0015 J)	--	--	ND (0.0028 J)	ND	ND (0.00071 J)
	Barium	0.15	--	0.18	0.24	0.085	--	0.13	0.17	0.14	0.12	0.058	0.071
	Beryllium	ND	--	ND	ND (0.000058 J)	ND (0.00010 J)	--	ND	--	--	ND	ND	ND
	Cadmium	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Chromium	ND	--	ND	ND	ND	--	ND	--	--	ND (0.00050 J)	ND	ND
	Cobalt	ND (0.00022 J)	--	ND	ND (0.0086 J)	0.017	--	ND (0.0017 J)	--	--	ND (0.00081 J)	ND (0.00041 J)	ND (0.00041 J)
	Copper	ND	--	ND (0.00023 J)	ND (0.00025 J)	ND (0.00034 J)	--	ND	--	--	ND (0.00036 J)	ND	ND
	Lead	ND	--	ND	ND	ND (0.000050 J)	--	ND	--	--	ND	ND	ND
	Nickel	ND (0.00032 J)	--	ND (0.00042 J)	0.030	0.070	--	ND (0.00064 J)	--	--	ND (0.00063 J)	ND (0.0021 J)	ND (0.0022 J)
	Selenium	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Silver	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Thallium	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Vanadium	ND	--	ND	ND	ND	--	ND	--	--	ND	ND	ND
	Zinc	ND (0.0013 J)	--	ND (0.0056 J)	0.051	0.12	--	ND (0.0012 J)	--	--	ND (0.0055 J)	ND (0.0016 J)	ND (0.0052 J)
APPENDIX III	Boron	ND (0.036 J)	--	0.042	ND (0.049 J)	0.050	--	ND (0.055 J)	--	--	0.046	ND (0.015 J)	ND (0.018 J)
	Calcium	67.0	--	64.2	56.1	28.5	--	81.5	83.7	75.9	64.0	36.3	37.2
	Chloride	2.1	--	1.6	1.9	1.2	--	3.2	--	--	1.8	1.0	ND (0.91 J)
	Fluoride	ND	--	ND (0.063 J)	ND (0.17 J)	ND (0.16 J)	--	ND (0.10 J)	--	--	ND (0.13 J)	ND (0.058 J)	ND (0.078 J)
	pH [3]	7.00	7.03	6.97	6.26	6.09	--	6.91	6.85	7.05	7.11	6.72	6.77
	Sulfate	131	108	71.7	97.1	120	--	39.9	--	--	47.1	73.5	72.2
	TDS	353	--	348	295	277	--	438	--	--	305	264	237

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
(1) Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units).
(2) Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in Appendix C.
(3) The pH value presented was recorded at the time of sample collection in the field.

Table 5
Summary of Groundwater Analytical Data
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

	Well ID:	GWC-10	GWC-10	GWC-18	GWC-18	GWC-19	GWC-19	GWC-20	GWC-20	GWC-20	GWC-20	GWC-20
	Sample Date:	4/9/2019	10/1/2019	4/9/2019	10/1/2019	4/9/2019	10/1/2019	4/9/2019	6/18/2019	6/27/2019	10/1/2019	11/6/2019
	Parameter [1,2]											
D&O Plan	Antimony	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Arsenic	ND	ND	ND (0.00063 J)	ND	ND	ND	ND	--	--	ND	--
	Barium	0.17	0.12	0.081	0.082	0.15	0.15	0.13	--	--	0.14	--
	Beryllium	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Cadmium	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Chromium	ND	ND	ND	ND (0.00086 J)	ND	ND	ND	--	--	ND	--
	Cobalt	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Copper	ND	ND	ND	ND (0.00037 J)	ND (0.0014 J)	ND (0.00019 J)	ND	--	--	ND (0.00023 J)	--
	Lead	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Nickel	ND	ND	ND	ND (0.0015 J)	ND	ND	ND	--	--	ND	--
	Selenium	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Silver	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Thallium	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Vanadium	ND	ND	ND	ND	ND	ND	ND	--	--	ND	--
	Zinc	ND	ND (0.0049 J)	ND (0.0037 J)	ND (0.0060 J)	ND	ND (0.0049 J)	ND	--	--	ND (0.0063 J)	--
APPENDIX III	Boron	ND (0.035 J)	ND (0.031 J)	0.12	0.14	0.17	0.17	ND (0.011 J)	--	--	ND (0.019 J)	--
	Calcium	48.8	36.8	41.4	38.7	45.8	42.3	57.1	--	--	59.1	--
	Chloride	1.9	1.5	1.6	ND (0.94 J)	1.9	1.3	1.8	--	--	1.1	--
	Fluoride	ND (0.067 J)	ND (0.070 J)	ND (0.10 J)	ND (0.11 J)	ND (0.10 J)	ND (0.11 J)	ND (0.056 J)	--	--	ND (0.069 J)	--
	pH [3]	7.22	7.07	7.48	7.65	7.40	7.31	7.26	7.35	7.31	7.16	7.44
	Sulfate	21.4	13.4	11.3	8.9	16.7	14.7	50.3	38.7	46.0	52.3	47.3
	TDS	213	186	212	196	253	229	267	--	--	271	--

Notes:
-- = Parameter was not analyzed
J = Indicates the parameter was estimated and detected between the method detection limit (MDL) and the reporting limit (RL)
ND = Indicates the parameter was not detected above the analytical MDL
TDS = total dissolved solids
(1) Parameters are reported in units of milligrams per liter (mg/L), except for pH reported as s.u. (standard units).
(2) Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in Appendix C.
(3) The pH value presented was recorded at the time of sample collection in the field.

Table 5

Summary of Groundwater Analytical Data

Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

	Well ID:	GWC-21	GWC-21	GWC-21	GWC-21	GWC-22	GWC-22	GWC-23	GWC-23
	Sample Date:	4/9/2019	10/1/2019	11/6/2019	11/26/2019	4/9/2019	10/1/2019	4/8/2019	10/1/2019
	Parameter [1,2]								
D&O Plan	Antimony	ND	ND	--	--	ND	ND	ND	ND
	Arsenic	ND (0.0018 J)	ND	--	--	ND	ND	ND (0.00034 J)	ND (0.00082 J)
	Barium	0.050	0.18	--	--	0.094	0.10	0.059	0.082
	Beryllium	ND	ND	--	--	ND	ND	ND	ND
	Cadmium	ND	ND	--	--	ND	ND	ND	ND
	Chromium	ND	ND	--	--	ND (0.0023 J)	ND	ND	ND (0.0051 J)
	Cobalt	ND (0.0023 J)	ND (0.00046 J)	--	--	ND	ND	ND (0.00046 J)	ND (0.00033 J)
	Copper	ND	ND (0.00084 J)	--	--	ND	ND (0.00031 J)	ND (0.00050 J)	ND (0.00083 J)
	Lead	ND	ND (0.000075 J)	--	--	ND	ND (0.00012 J)	ND (0.00018 J)	ND (0.00022 J)
	Nickel	ND (0.0048 J)	ND (0.0031 J)	--	--	ND	ND	ND (0.0011 J)	ND (0.0035 J)
	Selenium	ND	ND	--	--	ND	ND (0.0014 J)	ND	ND
	Silver	ND	ND	--	--	ND	ND	ND	ND
	Thallium	ND	ND	--	--	ND	ND	ND	ND
	Vanadium	ND	ND	--	--	ND	ND	ND (0.00017 J)	ND
	Zinc	ND (0.0041 J)	ND (0.0078 J)	--	--	ND	ND (0.0054 J)	ND (0.0016 J)	ND (0.0057 J)
APPENDIX III	Boron	ND (0.014 J)	0.059	--	--	0.063	0.066	ND (0.022 J)	ND (0.024 J)
	Calcium	35.4	82.8	74.9	45.8	47.3	46.9	39.8	39.1
	Chloride	2.6	2.0	--	--	1.7	1.4	1.5	1.1
	Fluoride	ND (0.063 J)	ND (0.094 J)	--	--	ND (0.063 J)	ND (0.079 J)	ND (0.057 J)	ND (0.079 J)
	pH [3]	6.46	6.90	--	--	7.49	7.38	6.88	7.00
	Sulfate	19.9	46.3	--	--	11.0	1.9	6.2	5.8
	TDS	167	336	336	236	222	220	191	203

Notes:

-- = Parameter was not analyzed

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

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

TDS = total dissolved solids

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

(2) Analytical methods used for groundwater sample analysis are listed in the analytical laboratory reports included in Appendix C.

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

FIGURES

N

Note:
1. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2020

FIGURE 1

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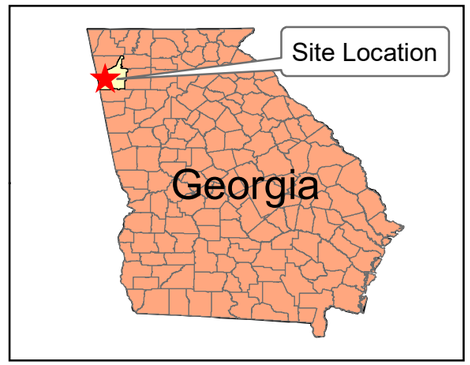
N

LEGEND

- Compliance Monitoring Well
- Landfill Underdrain Sample Point



Note:
1. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

MONITORING WELL NETWORK MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

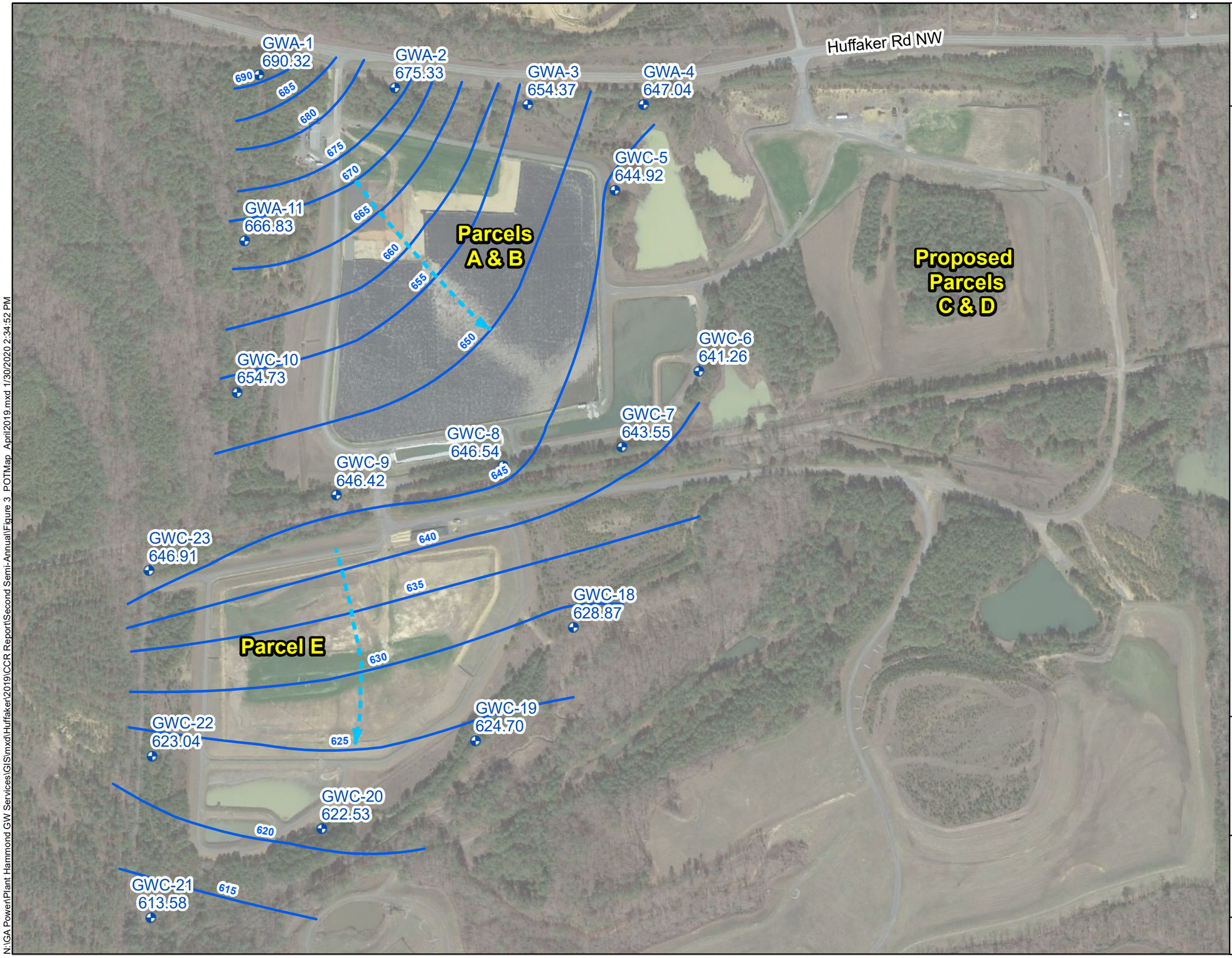
Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2020

FIGURE 2

\\arc-01\pri1$\GA Power\Plant Hammond GW Services\GIS\mxd\Huffaker2019\CCR Report\Second Semi-Annual\Figure 2_WellMap.mxd 11/18/2019 5:01:07 PM



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LEGEND

- Compliance Monitoring Well
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow

Notes:
1. Water level elevation recorded on April 8, 2019. Elevation provided in feet mean sea level (ft MSL) in North American Vertical Datum (NAVD) 88.
2. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - APRIL 2019

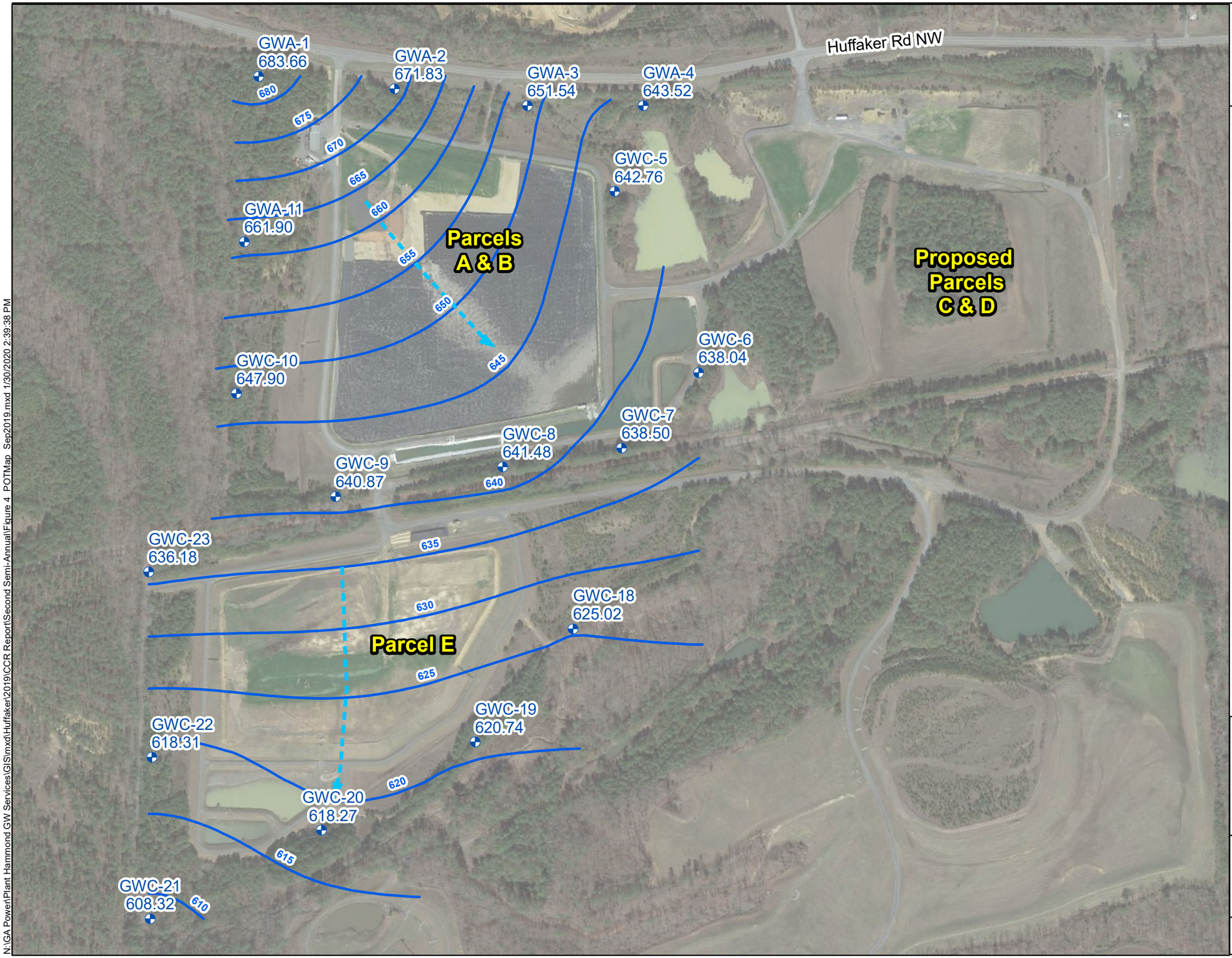
GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2020

FIGURE 3

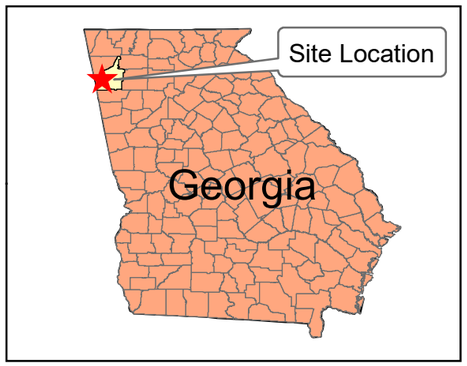


N:\GA Power\Plant Hammond GW Services\GIS\mxd\Huffaker\2019\CCR Report\Second Semi-Annual\Figure 4_POTMap_Sep2019.mxd 1/30/2020 2:39:38 PM

N

LEGEND

- Compliance Monitoring Well
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow Direction



Notes:
1. Water level elevation recorded on September 30, 2019. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
2. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - SEPTEMBER 2019

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | JANUARY 2020

FIGURE 4

APPENDIX A

Well Inspection Forms

Geosyntec

WELL INSPECTION FORM

Field Technician: Dalton Anderson | Site/Location: Plant Hammond | Inspection Date: 4/18/19

Well Inspection Items

Well ID	Inspection Time	Present (Y/N)						Comments regarding well condition
		Lock	Locking Cap	Bollards	Concrete Pad	Protective Casing	Vegetation	
GWA-2	8:52	Y	Y	Y	Y	Y	Y	
GWA-3	9:07	Y	Y	Y	Y	Y	Y	
GWA-4	9:20	Y	Y	Y	Y	Y	Y	
GWC-5	9:35	Y	Y	Y	Y	Y	Y	
GWA-1	10:34	Y	Y	Y	Y	Y	Y	
GWC-6	16:00	Y	Y	Y	Y	Y	Y	

Geosyntec

WELL INSPECTION FORM

Field Technician: Aaron Reeder | Site/Location: Huff | Inspection Date: 4-8-2019

Well Inspection Items

Well ID	Inspection Time	Present (Y/N)						Comments regarding well condition
		Lock	Locking Cap	Bollards	Concrete Pad	Protective Casing	Vegetation	
GWA-11	1022	Y	Y	Y	Y	Y	Y	good
GWC-10	1028	Y	Y	Y	Y	Y	Y	Wet Area around well
GWC-23	1039	Y	Y	Y	Y	Y	Y	good
GWC-22	1052	Y	Y	Y	Y	Y	N	Wet Area around well
GWC-21	1100	Y	Y	Y	Y	Y	Y	good

Geosyntec

WELL INSPECTION FORM

Field Technician: Grant Walter | Site/Location: Huffaker / Hammond | Inspection Date: 04/08/19

Well Inspection Items

Well ID	Inspection Time	Present (Y/N)						Comments regarding well condition
		Lock	Locking Cap	Bollards	Concrete Pad	Protective Casing	Vegetation	
GWC-9	9:00	Y	Y	Y	Y	Y	Y	Rust on cap + lock
GWC-8	9:04	Y	Y	Y	Y	Y	Y	SAA
GWC-7	9:08	Y	Y	Y	Y	Y	Y	SAA
GWC-20	9:15	Y	Y	Y	Y	Y	Y	SAA
GWC-19	9:20	Y	Y	Y	Y	Y	Y	SAA
GWC-18	9:25	Y	Y	Y	Y	Y	Y	SAA

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond - Huffaker
Permit Number: —
Well ID: GWA-1
Date, field conditions: 9/30/19 ; 81°F ; Sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond - Huffaker
Permit Number: —
Well ID: PHWA-2
Date, field conditions: 9/30/19, 90°F, sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker
Permit Number: —
Well ID: GWA-3
Date, field conditions: 09.30.2019 Dry / Hot

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hoffaker
Permit Number: —
Well ID: GWA-4
Date, field conditions: 09.30.2019 Hot/Dry

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker Rd Landfill
Permit Number: —
Well ID: GWA-11
Date, field conditions: 09/30/19 clear, sunny, 97°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond-Hubbard
Permit Number: —
Well ID: GWC-5
Date, field conditions: 10/1/19; 75°F; sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond - Hubbaker
Permit Number: —
Well ID: GWC-6
Date, field conditions: 10/1/19; 72°F; sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond - Huffaker
Permit Number: —
Well ID: GWC-7
Date, field conditions: 10/1/19; 72°F; sunny

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant Hammond - Huffaker
Permit Number: —
Well ID: CgWC-8
Date, field conditions: 10/11/19; Sunny; 72°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker Rd Landfill
Permit Number:
Well ID: GWC-9
Date, field conditions: 10/01/19 Sunny, 91°F

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hoffaker
Permit Number: —
Well ID: GWC-10
Date, field conditions: 10.01.2019 Hot day

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hoffaker
Permit Number: —
Well ID: GWC-18
Date, field conditions: 10-01-2019

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker
Permit Number: —
Well ID: GWC-19
Date, field conditions: 10-01-2019 Dry / Hot

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker
Permit Number: —
Well ID: GWC-20
Date, field conditions: 10-01-2019 Dry/Hot

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker
Permit Number: —
Well ID: GWC-21
Date, field conditions: 10-01-2019 Dry / Hot

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Hufflaker
Permit Number: —
Well ID: GWC-22
Date, field conditions: 10-01-2019 Dry / Hot

		yes	no	n/a
1	**Location/Identification**			
a	Is the well visible and accessible?	✓		
b	Is the well properly identified with the correct well ID?	✓		
c	Is the well in a high traffic area and does the well require protection from traffic?	✓		
d	Is the drainage around the well acceptable? (no standing water, nor is well located in obvious drainage flow path)	✓		
2	**Protective Casing**			
a	Is the protective casing free from apparent damage and able to be secured?	✓		
b	Is the casing free of degradation or deterioration?	✓		
c	Does the casing have a functioning weep hole?		✓	
d	Is the annular space between casings clear of debris and water, or filled with pea gravel/sand?	✓		
e	Is the well locked and is the lock in good condition?	✓		
3	**Surface pad**			
a	Is the well pad in good condition (not cracked or broken)?	✓		
b	Is the well pad sloped away from the protective casing?	✓		
c	Is the well pad in complete contact with the protective casing?	✓		
d	Is the well pad in complete contact with the ground surface and stable? (not undermined by erosion, animal burrows, and does not move when stepped on)	✓		
e	Is the pad surface clean (not covered with sediment or debris)?		✓	
4	**Internal casing**			
a	Does the cap prevent entry of foreign material into the well?	✓		
b	Is the casing free of kinks or bends, or any obstructions from foreign objects (such as bailers)?	✓		
c	Is the well properly vented for equilibration of air pressure?	✓		
d	Is the survey point clearly marked on the inner casing?	✓		
e	Is the depth of the well consistent with the original well log?	~~70~~ ✓	✓	
f	Is the casing stable? (or does the pvc move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction)	✓		
5	**Sampling: Groundwater Wells Only:**			
a	Does well recharge adequately when purged?	✓		
b	If dedicated sampling equipment installed, is it in good condition and specified in the approved groundwater plan for the facility?			✓
c	Does the well require redevelopment (low flow, turbid)?		✓	
6	Based on your professional judgement, is the well construction / location appropriate to 1) achieve the objectives of the Groundwater Monitoring Program and 2) comply with the applicable regulatory requirements?	✓		

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Huffaker Rd Landfill
Permit Number: —
Well ID: GWC-23
Date, field conditions: 10/01/19 Sunny, 90°F

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

7 Corrective actions as needed, by date:
Fill void spaces with natural materials or concrete

Signature and Seal of PE/PG responsible for inspection

APPENDIX B

Prepared Alternate Source Demonstrations

Prepared for

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

ALTERNATE SOURCE DEMONSTRATION – BARIUM AND pH

PLANT HAMMOND HUFFAKER ROAD LANDFILL

Prepared by

Geosyntec consultants

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

November 2019

Georgia Power

ALTERNATE SOURCE DEMONSTRATION – BARIUM AND pH

Plant Hammond
Huffaker Road Landfill
Permit No. 057-022D (LI)

November 27, 2019

Herwig Goldemund, Ph.D.
Senior Scientist

Whitney Law, P.E.
Project Manager

Certification Statement

Alternate Source Demonstration – Barium and pH
Plant Hammond
Huffaker Road Landfill
Permit No. 057-022D (LI)
November 27, 2019

I certify that the above document, including interpretations and recommendations, were completed in accordance with the Georgia Environmental Protection Division's Solid Waste Rules (Chapter 391-3-4.14) by or under the direct supervision of a Georgia-registered professional geologist or a Georgia-registered professional engineer who is a qualified groundwater scientist.

Seal and Signature

11/27/2019
Date

Geosyntec
consultants

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LIST OF ACRONYMS

ASD	Alternate Source Demonstration
ASTM	American Society for Testing and Materials
B	boron
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Cl	chloride
cm/sec	centimeter per second
D&O	Design & Operation
ERM	Environmental Resources Management
GA EPD	Environmental Protection Division
GPC	Georgia Power Company
HDPE	high-density polyethylene
mg/L	milligrams per liter
ORP	oxidation reduction potential
PL	prediction limit
SO_4	sulfate
SSI	statistically significant increase
SCS	Southern Company Services, Inc.
TDS	total dissolved solids
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

1.1 Purpose

This document presents an alternate source demonstration (ASD) for the statistically significant increase (SSI) of barium (Ba) and pH detected in compliance well GWC-8 located at Georgia Power Company's (GPC's) Plant Hammond Huffaker Road Landfill (the landfill). The Ba and pH SSIs were identified based on statistical evaluation of the groundwater quality data set obtained from the April 2019 sampling event. The SSIs were subsequently confirmed with verification sampling events conducted in June 2019.

The landfill is currently managed by the Georgia Environmental Protection Division (GA EPD), and in accordance with Georgia Solid Waste Management Rules for Groundwater Monitoring and Corrective Action of a municipal solid waste landfill, Rule 391-3-4.14. The landfill is also subject to the United States Environmental Protection Agency (USEPA) coal combustion residual rule (CCR Rule) [40 Code of Federal Regulations (CFR) 257 Subpart D] and the GA EPD Rules for Solid Waste Management 391-3-4-.10. This ASD has been prepared pursuant to Rule 391-3-4-.14(23)(c) of the Georgia Administrative Code, which states that "the owner or operator may demonstrate that a source other than a MSWLF (municipal solid waste landfill) unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." This language is consistent with the requirements of the Federal CCR Rule stipulated in 40 CFR 257.94(e)(2), which has been incorporated by reference into Rule 391-3-4-.10(23)(c) of the Georgia Administrative Code.

1.2 Summary of ASD

Based on review of available site data, the Ba and pH SSIs reported for well GWC-8 are not associated with a release from the landfill but are rather caused by the oxidation of naturally occurring pyritic minerals, which results in slightly more acidic conditions and increased dissolution of Ba into the groundwater. This ASD provides the following information supporting this conclusion:

- Groundwater samples collected from assessment monitoring wells GWA-2, GWA-3, and GWA-4 located upgradient of the lined landfill reported higher concentrations of Ba and/or other Appendix III parameters, relative to compliance well GWC-8 located downgradient of the landfill. The data indicate an upgradient source other than the CCR unit. The likely source of the higher constituent

concentrations is the historical clay mining operation located immediately upgradient of wells GWA-2, GWA-3, and GWA-4.

- Correlations between Ba concentrations, groundwater elevations, pH, and oxidation reduction potential (ORP) in monitoring well GWC-8 are indicative of natural variation and not linked to a release from the landfill. Increased recharge from precipitation leads to more aerobic conditions and mild oxidation of pyritic minerals naturally occurring in the formation. This, in turn, slightly lowers the pH and increases the dissolution of naturally occurring Ba into groundwater.

- Parcels A and B are constructed with a composite liner system, including a 60-mil high-density polyethylene (HDPE) geomembrane and a leachate collection system; in addition, the CCR waste is landfilled in a dewatered state and there is no excess hydraulic head potentially driving CCR constituents into the subsurface; the lack of CCR-related impacts is supported by a lack of elevated concentrations of CCR indicator parameters in monitoring well GWC-8.

1.3 Site Setting and Operational History

The landfill is located in Floyd County, near Rome, Georgia, approximately one mile west of the Rome city limit and approximately five miles northeast of Plant Hammond (**Figure 1**). The landfill is located within the Valley and Ridge Physiographic Province of Georgia, which is underlain by shales, dolomites, and limestones of Cambrian and Ordovician age, and the landfill itself is located in the Floyd Shale member of the Judy Mountain syncline (SCS, 2002).

Huffaker Road Landfill was built between 2005 and 2007 over a closed surface clay mine, previously owned by Boral Bricks, Inc. The landfill is comprised of constructed Parcels A, B, and E, with Parcels C and D proposed for future expansion. The three existing parcels were permitted and constructed with a minimum 24-inch compacted clay liner with a maximum hydraulic conductivity of 1×10^{-6} centimeters per second (cm/sec) underlain with a compacted soil barrier designed to provide a minimum five-foot thick barrier between the bottom of the clay liner and seasonal high groundwater levels. GA EPD approved Solid Waste Permit No. 057-022D (LI) in a letter dated May 26, 2006, and disposal operations commenced on May 5, 2008. No CCR materials were stored in the landfill prior to May 2008 (ERM, 2018). In 2016, Parcels A and B were retrofitted with a leachate collection system and a 60-mil HDPE geomembrane overlaying the 24-inch clay liner, which was recompacted to obtain a maximum hydraulic conductivity of 1×10^{-7} cm/sec (GPC, 2016). Parcels A and B are currently active.

Under the Federal CCR Rule promulgated by the United States Environmental Protection Agency (USEPA) in 2015, the landfill was determined to be a regulated CCR unit. GPC implemented groundwater monitoring and reporting activities at the landfill to comply with the requirements of the Federal CCR Rule. To date, groundwater monitoring activities have been implemented in accordance with 40 CFR 257.90 through 257.94.

1.4 Groundwater Monitoring

A groundwater monitoring plan was originally developed under the Georgia Solid Waste rules as part of the landfill's D&O Plan to comply with the requirements of Solid Waste Permit No. 057-022D (LI). The groundwater monitoring system consists of 17 wells (five upgradient wells and 12 downgradient wells) installed between September 2001 and February 2007 (ERM, 2018). The site layout and the locations of each well are presented on **Figure 2**. Groundwater monitoring at the landfill began in 2007, prior to disposal activities, and continues to date. In addition to groundwater monitoring under the D&O Plan, groundwater monitoring is also conducted under the Federal and Georgia CCR Rules, and the CCR groundwater monitoring under these rules commenced in March 2016.

1.5 Basis of the Statistically Significantly Increase

The following presents a summary of the statistical approach applied to assess the April 2019 groundwater data for potential SSIs of permit stipulated parameters reported in downgradient compliance wells relative to the available historical data set. Because the landfill is currently independently managed under both Georgia's Solid Waste Management Rule 391-3-4.14 and Georgia's CCR Rule 391-3-4.10, which references the Federal CCR Rule, two data sets are statistically evaluated per semiannual monitoring event. One data set contains Appendix III parameters, which is applicable to both of the aforementioned rules. The other data set contains the D&O-specified parameters, applicable to Rule 391-3-4.14. The statistical approach used to evaluate groundwater data for the landfill for Appendix III parameters is the intrawell prediction limit (PL) method combined with a 1-of-3 resample plan; this is applicable to the pH SSI reported herein. The intrawell PL statistical approach was also used to evaluate groundwater data for the landfill for D&O parameters (i.e., Ba), but with a 1-of-2 resample plan instead. The statistical analyses and comparisons to PLs are discussed in further detail in the *2019 First Semiannual Groundwater Monitoring and Corrective Action Report* (2019 First Semiannual Report) (Geosyntec, 2019).

Statistical analysis of the April 2019 data identified an SSI of Ba and pH for well GWC-8. The initial Ba concentration of 0.13 milligrams per liter (mg/L) was verified through

a subsequent resampling and analyses conducted in June 2019 (0.17 mg/L). These concentrations exceeded the PL of 0.12 mg/L for Ba in GWC-8. Similarly, the pH measured during the April 2019 event was 6.9 relative to a lower PL of 7.2. The pH was verified through two subsequent resampling and analyses conducted in June 2019 (6.9 and 7.1, respectively).

2. ALTERNATE SOURCE DEMONSTRATION

Based on review of site information, the SSIs for Ba and pH at compliance well GWC-8 are not related to a release from lined Parcels A and B at the landfill but is instead caused by natural variation in the groundwater quality. The following sections presents information supporting this conclusion.

2.1 Upgradient Conditions

Groundwater quality conditions within upgradient assessment wells GWA-2 and GWA-3 are characterized by higher Ba concentrations and greater variability among Appendix III parameters relative to downgradient compliance well GWC-8. The degree of spatial and temporal variability detected for Ba and Appendix III concentrations in these three upgradient wells relative to well GWC-8 are presented on **Figure 3**; the data set includes sampling events conducted between March 2016 and November 2019 (where applicable). Other Appendix III parameters, including B, Cl, and TDS, were included on this figure to illustrate these parameters' similar concentration trends relative to Ba. The low concentrations of Appendix III parameters in downgradient well GWC-8 relative to upgradient wells supports the conclusion the Ba source is not associated with the regulated landfill.

A potentiometric surface map developed from water levels recorded during the April 2019 detection monitoring event, and submitted as part of the 2019 First Semiannual Report, is included as **Appendix A**.

The higher Ba and Appendix III concentrations in upgradient wells GWA-2, GWA-3, and GWA-4 are likely associated with historical clay mining operations located immediately north, and upgradient of these wells, across Huffaker Road. Aerial photographs provided in **Appendix B** illustrate conditions at the site as well as north of the site between 1993 and 2017, showing the land disturbance activities during this period. Disturbances of the overburden through clay mining operations have likely created conditions for increased dissolution of constituents into groundwater, including Ba and several Appendix III parameters. This is likely due to increased dissolution of naturally-occurring constituents from disturbed surfaces as recharge from precipitation dissolves constituents as rain water permeates through the vadose zone into groundwater.

2.2 Natural Variation

There is a correlation between water levels and ORP in monitoring well GWC-8. As water levels rise (i.e., due to increased infiltration of precipitation), the ORP becomes

more aerobic. Furthermore, as the ORP becomes more aerobic in this well, the pH of groundwater becomes more acidic (supported by pH observations in GWC-8 in late 2018 and 2019) which, in turn, correlates with increased Ba concentrations. **Figure 4(a,b,c)** depicts the correlations between these parameters. Figure 4a illustrates the correlation between increased groundwater levels and the transition of groundwater from reducing to oxidizing conditions. The ORP decrease reported in mid to late 2019 corresponds with a decrease in groundwater levels, likely due to dry conditions during this time.

The regional geology was summarized in the Site Acceptability Report (SAR) (SCS, 2002) based on the work of Cressler (1970). The Huffaker Road Landfill is located in the Floyd Shale member of the Judy Mountain Syncline. The geologic unit underlying the landfill is composed of clay and shale, transitioning to limestone at its base. Pyrite (a sulfide mineral) was noted to be present at outcrops located at the landfill (SCS, 2002). Pyrite (FeS_2) is an iron sulfide that when oxidized forms ferrous iron (Fe^{2+}) and SO_4, releasing hydrogen ions, which lowers the pH of groundwater. Under increasingly aerobic conditions, ferrous iron is subsequently further oxidized to ferric iron (Fe3+) that forms additional acid and oxyhydroxide precipitates. Lower groundwater pH due to pyrite oxidation enhances the solubility of other naturally-occurring metals (e.g., Ba), increasing their concentrations in groundwater. Under slightly aerobic conditions, mild pyrite oxidation likely provided the process to lower the groundwater pH enough to increase Ba concentrations in groundwater samples collected from well GWC-8. The inverse relationship between ORP and pH is shown on **Figure 4b**.

Figure 4c illustrates the correlation between increasing Ba concentrations and decreasing pH conditions within groundwater sampled from GWC-8. Therefore, the lines of evidence presented herein show that the SSIs of Ba and pH are the result of natural variation in groundwater conditions caused by the oxidation of pyrite found in the Floyd Shale and historic mining operations, and not due to a release of leachate from Parcels A and B.

2.3 Lined Landfill and Lack of Indicator Parameters

Parcels A and B were permitted and constructed with a 24-inch compacted clay liner with a maximum hydraulic conductivity of 1×10^{-6} cm/sec. The liner is underlain with a minimum five-foot thick compacted fill buffer between the bottom of the clay liner and the seasonal high groundwater table. A fate and transport model was completed in support of preparing the SAR; multiple scenarios were modeled based on soil parameters determined via laboratory testing (e.g., soil partition coefficient, K_d) and field investigations. Under the more protective, conservative model scenario (i.e., highest potential for contaminant transport based on the range of determined soil parameters and

model inputs), the model determined that it would take landfill leachate more than 1,000 years to break through the 24-inch clay liner under normal operations without a synthetic liner (GPC, 2002). However, in 2016, Parcels A and B were retrofitted with a leachate collection system (GPC, 2016). The retrofit was completed to be even more protective of the environment and not in response to a perceived leak from the unit.

Currently, Parcels A and B receive CCR material (predominantly ash) from Plant Hammond. The dewatered CCR waste is stacked in lifts and compacted to 90 percent of Standard Proctor per ASTM standard D698 (GPC, 2016). A temporary daily cover is placed over the active portions of the cells to minimize infiltration of rainwater. The dry-handling of the CCR materials in conjunction with the temporary cover system minimizes the hydraulic head that could potentially drive CCR constituents into the subsurface. In addition, the leachate collection system and the low permeability clay component underlying the geomembrane liner further limits the potential for leachate migration. The lack of CCR-related impacts in monitoring well GWC-8 is supported by a lack of elevated concentrations of CCR indicator parameters, namely B, Cl, and TDS.

Appendix C includes the time series plots for monitored D&O and Appendix III parameters as provided in the 2019 First Semiannual Report (Geosyntec, 2019). Concentrations of Appendix III indicator parameters in these plots are low and not indicative of a release from the landfill. In fact, these concentrations are lower in well GWC-8 than in upgradient background wells GWA-2, GWA-3, or GWA-4. This supports the conclusion that constituent concentrations in well GWC-8 are not caused by a release from the unit.

3. CONCLUSIONS

Barium concentrations and pH levels in downgradient compliance well GWC-8 were reported outside their associated PLs during the first semi-annual 2019 groundwater detection monitoring event conducted in April 2019. Subsequent verification sampling events conducted in June 2019 confirmed these conditions, which resulted in the identification of SSIs for Ba and pH in monitoring well GWC-8. However, the following lines of evidence demonstrate that the SSIs are caused by the oxidation of naturally occurring pyritic minerals due to increased groundwater levels leading to the creation of more acidic conditions and increased dissolution of Ba into the groundwater and not a release from the unit.

- Upgradient Conditions:
    - Upgradient wells GWA-2, GWA-3, and GWA-4 have higher concentrations of Ba and/or Appendix III parameters compared to downgradient well GWC-8. The historical clay mining operation located upgradient of the landfill is likely an alternative source of Ba (and other Appendix III parameters).
- Natural Variation:
    - Ba concentrations and pH in monitoring well GWC-8 show a correlation with increased groundwater levels likely leading to oxidation of underlying sulfide minerals (pyrite) resulting in a concurrent increase in the dissolution of naturally occurring Ba into groundwater under slightly more acidic conditions.
- Lined Landfill and Lack of Indicator Parameters:
    - Parcels A & B are constructed with a composite liner system, including a 60-mil HDPE geomembrane and a leachate collection system; the landfilled CCR waste is dry handled and there is no excess hydraulic head potentially driving CCR constituents into the subsurface. The lack of CCR-related impacts in monitoring well GWC-8 is supported by a lack of elevated concentrations of CCR indicator parameters, namely B, Cl, and TDS.

4. REFERENCES

Cressler, C.W. (1970). Geology and ground-water resources of Floyd and Polk Counties, Georgia. Information Circular 39, Geological Survey of Georgia.

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Southern Company Services, Inc. (2002). Plant Hammond Proposed Huffaker Road Coal Combustion By-Products Storage Facility Site Acceptability Report. Birmingham, Alabama: Earth Science and Environmental Engineering.

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FIGURES

N

0 200 400 800

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

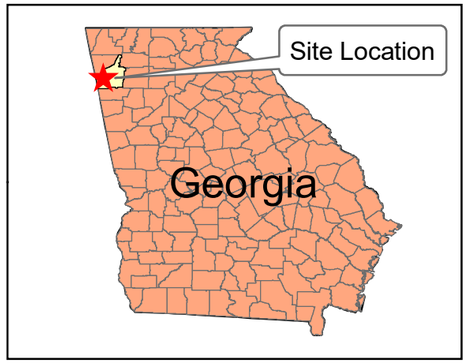
FIGURE 1

N:\GA Power\Plant Hammond GW Services\2018\GIS\mxd\Huffaker\CCR annual\2018\Figure1_SiteMap_v1.mxd 12/17/2018 10:39:34 AM

N

LEGEND

- Landfill Monitoring Well
- Landfill Underdrain Sample Point



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SCALE IN FEET

WELL LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
ROME, FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

FIGURE 2

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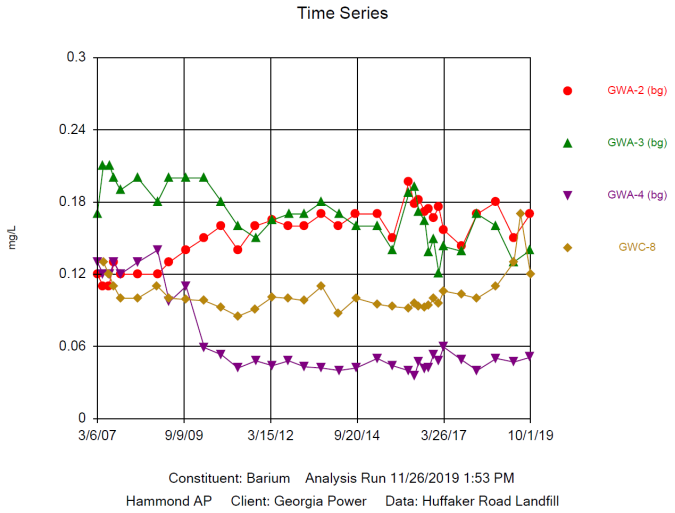

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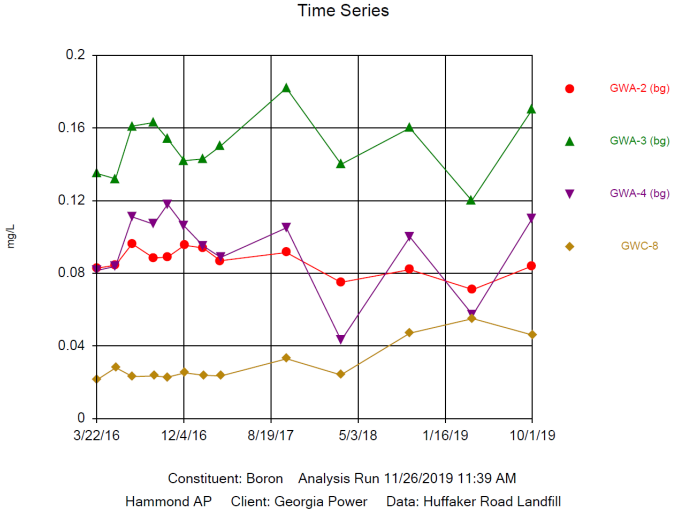

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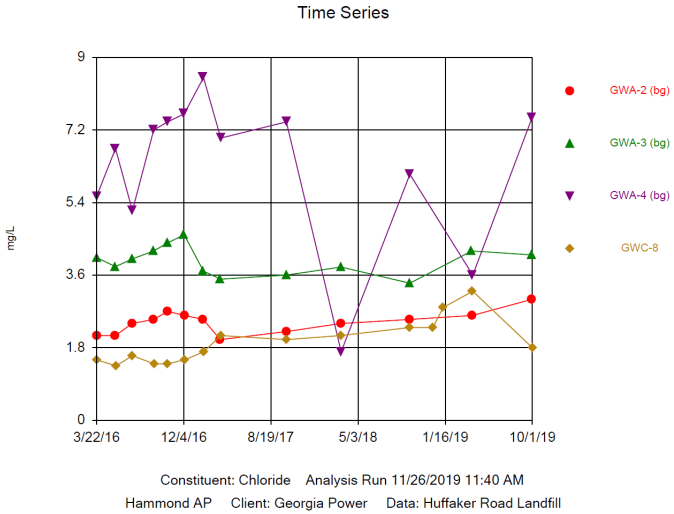

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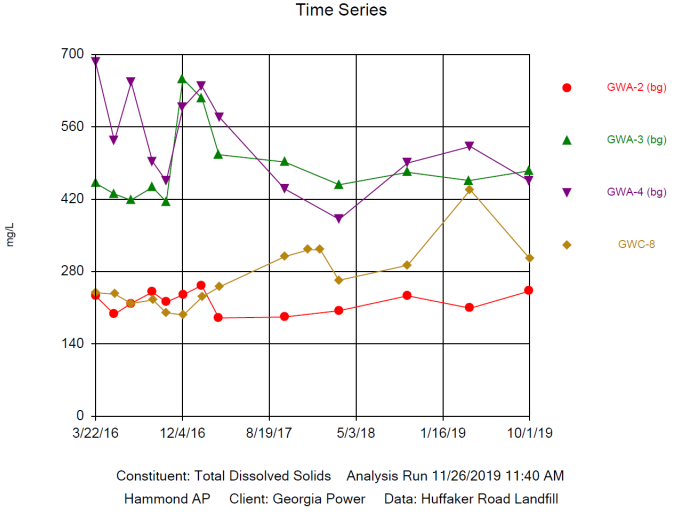


Constituent: Total Dissolved Solids Analysis Run 11/26/2019 11:40 AM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Time Series Chart – Ba, B, Cl, TDS in GWA-2, GWA-3, GWA-4, and GWC-8

Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

Figure 3

Figure 4a
GWC-8 - Barium: ORP

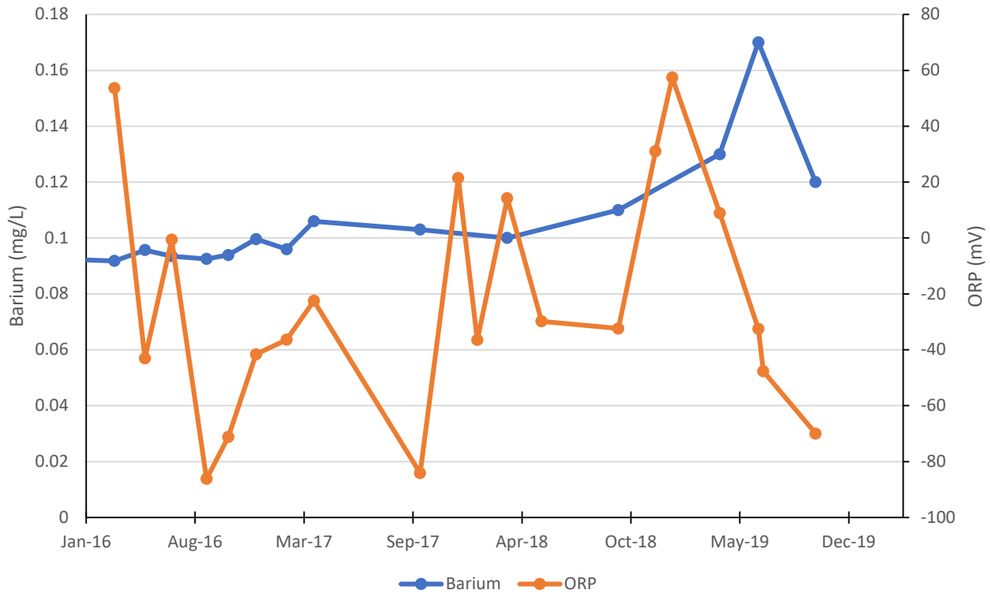


Figure 4b
GWC-8 - pH : ORP

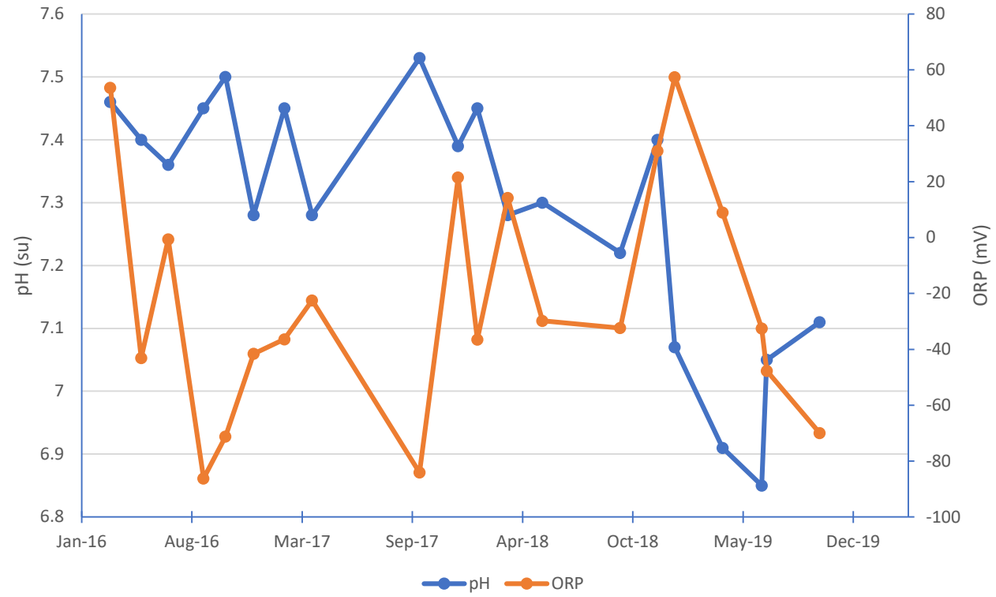
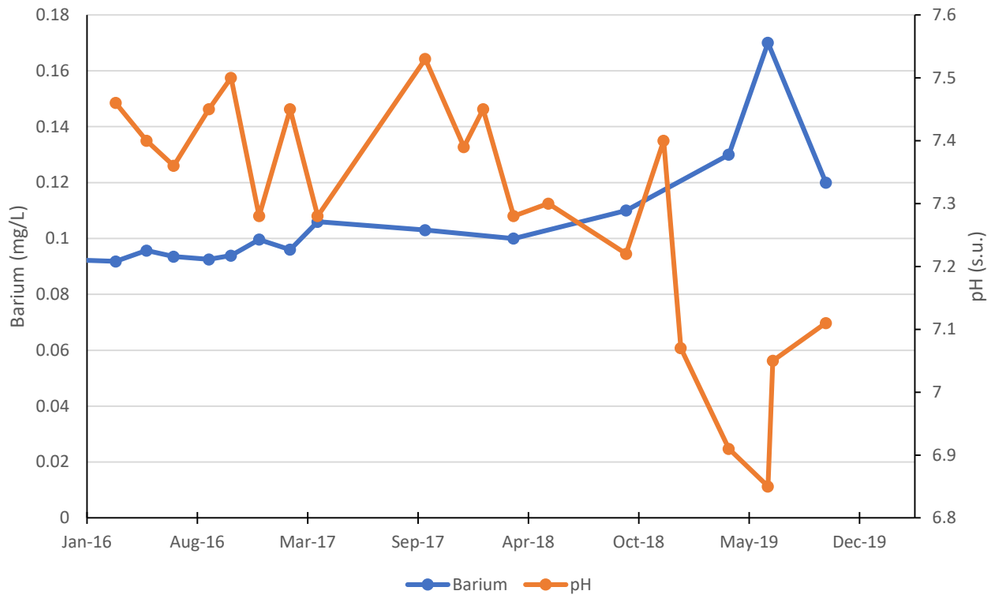


Figure 4c
GWC-8 - Barium : pH



Time Series Correlations –
Water Elevation, ORP, pH, Ba

Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

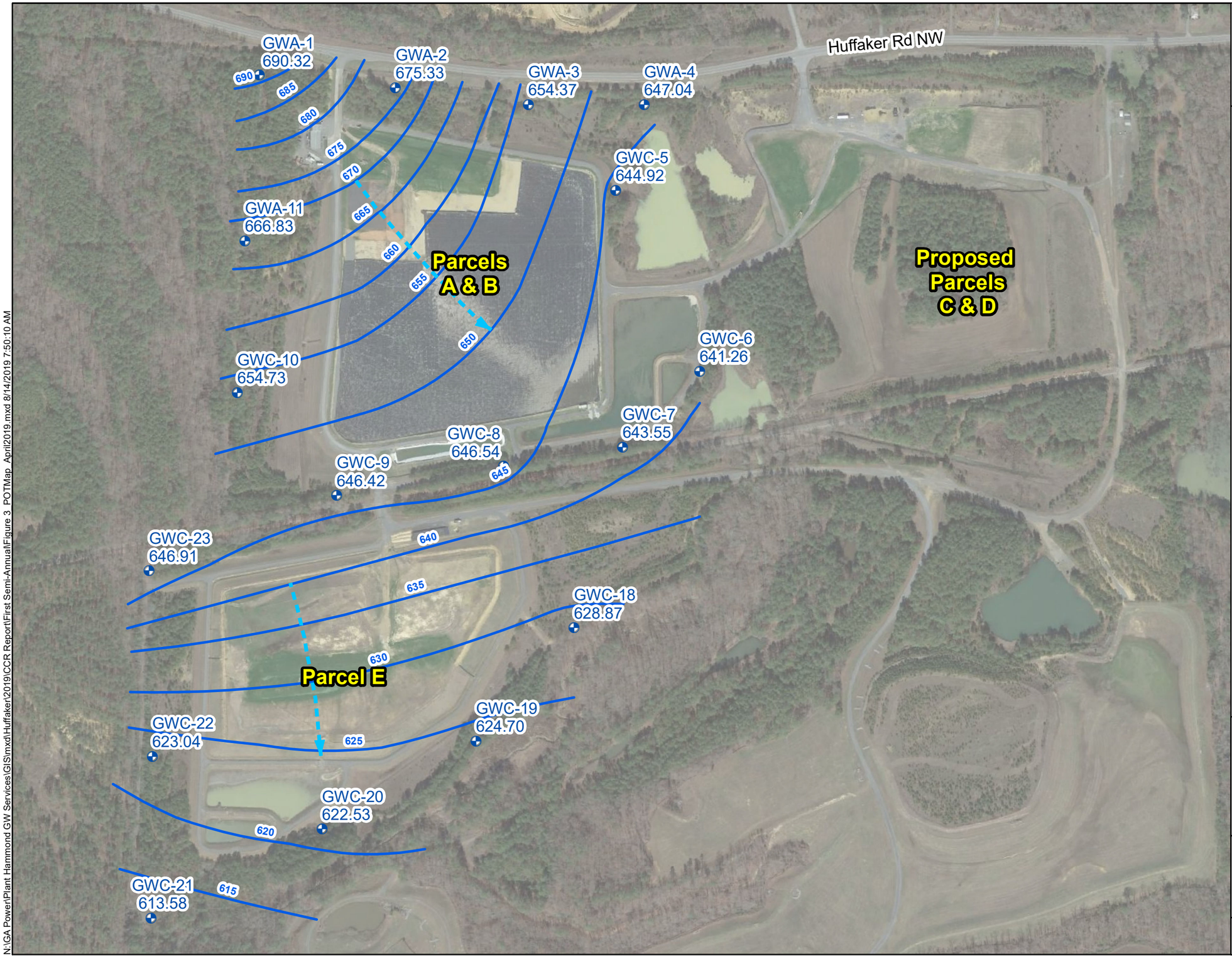
Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

Figure
4 a,b,c

APPENDIX A

Potentiometric Surface Map from 2019 First Semiannual Report



N:\GA Power\Plant Hammond GW Services\GIS\mxd\Huffaker\2019\CCR Report\First Semi-Annual\Figure 3_POTMap_April2019.mxd 8/14/2019 7:50:10 AM

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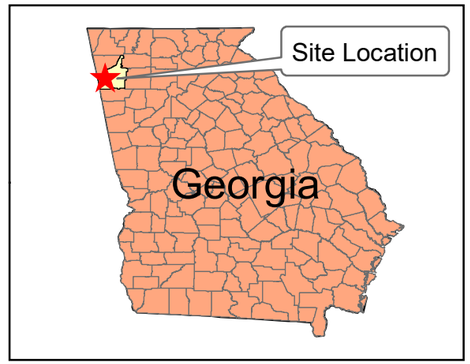
LEGEND

- Compliance Monitoring
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow



Notes:
1. Water level elevation recorded on April 8, 2019. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
2. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - APRIL 2019

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

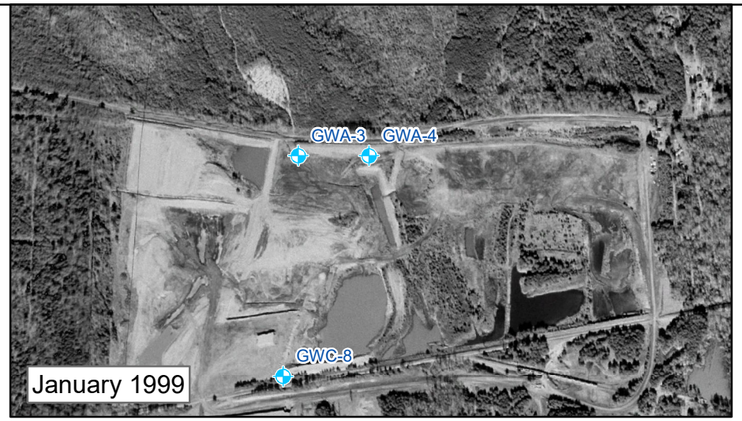
Prepared By: Geosyntec consultants

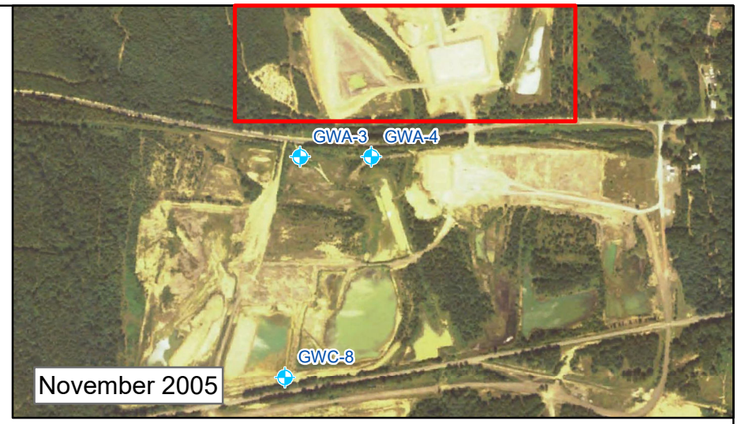
KENNESAW, GA | AUGUST 2019

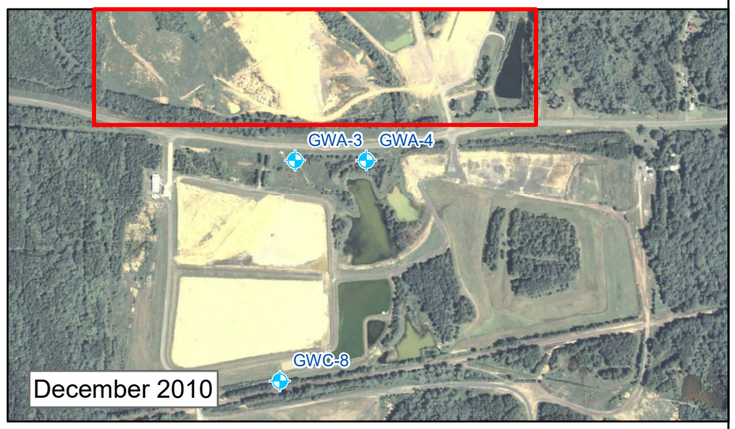
FIGURE 3

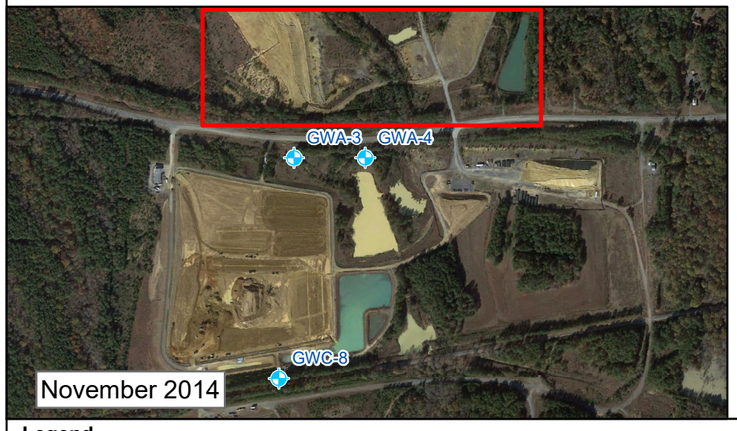
APPENDIX B

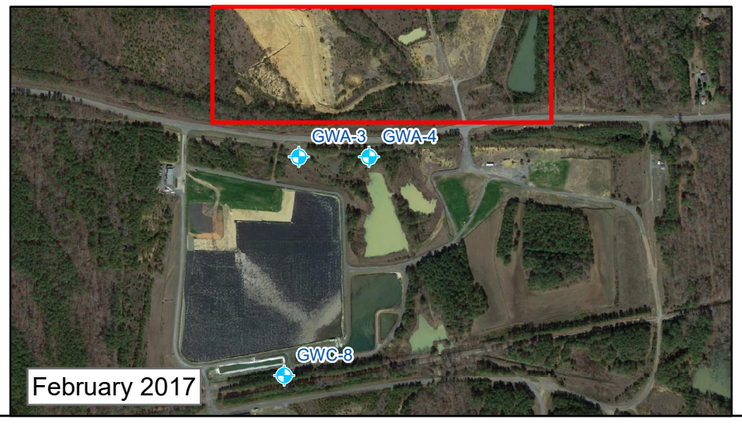
Historical Aerial Photographs











Legend

- Monitoring Well
- Area of Historical Mining Operations

Note:
1. Aerial Photograph from Google Earth

N

0 260 520 1,040 Feet

Historical Aerial Photographs

Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

Geosyntec consultants

Kennesaw, GA | November 2019

Figure B-1

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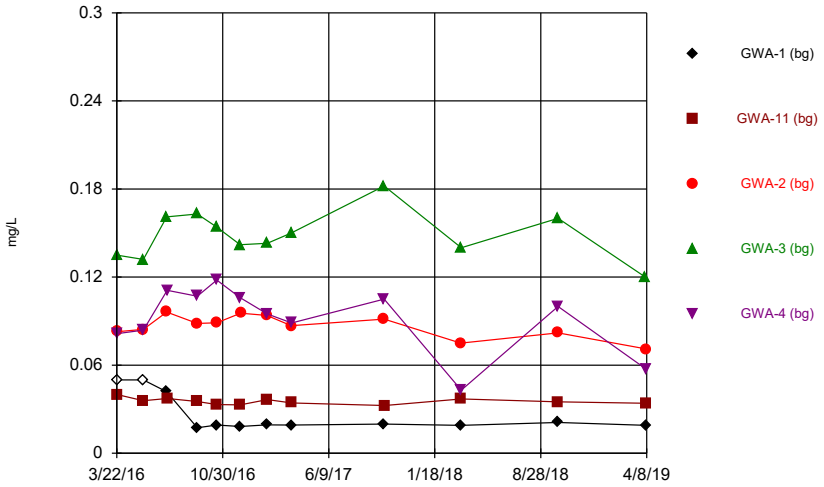
APPENDIX C

Time Series from 2019 First Semiannual Report

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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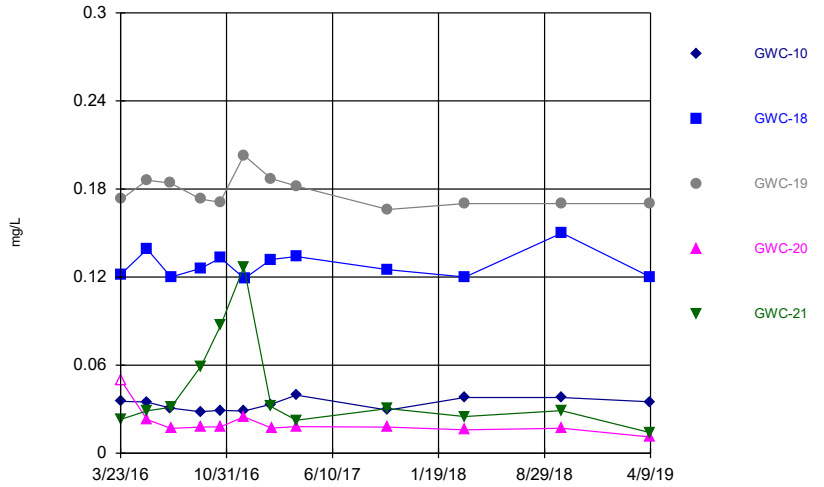
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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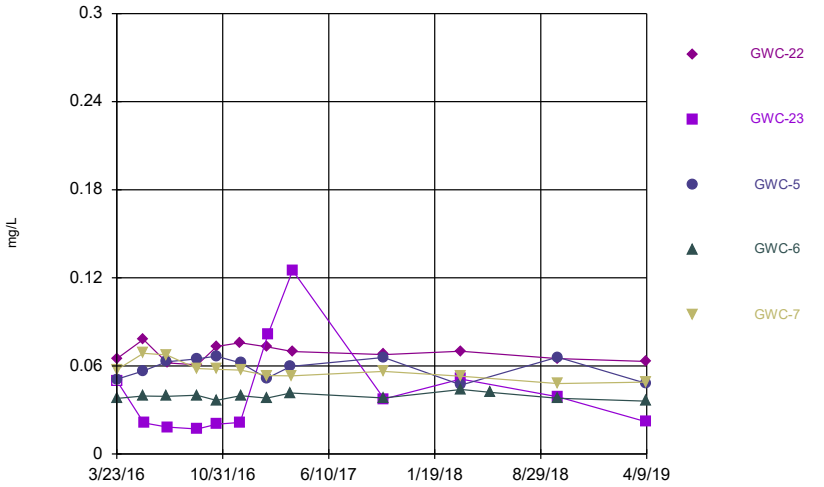
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

Time Series



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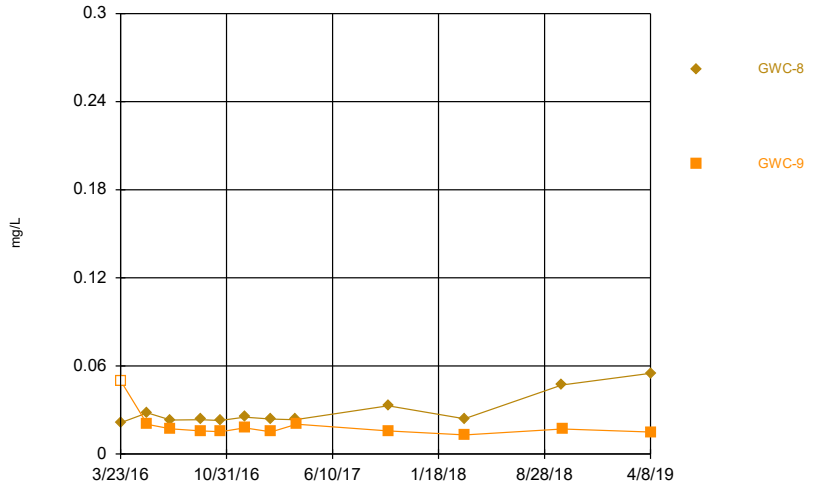
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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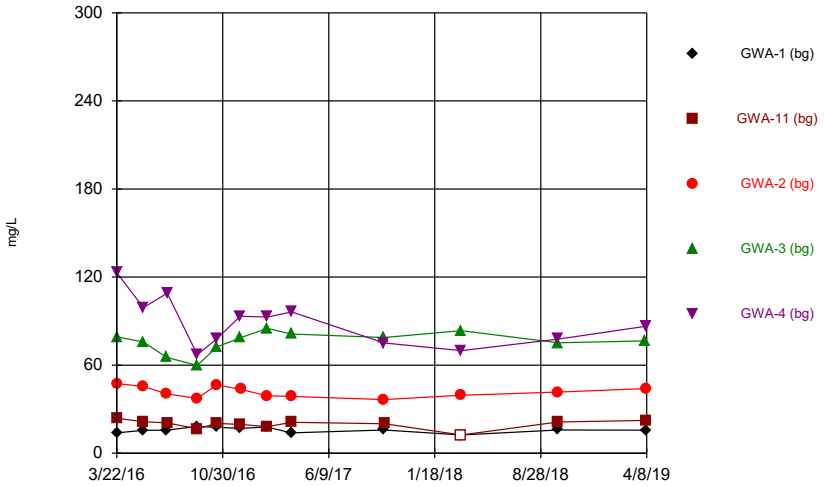
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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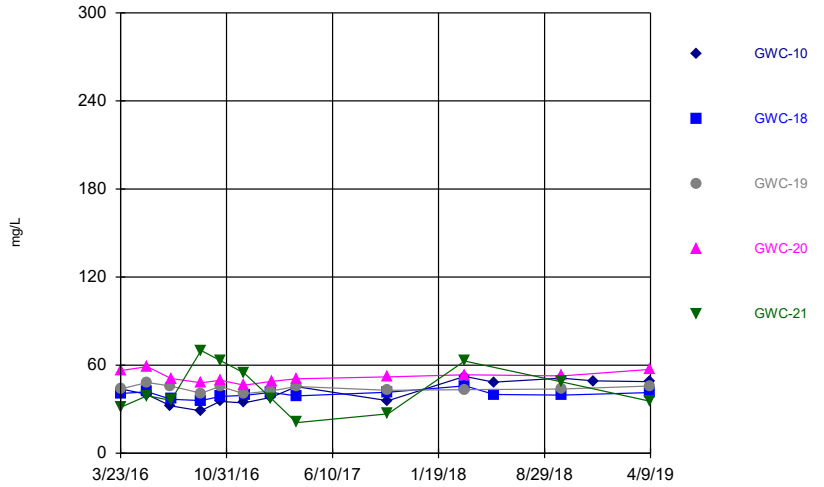
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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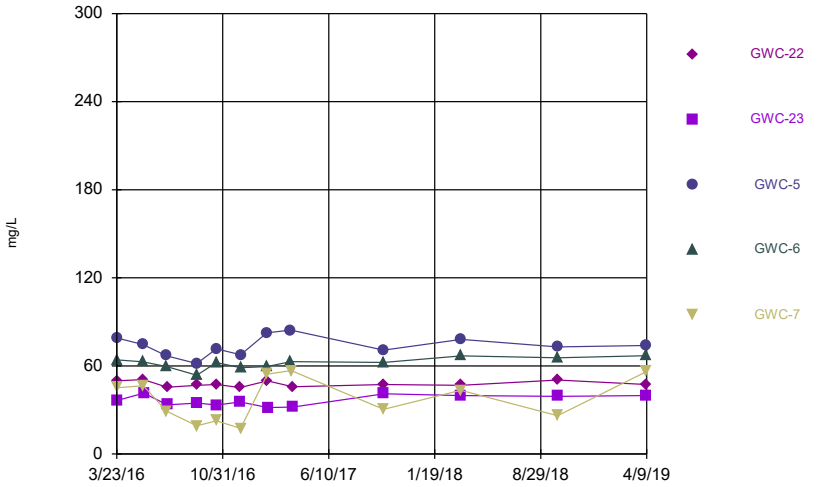
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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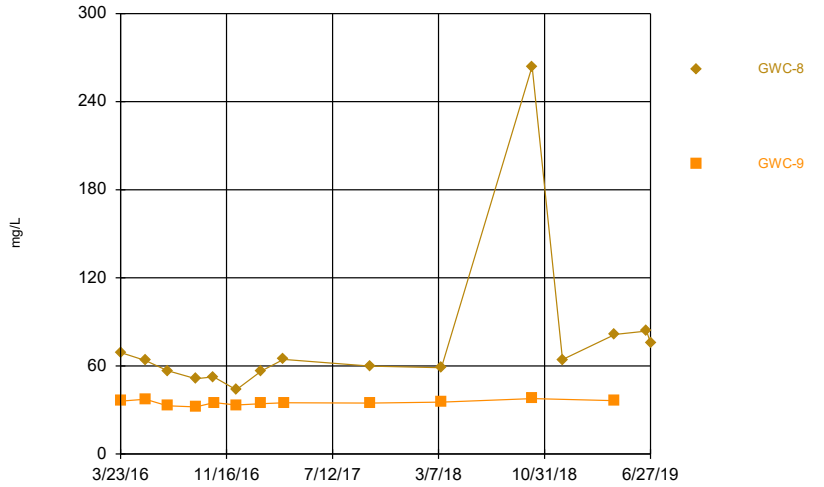
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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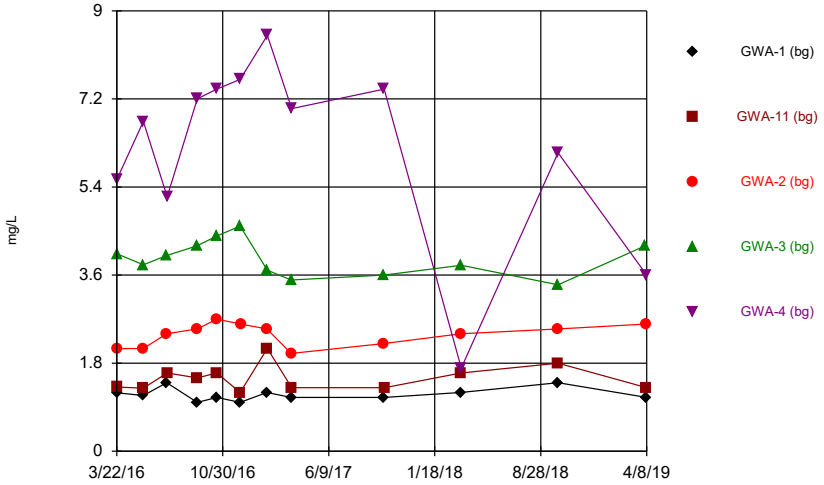
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Time Series



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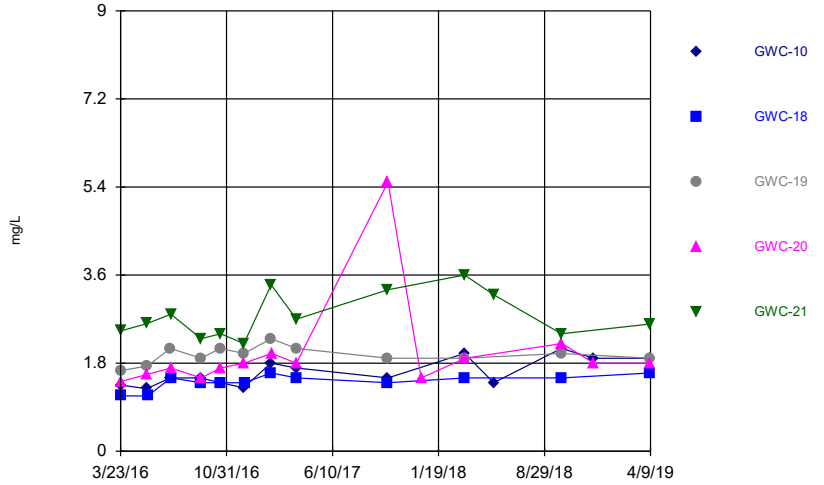
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series

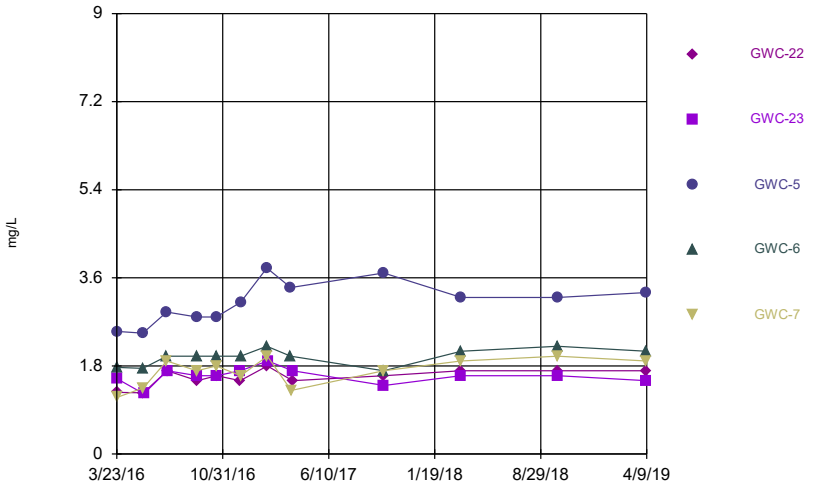


Constituent: Chloride Analysis Run 8/15/2019 6:21 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

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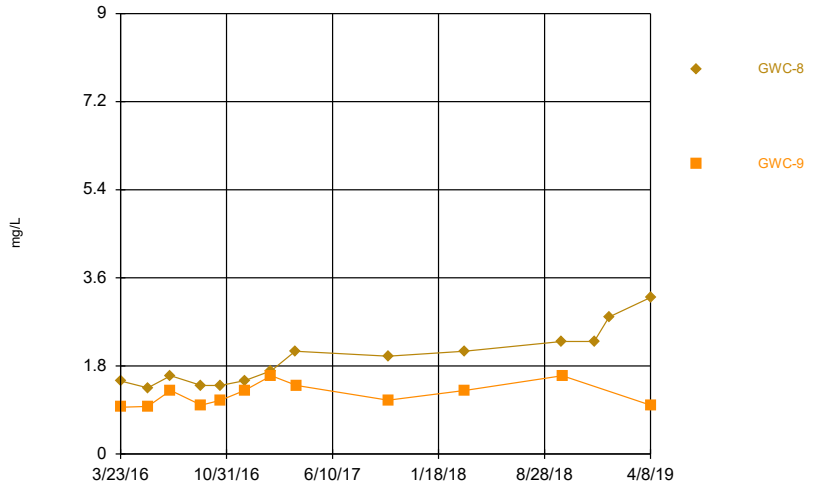

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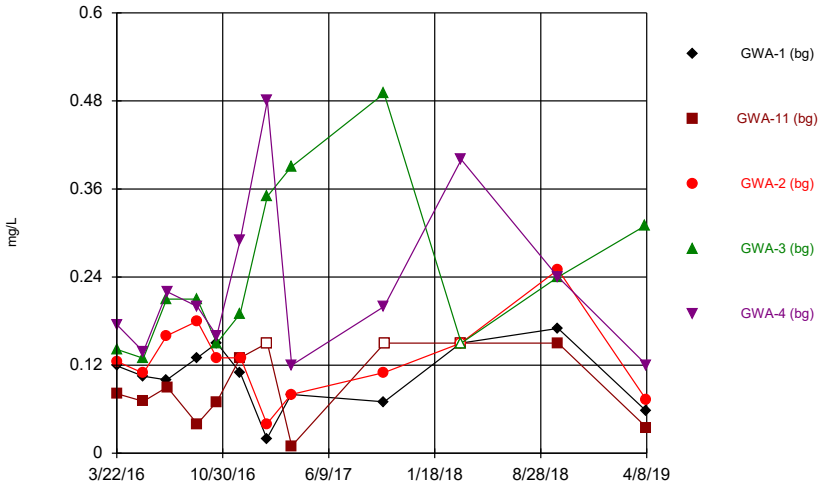
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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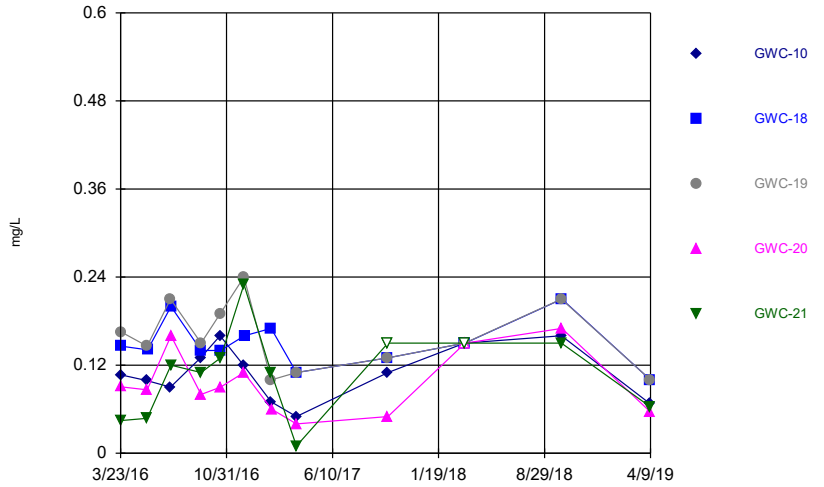
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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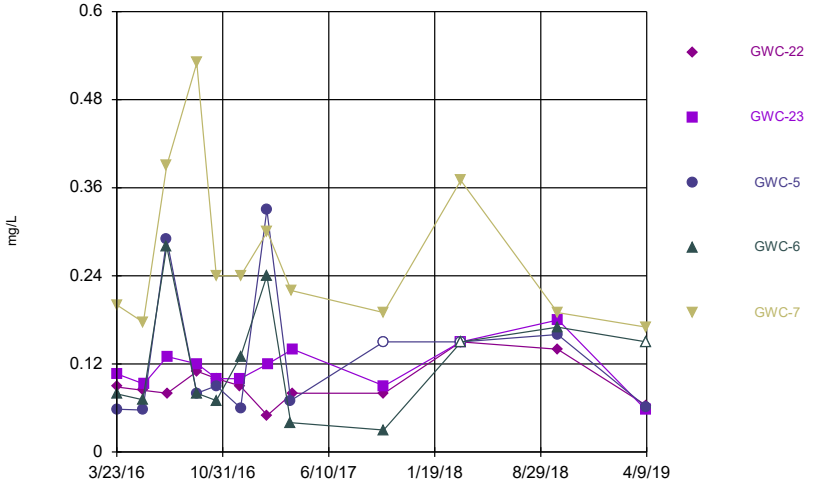
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
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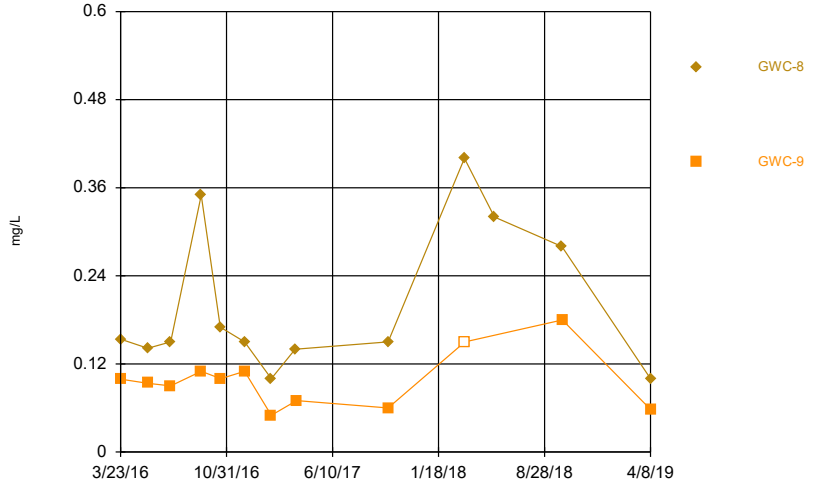
Time Series



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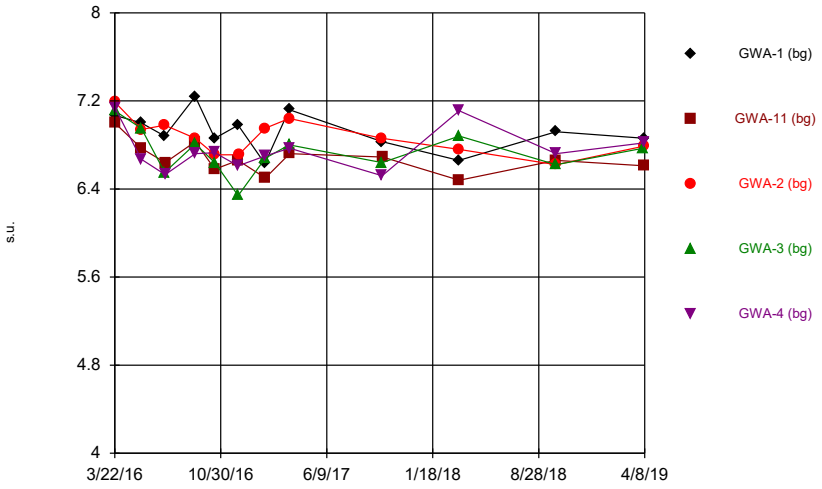
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Time Series



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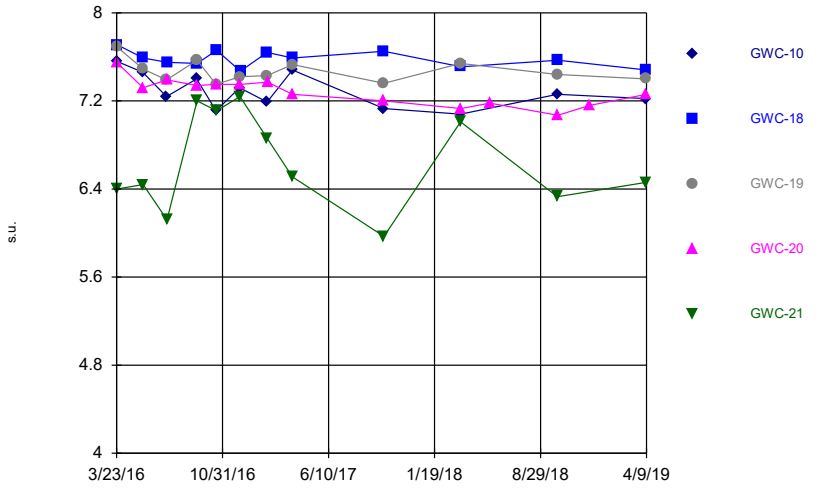

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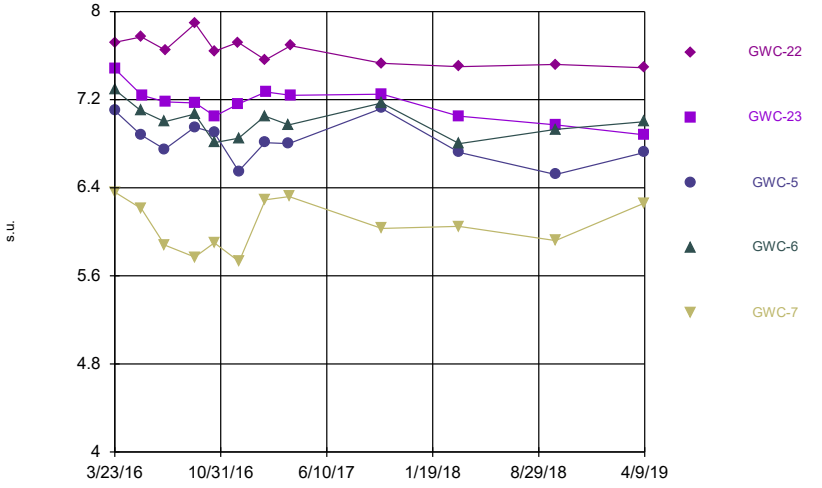

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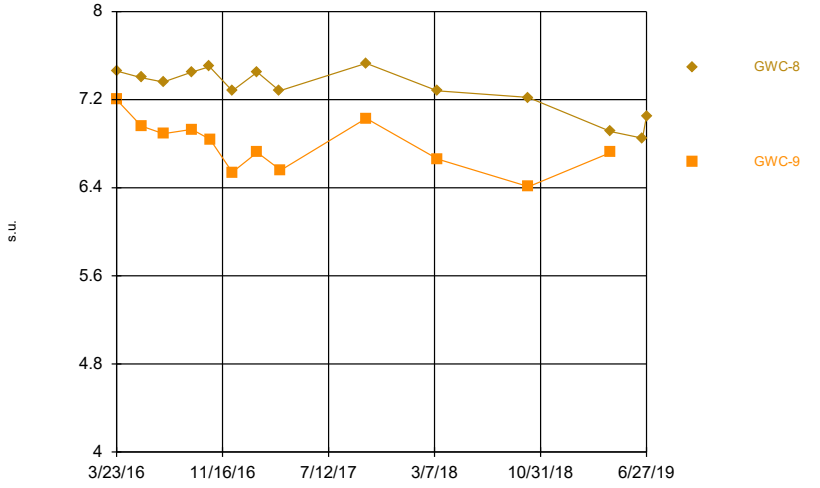

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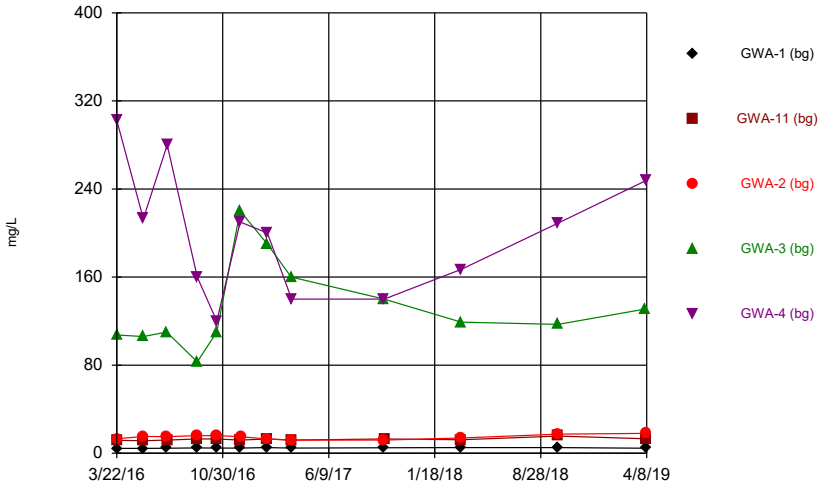

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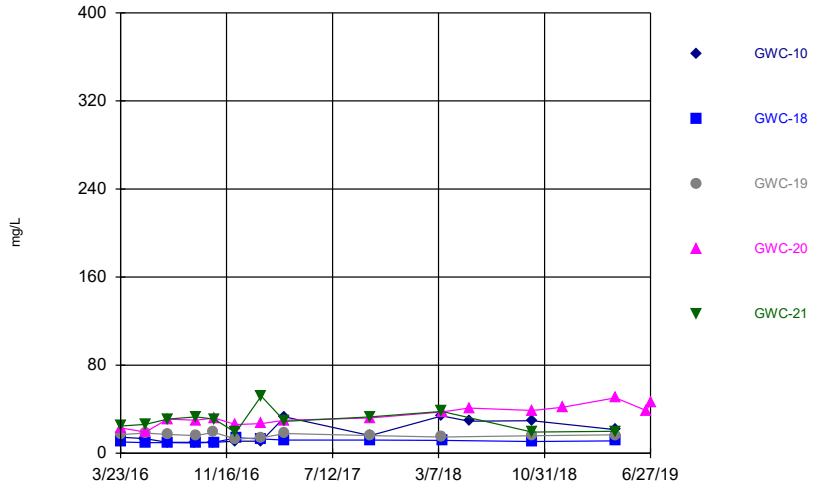

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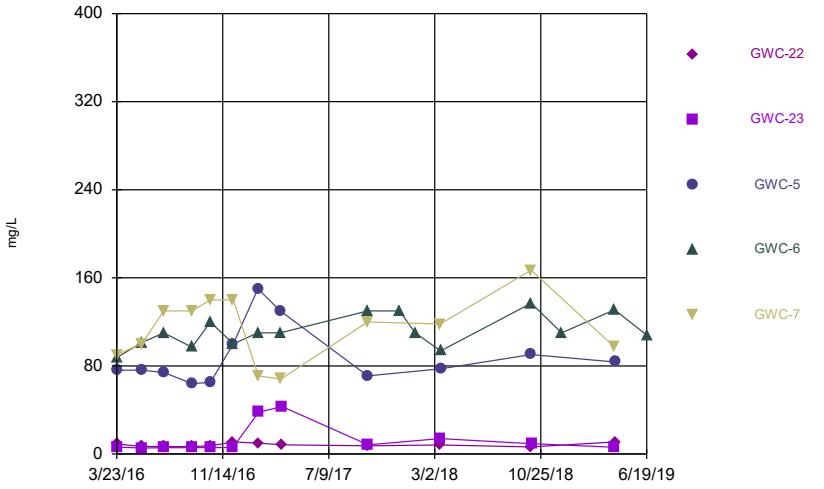

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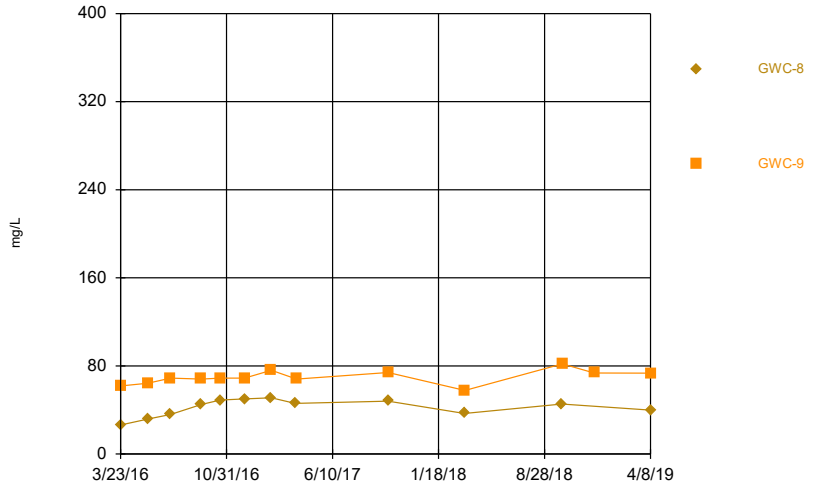

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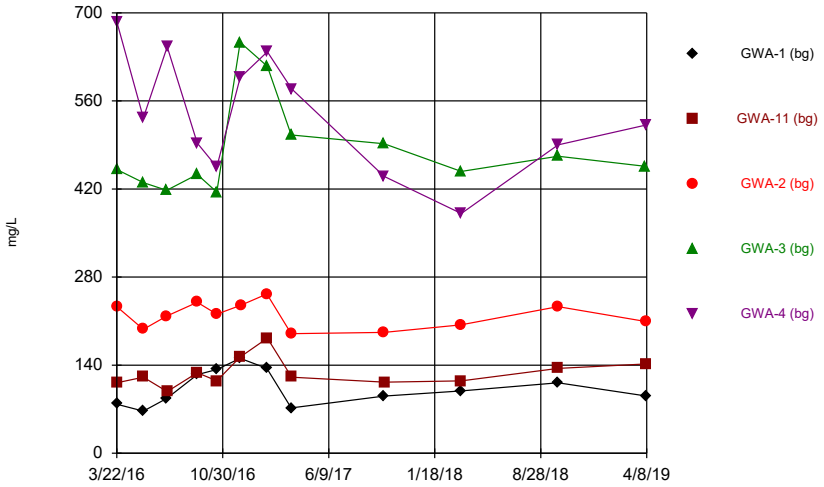

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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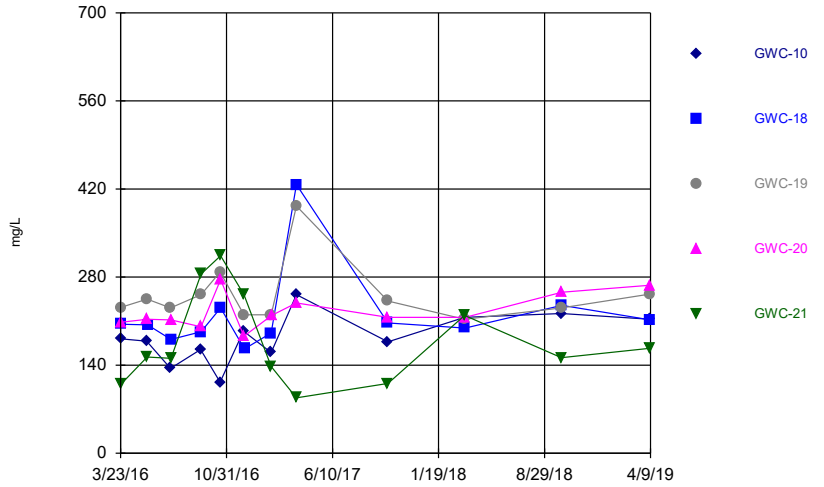
Time Series



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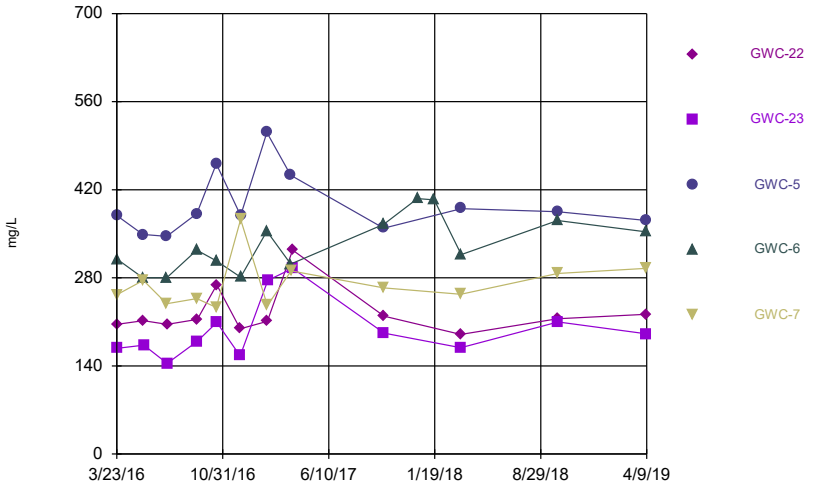

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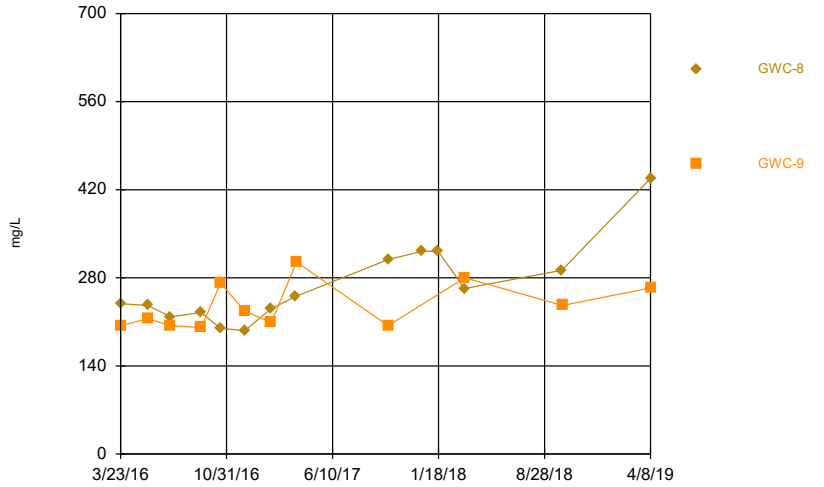

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Prepared for

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

ALTERNATE SOURCE DEMONSTRATION - SULFATE

PLANT HAMMOND HUFFAKER ROAD LANDFILL

Prepared by

engineers | scientists | innovators

1255 Roberts Boulevard, Suite 200
Kennesaw, Georgia 30144

Project Number GW6581B

November 2019

Georgia Power

ALTERNATE SOURCE DEMONSTRATION - SULFATE

Plant Hammond
Huffaker Road Landfill
Permit No. 057-022D (LI)

November 27, 2019

Herwig Goldemund, Ph.D.
Senior Scientist

Whitney Law, P.E.
Project Manager

Certification Statement

Alternate Source Demonstration - Sulfate
Plant Hammond
Huffaker Road Landfill
Permit No. 057-022D (LI)
November 27, 2019

I hereby certify that the facts used to prepare this Alternate Source Demonstration for Georgia Power Company – Plant Hammond Huffaker Road Landfill are accurate pursuant to the requirements stipulated in 40 CFR §257.94(e)(2).

Seal and Signature

11/27/2019
Date

Geosyntec
consultants

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LIST OF ACRONYMS

ASD	Alternate Source Demonstration
ASTM	American Society for Testing and Materials
B	boron
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Cl	chloride
cm/sec	centimeter per second
D&O	Design & Operation
ERM	Environmental Resources Management
GA EPD	Environmental Protection Division
GPC	Georgia Power Company
HDPE	high-density polyethylene
mg/L	milligrams per liter
ORP	oxidation reduction potential
PL	prediction limit
SO_4	sulfate
SSI	statistically significant increase
SCS	Southern Company Services, Inc.
TDS	total dissolved solids
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

1.1 Purpose

This document presents an alternate source demonstration (ASD) for the statistically significant increase (SSI) of sulfate (SO_4) detected in compliance well GWC-20 located at Georgia Power Company's (GPC's) Plant Hammond Huffaker Road Landfill (the landfill). The SO_4 SSI was identified based on statistical evaluation of the groundwater quality data set obtained from the April 2019 sampling event. The SSI was subsequently confirmed with two verification sampling events conducted in June 2019.

The landfill is currently managed by the Georgia Environmental Protection Division (GA EPD), and in accordance with Georgia Solid Waste Management Rules for Groundwater Monitoring and Corrective Action of a municipal solid waste landfill, Rule 391-3-4.14. The landfill is also subject to the United States Environmental Protection Agency (USEPA) coal combustion residual rule (CCR Rule) [40 Code of Federal Regulations (CFR) 257 Subpart D] and the GA EPD Rules for Solid Waste Management 391-3-4-.10. This ASD has been prepared pursuant to Rule 391-3-4-.14(23)(c) of the Georgia Administrative Code, which states that "the owner or operator may demonstrate that a source other than a MSWLF (municipal solid waste landfill) unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality." This language is consistent with the requirements of the Federal CCR Rule stipulated in 40 CFR §257.94(e)(2), which has been incorporated by reference into Rule 391-3-4-.10(23)(c) of the Georgia Administrative Code.

1.2 Summary of ASD

Based on review of available site data, the SO_4 SSI reported for well GWC-20 is not associated with a release from the landfill but is instead associated with historical clay mining operations (i.e., the alternative source) conducted on the subject site that altered geochemical properties within the soil resulting in increased production of SO_4. Natural variation in the groundwater quality due to temporal variability is likely also a contributing factor for the SSI. This ASD provides the following information supporting this conclusion:

- Groundwater samples collected from monitoring wells GWA-3 and GWA-4, located upgradient of the landfill and considered to represent background conditions reported higher concentrations of SO_4, as well as other Appendix III

parameters, relative to compliance well GWC-20 located downgradient of the landfill. The data indicate that an upgradient source other than the CCR unit exists for these naturally occurring constituents. The likely source of the higher SO_4 concentrations is the historical clay mining operation located immediately upgradient of wells GWA-3 and GWA-4.

- In addition to upgradient locations, historical clay mining operations also occurred at the subject site prior to landfill construction. The groundwater quality data suggest these historical operations have influenced spatial and temporal fluctuations of SO_4 concentrations reported for samples collected from wells installed within or downgradient of historically disturbed areas. The natural variation of SO_4 concentrations within groundwater may not have been fully captured within the relatively short period of SO_4 monitoring during baseline data collection at the site (i.e., within approximately one year), which was used to calculate the prediction limits used for the statistical analyses.

- During initial construction of the landfill, surface water and soft soils were removed from open pits created during historical clay mining operations in close vicinity to GWC-20, likely leading to oxidation of underlying sulfide minerals (i.e., pyrite) resulting in the formation of sulfate. This explanation is supported by an apparent positive correlation between a field measured oxidation reduction potential (ORP) and SO_4 concentrations in groundwater.

- Parcel E was designed and constructed in 2005 consistent with liner requirements for a solid waste landfill which was permitted by the GA EPD to receive CCR materials. The landfilled CCR waste (mostly gypsum) was dry-stacked into the unit in lifts and compacted to 90 percent Standard Proctor following American Society for Testing and Materials (ASTM) standard D698. A temporary intermediate cover of 18-inch of compacted soil has been installed over Parcel E. The combination of dry-handling the material and construction of the intermediate cover system minimizes the hydraulic head that could potentially drive CCR constituents into the subsurface. The lack of CCR-related impacts in the groundwater is supported by a lack of elevated concentrations of CCR Appendix III indicator parameters such as chloride (Cl), boron (B), or total dissolved solids (TDS) in monitoring well GWC-20.

1.3 Site Setting and Operational History

The landfill is located in Floyd County, near Rome, Georgia, approximately one mile west of the Rome city limit and approximately five miles northeast of Plant Hammond

(**Figure 1**). The landfill is located within the Valley and Ridge Physiographic Province of Georgia, which is underlain by shales, dolomites, and limestones of Cambrian and Ordovician age, and the landfill itself is located in the Floyd Shale member of the Judy Mountain syncline (SCS, 2002).

Huffaker Road Landfill was built between 2005 and 2007 over a closed surface clay mine, previously owned by Boral Bricks, Inc. The landfill is comprised of constructed Parcels A, B, and E, with Parcels C and D proposed for future expansion. The three existing parcels were permitted and constructed with a minimum 24-inch compacted clay liner with a maximum hydraulic conductivity of 1×10^{-6} centimeters per second (cm/sec) underlain with a compacted soil barrier designed to provide a minimum five-foot thick barrier between the bottom of the clay liner and seasonal high groundwater levels. GA EPD approved Solid Waste Permit No. 057-022D (LI) in a letter dated May 26, 2006, and disposal operations commenced on May 5, 2008. No CCR materials were stored in the landfill prior to May 2008 (ERM, 2018). In 2016, Parcels A and B were retrofitted with a leachate collection system and a 60-mil HDPE geomembrane overlaying the 24-inch clay liner, which was recompacted to obtain a maximum hydraulic conductivity of 1×10^{-7} cm/sec (GPC, 2016).

Based on discussions with GPC personnel, Parcels A and B have historically received coal ash whereas Parcel E has typically received gypsum. Currently, Parcels A and B are active, and Parcel E is temporarily inactive and covered with an intermediate closure system of 18-in of soil compacted to obtain a maximum hydraulic conductivity of 1×10^{-6} cm/sec.

Under the Federal CCR Rule promulgated by the United States Environmental Protection Agency (USEPA) in 2015, the landfill was determined to be a regulated CCR unit. GPC implemented groundwater monitoring and reporting activities at the landfill to comply with the requirements of the Federal CCR Rule. To date, groundwater monitoring activities have been implemented in accordance with 40 CFR §257.90 through 257.94.

1.4 Groundwater Monitoring

A groundwater monitoring plan was originally developed under the Georgia Solid Waste rules as part of the landfill's Design and Operation (D&O) Plan to comply with the requirements of Solid Waste Permit No. 057-022D (LI). The groundwater monitoring system consists of 17 wells (five upgradient wells and 12 downgradient wells) installed between September 2001 and February 2007 (ERM, 2018). The site layout and the locations of each well are presented on **Figure 2**. Groundwater monitoring at the landfill began in 2007, prior to disposal activities, and continues to date. However, the earlier

groundwater monitoring was conducted under the Georgia Solid Waste rules and not under the Federal CCR Rule. Groundwater monitoring under the Federal CCR Rule, which included SO_4 as a monitoring constituent, commenced in March 2016.

In accordance with 40 CFR §257.94(b), a groundwater monitoring program was implemented to collect eight baseline groundwater samples from each upgradient and downgradient well between March 2016 and March 2017. A ninth round of groundwater samples was collected as the initial detection monitoring program event in October 2017. Groundwater samples have been collected semi-annually since October 2017 pursuant to 40 CFR §257.94(b) and §257.94(e)(2) and analyzed for Appendix III parameters. The semi-annual sampling event pertaining to this ASD was conducted in April 2019. Two verification sampling events were conducted in June 2019 to confirm the April 2019 SO_4 groundwater concentration reported in well GWC-20.

1.5 Basis of the Statistically Significantly Increase

The following presents a summary of the statistical approach applied to assess the April 2019 groundwater data for potential SSIs of permit stipulated parameters reported in downgradient compliance wells relative to the available historical data set. Because the landfill is currently independently managed under both Georgia's Solid Waste Management Rule 391-3-4.14 and Georgia's CCR Rule 391-3-4.10, which references the Federal CCR Rule, two data sets are statistically evaluated per semiannual monitoring event. One data set contains Appendix III parameters, which is applicable to both of the aforementioned rules. The other data set contains the D&O-specified parameters, applicable to Rule 391-3-4.14. The statistical approach used to evaluate groundwater data for the landfill for Appendix III parameters (e.g., SO_4) is the intrawell prediction limit (PL) method combined with a 1-of-3 resample plan. The statistical analyses and comparisons to PLs are discussed in further detail in the *2019 First Semiannual Groundwater Monitoring and Corrective Action Report* (2019 First Semiannual Report) (Geosyntec, 2019).

Statistical analysis of the April 2019 data identified an SSI of SO_4 for well GWC-20. The initial concentration of 50.3 milligrams per liter (mg/L) was verified through two subsequent resampling and analyses conducted in June 2019 (38.7 and 46.0 mg/L). These concentrations exceeded the PL of 37.4 mg/L for SO_4 in well GWC-20.

2. ALTERNATE SOURCE DEMONSTRATION

Based on review of site information, the SSI for SO_4 at compliance well GWC-20 is not related to a release from Parcel E at the landfill but is associated with historical on-site clay mining operations (i.e. an alternate source) located in vicinity of GWC-20 and likely natural spatial and temporal variation. The following section presents information supporting this conclusion.

2.1 Upgradient Conditions

Groundwater quality conditions within upgradient assessment wells GWA-3 and GWA-4 are characterized by higher SO_4 concentrations and greater variability among Appendix III parameters relative to downgradient compliance well GWC-20. The degree of spatial and temporal variability detected for SO_4 concentrations in GWA-3 and GWA-4 relative to well GWC-20 is presented on **Figure 3**; the data set includes sampling events conducted between March 2016 and November 2019 (where applicable). Other Appendix III parameters, including B, Cl, and TDS, were included on this figure to illustrate these parameters' similar concentration trends relative to SO_4. The low concentrations of Appendix III parameters in downgradient well GWC-20 relative to upgradient wells supports the conclusion the SO_4 source is not associated with the regulated landfill.

A potentiometric surface map developed from water levels recorded during the April 2019 detection monitoring event, and submitted as part of the 2019 First Semiannual Report, is included as **Appendix A**.

An explanation for the higher SO_4 concentrations in upgradient wells GWA-3 and GWA-4 is associated with historical clay mining operations located immediately north, and upgradient of these wells, across Huffaker Road, with surface water draining from the mining operations to the area in proximity of these two wells. Aerial photographs provided in **Appendix B** illustrate conditions at the site as well as north of the site between 1993 and 2018, showing the land disturbance activities during this period.

Disturbances of the overburden through clay mining operations have likely created conditions for increased dissolution of constituents into groundwater, including several Appendix III parameters. This is likely due to increased dissolution of naturally-occurring constituents from disturbed surfaces as recharge from precipitation dissolves constituents as rain water permeates through the vadose zone into groundwater.

The time series concentration trends shown on **Figure 3** indicate that there is spatial as well as temporal variability in the SO_4 (and other Appendix III) data. The eight baseline sampling events conducted within one year, which were used to calculate the PL for each well, may not have fully captured this variability at downgradient well GWC-20. The degree of variation in groundwater quality was detected in samples from both upgradient and downgradient locations, though it is more pronounced in upgradient wells GWA-3 and GWA-4. The degree of variation of SO_4 in these two wells might subsequently be observed in downgradient locations (i.e., GWC-20), given an adequate amount of time for those solutes to migrate to the downgradient compliance wells.

2.2 Onsite Historical Operations (Natural Variation)

In addition to the upgradient source discussed in Section 2.1, the historical land disturbance activities show a lingering effect on groundwater conditions within the footprint of historical mining operations at the subject site prior to landfill construction. Like the mechanisms described above that lead to increased dissolutions of constituents from an upgradient source, the same mechanisms are believed to still be operational within and downgradient of historical clay mining operations at the subject site. As a result, compliance monitoring wells screened within and downgradient of these disturbed areas indicate higher constituent concentrations relative to wells screened within historically undisturbed areas that have also not been affected by potential upgradient sources and operations (e.g., GWA-1, GWA-11, and GWC-10).

Comparison of several Appendix III parameters between wells installed within the historically disturbed and undisturbed areas (both upgradient as well as downgradient) supports this conclusion, as illustrated by the time series plots presented in the *2019 First Semiannual Groundwater Monitoring and Corrective Action Report* (2019 First Semiannual Report) (Geosyntec, 2019). These plots have been included in **Appendix C** of this ASD.

2.3 Geology

The regional geology was summarized in the SAR (SCS, 2002) based on the work of Cressler (1970). The Huffaker Road Landfill is located in the Floyd Shale member of the Judy Mountain Syncline. The Floyd Shale is Mississippian in age and ranges from 200 to 1,200 feet thick in Floyd County. The unit is composed of clay and shale, transitioning to limestone at its base. Pyrite (a sulfide mineral) was noted to be present at outcrops located at the Site (SCS, 2002). Pyrite (FeS_2) is an iron sulfide that when oxidized forms ferrous iron (Fe^{2+}) and SO_4, releasing hydrogen ions, which lowers the pH of groundwater.

The Huffaker Road Landfill was built over a closed surface clay mining operation. The residual soil (clayey silt and silty clay) was mined for use in making bricks. Aerial photos of the Site between 1993 and 2018 show that the area near GWC-20 was disturbed for much of this period (**Appendix B**). The aerial photographs indicate mining operations resulted in open pits that filled with water from precipitation, natural drainage, or groundwater seepage. During initial construction of the landfill by GPC between 2005 and 2007, surface water from the open pits was removed and soft sediments and soils excavated before allowing the subgrade to dry (GPC, 2016). When the water was removed, the underlying material was exposed to oxygen allowing localized oxidation of naturally-occurring pyrite.

The potential to have oxidizing or reducing conditions within groundwater can be gauged in the field using a water quality meter equipped with an ORP sensor. ORP is a geochemical field measurement that is recorded during each event groundwater samples are collected from well GWC-20. The ORP data recorded in GWC-20 since March 2016 indicate a generally increasing trend from reducing to oxidizing conditions which corresponds to an increasing trend in SO_4 concentrations over the same time period. Similarly, the groundwater pH for GWC-20 generally decreased for the period of March 2016 to October 2018 before beginning to increase in 2019. The lowering of pH is likely indicative of a release of hydrogen ions from the formation of SO_4 from pyritic minerals. Time series plots of these ORP and pH data relative to SO_4 concentrations are provided on **Figure 4**. The geochemical data are consistent with SO_4 generation from natural sources rather than a release from the lined unit.

2.4 Lined Landfill and Lack of Indicator Parameters

Parcel E was permitted and constructed with a 24-inch compacted clay liner with a maximum hydraulic conductivity of 1×10^{-6} cm/sec. The liner is underlain with a minimum five-foot thick compacted fill buffer between the bottom of the clay liner and the seasonal high groundwater table.

A fate and transport model was completed in support of preparing the SAR; multiple scenarios were modeled based on soil parameters determined via laboratory testing (e.g., soil partition coefficient, K_d) and field investigations. Under the more protective, conservative model scenario (i.e., highest potential for contaminant transport based on the range of determined soil parameters and model inputs), the model determined that it would take landfill leachate more than 1,000 years to break through the 24-inch clay liner under normal operations without a synthetic liner (GPC, 2002).

Currently, Parcel E is temporarily inactive and not receiving CCR materials. When waste was received, the landfilled CCR waste (mostly gypsum) was dry-stacked in lifts and compacted to 90 percent of Standard Proctor per ASTM standard D698 (GPC, 2016). A temporary intermediate cover consisting of 18 inches of compacted soil with a maximum hydraulic conductivity of 1×10^{-6} cm/sec has been constructed atop Parcel E. The dry-handling of the CCR materials in conjunction with the intermediate cover system minimizes the hydraulic head that could potentially drive CCR constituents into the subsurface. The lack of CCR-related impacts is supported by a lack of elevated concentrations of other CCR Appendix III indicator parameters in monitoring well GWC-20 (i.e., Cl, B, or TDS).

Appendix C includes the time series plots for the Appendix III parameters as provided with the 2019 First Semiannual Report. Concentrations of Appendix III indicator parameters in well GWC-20 are low or not detected and thereby, not indicative of a release from the landfill. In fact, these concentrations are lower in well GWC-20 than in upgradient background wells GWA-3 and GWA-4, and consistent with the other three upgradient background wells GWA-1, GWA-2, and GWA-11. This supports the conclusion that conditions in well GWC-20 are not indicative of a release from the unit.

3. CONCLUSIONS

Sulfate concentrations in downgradient compliance well GWC-20 were reported in excess of its associated PL during the first semi-annual 2019 groundwater detection monitoring event conducted in April 2019. Two subsequent verification sampling events conducted in June 2019 confirmed the PL exceedance, which resulted in the identification of an SSI for SO_4 in well GWC-20. However, the following lines of evidence demonstrate that the SO_4 SSI is not due to a release from the landfill, but rather (i) the oxidation of naturally occurring pyritic minerals after cessation of historical clay mining operations (i.e. an alternate source) located immediately upgradient of the well and/or (ii) natural spatial and temporal variation.

- Upgradient Conditions:
    - Upgradient wells GWA-3 and GWA-4 have higher concentrations of SO_4 compared to downgradient well GWC-20. The historical mining operation located upgradient of the landfill is likely an alternative source of SO_4 (and other Appendix III parameters). Upgradient groundwater with elevated levels of dissolved constituents are migrating to downgradient locations, triggering an increase in groundwater concentrations at these locations.
    - The fluctuations in SO_4 concentrations, as reported in both upgradient and downgradient wells, indicate a degree of spatial and temporal variability throughout the initial monitoring period. The full extent of the natural variation may not have been captured during the eight baseline monitoring events completed within one year, which have been used to calculate prediction limits in each well.
- Onsite Historical Operations (Natural Variation):
    - In addition to the upgradient conditions, there were also historical clay mining operations conducted at the subject landfill site itself. Based on comparison of groundwater quality data between wells installed upgradient versus downgradient of historically undisturbed areas on-site, the data indicate historical clay mining operations have a lingering effect on the concentrations of Appendix III constituents reported in the wells installed within or downgradient of the historically disturbed areas. This is likely due to increased dissolution of these constituents as water

infiltrates through the vadose zone of the disturbed areas and migrates over time to downgradient wells.

  - During initial construction of the landfill, surface water and soft sediments were removed from pits generated during historical clay mining operations in vicinity to GWC-20, likely leading to oxidation of underlying sulfide minerals (pyrite) resulting in a concurrent increase in SO_4 concentrations within the groundwater.

- Lined Landfill and Lack of Indicator Parameters:

  - Parcel E is constructed with a 24-inch compacted clay liner underlain with a five-foot compacted soil buffer and capped with an 18-inch intermediate compacted soil cover; the intermediate cover system minimizes the hydraulic head potentially driving CCR constituents into the subsurface; the absence of a release of CCR constituents from the unit is supported by a lack of concentration increases over background PLs of CCR Appendix III indicator parameters such as Cl, B, or TDS in monitoring well GWC-20.

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FIGURES

N

0 200 400 800

SCALE IN FEET

SITE LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

FIGURE 1

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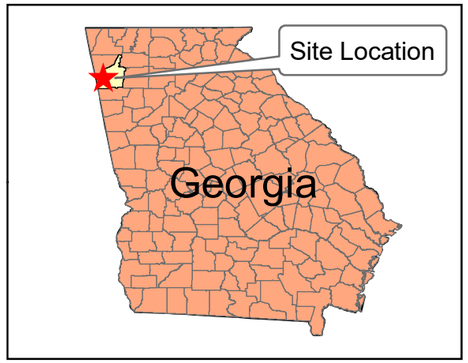
LEGEND

- Landfill Monitoring Well
- Landfill Underdrain Sample Point



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SCALE IN FEET

WELL LOCATION MAP

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

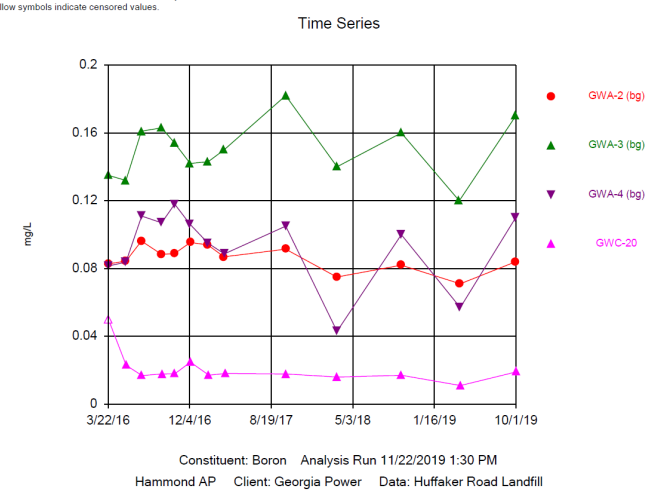
Prepared By: Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

FIGURE 2

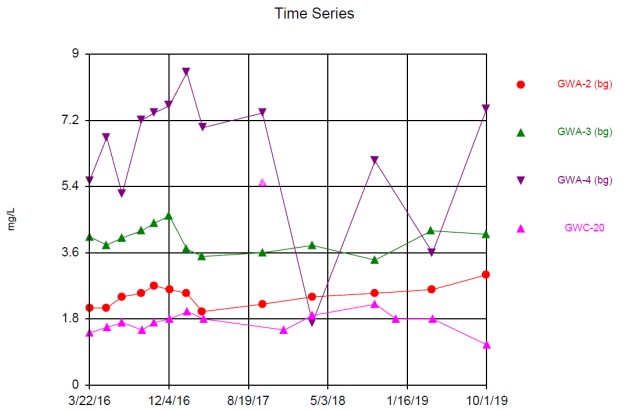
N:\GA Power\Plant Hammond GW Services\2018\GIS\mxd\Huffaker\CCR annual\2018\Figure2_WellMap_V1.mxd 12/12/2018 6:12:56 PM

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.



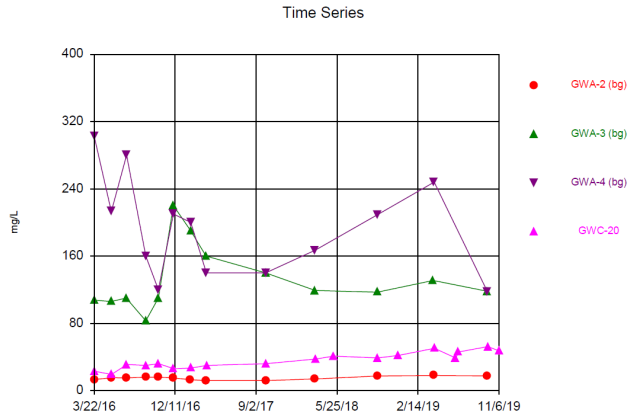
Constituent: Boron Analysis Run 11/22/2019 1:30 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG



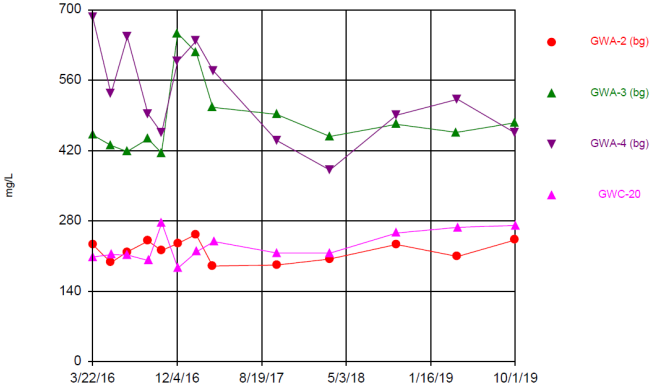
Constituent: Chloride Analysis Run 11/22/2019 1:30 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG



Constituent: Sulfate Analysis Run 11/22/2019 1:30 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG



Constituent: Total Dissolved Solids Analysis Run 11/22/2019 1:30 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

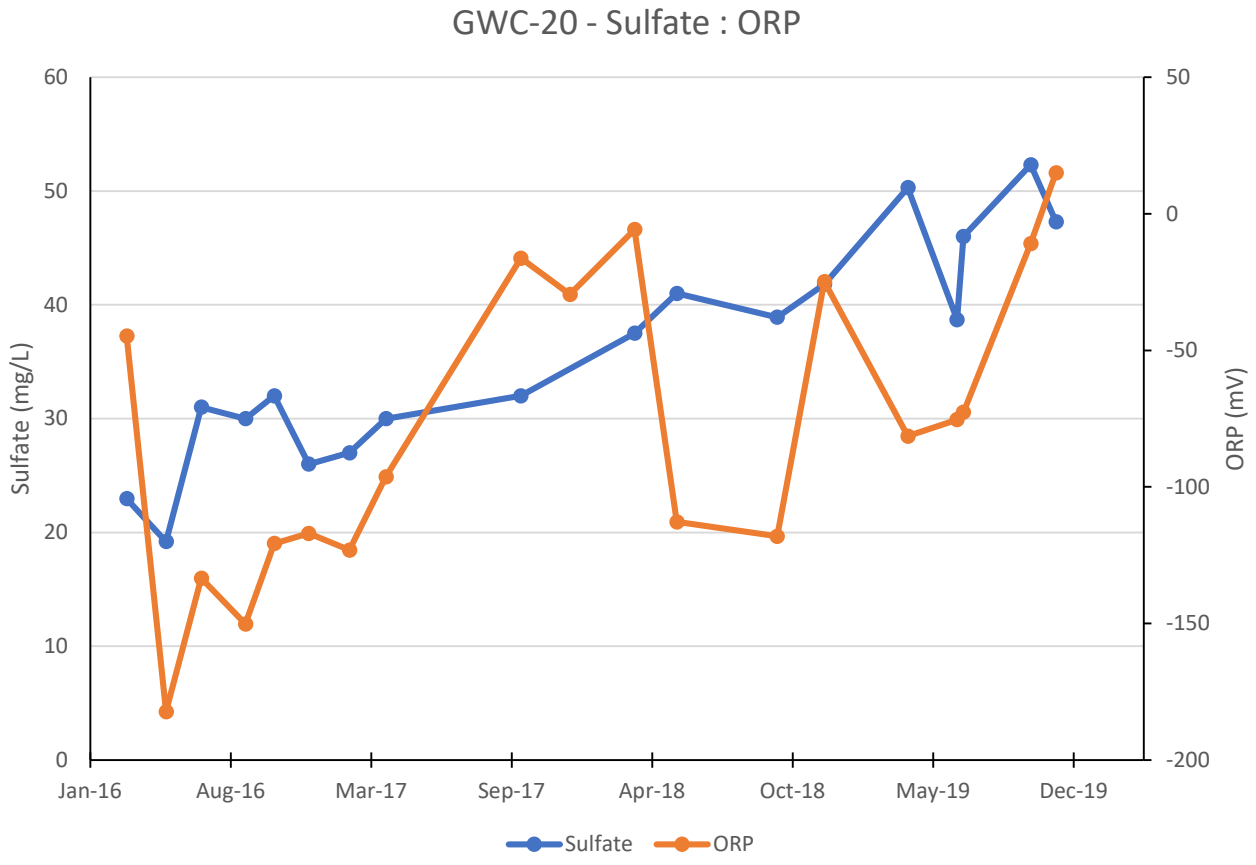
Time Series Chart – B, CL, SO4, Cl in GWA-2, GWA-3, GWA-4, and GWC-20

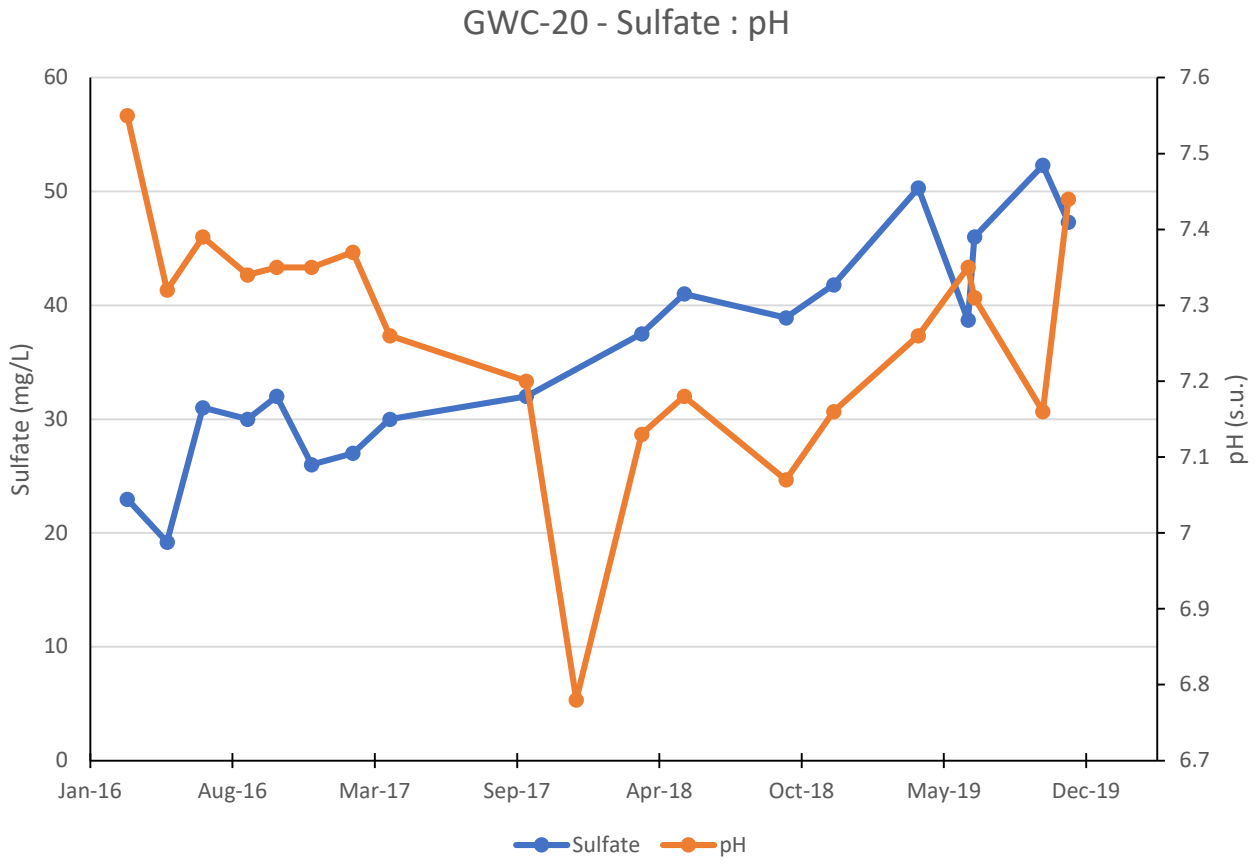
Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

Figure 3





Time Series Chart – Sulfate, ORP, pH at GWC-20

Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

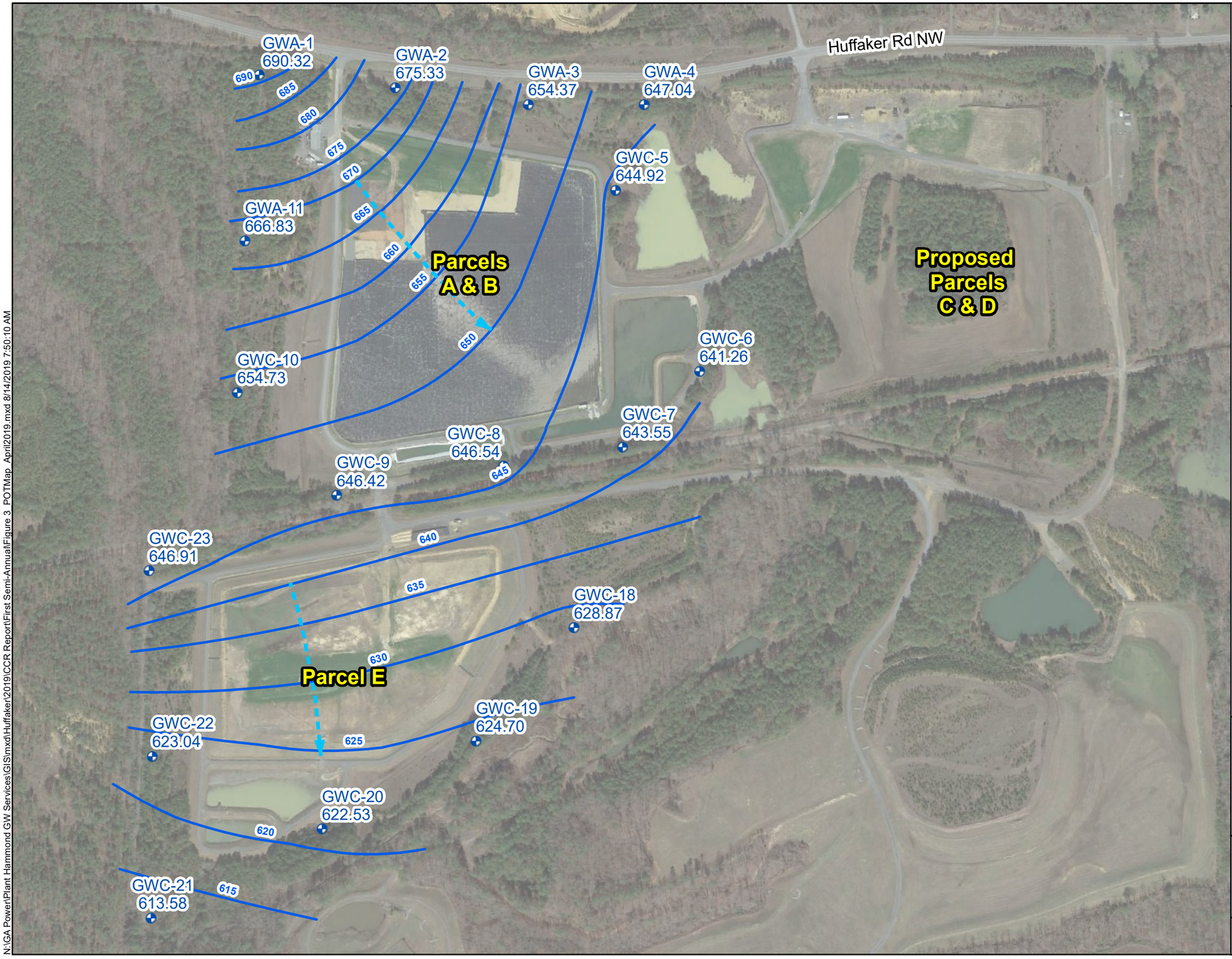
Geosyntec consultants

KENNESAW, GA | NOVEMBER 2019

Figure 4

APPENDIX A

April 2019 Potentiometric Surface Contour Map from 2019 First Semiannual Report

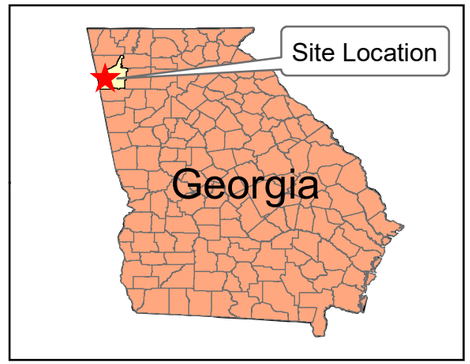


N:\GA Power\Plant Hammond GW Services\GIS\mxd\Huffaker\2019\CCR Report\First Semi-Annual\Figure 3_POTMap_April2019.mxd 8/14/2019 7:50:10 AM

N

LEGEND

- Compliance Monitoring
- Groundwater Elevation Iso-Contour
- Approximate Groundwater Flow



Notes:
1. Water level elevation recorded on April 8, 2019. Elevation provided in feet above mean sea level (ft AMSL) in North American Vertical Datum (NAVD) 88.
2. Aerial photograph source: Google Earth Pro, February 2017.

0 200 400 800

SCALE IN FEET

POTENTIOMETRIC SURFACE CONTOUR MAP - APRIL 2019

GEORGIA POWER COMPANY
PLANT HAMMOND HUFFAKER ROAD LANDFILL
FLOYD COUNTY, GEORGIA

Prepared For: Georgia Power

Prepared By: Geosyntec consultants

KENNESAW, GA | AUGUST 2019

FIGURE 3

APPENDIX B

Historical Aerial Photographs

Note:
1. Aerial Photograph from Google Earth

N

0 375 750 1,500
Feet

Historical Aerial Photographs

Georgia Power Company
Huffaker Road Landfill
Rome, Floyd County, Georgia

Geosyntec consultants

Kennesaw, GA | November 2019

Figure

B-1

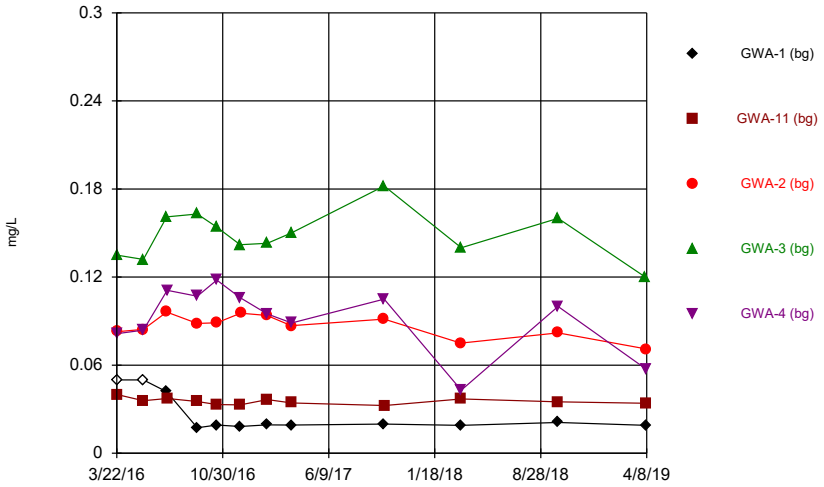
N:\GA Power\Plant Hammond GW Services\GIS\mxd\Huffaker\2019\ASD\Sulfate\Figure B-1_Historical_Aerial_Photos.mxd 11/25/2019 4:15:47 PM

APPENDIX C

Time Series from 2019 Semiannual Report

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

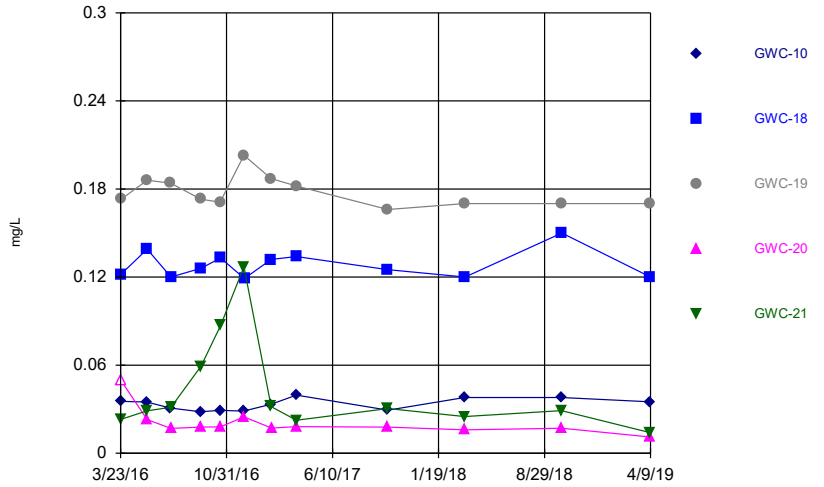
Time Series



Constituent: Boron Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

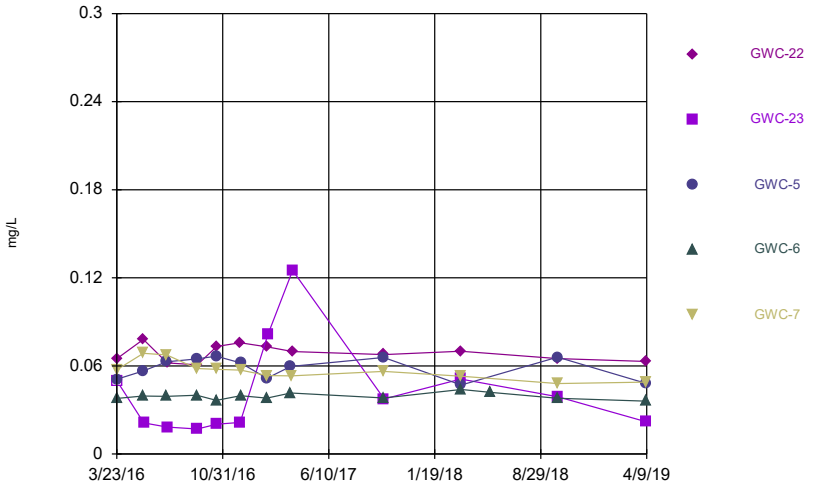
Time Series



Constituent: Boron Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG Hollow symbols indicate censored values.

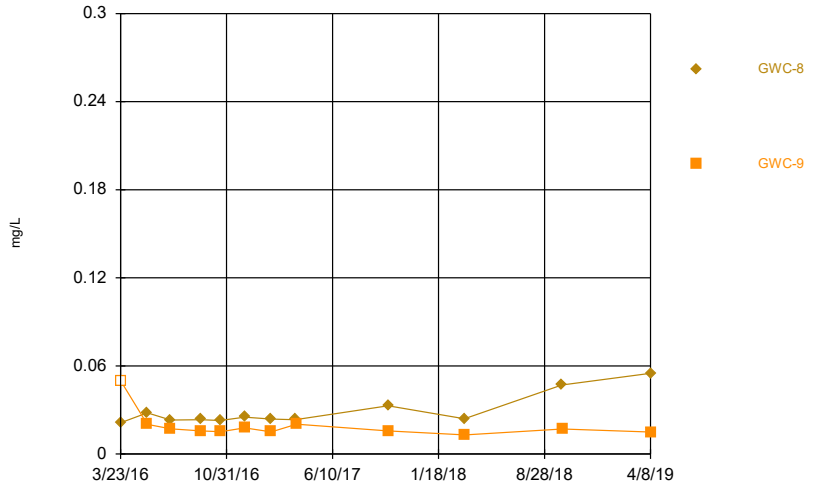
Time Series



Constituent: Boron Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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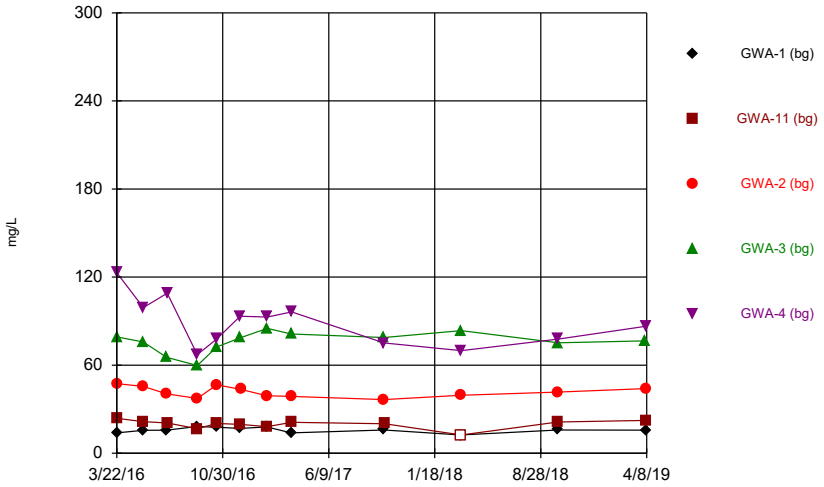
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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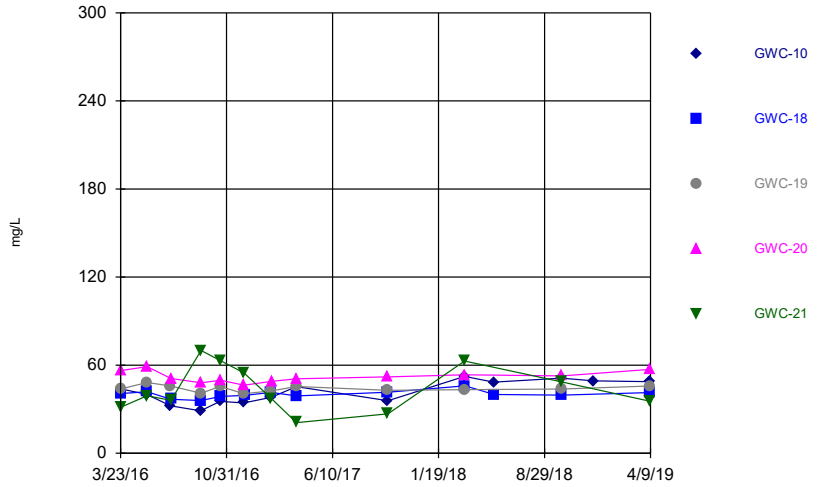
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

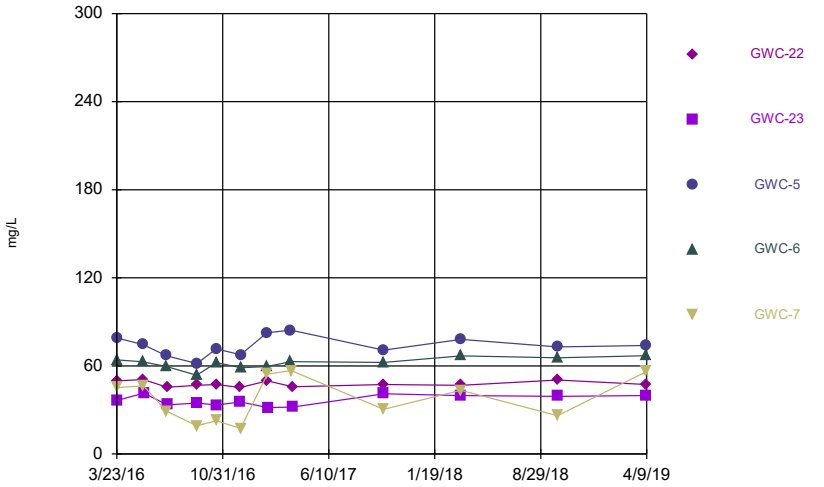
Time Series



Constituent: Calcium Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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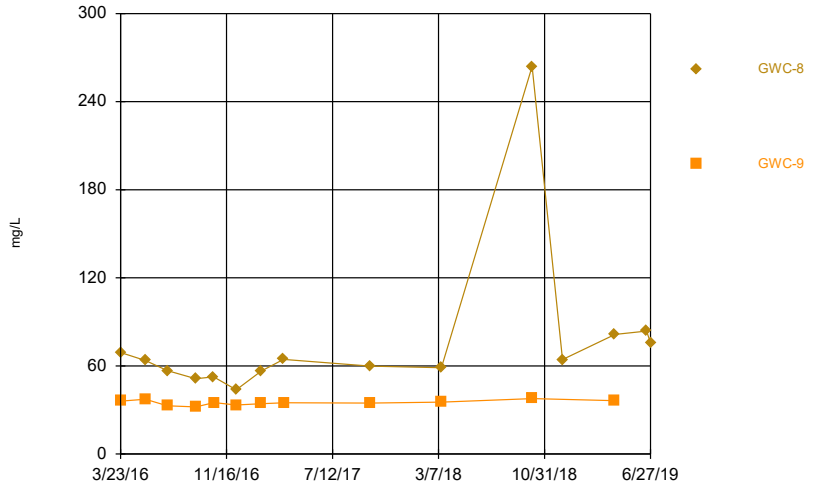
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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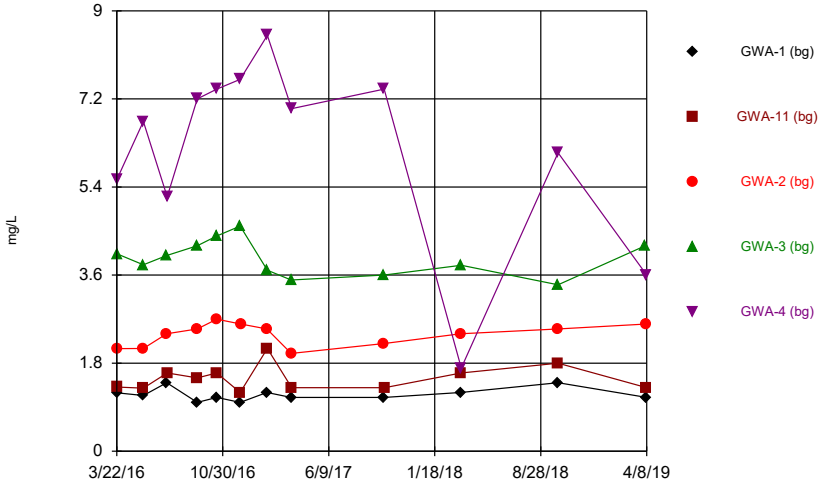
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Time Series



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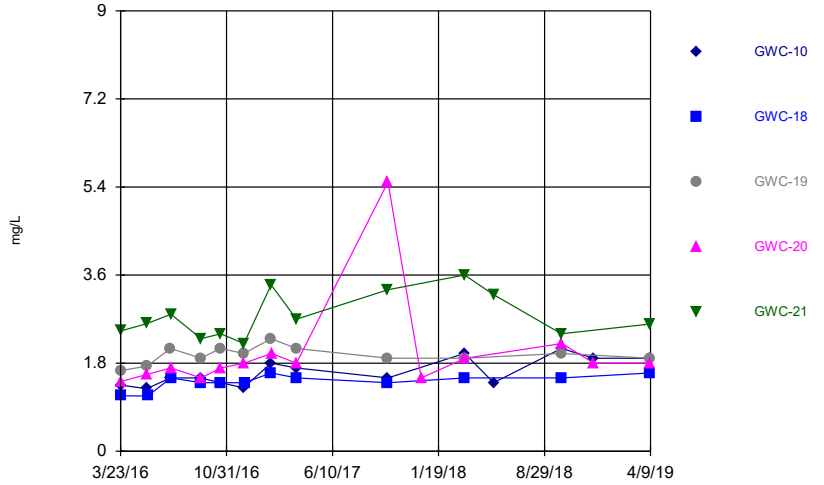
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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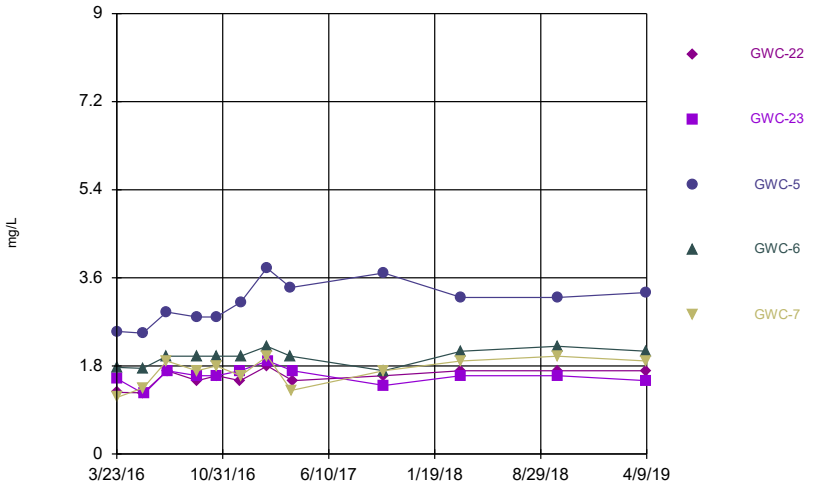
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series

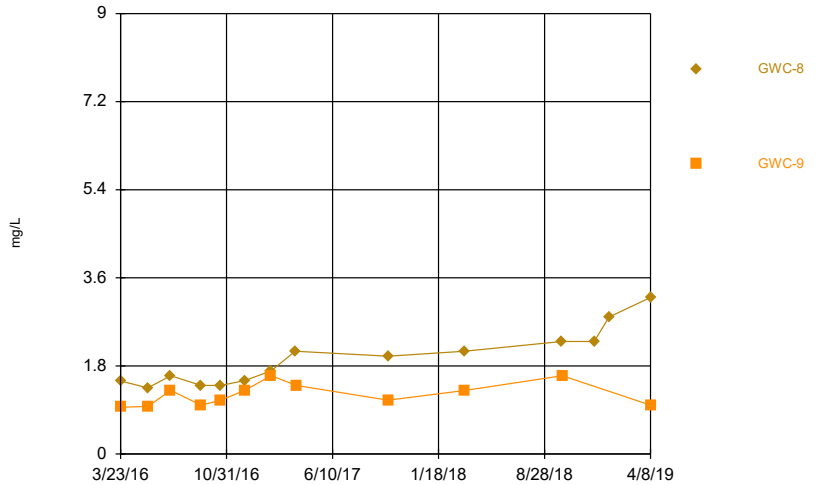


Constituent: Chloride Analysis Run 8/15/2019 6:21 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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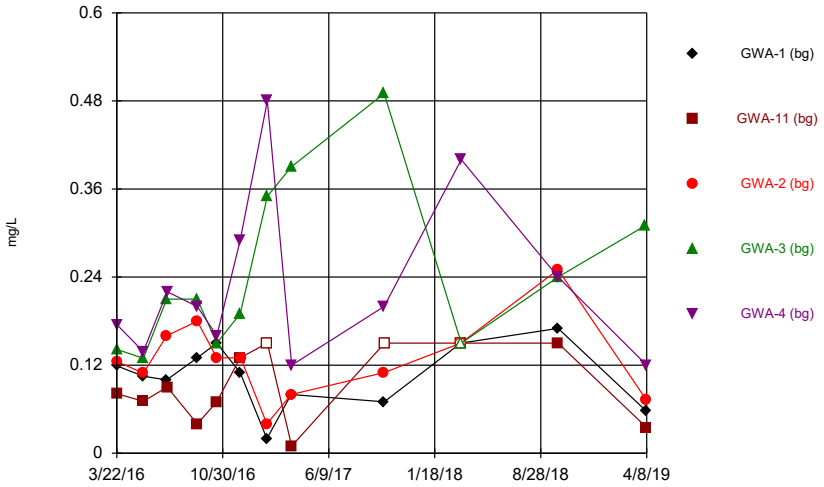
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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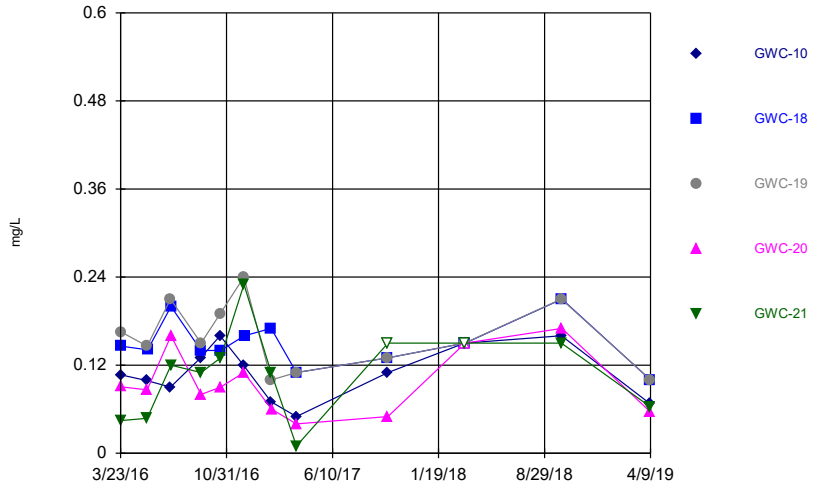
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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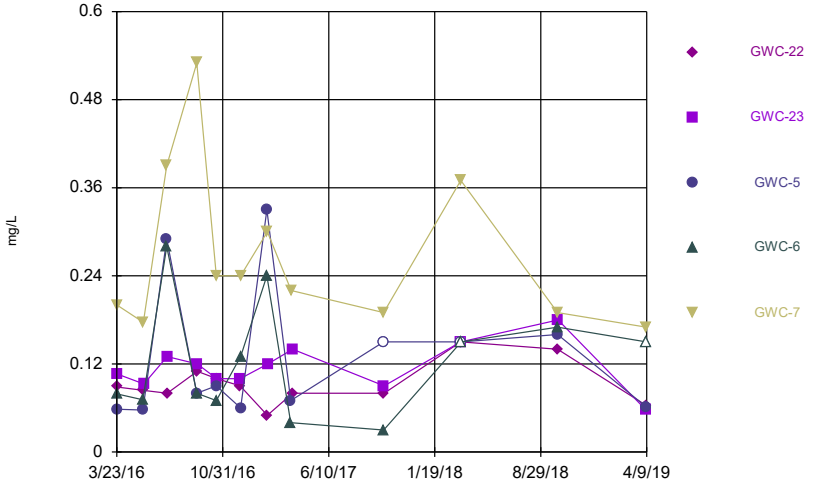
Hollow symbols indicate censored values.

Time Series



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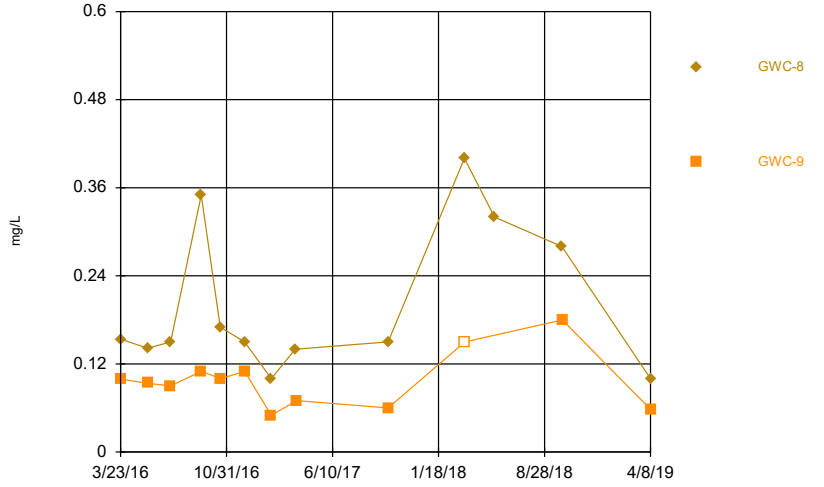
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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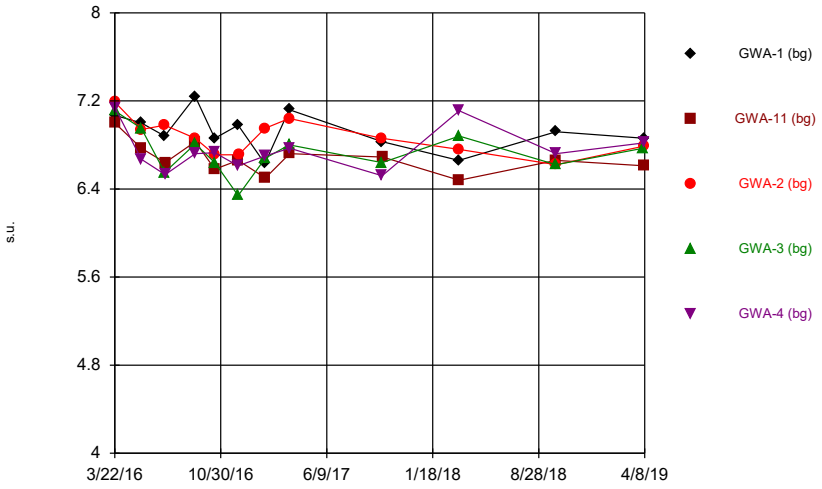
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Time Series



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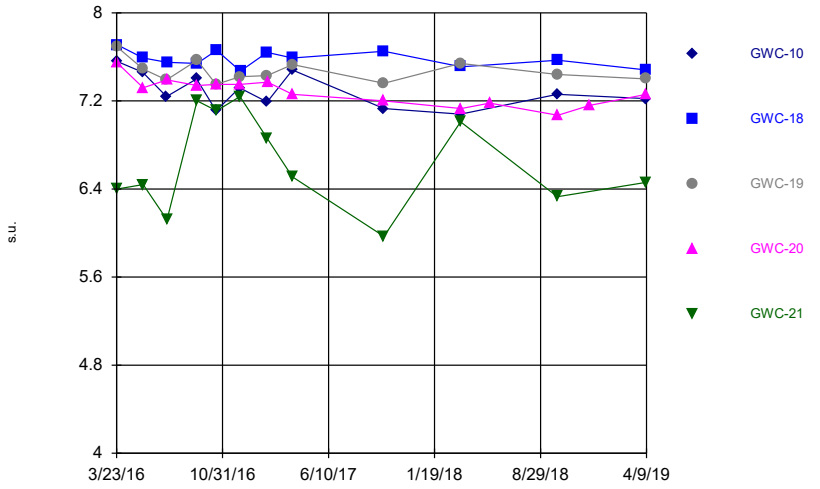
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

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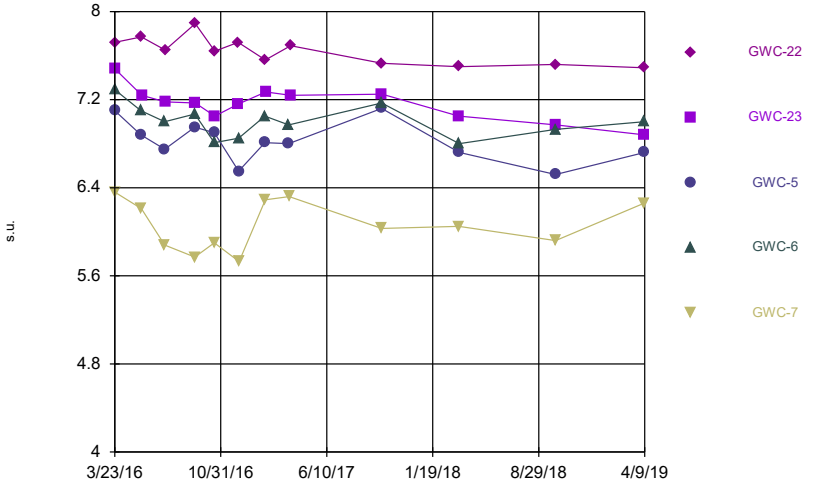

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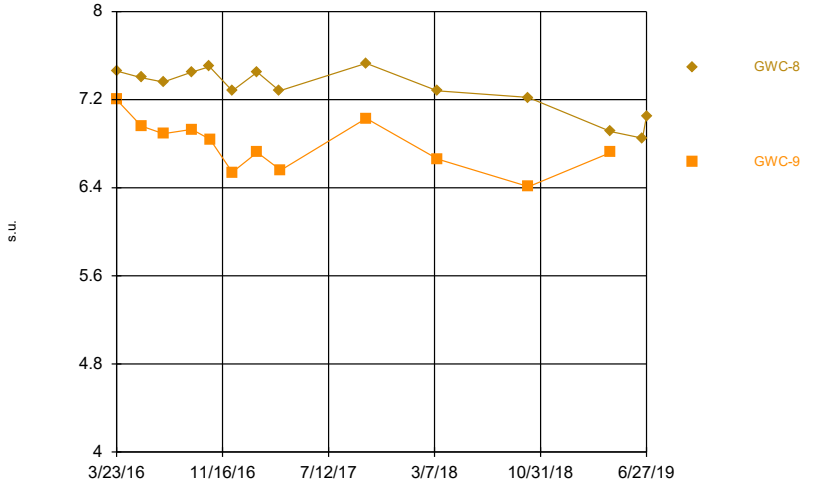
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

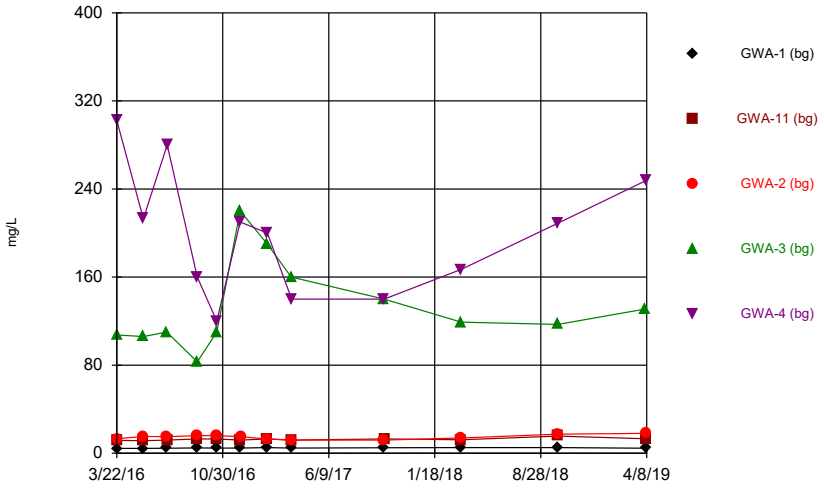
Time Series



Constituent: pH Analysis Run 8/15/2019 6:21 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Time Series



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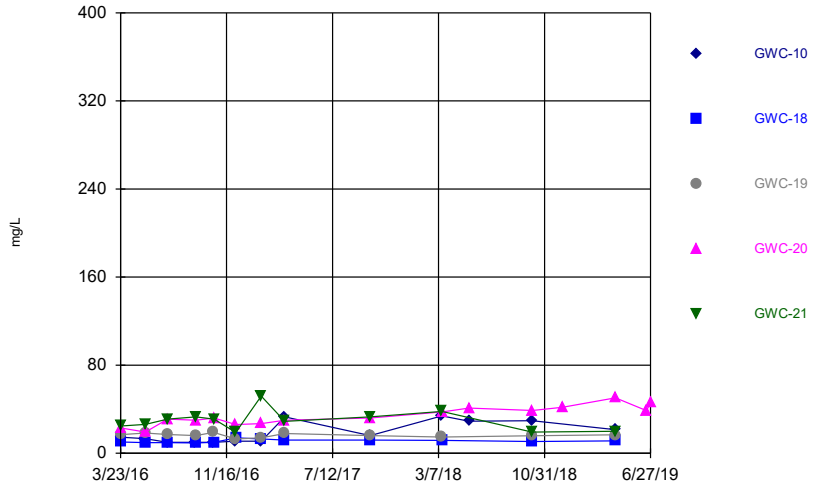
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series

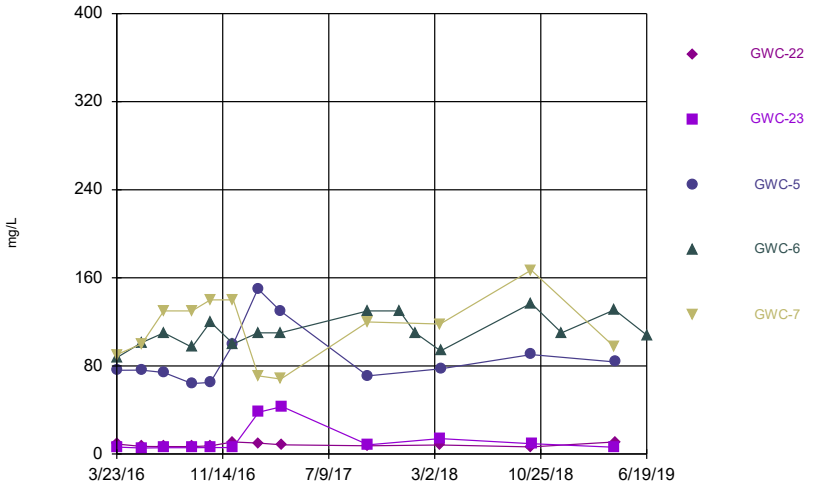


Constituent: Sulfate Analysis Run 8/15/2019 6:21 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series

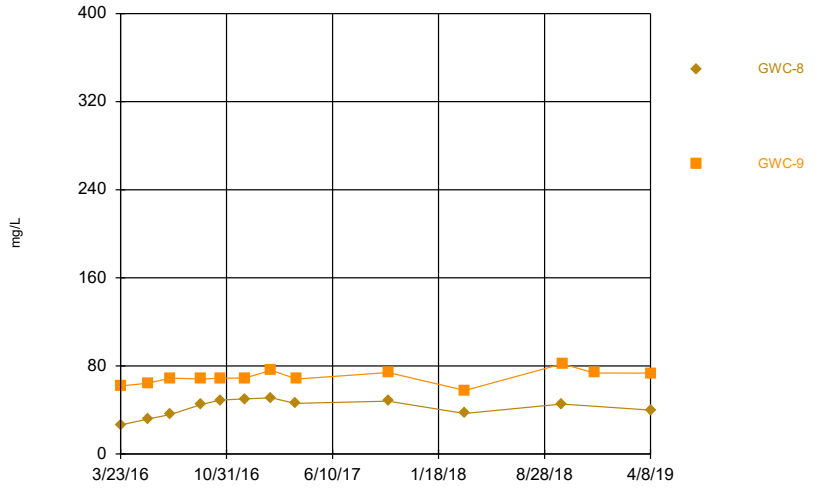


Constituent: Sulfate Analysis Run 8/15/2019 6:21 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



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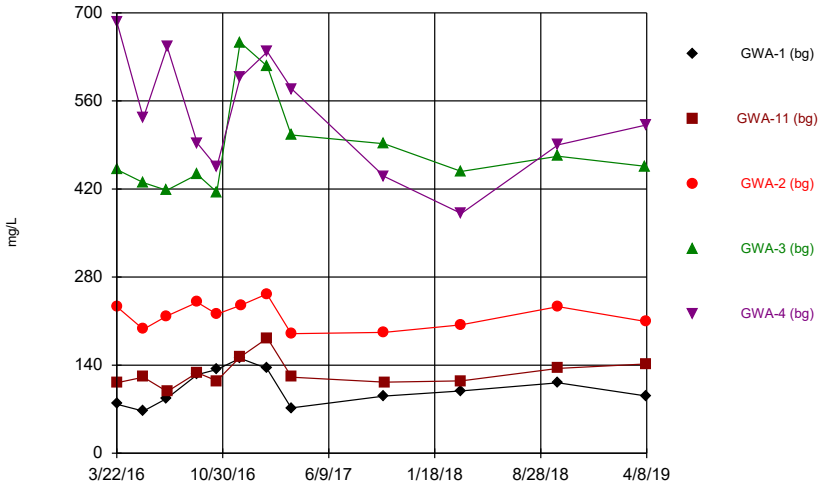
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

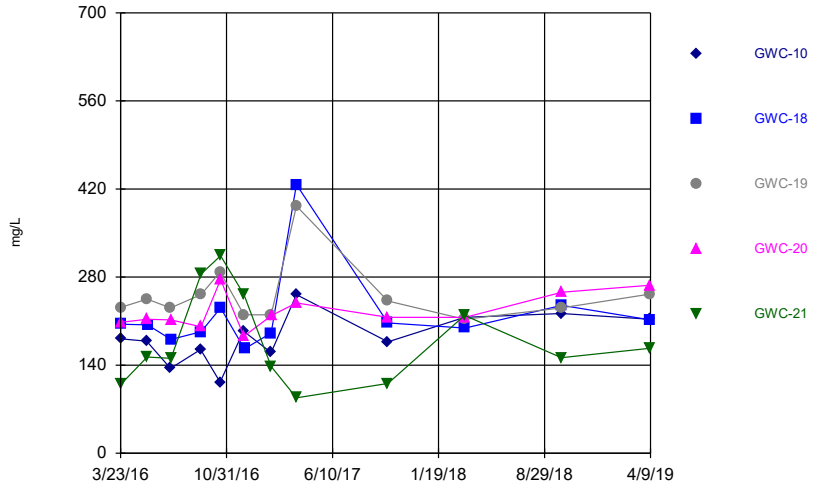
Time Series



Constituent: Total Dissolved Solids Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

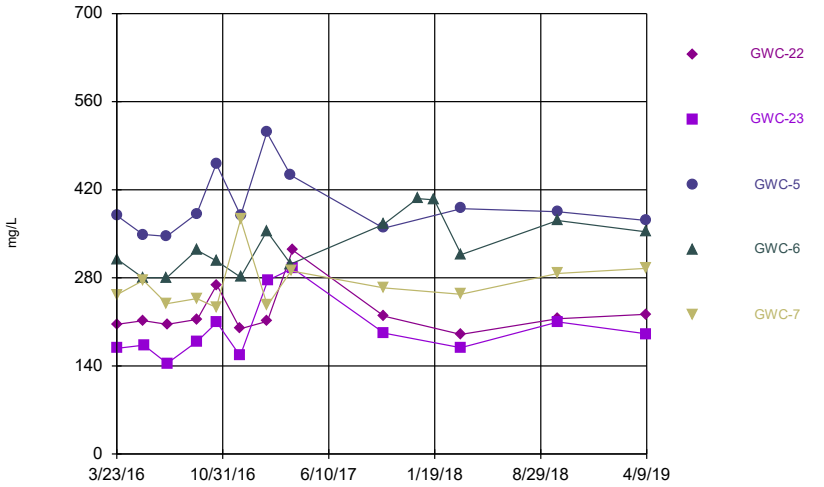
Time Series



Constituent: Total Dissolved Solids Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

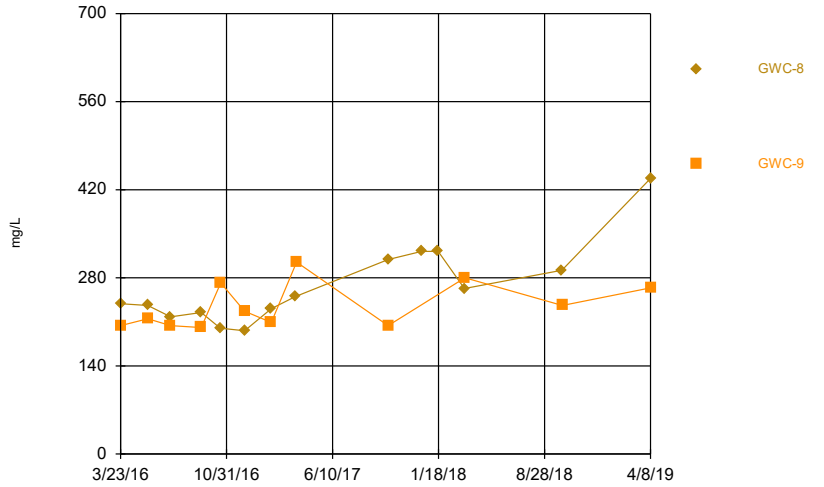
Time Series



Constituent: Total Dissolved Solids Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 8/15/2019 6:21 PM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

APPENDIX C

Laboratory Analytical and Field Sampling Reports

Appendix C1: Laboratory Analytical Data Packages and Data Validation Reports

Appendix C2: Field Data Sheets

APPENDIX C1

Laboratory Analytical Data Packages and Data Validation Reports

Laboratory Reports

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 24, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617140

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617140

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617140

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617140001	**GWA-3**	Water	04/05/19 15:25	04/08/19 15:30

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617140

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617140001	**GWA-3**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617140

Sample: GWA-3 **Lab ID: 2617140001** Collected: 04/05/19 15:25 Received: 04/08/19 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:10	7440-36-0	
Arsenic	**0.00035J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:10	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:10	7440-41-7	
Boron	**0.12**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:10	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:10	7440-43-9	
Calcium	**76.5**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:17	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:10	7440-47-3	
Cobalt	**0.00031J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:10	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:10	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:10	7439-92-1	
Nickel	**0.00075J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:10	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:10	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:10	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:10	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:10	7440-62-2	
Zinc	**0.0013J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:10	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**456**	mg/L	25.0	10.0	1		04/11/19 20:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.2**	mg/L	0.25	0.024	1		04/10/19 05:19	16887-00-6	
Fluoride	**0.31**	mg/L	0.30	0.029	1		04/10/19 05:19	16984-48-8	
Sulfate	**131**	mg/L	10.0	0.17	10		04/10/19 10:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617140

QC Batch: 468622
QC Batch Method: EPA 3010A
Associated Lab Samples: 2617140001

Analysis Method: EPA 6020B
Analysis Description: 6020 MET

METHOD BLANK: 2545263
Associated Lab Samples: 2617140001

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/11/19 20:42	
Arsenic	mg/L	ND	0.0050	0.000060	04/11/19 20:42	
Barium	mg/L	ND	0.010	0.000060	04/11/19 20:42	
Beryllium	mg/L	ND	0.0030	0.000050	04/11/19 20:42	
Boron	mg/L	ND	0.10	0.0026	04/11/19 20:42	
Cadmium	mg/L	ND	0.0010	0.000070	04/11/19 20:42	
Calcium	mg/L	ND	0.50	0.021	04/11/19 20:42	
Chromium	mg/L	ND	0.010	0.00042	04/11/19 20:42	
Cobalt	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Copper	mg/L	ND	0.025	0.00023	04/11/19 20:42	
Lead	mg/L	ND	0.0050	0.000050	04/11/19 20:42	
Nickel	mg/L	ND	0.010	0.00011	04/11/19 20:42	
Selenium	mg/L	ND	0.010	0.000080	04/11/19 20:42	
Silver	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Thallium	mg/L	ND	0.0010	0.000060	04/11/19 20:42	
Vanadium	mg/L	ND	0.010	0.00012	04/11/19 20:42	
Zinc	mg/L	ND	0.010	0.0011	04/11/19 20:42	

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.049	99	80-120	
Beryllium	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.052J	104	80-120	
Cadmium	mg/L	0.01	0.010	102	80-120	
Calcium	mg/L	0.62	0.64	102	80-120	
Chromium	mg/L	0.05	0.051	102	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Copper	mg/L	0.05	0.051	103	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Nickel	mg/L	0.05	0.051	102	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Silver	mg/L	0.025	0.025	102	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	
Vanadium	mg/L	0.05	0.051	101	80-120	
Zinc	mg/L	0.05	0.051	102	80-120	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617140

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2545265 2545266

Parameter	Units	2617144001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Arsenic	mg/L	ND	0.01	0.01	0.0091J	0.0089J	91	89	75-125	2	20	
Barium	mg/L	42.3 ug/L	0.05	0.05	0.085	0.085	85	85	75-125	0	20	
Beryllium	mg/L	ND	0.01	0.01	0.0086	0.0089	86	89	75-125	4	20	
Boron	mg/L	1010J ug/L	0.05	0.05	1.0J	1.0J	67	48	75-125	1	20	M6
Cadmium	mg/L	0.65J ug/L	0.01	0.01	0.011	0.011	99	99	75-125	0	20	
Calcium	mg/L	70000 ug/L	0.62	0.62	71.3	74.8	207	759	75-125	5	20	M6
Chromium	mg/L	ND	0.05	0.05	0.048	0.048	96	95	75-125	1	20	
Cobalt	mg/L	4.9J ug/L	0.01	0.01	0.015	0.015	97	96	75-125	1	20	
Copper	mg/L	ND	0.05	0.05	0.049	0.048	98	97	75-125	1	20	
Lead	mg/L	ND	0.05	0.05	0.048	0.048	96	96	75-125	0	20	
Nickel	mg/L	3.5J ug/L	0.05	0.05	0.051	0.051	96	96	75-125	0	20	
Selenium	mg/L	ND	0.05	0.05	0.044	0.044	89	88	75-125	1	20	
Silver	mg/L	ND	0.025	0.025	0.023	0.023	92	91	75-125	1	20	
Thallium	mg/L	ND	0.01	0.01	0.0096	0.0096	96	96	75-125	0	20	
Vanadium	mg/L	ND	0.05	0.05	0.050	0.050	100	100	75-125	0	20	
Zinc	mg/L	4.2J ug/L	0.05	0.05	0.047	0.047	86	86	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617140

QC Batch: 26252
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617140001

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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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617140

QC Batch: 26064
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617140001

METHOD BLANK: 117680 Matrix: Water
Associated Lab Samples: 2617140001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	04/10/19 01:27	
Fluoride	mg/L	ND	0.30	0.029	04/10/19 01:27	
Sulfate	mg/L	ND	1.0	0.017	04/10/19 01:27	

LABORATORY CONTROL SAMPLE: 117681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	10.2	102	90-110	
Sulfate	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 117682 117683

Parameter	Units	2617086001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.2	10	10	14.3	14.3	101	101	90-110	0	15	
Fluoride	mg/L	0.047J	10	10	10.4	10.4	103	103	90-110	0	15	
Sulfate	mg/L	10.8	10	10	19.6	19.6	89	88	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 117684

Parameter	Units	2617086002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.6	10	10.7	91	90-110	
Fluoride	mg/L	ND	10	9.2	92	90-110	
Sulfate	mg/L	5.2	10	13.7	85	90-110	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617140

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.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617140

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617140001	**GWA-3**	EPA 3010A	468622	EPA 6020B	468673
2617140001	**GWA-3**	SM 2540C	26252		
2617140001	**GWA-3**	EPA 300.0	26064		

PaceAnalytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	

Section B Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348806
Project Name:	Plant Hammond
Project #:	

Section C Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O) (1)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWA-3	WT	G	04/05	1500	04/05	1525	17	3	2		1								--	Y	Y	-	
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

GW 04/05/19

WO#: 2617140

2617140

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
D&O (1): Antimony, Arsenic,	Grant Walter / Geosyntec	04/05/19	1743	Malia Murdan / Geosyntec	4/5/19	1743
Barium, Beryllium, Cadmium,	Malia Murdan / Geosyntec	4/5/19	1945	[illegible] / Geosyntec	4/5/19	1945
Chromium, Cobalt, Copper, Lead,	[illegible] / Geosyntec	4/8/19	1116	[illegible] / Pace	4/8/19	1116
Nickel, Selenium, Silver,				M Dalman	4/8/19	1530
Thallium, Vanadium, Zinc						

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Walter

SIGNATURE of SAMPLER: Grant Walter

DATE Signed: 04/05/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617140

PM: BM **Due Date: 04/15/19**

CLIENT: GAPower-CCR

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

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

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

Thermometer Used 83 **Type of Ice:** Wet Blue None

Cooler Temperature 1.1 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

☐ Samples on ice, cooling process has begun

Date and Initials of person examining contents: 4/8/19 ME

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 01, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617209

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/16/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617209

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617209

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617209001	**GWA-1**	Water	04/08/19 10:56	04/09/19 13:30
2617209002	**GWC-8**	Water	04/08/19 13:15	04/09/19 13:30
2617209003	**GWC-7**	Water	04/08/19 17:51	04/09/19 13:30
2617209004	**FD-02**	Water	04/08/19 00:00	04/09/19 13:30
2617209005	**GWA-2**	Water	04/08/19 11:20	04/09/19 13:30
2617209006	**GWC-9**	Water	04/08/19 13:20	04/09/19 13:30
2617209007	**GWC-6**	Water	04/08/19 16:25	04/09/19 13:30
2617209008	**GWA-4**	Water	04/08/19 13:05	04/09/19 13:30
2617209009	**GWA-11**	Water	04/08/19 16:21	04/09/19 13:30
2617209010	**GWC-23**	Water	04/08/19 15:50	04/09/19 13:30

Pace Analytical Services, LLC
110 Technology Parkway
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SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617209

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617209001	**GWA-1**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209002	**GWC-8**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209003	**GWC-7**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209004	**FD-02**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209005	**GWA-2**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209006	**GWC-9**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209007	**GWC-6**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209008	**GWA-4**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209009	**GWA-11**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617209010	**GWC-23**	EPA 6020B	JMW1	17	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWA-1 **Lab ID: 2617209001** Collected: 04/08/19 10:56 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:17	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:17	7440-38-2	
Barium	**0.031**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:17	7440-41-7	
Boron	**0.019J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:17	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:17	7440-43-9	
Calcium	**15.7**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:24	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:17	7440-47-3	
Cobalt	**0.00026J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:17	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:17	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:17	7439-92-1	
Nickel	**0.00034J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:17	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:17	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:17	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:17	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:17	7440-62-2	
Zinc	ND	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:17	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**91.0**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.1**	mg/L	0.25	0.024	1		04/11/19 03:40	16887-00-6	
Fluoride	**0.057J**	mg/L	0.30	0.029	1		04/11/19 03:40	16984-48-8	
Sulfate	**4.6**	mg/L	1.0	0.017	1		04/11/19 03:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWC-8 **Lab ID: 2617209002** Collected: 04/08/19 13:15 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:21	7440-36-0	
Arsenic	**0.0015J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:21	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:21	7440-41-7	
Boron	**0.055J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:21	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:21	7440-43-9	
Calcium	**81.5**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:28	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:21	7440-47-3	
Cobalt	**0.0017J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:21	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:21	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:21	7439-92-1	
Nickel	**0.00064J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:21	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:21	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:21	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:21	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:21	7440-62-2	
Zinc	**0.0012J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:21	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**438**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.2**	mg/L	0.25	0.024	1		04/11/19 04:22	16887-00-6	
Fluoride	**0.10J**	mg/L	0.30	0.029	1		04/11/19 04:22	16984-48-8	
Sulfate	**39.9**	mg/L	1.0	0.017	1		04/11/19 04:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWC-7 **Lab ID: 2617209003** Collected: 04/08/19 17:51 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:24	7440-36-0	
Arsenic	**0.0057**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:24	7440-38-2	
Barium	**0.24**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:24	7440-39-3	
Beryllium	**0.000058J**	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:24	7440-41-7	
Boron	**0.049J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:24	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:24	7440-43-9	
Calcium	**56.1**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:31	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:24	7440-47-3	
Cobalt	**0.0086J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:24	7440-48-4	
Copper	**0.00025J**	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:24	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:24	7439-92-1	
Nickel	**0.030**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:24	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:24	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:24	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:24	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:24	7440-62-2	
Zinc	**0.051**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:24	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**295**	mg/L	25.0	10.0	1		04/11/19 20:55		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.9**	mg/L	0.25	0.024	1		04/11/19 04:42	16887-00-6	
Fluoride	**0.17J**	mg/L	0.30	0.029	1		04/11/19 04:42	16984-48-8	
Sulfate	**97.1**	mg/L	10.0	0.17	10		04/15/19 23:36	14808-79-8	

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: FD-02 **Lab ID: 2617209004** Collected: 04/08/19 00:00 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:28	7440-36-0	
Arsenic	**0.0015J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:28	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:28	7440-41-7	
Boron	**0.056J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:28	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:28	7440-43-9	
Calcium	**84.5**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:35	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:28	7440-47-3	
Cobalt	**0.0017J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:28	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:28	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:28	7439-92-1	
Nickel	**0.00068J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:28	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:28	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:28	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:28	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:28	7440-62-2	
Zinc	**0.0013J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:28	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**407**	mg/L	25.0	10.0	1		04/15/19 21:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.1**	mg/L	0.25	0.024	1		04/11/19 05:03	16887-00-6	
Fluoride	**0.11J**	mg/L	0.30	0.029	1		04/11/19 05:03	16984-48-8	
Sulfate	**39.2**	mg/L	1.0	0.017	1		04/11/19 05:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWA-2 **Lab ID: 2617209005** Collected: 04/08/19 11:20 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:39	7440-38-2	
Barium	**0.15**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:39	7440-41-7	
Boron	**0.071J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:39	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:39	7440-43-9	
Calcium	**44.1**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:38	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:39	7440-47-3	
Cobalt	**0.000061J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:39	7440-48-4	
Copper	**0.00029J**	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:39	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:39	7439-92-1	
Nickel	ND	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:39	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:39	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:39	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:39	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:39	7440-62-2	
Zinc	**0.0014J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:39	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**209**	mg/L	25.0	10.0	1		04/15/19 21:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.6**	mg/L	0.25	0.024	1		04/11/19 05:24	16887-00-6	
Fluoride	**0.072J**	mg/L	0.30	0.029	1		04/11/19 05:24	16984-48-8	
Sulfate	**18.1**	mg/L	1.0	0.017	1		04/11/19 05:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWC-9 **Lab ID: 2617209006** Collected: 04/08/19 13:20 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/11/19 23:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/11/19 23:56	7440-38-2	
Barium	**0.058**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/11/19 23:56	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/11/19 23:56	7440-41-7	
Boron	**0.015J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/11/19 23:56	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/11/19 23:56	7440-43-9	
Calcium	**36.3**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:42	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/11/19 23:56	7440-47-3	
Cobalt	**0.00041J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/11/19 23:56	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/11/19 23:56	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/11/19 23:56	7439-92-1	
Nickel	**0.0021J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/11/19 23:56	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/11/19 23:56	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/11/19 23:56	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/11/19 23:56	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/11/19 23:56	7440-62-2	
Zinc	**0.0016J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/11/19 23:56	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**264**	mg/L	25.0	10.0	1		04/15/19 21:21		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.0**	mg/L	0.25	0.024	1		04/11/19 05:45	16887-00-6	
Fluoride	**0.058J**	mg/L	0.30	0.029	1		04/11/19 05:45	16984-48-8	
Sulfate	**73.5**	mg/L	10.0	0.17	10		04/15/19 23:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWC-6 **Lab ID: 2617209007** Collected: 04/08/19 16:25 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 00:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 00:00	7440-38-2	
Barium	**0.15**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 00:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 00:00	7440-41-7	
Boron	**0.036J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 00:00	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 00:00	7440-43-9	
Calcium	**67.0**	mg/L	10.0	0.41	20	04/10/19 19:59	04/11/19 23:45	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 00:00	7440-47-3	
Cobalt	**0.00022J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:00	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 00:00	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 00:00	7439-92-1	
Nickel	**0.00032J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 00:00	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 00:00	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 00:00	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 00:00	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 00:00	7440-62-2	
Zinc	**0.0013J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 00:00	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**353**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.1**	mg/L	0.25	0.024	1		04/11/19 06:05	16887-00-6	
Fluoride	ND	mg/L	0.30	0.029	1		04/11/19 06:05	16984-48-8	
Sulfate	**131**	mg/L	10.0	0.17	10		04/16/19 00:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWA-4 **Lab ID: 2617209008** Collected: 04/08/19 13:05 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:11	7440-36-0	
Arsenic	**0.00023J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:11	7440-38-2	
Barium	**0.047**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:11	7440-41-7	
Boron	**0.057J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:11	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:11	7440-43-9	
Calcium	**86.6**	mg/L	10.0	0.41	20	04/10/19 19:59	04/12/19 00:42	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:11	7440-47-3	
Cobalt	**0.00044J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:11	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:11	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:11	7439-92-1	
Nickel	**0.00089J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:11	7440-02-0	
Selenium	**0.00014J**	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:11	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:11	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:11	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:11	7440-62-2	
Zinc	**0.0023J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:11	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**522**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.6**	mg/L	0.25	0.024	1		04/11/19 06:26	16887-00-6	
Fluoride	**0.12J**	mg/L	0.30	0.029	1		04/11/19 06:26	16984-48-8	
Sulfate	**248**	mg/L	20.0	0.34	20		04/16/19 00:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWA-11 **Lab ID: 2617209009** Collected: 04/08/19 16:21 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:26	7440-36-0	
Arsenic	**0.00012J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:26	7440-38-2	
Barium	**0.031**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:26	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:26	7440-41-7	
Boron	**0.034J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:26	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:26	7440-43-9	
Calcium	**22.4**	mg/L	10.0	0.41	20	04/10/19 19:59	04/12/19 00:46	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:26	7440-47-3	
Cobalt	**0.00076J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:26	7440-48-4	
Copper	**0.0013J**	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:26	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:26	7439-92-1	BC
Nickel	**0.0023J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:26	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:26	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:26	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:26	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:26	7440-62-2	
Zinc	**0.0024J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:26	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**142**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.3**	mg/L	0.25	0.024	1		04/11/19 08:10	16887-00-6	
Fluoride	**0.035J**	mg/L	0.30	0.029	1		04/11/19 08:10	16984-48-8	
Sulfate	**13.2**	mg/L	1.0	0.017	1		04/11/19 08:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617209

Sample: GWC-23 **Lab ID: 2617209010** Collected: 04/08/19 15:50 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:29	7440-36-0	
Arsenic	**0.00034J**	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:29	7440-38-2	
Barium	**0.059**	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:29	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:29	7440-41-7	
Boron	**0.022J**	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:29	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:29	7440-43-9	
Calcium	**39.8**	mg/L	10.0	0.41	20	04/10/19 19:59	04/12/19 00:49	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:29	7440-47-3	
Cobalt	**0.00046J**	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:29	7440-48-4	
Copper	**0.00050J**	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:29	7440-50-8	
Lead	**0.00018J**	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:29	7439-92-1	BC
Nickel	**0.0011J**	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:29	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:29	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:29	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:29	7440-28-0	
Vanadium	**0.00017J**	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:29	7440-62-2	
Zinc	**0.0016J**	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:29	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**191**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.5**	mg/L	0.25	0.024	1		04/11/19 08:31	16887-00-6	
Fluoride	**0.057J**	mg/L	0.30	0.029	1		04/11/19 08:31	16984-48-8	
Sulfate	**6.2**	mg/L	1.0	0.017	1		04/11/19 08:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617209

QC Batch: 468622 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Associated Lab Samples: 2617209001, 2617209002, 2617209003, 2617209004, 2617209005, 2617209006, 2617209007, 2617209008, 2617209009, 2617209010

METHOD BLANK: 2545263 Matrix: Water
Associated Lab Samples: 2617209001, 2617209002, 2617209003, 2617209004, 2617209005, 2617209006, 2617209007, 2617209008, 2617209009, 2617209010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/11/19 20:42	
Arsenic	mg/L	ND	0.0050	0.000060	04/11/19 20:42	
Barium	mg/L	ND	0.010	0.000060	04/11/19 20:42	
Beryllium	mg/L	ND	0.0030	0.000050	04/11/19 20:42	
Boron	mg/L	ND	0.10	0.0026	04/11/19 20:42	
Cadmium	mg/L	ND	0.0010	0.000070	04/11/19 20:42	
Calcium	mg/L	ND	0.50	0.021	04/11/19 20:42	
Chromium	mg/L	ND	0.010	0.00042	04/11/19 20:42	
Cobalt	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Copper	mg/L	ND	0.025	0.00023	04/11/19 20:42	
Lead	mg/L	ND	0.0050	0.000050	04/11/19 20:42	
Nickel	mg/L	ND	0.010	0.00011	04/11/19 20:42	
Selenium	mg/L	ND	0.010	0.000080	04/11/19 20:42	
Silver	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Thallium	mg/L	ND	0.0010	0.000060	04/11/19 20:42	
Vanadium	mg/L	ND	0.010	0.00012	04/11/19 20:42	
Zinc	mg/L	ND	0.010	0.0011	04/11/19 20:42	

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.049	99	80-120	
Beryllium	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.052J	104	80-120	
Cadmium	mg/L	0.01	0.010	102	80-120	
Calcium	mg/L	0.62	0.64	102	80-120	
Chromium	mg/L	0.05	0.051	102	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Copper	mg/L	0.05	0.051	103	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Nickel	mg/L	0.05	0.051	102	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Silver	mg/L	0.025	0.025	102	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	
Vanadium	mg/L	0.05	0.051	101	80-120	
Zinc	mg/L	0.05	0.051	102	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2545265 2545266

Parameter	Units	2617144001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L		0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Arsenic	mg/L		0.01	0.01	0.0091J	0.0089J	91	89	75-125	2	20	
Barium	mg/L		0.05	0.05	0.085	0.085	85	85	75-125	0	20	
Beryllium	mg/L		0.01	0.01	0.0086	0.0089	86	89	75-125	4	20	
Boron	mg/L	1010J ug/L	0.05	0.05	1.0J	1.0J	67	48	75-125	1	20	M6
Cadmium	mg/L		0.01	0.01	0.011	0.011	99	99	75-125	0	20	
Calcium	mg/L	70000 ug/L	0.62	0.62	71.3	74.8	207	759	75-125	5	20	M6
Chromium	mg/L		0.05	0.05	0.048	0.048	96	95	75-125	1	20	
Cobalt	mg/L		0.01	0.01	0.015	0.015	97	96	75-125	1	20	
Copper	mg/L		0.05	0.05	0.049	0.048	98	97	75-125	1	20	
Lead	mg/L		0.05	0.05	0.048	0.048	96	96	75-125	0	20	
Nickel	mg/L		0.05	0.05	0.051	0.051	96	96	75-125	0	20	
Selenium	mg/L		0.05	0.05	0.044	0.044	89	88	75-125	1	20	
Silver	mg/L		0.025	0.025	0.023	0.023	92	91	75-125	1	20	
Thallium	mg/L		0.01	0.01	0.0096	0.0096	96	96	75-125	0	20	
Vanadium	mg/L		0.05	0.05	0.050	0.050	100	100	75-125	0	20	
Zinc	mg/L		0.05	0.05	0.047	0.047	86	86	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617209

QC Batch: 26252 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617209001, 2617209002, 2617209003

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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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617209

QC Batch: 26275 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617209004, 2617209005, 2617209006, 2617209007, 2617209008, 2617209009, 2617209010

LABORATORY CONTROL SAMPLE: 118616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	381	95	84-108	

SAMPLE DUPLICATE: 118618

Parameter	Units	2617267003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	267	252	6	10	

SAMPLE DUPLICATE: 118698

Parameter	Units	2617209006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	264	245	7	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617209

QC Batch: 26135 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617209001, 2617209002, 2617209003, 2617209004, 2617209005, 2617209006, 2617209007, 2617209008, 2617209009, 2617209010

METHOD BLANK: 117979 Matrix: Water
Associated Lab Samples: 2617209001, 2617209002, 2617209003, 2617209004, 2617209005, 2617209006, 2617209007, 2617209008, 2617209009, 2617209010

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 Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15	
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15	

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617209

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.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617209

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617209001	**GWA-1**	EPA 3010A	468622	EPA 6020B	468673
2617209002	**GWC-8**	EPA 3010A	468622	EPA 6020B	468673
2617209003	**GWC-7**	EPA 3010A	468622	EPA 6020B	468673
2617209004	**FD-02**	EPA 3010A	468622	EPA 6020B	468673
2617209005	**GWA-2**	EPA 3010A	468622	EPA 6020B	468673
2617209006	**GWC-9**	EPA 3010A	468622	EPA 6020B	468673
2617209007	**GWC-6**	EPA 3010A	468622	EPA 6020B	468673
2617209008	**GWA-4**	EPA 3010A	468622	EPA 6020B	468673
2617209009	**GWA-11**	EPA 3010A	468622	EPA 6020B	468673
2617209010	**GWC-23**	EPA 3010A	468622	EPA 6020B	468673
2617209001	**GWA-1**	SM 2540C	26252		
2617209002	**GWC-8**	SM 2540C	26252		
2617209003	**GWC-7**	SM 2540C	26252		
2617209004	**FD-02**	SM 2540C	26275		
2617209005	**GWA-2**	SM 2540C	26275		
2617209006	**GWC-9**	SM 2540C	26275		
2617209007	**GWC-6**	SM 2540C	26275		
2617209008	**GWA-4**	SM 2540C	26275		
2617209009	**GWA-11**	SM 2540C	26275		
2617209010	**GWC-23**	SM 2540C	26275		
2617209001	**GWA-1**	EPA 300.0	26135		
2617209002	**GWC-8**	EPA 300.0	26135		
2617209003	**GWC-7**	EPA 300.0	26135		
2617209004	**FD-02**	EPA 300.0	26135		
2617209005	**GWA-2**	EPA 300.0	26135		
2617209006	**GWC-9**	EPA 300.0	26135		
2617209007	**GWC-6**	EPA 300.0	26135		
2617209008	**GWA-4**	EPA 300.0	26135		
2617209009	**GWA-11**	EPA 300.0	26135		
2617209010	**GWC-23**	EPA 300.0	26135		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com
Requested Due Date:	Standard TAT	Project #:		Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWA-1	WT	G	4/8/19	1051	4/8/19	1056	15	3	2		1							—	4	4	1		1
2	GWC-8	WT	G	4/8/19	1305	4/8/19	1315	16	3	2		1							—	4	4	1		1
3	GWC-7	WT	G	4/8/19	1742	4/8/19	1751	17	3	2		1							—	4	4	1		1
4	FD-02	WT	G	4/8/19	—	4/8/19	—	17	3	2		1							—	4	4	1		1
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

(GW) 04/08/19

WO#: 2617209

2617209

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Grant Walter / Geosyntec	04/08/19	1812	Noelia Montes / Geosyntec	4/8/19	1812	
	Noelia Montes	4/8/19	2010	C. Bloom / Geosyntec	4/8/19	2010	
	C. Bloom / Geosyntec	4/9/19	1127	J Pace	4/9/19	1127	
				M Dalman	4/9/19	1330	0.7 Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Walter

SIGNATURE of SAMPLER: Grant Walter DATE Signed: 04/08/19

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

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical

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

Page: 2 of 4

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax
Requested Due Date:	

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWA-2	WT	G	4/8/19	10:56	4/8/19	11:26	15.8	3	2		1							-	-	Y	Y	-	-
2	GWC-9	WT	G	4/8/19	13:05	4/8/19	13:26	17.8	3	2		1							-	-	Y	Y	-	-
3	GWC-6	WT	G	4/8/19	16:05	4/8/19	16:25	17.5	3	2		1							-	-	Y	Y	-	-
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

DCA 4/8/19

WO#: 2617209

PM: BM Due Date: 04/16/19

CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Dalton Anderson (Geo)	4/8/19	1812	Mollie Meeker / Geosyntec	4/8/19	1812
	Mollie Meeker / Geosyntec	4/8/19	2010	[illegible] / Geosyntec	4/8/19	2010
	[illegible] / Geosyntec	4/9/19	1127	[illegible] Pace	4.9.19	1127
				M Dalman	4/9/19	1330

SAMPLE CONDITION

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: [signature] DATE Signed: 4/8/19

Pace Analytical

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 — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWA-4	Y	G	4-8-19	1251	4-8-19	1305	\	3	2	\	1	\	\	\	\	\		\	\	Y	Y		
2	GVA-11	Y	G	4-8-19	1611	4-8-19 [illegible]	1621	\	3	2	\	1	\	\	\	\	\		\	\	Y	Y		
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

AR 4-8-2019

WO#:2617209

PM: BM Due Date: 04/16/19

CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	[signature] / Geosyntec	4-8-19	1812	Mollia Madsen / Geosyntec	4/8/19	1812
	Mollia Madsen / Geosyntec	4/8/19	2010	[signature] / Geosyntec	4/8/19	2010
	[signature] / Geosyntec	4/9/19	1127	[signature] / Pace	4.9.19	1127
				MDAlmman	4/9/19	1330

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Reeder

SIGNATURE of SAMPLER: [signature] DATE Signed: 4-8-2019

SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 4 Of 4

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWC-23	MW	G	4/8/19	0839	4/8/19	1550	17	3	2		1						Y	-		Y	Y	-	-
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

NM 4/8/19

WO#: 2617209

PM: BM Due Date: 04/16/19

CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Noelia Muskus / Geosyntec	4/8/19	2010	[illegible] / Geosyntec	4/8/19	2010	
	[illegible] / Geosyntec	4/9/19	1127	[illegible] / Pace	4.9.19	1127	
				Malman	4/9/19	1330	0.7 Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus DATE Signed: 4/8/19

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617209

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

Tracking #:

PM: BM Due Date: 04/16/19

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

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

Thermometer Used 83 Type of Ice: Wet Blue None

Cooler Temperature 0.7 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

☐ Samples on ice, cooling process has begun

Date and Initials of person examining contents: 4/9/19 MR

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 25, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617267

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 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 report replaces the report issued on 4/18/2019. It 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,

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617267

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617267

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617267001	**GWC-5**	Water	04/09/19 09:36	04/10/19 14:05
2617267002	**GWC-10**	Water	04/09/19 11:26	04/10/19 14:05
2617267003	**GWC-20**	Water	04/09/19 14:16	04/10/19 14:05
2617267004	**GWC-18**	Water	04/09/19 10:40	04/10/19 14:05
2617267005	**GWC-19**	Water	04/09/19 12:35	04/10/19 14:05
2617267006	**GWC-21**	Water	04/09/19 10:37	04/10/19 14:05
2617267007	**GWC-22**	Water	04/09/19 13:01	04/10/19 14:05

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617267

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2617267001	**GWC-5**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267002	**GWC-10**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267003	**GWC-20**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267004	**GWC-18**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267005	**GWC-19**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267006	**GWC-21**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3
2617267007	**GWC-22**	EPA 6020B	CSW	17
		SM 2540C	RLC	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-5 **Lab ID: 2617267001** Collected: 04/09/19 09:36 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 14:21	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 14:21	7440-38-2	
Barium	**0.067**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 14:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 14:21	7440-41-7	
Boron	**0.048**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 14:21	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 14:21	7440-43-9	
Calcium	**73.9**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 14:27	7440-70-2	M6
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 14:21	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 14:21	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 14:21	7440-50-8	
Lead	**0.00039J**	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 14:21	7439-92-1	
Nickel	**0.00098J**	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 14:21	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 14:21	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 14:21	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 14:21	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 14:21	7440-62-2	
Zinc	ND	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 14:21	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**371**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.3**	mg/L	0.25	0.024	1		04/16/19 03:02	16887-00-6	
Fluoride	**0.061J**	mg/L	0.30	0.029	1		04/16/19 03:02	16984-48-8	
Sulfate	**83.6**	mg/L	10.0	0.17	10		04/17/19 17:06	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-10 **Lab ID: 2617267002** Collected: 04/09/19 11:26 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 15:13	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 15:13	7440-38-2	
Barium	**0.17**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 15:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 15:13	7440-41-7	
Boron	**0.035J**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 15:13	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 15:13	7440-43-9	
Calcium	**48.8**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 15:19	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 15:13	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 15:13	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 15:13	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 15:13	7439-92-1	
Nickel	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:13	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 15:13	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:13	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 15:13	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 15:13	7440-62-2	
Zinc	ND	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 15:13	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**213**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.9**	mg/L	0.25	0.024	1		04/16/19 04:11	16887-00-6	B
Fluoride	**0.067J**	mg/L	0.30	0.029	1		04/16/19 04:11	16984-48-8	
Sulfate	**21.4**	mg/L	1.0	0.017	1		04/16/19 04:11	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-20 **Lab ID: 2617267003** Collected: 04/09/19 14:16 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 15:24	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 15:24	7440-38-2	
Barium	**0.13**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 15:24	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 15:24	7440-41-7	
Boron	**0.011J**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 15:24	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 15:24	7440-43-9	
Calcium	**57.1**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 15:30	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 15:24	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 15:24	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 15:24	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 15:24	7439-92-1	
Nickel	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:24	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 15:24	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:24	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 15:24	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 15:24	7440-62-2	
Zinc	ND	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 15:24	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**267**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.8**	mg/L	0.25	0.024	1		04/16/19 04:34	16887-00-6	B
Fluoride	**0.056J**	mg/L	0.30	0.029	1		04/16/19 04:34	16984-48-8	
Sulfate	**50.3**	mg/L	1.0	0.017	1		04/16/19 04:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-18 **Lab ID: 2617267004** Collected: 04/09/19 10:40 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 15:36	7440-36-0	
Arsenic	**0.00063J**	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 15:36	7440-38-2	
Barium	**0.081**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 15:36	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 15:36	7440-41-7	
Boron	**0.12**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 15:36	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 15:36	7440-43-9	
Calcium	**41.4**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 15:41	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 15:36	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 15:36	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 15:36	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 15:36	7439-92-1	
Nickel	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:36	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 15:36	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:36	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 15:36	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 15:36	7440-62-2	
Zinc	**0.0037J**	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 15:36	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**212**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.6**	mg/L	0.25	0.024	1		04/16/19 04:56	16887-00-6	B
Fluoride	**0.10J**	mg/L	0.30	0.029	1		04/16/19 04:56	16984-48-8	
Sulfate	**11.3**	mg/L	1.0	0.017	1		04/16/19 04:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-19 **Lab ID: 2617267005** Collected: 04/09/19 12:35 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 15:47	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 15:47	7440-38-2	
Barium	**0.15**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 15:47	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 15:47	7440-41-7	
Boron	**0.17**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 15:47	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 15:47	7440-43-9	
Calcium	**45.8**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 15:53	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 15:47	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 15:47	7440-48-4	
Copper	**0.0014J**	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 15:47	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 15:47	7439-92-1	
Nickel	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:47	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 15:47	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:47	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 15:47	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 15:47	7440-62-2	
Zinc	ND	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 15:47	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**253**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.9**	mg/L	0.25	0.024	1		04/16/19 05:19	16887-00-6	B
Fluoride	**0.10J**	mg/L	0.30	0.029	1		04/16/19 05:19	16984-48-8	
Sulfate	**16.7**	mg/L	1.0	0.017	1		04/16/19 05:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-21 **Lab ID: 2617267006** Collected: 04/09/19 10:37 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 15:59	7440-36-0	
Arsenic	**0.0018J**	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 15:59	7440-38-2	
Barium	**0.050**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 15:59	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 15:59	7440-41-7	
Boron	**0.014J**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 15:59	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 15:59	7440-43-9	
Calcium	**35.4**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 16:04	7440-70-2	
Chromium	ND	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 15:59	7440-47-3	
Cobalt	**0.0023J**	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 15:59	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 15:59	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 15:59	7439-92-1	
Nickel	**0.0048J**	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:59	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 15:59	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 15:59	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 15:59	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 15:59	7440-62-2	
Zinc	**0.0041J**	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 15:59	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**167**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**2.6**	mg/L	0.25	0.024	1		04/16/19 05:42	16887-00-6	B
Fluoride	**0.063J**	mg/L	0.30	0.029	1		04/16/19 05:42	16984-48-8	
Sulfate	**19.9**	mg/L	1.0	0.017	1		04/16/19 05:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617267

Sample: GWC-22 **Lab ID: 2617267007** Collected: 04/09/19 13:01 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 16:25	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 16:25	7440-38-2	
Barium	**0.094**	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 16:25	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 16:25	7440-41-7	
Boron	**0.063**	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 16:25	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 16:25	7440-43-9	
Calcium	**47.3**	mg/L	25.0	0.69	50	04/11/19 13:50	04/12/19 16:30	7440-70-2	
Chromium	**0.0023J**	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 16:25	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 16:25	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 16:25	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 16:25	7439-92-1	
Nickel	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 16:25	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 16:25	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 16:25	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 16:25	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 16:25	7440-62-2	
Zinc	ND	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 16:25	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**222**	mg/L	25.0	10.0	1		04/15/19 21:22		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.7**	mg/L	0.25	0.024	1		04/16/19 06:05	16887-00-6	B
Fluoride	**0.063J**	mg/L	0.30	0.029	1		04/16/19 06:05	16984-48-8	
Sulfate	**11.0**	mg/L	1.0	0.017	1		04/16/19 06:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617267

QC Batch: 26237 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2617267001, 2617267002, 2617267003, 2617267004, 2617267005, 2617267006, 2617267007

METHOD BLANK: 118407 Matrix: Water
Associated Lab Samples: 2617267001, 2617267002, 2617267003, 2617267004, 2617267005, 2617267006, 2617267007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	04/12/19 14:10	
Arsenic	mg/L	ND	0.0050	0.00057	04/12/19 14:10	
Barium	mg/L	ND	0.010	0.00078	04/12/19 14:10	
Beryllium	mg/L	ND	0.0030	0.000050	04/12/19 14:10	
Boron	mg/L	ND	0.040	0.0039	04/12/19 14:10	
Cadmium	mg/L	ND	0.0010	0.000093	04/12/19 14:10	
Calcium	mg/L	ND	0.50	0.014	04/12/19 14:10	
Chromium	mg/L	ND	0.010	0.0016	04/12/19 14:10	
Cobalt	mg/L	ND	0.010	0.00052	04/12/19 14:10	
Copper	mg/L	ND	0.025	0.0013	04/12/19 14:10	
Lead	mg/L	ND	0.0050	0.00027	04/12/19 14:10	
Nickel	mg/L	ND	0.010	0.00095	04/12/19 14:10	
Selenium	mg/L	ND	0.010	0.0014	04/12/19 14:10	
Silver	mg/L	ND	0.010	0.00095	04/12/19 14:10	
Thallium	mg/L	ND	0.0010	0.00014	04/12/19 14:10	
Vanadium	mg/L	ND	0.010	0.0019	04/12/19 14:10	
Zinc	mg/L	ND	0.010	0.0021	04/12/19 14:10	

LABORATORY CONTROL SAMPLE: 118408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.10	103	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Calcium	mg/L	1	0.96	96	80-120	
Chromium	mg/L	0.1	0.10	102	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Copper	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Nickel	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Silver	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	
Vanadium	mg/L	0.1	0.10	100	80-120	
Zinc	mg/L	0.1	0.10	100	80-120	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617267

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 118409 118410

Parameter	Units	2617267001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Barium	mg/L	0.067	0.1	0.1	0.17	0.17	103	99	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.092	94	92	75-125	2	20	
Boron	mg/L	0.048	1	1	1.0	0.97	95	92	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.099	97	99	75-125	1	20	
Calcium	mg/L	73.9	1	1	74.4	72.8	50	-109	75-125	2	20	M6
Chromium	mg/L	ND	0.1	0.1	0.099	0.099	99	98	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	
Copper	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Lead	mg/L	0.00039J	0.1	0.1	0.097	0.097	96	96	75-125	0	20	
Nickel	mg/L	0.00098J	0.1	0.1	0.099	0.098	98	97	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	5	20	
Silver	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	0	20	
Vanadium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Zinc	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617267

QC Batch: 26275 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617267001, 2617267002, 2617267003, 2617267004, 2617267005, 2617267006, 2617267007

LABORATORY CONTROL SAMPLE: 118616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	381	95	84-108	

SAMPLE DUPLICATE: 118618

Parameter	Units	2617267003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	267	252	6	10	

SAMPLE DUPLICATE: 118698

Parameter	Units	2617209006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	264	245	7	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617267

QC Batch: 26352 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617267001, 2617267002, 2617267003, 2617267004, 2617267005, 2617267006, 2617267007

METHOD BLANK: 119015 Matrix: Water
Associated Lab Samples: 2617267001, 2617267002, 2617267003, 2617267004, 2617267005, 2617267006, 2617267007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.31	0.25	0.024	04/16/19 02:16	
Fluoride	mg/L	ND	0.30	0.029	04/16/19 02:16	
Sulfate	mg/L	ND	1.0	0.017	04/16/19 02:16	

LABORATORY CONTROL SAMPLE: 119016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	9.3	93	90-110	
Sulfate	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 119017 119018

Parameter	Units	2617267001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.3	10	10	13.1	13.0	98	97	90-110	1	15	
Fluoride	mg/L	0.061J	10	10	9.2	9.1	91	91	90-110	1	15	
Sulfate	mg/L	83.6	10	10	81.4	81.5	-21	-21	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 119019

Parameter	Units	2617267002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.9	10	11.5	96	90-110	
Fluoride	mg/L	0.067J	10	9.1	90	90-110	
Sulfate	mg/L	21.4	10	29.9	85	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617267

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.
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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617267

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617267001	**GWC-5**	EPA 3005A	26237	EPA 6020B	26241
2617267002	**GWC-10**	EPA 3005A	26237	EPA 6020B	26241
2617267003	**GWC-20**	EPA 3005A	26237	EPA 6020B	26241
2617267004	**GWC-18**	EPA 3005A	26237	EPA 6020B	26241
2617267005	**GWC-19**	EPA 3005A	26237	EPA 6020B	26241
2617267006	**GWC-21**	EPA 3005A	26237	EPA 6020B	26241
2617267007	**GWC-22**	EPA 3005A	26237	EPA 6020B	26241
2617267001	**GWC-5**	SM 2540C	26275		
2617267002	**GWC-10**	SM 2540C	26275		
2617267003	**GWC-20**	SM 2540C	26275		
2617267004	**GWC-18**	SM 2540C	26275		
2617267005	**GWC-19**	SM 2540C	26275		
2617267006	**GWC-21**	SM 2540C	26275		
2617267007	**GWC-22**	SM 2540C	26275		
2617267001	**GWC-5**	EPA 300.0	26352		
2617267002	**GWC-10**	EPA 300.0	26352		
2617267003	**GWC-20**	EPA 300.0	26352		
2617267004	**GWC-18**	EPA 300.0	26352		
2617267005	**GWC-19**	EPA 300.0	26352		
2617267006	**GWC-21**	EPA 300.0	26352		
2617267007	**GWC-22**	EPA 300.0	26352		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10348606	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard	Project #:		Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O	Metals (App. III & D&O) (1)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWC-5	WT	G	04/09	9:31	04/09	9:36	16	3	2		1							—		Y	Y	—	
2	GWC-10	WT	G	04/09	11:21	04/09	11:26	16	3	2		1							—		Y	Y	—	
3	GWC-20	WT	G	04/09	14:11	04/09	14:16	16	3	2		1							—		Y	Y	—	
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

GW 04/09/19

WO#: 2617267

2617267

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
(1): Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickle, Selenium, Silver, Thallium, Vanadium, Zinc	Grant Walter / Geosyntec	04/09/19	1535	Meghan Mynham / Geosyntec	4/9/19	1535				
	Meghan Mynham / Geosyntec	4/10/19	1040	1 pace	4.10.19	1040				
				MZahman	4/10/19	1405	2.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Grant Walter

SIGNATURE of SAMPLER: Grant Walter DATE Signed: 04/09/19

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard TAT

Section B
Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C
Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:
State / Location: GA

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWC-18	WT	G	4/9/19	10:20	4/9/19	10:40	17.0	3	2		1							—	—	Y	Y	—	—
2	GWC-19	WT	G	4/9/19	12:15	4/9/19	12:35	17.3	3	2		1							—	—	Y	N	—	—
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

DCA 4/9/19

WO# : 2617267
PM: BM Due Date: 04/17/19
CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Dalton Anderson (Geo)	4/9/19	15:46	Mollie Mulukey Geosyntec	4/9/19	15:46				
	Mollie Mulukey / Geosyntec	4/10/19	1040	[signature] / Pace	4/10/19	1040				
				M Dalman	4/10/19	1405	2.3	Y	Y	Y
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Dalton Anderson
SIGNATURE of SAMPLER: [signature] DATE Signed: 4/9/19

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical

Section A Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard TAT

Section B Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	GWC 21	WT	G	4/9/19	1028	4/9/19	1037	14	2	1		1							—	—	Y	Y	—	—
2	GWC-22	WT	G	4/9/19	1257	4/9/19	1301	19	2	1		1							—	—	Y	Y	—	—
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/9/19

WO#: 2617267

PM: BM Due Date: 04/17/19

CLIENT: GAPower-CCR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Noelia Muskus / Geosyntec	4/10/19	1040	[signature] / Pace	4.10.19	1040				
				M Lahman	4/10/19	1405	2.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: Noelia Muskus

DATE Signed: 4/9/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

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

WO#: 2617267

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

PM: BM Due Date: 04/17/19

CLIENT: GAPower-CCR

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

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.3 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 4/10/19 MK

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 01, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617148

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/16/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617148

Atlanta Certification IDs

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

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617148001	**FB-01**	Water	04/05/19 08:50	04/08/19 15:30

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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617148001	**FB-01**	EPA 6020B	SER	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617148

Sample: FB-01 **Lab ID: 2617148001** Collected: 04/05/19 08:50 Received: 04/08/19 15:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/16/19 07:51	04/16/19 18:55	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-38-2	
Barium	**0.000078J**	mg/L	0.010	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/16/19 07:51	04/16/19 18:55	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/16/19 07:51	04/16/19 18:55	7440-43-9	
Calcium	**0.024J**	mg/L	0.50	0.021	1	04/16/19 07:51	04/16/19 18:55	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/16/19 07:51	04/16/19 18:55	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/16/19 07:51	04/16/19 18:55	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/16/19 07:51	04/16/19 18:55	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/16/19 07:51	04/16/19 18:55	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/16/19 07:51	04/16/19 18:55	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/16/19 07:51	04/16/19 18:55	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/16/19 07:51	04/16/19 18:55	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/16/19 07:51	04/16/19 18:55	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/16/19 07:51	04/16/19 18:55	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/16/19 07:51	04/16/19 18:55	7440-62-2	
Zinc	**0.017**	mg/L	0.010	0.0011	1	04/16/19 07:51	04/16/19 18:55	7440-66-6	C0
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:37	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	25.0	10.0	1		04/11/19 20:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.11J**	mg/L	0.25	0.024	1		04/10/19 22:29	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/10/19 22:29	16984-48-8	
Sulfate	**0.069J**	mg/L	1.0	0.017	1		04/10/19 22:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

QC Batch: 468895
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Associated Lab Samples: 2617148001

METHOD BLANK: 2546716 Matrix: Water
Associated Lab Samples: 2617148001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	04/15/19 18:06	

LABORATORY CONTROL SAMPLE: 2546717

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: 2546718 2546719

Parameter	Units	92424398001 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	0.0019	0.0019	77	77	75-125	0	25	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

QC Batch: 469500
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Associated Lab Samples: 2617148001

METHOD BLANK: 2549697
Matrix: Water
Associated Lab Samples: 2617148001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/16/19 18:48	
Arsenic	mg/L	ND	0.0050	0.000060	04/16/19 18:48	
Barium	mg/L	ND	0.010	0.000060	04/16/19 18:48	
Beryllium	mg/L	ND	0.0030	0.000050	04/16/19 18:48	
Boron	mg/L	ND	0.10	0.0026	04/16/19 18:48	
Cadmium	mg/L	ND	0.0010	0.000070	04/16/19 18:48	
Calcium	mg/L	ND	0.50	0.021	04/16/19 18:48	
Chromium	mg/L	ND	0.010	0.00042	04/16/19 18:48	
Cobalt	mg/L	ND	0.010	0.000050	04/16/19 18:48	
Copper	mg/L	ND	0.025	0.00023	04/16/19 18:48	
Lead	mg/L	ND	0.0050	0.000050	04/16/19 18:48	
Lithium	mg/L	ND	0.050	0.00042	04/16/19 18:48	
Molybdenum	mg/L	ND	0.010	0.00010	04/16/19 18:48	
Nickel	mg/L	ND	0.010	0.00011	04/16/19 18:48	
Selenium	mg/L	ND	0.010	0.000080	04/16/19 18:48	
Silver	mg/L	ND	0.010	0.000050	04/16/19 18:48	
Thallium	mg/L	ND	0.0010	0.000060	04/16/19 18:48	
Vanadium	mg/L	ND	0.010	0.00012	04/16/19 18:48	
Zinc	mg/L	ND	0.010	0.0011	04/16/19 18:48	

LABORATORY CONTROL SAMPLE: 2549698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.098	98	80-120	
Arsenic	mg/L	0.01	0.0096	96	80-120	
Barium	mg/L	0.05	0.049	98	80-120	
Beryllium	mg/L	0.01	0.0096	96	80-120	
Boron	mg/L	0.05	0.048J	95	80-120	
Cadmium	mg/L	0.01	0.0099	99	80-120	
Calcium	mg/L	0.62	0.64	103	80-120	
Chromium	mg/L	0.05	0.048	97	80-120	
Cobalt	mg/L	0.01	0.0098J	98	80-120	
Copper	mg/L	0.05	0.049	98	80-120	
Lead	mg/L	0.05	0.050	99	80-120	
Lithium	mg/L	0.05	0.049J	98	80-120	
Molybdenum	mg/L	0.05	0.049	98	80-120	
Nickel	mg/L	0.05	0.049	97	80-120	
Selenium	mg/L	0.05	0.050	100	80-120	
Silver	mg/L	0.025	0.025	99	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

LABORATORY CONTROL SAMPLE: 2549698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	0.05	0.049	98	80-120	
Zinc	mg/L	0.05	0.049	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2549699 2549700

Parameter	Units	2617148001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	
Arsenic	mg/L	ND	0.01	0.01	0.0098	0.0097	98	97	75-125	1	20	
Barium	mg/L	0.000078J	0.05	0.05	0.049	0.050	99	99	75-125	0	20	
Beryllium	mg/L	ND	0.01	0.01	0.0097	0.0097	97	97	75-125	0	20	
Boron	mg/L	ND	0.05	0.05	0.049J	0.050J	93	95	75-125	2	20	
Cadmium	mg/L	ND	0.01	0.01	0.010	0.0099	100	99	75-125	1	20	
Calcium	mg/L	0.024J	0.62	0.62	0.65	0.65	100	101	75-125	1	20	
Chromium	mg/L	ND	0.05	0.05	0.050	0.049	99	97	75-125	2	20	
Cobalt	mg/L	ND	0.01	0.01	0.010J	0.0099J	100	98	75-125	1	20	
Copper	mg/L	ND	0.05	0.05	0.050	0.050	101	99	75-125	2	20	
Lead	mg/L	ND	0.05	0.05	0.050	0.050	100	99	75-125	1	20	
Lithium	mg/L	ND	0.05	0.05	0.050J	0.048J	99	96	75-125	4	20	
Molybdenum	mg/L	ND	0.05	0.05	0.050	0.050	100	99	75-125	1	20	
Nickel	mg/L	ND	0.05	0.05	0.050	0.049	100	98	75-125	1	20	
Selenium	mg/L	ND	0.05	0.05	0.050	0.050	101	100	75-125	1	20	
Silver	mg/L	ND	0.025	0.025	0.025	0.025	100	100	75-125	0	20	
Thallium	mg/L	ND	0.01	0.01	0.010	0.0099	100	99	75-125	1	20	
Vanadium	mg/L	ND	0.05	0.05	0.050	0.049	99	98	75-125	1	20	
Zinc	mg/L	0.017	0.05	0.05	0.067	0.066	99	98	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

QC Batch: 26252
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617148001

LABORATORY CONTROL SAMPLE: 118510

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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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617148

QC Batch: 26135
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617148001

METHOD BLANK: 117979 Matrix: Water
Associated Lab Samples: 2617148001

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 Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15	
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15	

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617148

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
C0	Result confirmed by second analysis.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617148001	**FB-01**	EPA 3010A	469500	EPA 6020B	469558
2617148001	**FB-01**	EPA 7470A	468895	EPA 7470A	468941
2617148001	**FB-01**	SM 2540C	26252		
2617148001	**FB-01**	EPA 300.0	26135		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water = DW; Water = WT; Waste Water = WW; Product = P; Soil/Solid = SL; Oil = OL; Wipe = WP; Air = AR; Other = OT; Tissue = TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-01	WT	G	4/5/19	0940	4/15/19	0850	17	5	2		3						Y	Y	—	Y	Y		—
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

NM 4/5/19

WO#: 2617148

2617148

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Nadia Muskus/Geosyntec	4/5/19	1945	WB Leal / Geosyntec	4/5/19	1945				
	WB Leal/Geosyntec	4/8/19	1116	[illegible] / Pace	4.8.19	1116				
				MQuinan	4/8/19	1530	1.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nadia Muskus

SIGNATURE of SAMPLER: Nadia Muskus DATE Signed: 4/5/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617148

PM: BM **Due Date: 04/15/19**

CLIENT: GAPower-CCR

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

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

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

Thermometer Used 83 **Type of Ice:** Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 1.1 **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 4/8/19 MR

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

May 03, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617207

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This revised report replaces the one issued on 4/16/2019. The report has been revised to correct metals units per consultant request. No other changes have been made to this report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617207

Atlanta Certification IDs

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

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617207001	**FB-02**	Water	04/08/19 17:45	04/09/19 13:30
2617207002	**EB-01**	Water	04/08/19 18:00	04/09/19 13:30

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SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2617207001	**FB-02**	EPA 6020B	JMW1	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA
2617207002	**EB-01**	EPA 6020B	JMW1	19	PASI-A
		EPA 7470A	RDT	1	PASI-A
		SM 2540C	RLC	1	PASI-GA
		EPA 300.0	RLC	3	PASI-GA

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ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617207

Sample: FB-02 **Lab ID: 2617207001** Collected: 04/08/19 17:45 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-38-2	
Barium	ND	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:04	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:04	7440-43-9	
Calcium	ND	mg/L	0.50	0.021	1	04/10/19 19:59	04/12/19 01:04	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:04	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:04	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:04	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 01:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 01:04	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:04	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:04	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:04	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:04	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:04	7440-62-2	
Zinc	ND	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:04	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:39	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0J**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.25J**	mg/L	0.25	0.024	1		04/11/19 00:54	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/11/19 00:54	16984-48-8	
Sulfate	**0.13J**	mg/L	1.0	0.017	1		04/11/19 00:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617207

Sample: EB-01 **Lab ID: 2617207002** Collected: 04/08/19 18:00 Received: 04/09/19 13:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A								
Antimony	ND	mg/L	0.0030	0.00011	1	04/10/19 19:59	04/12/19 01:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-38-2	
Barium	ND	mg/L	0.010	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-41-7	
Boron	ND	mg/L	0.10	0.0026	1	04/10/19 19:59	04/12/19 01:08	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000070	1	04/10/19 19:59	04/12/19 01:08	7440-43-9	
Calcium	ND	mg/L	0.50	0.021	1	04/10/19 19:59	04/12/19 01:08	7440-70-2	
Chromium	ND	mg/L	0.010	0.00042	1	04/10/19 19:59	04/12/19 01:08	7440-47-3	
Cobalt	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-48-4	
Copper	ND	mg/L	0.025	0.00023	1	04/10/19 19:59	04/12/19 01:08	7440-50-8	
Lead	ND	mg/L	0.0050	0.000050	1	04/10/19 19:59	04/12/19 01:08	7439-92-1	
Lithium	ND	mg/L	0.050	0.00042	1	04/10/19 19:59	04/12/19 01:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00010	1	04/10/19 19:59	04/12/19 01:08	7439-98-7	
Nickel	ND	mg/L	0.010	0.00011	1	04/10/19 19:59	04/12/19 01:08	7440-02-0	
Selenium	ND	mg/L	0.010	0.000080	1	04/10/19 19:59	04/12/19 01:08	7782-49-2	
Silver	ND	mg/L	0.010	0.000050	1	04/10/19 19:59	04/12/19 01:08	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000060	1	04/10/19 19:59	04/12/19 01:08	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00012	1	04/10/19 19:59	04/12/19 01:08	7440-62-2	
Zinc	ND	mg/L	0.010	0.0011	1	04/10/19 19:59	04/12/19 01:08	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00020	0.00010	1	04/11/19 21:25	04/15/19 18:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**12.0J**	mg/L	25.0	10.0	1		04/11/19 20:54		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.22J**	mg/L	0.25	0.024	1		04/11/19 03:19	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/11/19 03:19	16984-48-8	
Sulfate	**0.38J**	mg/L	1.0	0.017	1		04/11/19 03:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

QC Batch: 468895 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 2546716 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	04/15/19 18:06	

LABORATORY CONTROL SAMPLE: 2546717

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: 2546718 2546719

Parameter	Units	92424398001 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	0.0019	0.0019	77	77	75-125	0	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

QC Batch: 468622 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 2545263 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00011	04/11/19 20:42	
Arsenic	mg/L	ND	0.0050	0.000060	04/11/19 20:42	
Barium	mg/L	ND	0.010	0.000060	04/11/19 20:42	
Beryllium	mg/L	ND	0.0030	0.000050	04/11/19 20:42	
Boron	mg/L	ND	0.10	0.0026	04/11/19 20:42	
Cadmium	mg/L	ND	0.0010	0.000070	04/11/19 20:42	
Calcium	mg/L	ND	0.50	0.021	04/11/19 20:42	
Chromium	mg/L	ND	0.010	0.00042	04/11/19 20:42	
Cobalt	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Copper	mg/L	ND	0.025	0.00023	04/11/19 20:42	
Lead	mg/L	ND	0.0050	0.000050	04/11/19 20:42	
Lithium	mg/L	ND	0.050	0.00042	04/11/19 20:42	
Molybdenum	mg/L	ND	0.010	0.00010	04/11/19 20:42	
Nickel	mg/L	ND	0.010	0.00011	04/11/19 20:42	
Selenium	mg/L	ND	0.010	0.000080	04/11/19 20:42	
Silver	mg/L	ND	0.010	0.000050	04/11/19 20:42	
Thallium	mg/L	ND	0.0010	0.000060	04/11/19 20:42	
Vanadium	mg/L	ND	0.010	0.00012	04/11/19 20:42	
Zinc	mg/L	ND	0.010	0.0011	04/11/19 20:42	

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.049	99	80-120	
Beryllium	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.052J	104	80-120	
Cadmium	mg/L	0.01	0.010	102	80-120	
Calcium	mg/L	0.62	0.64	102	80-120	
Chromium	mg/L	0.05	0.051	102	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Copper	mg/L	0.05	0.051	103	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Lithium	mg/L	0.05	0.050	100	80-120	
Molybdenum	mg/L	0.05	0.051	102	80-120	
Nickel	mg/L	0.05	0.051	102	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Silver	mg/L	0.025	0.025	102	80-120	
Thallium	mg/L	0.01	0.010	100	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

LABORATORY CONTROL SAMPLE: 2545264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	0.05	0.051	101	80-120	
Zinc	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2545265 2545266

Parameter	Units	2617144001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L		0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Arsenic	mg/L		0.01	0.01	0.0091J	0.0089J	91	89	75-125	2	20	
Barium	mg/L		0.05	0.05	0.085	0.085	85	85	75-125	0	20	
Beryllium	mg/L		0.01	0.01	0.0086	0.0089	86	89	75-125	4	20	
Boron	mg/L	1.0J	0.05	0.05	1.0J	1.0J	67	48	75-125	1	20	M6
Cadmium	mg/L		0.01	0.01	0.011	0.011	99	99	75-125	0	20	
Calcium	mg/L	70.0	0.62	0.62	71.3	74.8	207	759	75-125	5	20	M6
Chromium	mg/L		0.05	0.05	0.048	0.048	96	95	75-125	1	20	
Cobalt	mg/L		0.01	0.01	0.015	0.015	97	96	75-125	1	20	
Copper	mg/L		0.05	0.05	0.049	0.048	98	97	75-125	1	20	
Lead	mg/L		0.05	0.05	0.048	0.048	96	96	75-125	0	20	
Lithium	mg/L		0.05	0.05	0.043J	0.044J	82	85	75-125	3	20	
Molybdenum	mg/L		0.05	0.05	0.050	0.049	99	99	75-125	1	20	
Nickel	mg/L		0.05	0.05	0.051	0.051	96	96	75-125	0	20	
Selenium	mg/L		0.05	0.05	0.044	0.044	89	88	75-125	1	20	
Silver	mg/L		0.025	0.025	0.023	0.023	92	91	75-125	1	20	
Thallium	mg/L		0.01	0.01	0.0096	0.0096	96	96	75-125	0	20	
Vanadium	mg/L		0.05	0.05	0.050	0.050	100	100	75-125	0	20	
Zinc	mg/L		0.05	0.05	0.047	0.047	86	86	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

QC Batch: 26252
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617207001, 2617207002

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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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617207

QC Batch: 26135 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617207001, 2617207002

METHOD BLANK: 117979 Matrix: Water
Associated Lab Samples: 2617207001, 2617207002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.064J	0.25	0.024	04/10/19 21:47	
Fluoride	mg/L	ND	0.30	0.029	04/10/19 21:47	
Sulfate	mg/L	ND	1.0	0.017	04/10/19 21:47	

LABORATORY CONTROL SAMPLE: 117980

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 Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	0.25J	10	10	9.9	10	96	97	90-110	1	15	
Fluoride	mg/L	ND	10	10	9.5	9.6	95	96	90-110	1	15	
Sulfate	mg/L	0.13J	10	10	9.5	9.6	94	94	90-110	1	15	

MATRIX SPIKE SAMPLE: 117983

Parameter	Units	2617150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	131	10	10.5	-1210	90-110	
Fluoride	mg/L	0.13J	10	9.4	93	90-110	
Sulfate	mg/L	392	10	13.7	-3780	90-110	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617207

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-GA	Pace Analytical Services - Atlanta, GA

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617207

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617207001	**FB-02**	EPA 3010A	468622	EPA 6020B	468673
2617207002	**EB-01**	EPA 3010A	468622	EPA 6020B	468673
2617207001	**FB-02**	EPA 7470A	468895	EPA 7470A	468941
2617207002	**EB-01**	EPA 7470A	468895	EPA 7470A	468941
2617207001	**FB-02**	SM 2540C	26252		
2617207002	**EB-01**	SM 2540C	26252		
2617207001	**FB-02**	EPA 300.0	26135		
2617207002	**EB-01**	EPA 300.0	26135		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard TAT

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency:

State / Location: GA

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	FB-02	WT	G	4/8/19	1740	4/8/19	1745	19	5	2		3							-	Y	-	Y	Y	-
2	EB-01	WT	G	4/8/19	1755	4/8/19	1800	19	5	2		3							-	Y	-	Y	Y	-
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/8/19

WO#: 2617207

2617207

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Nodia Muskus / Geo	4/8/19	2010	EB Laws / Geosyntec	4/8/19	2010				
	EB Laws / Geosyntec	4/9/19	1127	[illegible] / Pace	4.9.19	1127				
				M Dalman	4/9/19	1330	0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Nodia Muskus

SIGNATURE of SAMPLER: Nodia Muskus

DATE Signed: 4/8/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617207

PM: BM **Due Date: 04/16/19**

CLIENT: GAPower-CCR

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

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

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

Thermometer Used 83

Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 4/9/19 AK

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

April 18, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2617269

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2617269

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2617269

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2617269001	**EB-02**	Water	04/09/19 15:30	04/10/19 14:05

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2617269

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2617269001	**EB-02**	EPA 6020B	CSW	19
		EPA 7470A	DRB	1
		SM 2540C	RLC	1
		EPA 300.0	RLC	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2617269

Sample: EB-02 **Lab ID: 2617269001** Collected: 04/09/19 15:30 Received: 04/10/19 14:05 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	04/11/19 13:50	04/12/19 16:42	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00057	1	04/11/19 13:50	04/12/19 16:42	7440-38-2	
Barium	ND	mg/L	0.010	0.00078	1	04/11/19 13:50	04/12/19 16:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	04/11/19 13:50	04/12/19 16:42	7440-41-7	
Boron	ND	mg/L	0.040	0.0039	1	04/11/19 13:50	04/12/19 16:42	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.000093	1	04/11/19 13:50	04/12/19 16:42	7440-43-9	
Calcium	ND	mg/L	0.50	0.014	1	04/11/19 13:50	04/12/19 16:42	7440-70-2	
Chromium	**0.028**	mg/L	0.010	0.0016	1	04/11/19 13:50	04/12/19 16:42	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00052	1	04/11/19 13:50	04/12/19 16:42	7440-48-4	
Copper	ND	mg/L	0.025	0.0013	1	04/11/19 13:50	04/12/19 16:42	7440-50-8	
Lead	ND	mg/L	0.0050	0.00027	1	04/11/19 13:50	04/12/19 16:42	7439-92-1	
Lithium	ND	mg/L	0.050	0.00097	1	04/11/19 13:50	04/12/19 16:42	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 16:42	7439-98-7	
Nickel	**0.0071J**	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 16:42	7440-02-0	
Selenium	ND	mg/L	0.010	0.0014	1	04/11/19 13:50	04/12/19 16:42	7782-49-2	
Silver	ND	mg/L	0.010	0.00095	1	04/11/19 13:50	04/12/19 16:42	7440-22-4	
Thallium	ND	mg/L	0.0010	0.00014	1	04/11/19 13:50	04/12/19 16:42	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0019	1	04/11/19 13:50	04/12/19 16:42	7440-62-2	
Zinc	**0.0021J**	mg/L	0.010	0.0021	1	04/11/19 13:50	04/12/19 16:42	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	ND	mg/L	0.00050	0.000036	1	04/12/19 09:10	04/12/19 14:25	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**20.0J**	mg/L	25.0	10.0	1		04/15/19 21:23		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.38**	mg/L	0.25	0.024	1		04/16/19 06:28	16887-00-6	B
Fluoride	ND	mg/L	0.30	0.029	1		04/16/19 06:28	16984-48-8	
Sulfate	**0.13J**	mg/L	1.0	0.017	1		04/16/19 06:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617269

QC Batch: 26291 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Associated Lab Samples: 2617269001

METHOD BLANK: 118724 Matrix: Water
Associated Lab Samples: 2617269001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00050	0.000036	04/12/19 13:52	

LABORATORY CONTROL SAMPLE: 118725

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 118726 118727

Parameter	Units	2617267001 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	101	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617269

QC Batch: 26237
QC Batch Method: EPA 3005A
Associated Lab Samples: 2617269001

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

METHOD BLANK: 118407
Associated Lab Samples: 2617269001

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00078	04/12/19 14:10	
Arsenic	mg/L	ND	0.0050	0.00057	04/12/19 14:10	
Barium	mg/L	ND	0.010	0.00078	04/12/19 14:10	
Beryllium	mg/L	ND	0.0030	0.000050	04/12/19 14:10	
Boron	mg/L	ND	0.040	0.0039	04/12/19 14:10	
Cadmium	mg/L	ND	0.0010	0.000093	04/12/19 14:10	
Calcium	mg/L	ND	0.50	0.014	04/12/19 14:10	
Chromium	mg/L	ND	0.010	0.0016	04/12/19 14:10	
Cobalt	mg/L	ND	0.010	0.00052	04/12/19 14:10	
Copper	mg/L	ND	0.025	0.0013	04/12/19 14:10	
Lead	mg/L	ND	0.0050	0.00027	04/12/19 14:10	
Lithium	mg/L	ND	0.050	0.00097	04/12/19 14:10	
Molybdenum	mg/L	ND	0.010	0.0019	04/12/19 14:10	
Nickel	mg/L	ND	0.010	0.00095	04/12/19 14:10	
Selenium	mg/L	ND	0.010	0.0014	04/12/19 14:10	
Silver	mg/L	ND	0.010	0.00095	04/12/19 14:10	
Thallium	mg/L	ND	0.0010	0.00014	04/12/19 14:10	
Vanadium	mg/L	ND	0.010	0.0019	04/12/19 14:10	
Zinc	mg/L	ND	0.010	0.0021	04/12/19 14:10	

LABORATORY CONTROL SAMPLE: 118408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.098	98	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.10	103	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.097	97	80-120	
Calcium	mg/L	1	0.96	96	80-120	
Chromium	mg/L	0.1	0.10	102	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Copper	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	101	80-120	
Molybdenum	mg/L	0.1	0.097	97	80-120	
Nickel	mg/L	0.1	0.099	99	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Silver	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617269

LABORATORY CONTROL SAMPLE: 118408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	mg/L	0.1	0.10	100	80-120	
Zinc	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 118409 118410

Parameter	Units	2617267001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	103	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Barium	mg/L	0.067	0.1	0.1	0.17	0.17	103	99	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.094	0.092	94	92	75-125	2	20	
Boron	mg/L	0.048	1	1	1.0	0.97	95	92	75-125	3	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.099	97	99	75-125	1	20	
Calcium	mg/L	73.9	1	1	74.4	72.8	50	-109	75-125	2	20	M6
Chromium	mg/L	ND	0.1	0.1	0.099	0.099	99	98	75-125	1	20	
Cobalt	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20	
Copper	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Lead	mg/L	0.00039J	0.1	0.1	0.097	0.097	96	96	75-125	0	20	
Lithium	mg/L	0.031J	0.1	0.1	0.12	0.12	93	90	75-125	2	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	100	101	75-125	1	20	
Nickel	mg/L	0.00098J	0.1	0.1	0.099	0.098	98	97	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	5	20	
Silver	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Thallium	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	0	20	
Vanadium	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Zinc	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617269

QC Batch: 26275
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2617269001

LABORATORY CONTROL SAMPLE: 118616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	381	95	84-108	

SAMPLE DUPLICATE: 118618

Parameter	Units	2617267003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	267	252	6	10	

SAMPLE DUPLICATE: 118698

Parameter	Units	2617209006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	264	245	7	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2617269

QC Batch: 26352
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2617269001

METHOD BLANK: 119015 Matrix: Water
Associated Lab Samples: 2617269001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.31	0.25	0.024	04/16/19 02:16	
Fluoride	mg/L	ND	0.30	0.029	04/16/19 02:16	
Sulfate	mg/L	ND	1.0	0.017	04/16/19 02:16	

LABORATORY CONTROL SAMPLE: 119016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.1	101	90-110	
Fluoride	mg/L	10	9.3	93	90-110	
Sulfate	mg/L	10	10.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 119017 119018

Parameter	Units	2617267001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.3	10	10	13.1	13.0	98	97	90-110	1	15	
Fluoride	mg/L	0.061J	10	10	9.2	9.1	91	91	90-110	1	15	
Sulfate	mg/L	83.6	10	10	81.4	81.5	-21	-21	90-110	0	15	M1

MATRIX SPIKE SAMPLE: 119019

Parameter	Units	2617267002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	1.9	10	11.5	96	90-110	
Fluoride	mg/L	0.067J	10	9.1	90	90-110	
Sulfate	mg/L	21.4	10	29.9	85	90-110	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2617269

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.
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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2617269

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2617269001	**EB-02**	EPA 3005A	26237	EPA 6020B	26241
2617269001	**EB-02**	EPA 7470A	26291	EPA 7470A	26328
2617269001	**EB-02**	SM 2540C	26275		
2617269001	**EB-02**	EPA 300.0	26352		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond
Project #:	

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: State / Location: GA

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Metals (App. III & App. IV)	Mets (App. III, App. IV, D&O)	Metals (App. III & D&O)	TDS, Cl, F, SO4	Radium 226/228	Residual Chlorine (Y/N)
1	EB-02	WT	G	4/9/19	1520	4/9/19	1530	20	2	1		1							—	Y	Y	—		—
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

NM 4/9/19

WO#: 2617269

2617269

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Noelia Musleh	4/10/19	1040	1 Pace	4/10/19	1040	
				M Zalman	4/10/19	1405	2.3 C / Y / Y / Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Musleh

SIGNATURE of SAMPLER: Noelia Musleh DATE Signed: 4/9/19

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power

Project #

WO#: 2617269

PM: BM **Due Date: 04/17/19**

CLIENT: GAPower-CCR

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

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

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

Thermometer Used 83 **Type of Ice:** Wet Blue None

Cooler Temperature 2.3 **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

☐ Samples on ice, cooling process has begun

Date and Initials of person examining contents: 4/10/19 MR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A 1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A 2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A 3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A 4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A 5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A 6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A 7.
Sufficient Volume:	☑Yes	☐No	☐N/A 8.
Correct Containers Used:	☑Yes	☐No	☐N/A 9.
-Pace Containers Used:	☑Yes	☐No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A 10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A 11.
Sample Labels match COC:	☑Yes	☐No	☐N/A 12.
-Includes date/time/ID/Analysis Matrix:		W	
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A 13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A 14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A 15.
Trip Blank Present:	☐Yes	☐No	☑N/A 16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 20, 2019

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

RE: Project: Plant Hammond
Pace Project No.: 2619807

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond
Pace Project No.: 2619807

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619807001	**EB-01**	Water	06/17/19 09:54	06/18/19 12:00

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619807001	**EB-01**	EPA 6020B	CSW	3
		SM 2540C	M1O	1
		EPA 300.0	MWB	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond
Pace Project No.: 2619807

Sample: EB-01 **Lab ID: 2619807001** Collected: 06/17/19 09:54 Received: 06/18/19 12:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Barium	ND	mg/L	0.010	0.00049	1	06/18/19 16:30	06/19/19 16:47	7440-39-3	
Boron	ND	mg/L	0.040	0.0049	1	06/18/19 16:30	06/19/19 16:47	7440-42-8	
Calcium	ND	mg/L	0.10	0.011	1	06/18/19 16:30	06/19/19 16:47	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**14.0**	mg/L	10.0	10.0	1		06/19/19 17:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**0.93**	mg/L	0.25	0.024	1		06/20/19 06:47	16887-00-6	
Fluoride	**0.33**	mg/L	0.30	0.029	1		06/20/19 06:47	16984-48-8	
Sulfate	ND	mg/L	1.0	0.017	1		06/20/19 06:47	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2619807

QC Batch: 30489
QC Batch Method: EPA 3005A
Analysis Method: EPA 6020B
Analysis Description: 6020B MET
Associated Lab Samples: 2619807001

METHOD BLANK: 137204 Matrix: Water
Associated Lab Samples: 2619807001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.00049	06/19/19 15:18	
Boron	mg/L	ND	0.040	0.0049	06/19/19 15:18	
Calcium	mg/L	ND	0.10	0.011	06/19/19 15:18	

LABORATORY CONTROL SAMPLE: 137205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.1	0.095	95	80-120	
Boron	mg/L	1	0.96	96	80-120	
Calcium	mg/L	1	0.91	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137206 137207

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.052	0.1	0.1	0.15	0.15	100	100	75-125	0	20	
Boron	mg/L	1.1	1	1	2.1	2.1	97	100	75-125	1	20	
Calcium	mg/L	164	1	1	168	176	381	1150	75-125	4	20	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2619807

QC Batch: 30523
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2619807001

LABORATORY CONTROL SAMPLE: 137322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	414	104	84-108	

SAMPLE DUPLICATE: 137323

Parameter	Units	2619806002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	751	783	4	10	

SAMPLE DUPLICATE: 137664

Parameter	Units	2619850002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	256	9	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond
Pace Project No.: 2619807

QC Batch: 30603
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619807001

METHOD BLANK: 137790 Matrix: Water
Associated Lab Samples: 2619807001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	0.25	0.024	06/20/19 03:46	
Fluoride	mg/L	ND	0.30	0.029	06/20/19 03:46	
Sulfate	mg/L	ND	1.0	0.017	06/20/19 03:46	

LABORATORY CONTROL SAMPLE: 137791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	9.9	99	90-110	
Fluoride	mg/L	10	9.7	97	90-110	
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137792 137793

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3.0	10	10	12.2	12.3	91	93	90-110	1	15	
Fluoride	mg/L	1.2	10	10	10.2	10.3	90	91	90-110	1	15	
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 137794

Parameter	Units	2619806002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	32.9	10	39.1	62	90-110	M1
Fluoride	mg/L	0.97	10	10.3	93	90-110	
Sulfate	mg/L	219	10	184	-348	90-110	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond
Pace Project No.: 2619807

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

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond
Pace Project No.: 2619807

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619807001	**EB-01**	EPA 3005A	30489	EPA 6020B	30498
2619807001	**EB-01**	SM 2540C	30523		
2619807001	**EB-01**	EPA 300.0	30603		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham, Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond Resample	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW0591	Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	EB-01	WT	G	6/17	9:53	6/17	9:53		2	1		1							X	X	X	X	X	X	X	N
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

NM 6/17/19

WO# : 2619807

2619807

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Dalton Anderson (Geo)	6/17/19	18:00	Malia Mumtaz (Geosyntec)	6/17/19	18:00
	Malia Mumtaz (Geo)	6/18/19	08:30	M RAHMAN	6/18/19	0830
				M Rahman	6/18/19	1200

SAMPLE CONDITIONS

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/17/19

Sample Condition Upon Receipt

Face Analytical

Client Name: GA Power Project #

WO#: 2619807

PM: BM **Due Date: 06/20/19**

CLIENT: GAPower-CCR

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

Tracking #:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

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

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.7 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/18/19 MK

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	
Sufficient Volume:	☑Yes ☐No ☐N/A	8.	
Correct Containers Used:	☑Yes ☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes ☐No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: W			
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.	
Trip Blank Present:	☐Yes ☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 20, 2019

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

RE: Project: Plant Hammond Huffaker
Pace Project No.: 2619847

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619847001	**GWC-20**	Water	06/18/19 14:05	06/19/19 09:50

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619847001	**GWC-20**	EPA 300.0	MWB	1

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

Sample: GWC-20 **Lab ID: 2619847001** Collected: 06/18/19 14:05 Received: 06/19/19 09:50 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								
Sulfate	**38.7**	mg/L	5.0	0.085	5		06/20/19 11:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

QC Batch: 30603 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619847001

METHOD BLANK: 137790 Matrix: Water
Associated Lab Samples: 2619847001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	0.017	06/20/19 03:46	

LABORATORY CONTROL SAMPLE: 137791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	9.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137792 137793

Parameter	Units	2619806001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1
Sulfate	mg/L	243	10	10	202	202	-408	-409	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 137794

Parameter	Units	2619806002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	219	10	184	-348	90-110	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

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

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond Huffaker
Pace Project No.: 2619847

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619847001	**GWC-20**	EPA 300.0	30603		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax
Requested Due Date:	2-day TAT

Section B — Required Project Information:

Report To:	Joju Abraham, Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10382775
Project Name:	Plant Hammond Resample
Project #:	GW1658

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	GWC-20	WT	G	6/18/19	13:45	6/18/19	14:05	19	1	1														X		N
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

DA @ 6/18/19

WO# : 2619847

2619847

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Dalton Anderson (Geo)	6/18/19	18:00	Mollie Mayburn (Geosyntec)	6/18/19	18:00	
	Mollie Mayburn (Geosyntec)	6/19/19	08:30	Pace	6.19.19	0850	
				Malmann	6/19/19	0950	2.0 / Y / Y / Y

SAMPLER NAME AND SIGNATURE:

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: DATE Signed: 6/18/19

SAMPLE CONDITIONS: TEMP in C; Received on Ice (Y/N); Custody Sealed Cooler (Y/N); Samples Intact (Y/N)

Sample Condition Upon Receipt

Face Analytical

Client Name: GA Power Project #

WO#: 2619847

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

PM: BM Due Date: 06/21/19

Tracking #:

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

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

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.0 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C Comments:

Date and Initials of person examining contents: 6/19/19 MB

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 48 hr. TAT.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date:

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 21, 2019

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

RE: Project: Plant Hammond Huffaker
Pace Project No.: 2619851

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619851001	**GWC-8**	Water	06/18/19 13:46	06/19/19 09:50

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619851001	**GWC-8**	EPA 6020B	CSW	2

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

Sample: GWC-8 **Lab ID: 2619851001** Collected: 06/18/19 13:46 Received: 06/19/19 09:50 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								
Barium	**0.17**	mg/L	0.010	0.00049	1	06/19/19 16:00	06/20/19 17:33	7440-39-3	
Calcium	**83.7**	mg/L	5.0	0.55	50	06/19/19 16:00	06/20/19 17:39	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

QC Batch: 30563 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2619851001

METHOD BLANK: 137554 Matrix: Water
Associated Lab Samples: 2619851001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.00049	06/20/19 15:52	
Calcium	mg/L	ND	0.10	0.011	06/20/19 15:52	

LABORATORY CONTROL SAMPLE: 137555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.1	0.10	100	80-120	
Calcium	mg/L	1	0.97	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 137556 137557

Parameter	Units	2619848002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.051	0.1	0.1	0.15	0.15	101	103	75-125	1	20	
Calcium	mg/L	76.5	1	1	78.8	76.5	235	2	75-125	3	20	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond Huffaker
Pace Project No.: 2619851

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619851001	**GWC-8**	EPA 3005A	30563	EPA 6020B	30597

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 2

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax
Requested Due Date:	2-day TAT

Section B — Required Project Information:

Report To:	Joju Abraham, Lauren Petty
Copy To:	Geosyntec
Purchase Order #:	SCS10382775
Project Name:	Plant Hammond Resample
Project #:	GW658]

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	GWC-8	WT	G	06/18	13:41	06/18	13:46	19	1			1							X		X					N
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

GW 06/18/19

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

WO# : 2619851

2619851

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Grant Walter / Geosyntec	06/18/19	16:15	Dalton Anderson (Geo)	06/18/19	16:15	
	Dalton Anderson (Geo)	06/18/19	18:00	Madia Mladan (Geosyntec	06/18/19	18:00	
	Madia Mladan (Geosyntec)	6/19/19	08:50	Pace	6.19.19	0850	
				M Zalman	6/19/19	0952:0	

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Grant Walter			Y	Y	Y
SIGNATURE of SAMPLER:	Grant Walter	DATE Signed: 06/18/19				

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project #

WO#: 2619851

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

Tracking #:

PM: BM Due Date: 06/21/19

CLIENT: GAPower-CCR

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐

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

Thermometer Used 83 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 2.0 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 6/19/19 MA

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 48 hr. TAT.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: **Date:**

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

June 24, 2019

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

RE: Project: Plant Hammond Huffaker
Pace Project No.: 2619925

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2619925001	**GWC-6**	Water	06/19/19 10:32	06/20/19 09:13

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2619925001	**GWC-6**	EPA 300.0	RLC	1

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

Sample: GWC-6 **Lab ID: 2619925001** Collected: 06/19/19 10:32 Received: 06/20/19 09:13 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								
Sulfate	**108**	mg/L	10.0	0.17	10		06/24/19 13:19	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

QC Batch: 30672 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2619925001

METHOD BLANK: 138079 Matrix: Water
Associated Lab Samples: 2619925001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	0.017	06/21/19 20:59	

LABORATORY CONTROL SAMPLE: 138080

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	9.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 138081 138082

Parameter	Units	2619925001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	108	10	10	108	108	-2	-2	90-110	0	15	E,M1

MATRIX SPIKE SAMPLE: 138083

Parameter	Units	2619839001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	1290	20	1240	-267	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

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

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond Huffaker
Pace Project No.: 2619925

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2619925001	**GWC-6**	EPA 300.0	30672		

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham, Lauren Petty	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond Resample	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	2-day TAT	Project #:	GWC6561	Pace Profile #:	327 (AP) or 328 (Huff)

Site / Regulatory Agency: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	Barium	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)
1	GWC-6	WT	G	6/19/19	10:25	6/19/19	10:32	19	1	1														X		N
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

6/19/19

DA

WO# : 2619925

2619925

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Dalton Anderson (Geo)	6/20/19	8:15	M. RAHMAN	6/20/19	0815	
				MRahman	6/20/19	0913	

SAMPLER NAME AND SIGNATURE				TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Dalton Anderson			2.0	Y	Y	Y
SIGNATURE of SAMPLER:		DATE Signed:	6/19/19				

Sample Condition Upon Receipt

Pace Analytical

Client Name: GA Power Project #: _____

WO#: 2619925

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

Tracking #: _____

PM: BM Due Date: 06/24/19

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes

CLIENT: GAPower-CCR

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

Thermometer Used: 83 Type of Ice: ~~Wet~~ Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature: 2.0 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/20/19 MR

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☑Yes	☐No	☐N/A	7. 48hr. TAT.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

July 02, 2019

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

RE: Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2620281001	**GWC-8**	Water	06/27/19 14:11	06/28/19 12:20
2620281002	**GWC-20**	Water	06/27/19 12:56	06/28/19 12:20

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2620281001	**GWC-8**	EPA 6020B	CSW, KLH	2
2620281002	**GWC-20**	EPA 300.0	MWB	1

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Sample: GWC-8 **Lab ID: 2620281001** Collected: 06/27/19 14:11 Received: 06/28/19 12:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Barium	**0.14**	mg/L	0.010	0.00049	1	07/01/19 14:35	07/01/19 18:27	7440-39-3	
Calcium	**75.9**	mg/L	1.0	0.11	10	07/01/19 14:35	07/02/19 14:27	7440-70-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Sample: GWC-20 **Lab ID: 2620281002** Collected: 06/27/19 12:56 Received: 06/28/19 12:20 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								
Sulfate	**46.0**	mg/L	1.0	0.017	1		06/29/19 06:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

QC Batch: 31193 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2620281001

METHOD BLANK: 140431 Matrix: Water
Associated Lab Samples: 2620281001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	mg/L	ND	0.010	0.00049	07/01/19 18:10	
Calcium	mg/L	ND	0.10	0.011	07/01/19 18:10	

LABORATORY CONTROL SAMPLE: 140432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	0.1	0.098	98	80-120	
Calcium	mg/L	1	0.96	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 140433 140434

Parameter	Units	2620281001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.14	0.1	0.1	0.25	0.26	114	120	75-125	2	20	
Calcium	mg/L	75.9	1	1	77.2	78.0	129	214	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

QC Batch: 31128 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2620281002

METHOD BLANK: 140175 Matrix: Water
Associated Lab Samples: 2620281002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	0.023J	1.0	0.017	06/28/19 23:35	

LABORATORY CONTROL SAMPLE: 140176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	10.1	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 140177 140178

Parameter	Units	2620136001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	17.6	10	10	28.3	27.9	107	103	90-110	1	15	

MATRIX SPIKE SAMPLE: 140179

Parameter	Units	2620136002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.5	10	27.4	99	90-110	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581B
Pace Project No.: 2620281

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2620281001	**GWC-8**	EPA 3005A	31193	EPA 6020B	31202
2620281002	**GWC-20**	EPA 300.0	31128		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	
Address:	2480 Maner Road	Copy To:		Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:		Pace Quote:	
Phone:	(404)506-7239 Fax	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	2 day TAT	Project #:	GW1858IB	Pace Profile #:	327 (AP) or 328 (Huff)

Regulatory Agency: | State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): EPA 6020 Molybdenum	EPA 6020 Barium and Calciu	EPA 300.0 Sulfate	Residual Chlorine (Y/N)	
MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																								
1	GWC-8	WT	G	6/27/19	14:09	6/27/19	14:11	19	1			1								X		N	.1
2	GWC-20	WT	G	6/27/19	12:54	6/27/19	12:56	19	1	1										X		N	.2
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

DA 6/27/19

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Dalton Anderson (GPC)	6/28/19	11:07	Pace	6.28.19	1107	4.1	Y	Y	Y
				Charles Hunter	6/28/19	1320				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Anderson

SIGNATURE of SAMPLER: DATE Signed: 6/27/19

WO# : 2620281

2620281

Pace Analytical

Sample Condition Upon Receipt

WO#: 2620281

PM: BM Due Date: 07/02/19

CLIENT: GAPower-CCR

Client Name: GA Power

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

Tracking #: _____

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

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

Thermometer Used 082 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.1°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 6/28/19 CA

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 48hr TAT
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

December 17, 2019

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

RE: Project: Plant Hammond GW6581
Pace Project No.: 2623793

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 01, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

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, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623793001	**GWA-2**	Water	09/30/19 14:40	10/01/19 12:05
2623793002	**GWA-1**	Water	09/30/19 11:40	10/01/19 12:05
2623793003	**GWA-3**	Water	09/30/19 14:59	10/01/19 12:05
2623793004	**GWA-4**	Water	09/30/19 16:08	10/01/19 12:05
2623793005	**GWA-11**	Water	09/30/19 16:45	10/01/19 12:05

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2623793001	**GWA-2**	EPA 6020B	CSW	17
		SM 2540C	ALW	1
		EPA 300.0	MWB	3
2623793002	**GWA-1**	EPA 6020B	CSW	17
		SM 2540C	ALW	1
		EPA 300.0	MWB	3
2623793003	**GWA-3**	EPA 6020B	CSW	17
		SM 2540C	ALW	1
		EPA 300.0	MWB	3
2623793004	**GWA-4**	EPA 6020B	CSW	17
		SM 2540C	ALW	1
		EPA 300.0	MWB	3
2623793005	**GWA-11**	EPA 6020B	CSW	17
		SM 2540C	ALW	1
		EPA 300.0	MWB	3

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Sample: GWA-2 **Lab ID: 2623793001** Collected: 09/30/19 14:40 Received: 10/01/19 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/03/19 17:28	10/05/19 17:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 17:08	7440-38-2	
Barium	**0.17**	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 17:08	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 17:08	7440-41-7	
Boron	**0.084**	mg/L	0.040	0.0049	1	10/03/19 17:28	10/07/19 14:59	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 17:08	7440-43-9	
Calcium	**44.6**	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 17:14	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 17:08	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 17:08	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/03/19 17:28	10/05/19 17:08	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 17:08	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/03/19 17:28	10/05/19 17:08	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 17:08	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/03/19 17:28	10/05/19 17:08	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 17:08	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/03/19 17:28	10/05/19 17:08	7440-62-2	
Zinc	**0.0043J**	mg/L	0.010	0.0015	1	10/03/19 17:28	10/05/19 17:08	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**242**	mg/L	10.0	10.0	1		10/04/19 20:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**3.0**	mg/L	1.0	0.024	1		10/09/19 01:48	16887-00-6	
Fluoride	**0.14J**	mg/L	0.30	0.029	1		10/09/19 01:48	16984-48-8	
Sulfate	**17.5**	mg/L	1.0	0.017	1		10/09/19 01:48	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Sample: GWA-1 **Lab ID: 2623793002** Collected: 09/30/19 11:40 Received: 10/01/19 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/03/19 17:28	10/05/19 17:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 17:20	7440-38-2	
Barium	**0.042**	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 17:20	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 17:20	7440-41-7	
Boron	**0.025J**	mg/L	0.040	0.0049	1	10/03/19 17:28	10/05/19 17:20	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 17:20	7440-43-9	
Calcium	**17.6**	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 17:25	7440-70-2	M6
Chromium	ND	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 17:20	7440-47-3	
Cobalt	**0.00042J**	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 17:20	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/03/19 17:28	10/05/19 17:20	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 17:20	7439-92-1	
Nickel	**0.00037J**	mg/L	0.010	0.00031	1	10/03/19 17:28	10/05/19 17:20	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 17:20	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/03/19 17:28	10/05/19 17:20	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 17:20	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/03/19 17:28	10/05/19 17:20	7440-62-2	
Zinc	**0.0032J**	mg/L	0.010	0.0015	1	10/03/19 17:28	10/05/19 17:20	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**126**	mg/L	10.0	10.0	1		10/04/19 20:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.4**	mg/L	1.0	0.024	1		10/09/19 02:09	16887-00-6	
Fluoride	**0.11J**	mg/L	0.30	0.029	1		10/09/19 02:09	16984-48-8	
Sulfate	**4.9**	mg/L	1.0	0.017	1		10/09/19 02:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Sample: GWA-3 **Lab ID: 2623793003** Collected: 09/30/19 14:59 Received: 10/01/19 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/03/19 17:28	10/05/19 18:11	7440-36-0	
Arsenic	**0.00058J**	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 18:11	7440-38-2	
Barium	**0.14**	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 18:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 18:11	7440-41-7	
Boron	**0.17**	mg/L	0.040	0.0049	1	10/03/19 17:28	10/07/19 15:05	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 18:11	7440-43-9	
Calcium	**74.7**	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 18:17	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 18:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 18:11	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/03/19 17:28	10/05/19 18:11	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 18:11	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/03/19 17:28	10/05/19 18:11	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 18:11	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/03/19 17:28	10/05/19 18:11	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 18:11	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/03/19 17:28	10/05/19 18:11	7440-62-2	
Zinc	**0.0045J**	mg/L	0.010	0.0015	1	10/03/19 17:28	10/05/19 18:11	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**475**	mg/L	10.0	10.0	1		10/04/19 20:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**4.1**	mg/L	1.0	0.024	1		10/09/19 02:29	16887-00-6	
Fluoride	**0.15J**	mg/L	0.30	0.029	1		10/09/19 02:29	16984-48-8	
Sulfate	**118**	mg/L	10.0	0.17	10		10/08/19 15:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Sample: GWA-4 **Lab ID: 2623793004** Collected: 09/30/19 16:08 Received: 10/01/19 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/03/19 17:28	10/05/19 18:23	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 18:23	7440-38-2	
Barium	**0.051**	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 18:23	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 18:23	7440-41-7	
Boron	**0.11**	mg/L	0.040	0.0049	1	10/03/19 17:28	10/07/19 15:10	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 18:23	7440-43-9	
Calcium	**78.3**	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 18:28	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 18:23	7440-47-3	
Cobalt	**0.00079J**	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 18:23	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/03/19 17:28	10/05/19 18:23	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 18:23	7439-92-1	
Nickel	**0.0013J**	mg/L	0.010	0.00031	1	10/03/19 17:28	10/05/19 18:23	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 18:23	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/03/19 17:28	10/05/19 18:23	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 18:23	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/03/19 17:28	10/05/19 18:23	7440-62-2	
Zinc	**0.0059J**	mg/L	0.010	0.0015	1	10/03/19 17:28	10/05/19 18:23	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**455**	mg/L	10.0	10.0	1		10/04/19 20:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**7.5**	mg/L	1.0	0.024	1		10/09/19 02:50	16887-00-6	
Fluoride	**0.17J**	mg/L	0.30	0.029	1		10/09/19 02:50	16984-48-8	
Sulfate	**117**	mg/L	10.0	0.17	10		10/08/19 15:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Sample: GWA-11 **Lab ID: 2623793005** Collected: 09/30/19 16:45 Received: 10/01/19 12:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/03/19 17:28	10/05/19 18:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/03/19 17:28	10/05/19 18:34	7440-38-2	
Barium	**0.030**	mg/L	0.010	0.00049	1	10/03/19 17:28	10/05/19 18:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/03/19 17:28	10/05/19 18:34	7440-41-7	
Boron	**0.039J**	mg/L	0.040	0.0049	1	10/03/19 17:28	10/05/19 18:34	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/03/19 17:28	10/05/19 18:34	7440-43-9	
Calcium	**19.6**	mg/L	5.0	0.55	50	10/03/19 17:28	10/05/19 18:40	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/03/19 17:28	10/05/19 18:34	7440-47-3	
Cobalt	**0.00054J**	mg/L	0.0050	0.00030	1	10/03/19 17:28	10/05/19 18:34	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/03/19 17:28	10/05/19 18:34	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/03/19 17:28	10/05/19 18:34	7439-92-1	
Nickel	**0.0017J**	mg/L	0.010	0.00031	1	10/03/19 17:28	10/05/19 18:34	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/03/19 17:28	10/05/19 18:34	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/03/19 17:28	10/05/19 18:34	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/03/19 17:28	10/05/19 18:34	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/03/19 17:28	10/05/19 18:34	7440-62-2	
Zinc	**0.0040J**	mg/L	0.010	0.0015	1	10/03/19 17:28	10/05/19 18:34	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**134**	mg/L	10.0	10.0	1		10/04/19 20:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Chloride	**1.5**	mg/L	1.0	0.024	1		10/09/19 03:11	16887-00-6	
Fluoride	**0.099J**	mg/L	0.30	0.029	1		10/09/19 03:11	16984-48-8	
Sulfate	**11.5**	mg/L	1.0	0.017	1		10/09/19 03:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond GW6581
Pace Project No.: 2623793

QC Batch: 36434 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2623793001, 2623793002, 2623793003, 2623793004, 2623793005

METHOD BLANK: 164547 Matrix: Water
Associated Lab Samples: 2623793001, 2623793002, 2623793003, 2623793004, 2623793005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	10/05/19 14:53	
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	
Copper	mg/L	ND	0.025	0.00019	10/05/19 14:53	
Lead	mg/L	ND	0.0050	0.000046	10/05/19 14:53	
Nickel	mg/L	ND	0.010	0.00031	10/05/19 14:53	
Selenium	mg/L	ND	0.010	0.0013	10/05/19 14:53	
Silver	mg/L	ND	0.010	0.00028	10/05/19 14:53	
Thallium	mg/L	ND	0.0010	0.000052	10/05/19 14:53	
Vanadium	mg/L	ND	0.010	0.00071	10/05/19 14:53	
Zinc	mg/L	0.013	0.010	0.0015	10/05/19 14:53	

LABORATORY CONTROL SAMPLE: 164548

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	0.10	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	
Copper	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Nickel	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.099	99	80-120	
Silver	mg/L	0.1	0.10	103	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	
Vanadium	mg/L	0.1	0.099	99	80-120	
Zinc	mg/L	0.1	0.11	109	80-120	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
Pace Project No.: 2623793

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164549 164550

Parameter	Units	2623793002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.098	102	98	75-125	4	20	
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	
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	
Copper	mg/L	ND	0.1	0.1	0.10	0.099	104	99	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20	
Nickel	mg/L	0.00037J	0.1	0.1	0.11	0.098	105	98	75-125	7	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.098	101	98	75-125	4	20	
Silver	mg/L	ND	0.1	0.1	0.10	0.10	104	101	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	104	100	75-125	4	20	
Vanadium	mg/L	ND	0.1	0.1	0.11	0.10	106	100	75-125	5	20	
Zinc	mg/L	0.0032J	0.1	0.1	0.11	0.10	103	98	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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant Hammond GW6581
Pace Project No.: 2623793

QC Batch: 36519 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2623793001, 2623793002, 2623793003, 2623793004, 2623793005

LABORATORY CONTROL SAMPLE: 165036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	409	102	84-108	

SAMPLE DUPLICATE: 165037

Parameter	Units	2623748003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	442	458	4	10	

SAMPLE DUPLICATE: 165038

Parameter	Units	2623793003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	475	497	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond GW6581
Pace Project No.: 2623793

QC Batch: 36584 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2623793001, 2623793002, 2623793003, 2623793004, 2623793005

METHOD BLANK: 165271 Matrix: Water
Associated Lab Samples: 2623793001, 2623793002, 2623793003, 2623793004, 2623793005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.030J	1.0	0.024	10/09/19 00:04	
Fluoride	mg/L	ND	0.30	0.029	10/09/19 00:04	
Sulfate	mg/L	ND	1.0	0.017	10/09/19 00:04	

LABORATORY CONTROL SAMPLE: 165272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	10	10.4	104	90-110	
Fluoride	mg/L	10	10.7	107	90-110	
Sulfate	mg/L	10	10.4	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165273 165274

Parameter	Units	2623792001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	45.9J	1000	1000	1090	1100	105	105	90-110	1	15	
Fluoride	mg/L	3.2J	1000	1000	1090	1100	109	109	90-110	1	15	
Sulfate	mg/L	880	1000	1000	1860	1860	98	98	90-110	0	15	

MATRIX SPIKE SAMPLE: 165275

Parameter	Units	2623793001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	3.0	10	13.4	103	90-110	
Fluoride	mg/L	0.14J	10	10.9	108	90-110	
Sulfate	mg/L	17.5	10	26.4	89	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond GW6581
Pace Project No.: 2623793

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.
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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond GW6581
Pace Project No.: 2623793

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623793001	**GWA-2**	EPA 3005A	36434	EPA 6020B	36455
2623793002	**GWA-1**	EPA 3005A	36434	EPA 6020B	36455
2623793003	**GWA-3**	EPA 3005A	36434	EPA 6020B	36455
2623793004	**GWA-4**	EPA 3005A	36434	EPA 6020B	36455
2623793005	**GWA-11**	EPA 3005A	36434	EPA 6020B	36455
2623793001	**GWA-2**	SM 2540C	36519		
2623793002	**GWA-1**	SM 2540C	36519		
2623793003	**GWA-3**	SM 2540C	36519		
2623793004	**GWA-4**	SM 2540C	36519		
2623793005	**GWA-11**	SM 2540C	36519		
2623793001	**GWA-2**	EPA 300.0	36584		
2623793002	**GWA-1**	EPA 300.0	36584		
2623793003	**GWA-3**	EPA 300.0	36584		
2623793004	**GWA-4**	EPA 300.0	36584		
2623793005	**GWA-11**	EPA 300.0	36584		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 (Huff)

Regulatory Agency: —

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4	Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	Y/N	N	N	N	N	N	N	N		
1	GWA-2	GW	G	9/30	1430	9/30	1440	23	2	1		1							Y	Y	Y	Y	Y	Y	Y	N	1
2	GWA-1	GW	G	9/30	1626	9/30	1640	20	2	1		1							Y	Y	Y	Y	Y	Y	Y	N	2
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

@ 9/30

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Chad Russo geo	9/30	1900	Pascal Raymond Pace	10/1/19	10:30				
				Charles Hamby	10/1/19	1205	5.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed: 9/30/19

WO# : 2623793

2623793

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 (Huff)

Regulatory Agency:

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4					Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	N	N	N	N	N	N	N							
1	GWA-3	GW	G	9/30/19	14:51	9/30/19	14:59		2	1		1						Y	Y	Y	Y	Y	Y	Y						N	3
2	GWA-4	WT	G	9/30/19	15:59	9/30/19	16:08	23.4	2	1		1						Y	Y	Y	Y	Y	Y	Y						N	4
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

09-30-2019

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Dan Gibbs / Geosyntec	9/30/19	1725	Rad Russo geo	9/30	1725				
	Rad Russo geo	9/30	1900	PASCAL Raymond Pace	10/1/19	10:30				
				Charles Hunter	10/1/19	1205	5.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAN GIBBS

SIGNATURE of SAMPLER:

DATE Signed: 09-30-2019

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

WO#: 2623793

PM: BM Due Date: 10/08/19

CLIENT: GAPower-CCR

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	Standard TAT

Section B
Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10382775
Project Name:	Plant Hammond
Project #:	GW6581

Section C
Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	328 (Huff)

Regulatory Agency	
State / Location	GA

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4						Residual Chlorine (Y/N)	
Requested Analysis Filtered (Y/N)																		Y/N	N	N	N	N	N	N	N							
1	GWA-11	WT	G	9/30/19	1640	9/30/19	1645	19	2	1		1							Y	Y	Y	Y	Y	Y	Y						N	5
2																																
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

NM 09/30/19

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Noelia Muskus / Geosyntec	9/30/19	1725	Chad Russo geo	9/30	1725				
	Chad Russo geo	9/30	1900	PASCIAL Raymond Pace	10/1/19	10:30				
				Charles [illegible]	10/1/19	1205	5.1	Y	Y	X
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Noelia Muskus

SIGNATURE of SAMPLER: [illegible signature] DATE Signed: 9/30/19

WO#: 2623793
PM: BM Due Date: 10/08/19
CLIENT: GAPower-CCR

Pace Analytical

Sample Condition Upon Receipt

WO# : 2623793

Client Name: GAPower CCR

PM: BM **Due Date: 10/08/19**

CLIENT: GAPower-CCR

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

Tracking #: _____

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☑ yes ☐ no

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

Thermometer Used 214 **Type of Ice:** (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5 | 1°C **Biological Tissue is Frozen:** Yes No

Date and Initials of person examining contents: 10/11 CDH

Temp should be above freezing to 6°C **Comments:**

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

December 17, 2019

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

RE: Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623872001	**FB-03**	Water	10/01/19 17:00	10/02/19 13:32
2623872002	**EB-03**	Water	10/01/19 17:08	10/02/19 13:32

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623872001	**FB-03**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
2623872002	**EB-03**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Sample: FB-03 **Lab ID: 2623872001** Collected: 10/01/19 17:00 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 19:21	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 19:21	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 19:21	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 19:21	7440-41-7	
Boron	**0.011J**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 19:21	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 19:21	7440-43-9	
Calcium	ND	mg/L	0.10	0.011	1	10/04/19 14:03	10/07/19 19:21	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 19:21	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 19:21	7440-48-4	
Copper	**0.00036J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 19:21	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 19:21	7439-92-1	
Nickel	**0.00053J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 19:21	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 19:21	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 19:21	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 19:21	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 19:21	7440-62-2	
Zinc	**0.0056J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 19:21	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/07/19 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	ND	mg/L	1.0	0.60	1		10/12/19 16:44	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/12/19 16:44	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/12/19 16:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Sample: EB-03 **Lab ID: 2623872002** Collected: 10/01/19 17:08 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 19:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 19:27	7440-38-2	
Barium	ND	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 19:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 19:27	7440-41-7	
Boron	ND	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 19:27	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 19:27	7440-43-9	
Calcium	**0.016J**	mg/L	0.10	0.011	1	10/04/19 14:03	10/07/19 19:27	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 19:27	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 19:27	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 19:27	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 19:27	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 19:27	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 19:27	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 19:27	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 19:27	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 19:27	7440-62-2	
Zinc	**0.0059J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 19:27	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**11.0**	mg/L	10.0	10.0	1		10/07/19 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	ND	mg/L	1.0	0.60	1		10/12/19 16:58	16887-00-6	
Fluoride	ND	mg/L	0.30	0.050	1		10/12/19 16:58	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/12/19 16:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

QC Batch: 36492 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2623872001, 2623872002

METHOD BLANK: 164870 Matrix: Water
Associated Lab Samples: 2623872001, 2623872002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	10/07/19 17:47	
Arsenic	mg/L	ND	0.0050	0.00035	10/07/19 17:47	
Barium	mg/L	ND	0.010	0.00049	10/07/19 17:47	
Beryllium	mg/L	ND	0.0030	0.000074	10/07/19 17:47	
Boron	mg/L	ND	0.040	0.0049	10/07/19 17:47	
Cadmium	mg/L	ND	0.0025	0.00011	10/07/19 17:47	
Calcium	mg/L	ND	0.10	0.011	10/07/19 17:47	
Chromium	mg/L	ND	0.010	0.00039	10/07/19 17:47	
Cobalt	mg/L	ND	0.0050	0.00030	10/07/19 17:47	
Copper	mg/L	ND	0.025	0.00019	10/07/19 17:47	
Lead	mg/L	ND	0.0050	0.000046	10/07/19 17:47	
Nickel	mg/L	ND	0.010	0.00031	10/07/19 17:47	
Selenium	mg/L	ND	0.010	0.0013	10/07/19 17:47	
Silver	mg/L	ND	0.010	0.00028	10/07/19 17:47	
Thallium	mg/L	ND	0.0010	0.000052	10/07/19 17:47	
Vanadium	mg/L	ND	0.010	0.00071	10/07/19 17:47	
Zinc	mg/L	0.0047J	0.010	0.0015	10/07/19 17:47	

LABORATORY CONTROL SAMPLE: 164871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.098	98	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	1.0	101	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Calcium	mg/L	1	0.97	97	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Copper	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Nickel	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Silver	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	
Vanadium	mg/L	0.1	0.098	98	80-120	
Zinc	mg/L	0.1	0.10	104	80-120	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164872 164873

Parameter	Units	2623808004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Arsenic	mg/L	0.00063J	0.1	0.1	0.097	0.10	96	101	75-125	5	20	
Barium	mg/L	0.035	0.1	0.1	0.14	0.15	108	110	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	2	20	
Boron	mg/L	0.048	1	1	1.0	1.0	99	99	75-125	0	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.097	97	97	75-125	1	20	
Calcium	mg/L	41.5	1	1	42.5	41.7	98	25	75-125	2	20	M6
Chromium	mg/L	0.00072J	0.1	0.1	0.097	0.10	96	100	75-125	4	20	
Cobalt	mg/L	0.00049J	0.1	0.1	0.095	0.10	94	99	75-125	5	20	
Copper	mg/L	0.00070J	0.1	0.1	0.096	0.10	95	99	75-125	3	20	
Lead	mg/L	0.000066J	0.1	0.1	0.094	0.096	94	96	75-125	3	20	
Nickel	mg/L	0.0011J	0.1	0.1	0.098	0.10	97	100	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Silver	mg/L	ND	0.1	0.1	0.095	0.098	95	98	75-125	2	20	
Thallium	mg/L	0.000086J	0.1	0.1	0.096	0.099	96	99	75-125	3	20	
Vanadium	mg/L	ND	0.1	0.1	0.097	0.10	97	100	75-125	3	20	
Zinc	mg/L	0.0046J	0.1	0.1	0.10	0.10	95	99	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

QC Batch: 36551 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2623872001, 2623872002

LABORATORY CONTROL SAMPLE: 165142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	415	104	84-108	

SAMPLE DUPLICATE: 165144

Parameter	Units	2623873005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	277	277	0	10	

SAMPLE DUPLICATE: 165154

Parameter	Units	2623872002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11.0	12.0	9	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

QC Batch: 503241
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2623872001, 2623872002

METHOD BLANK: 2705166 Matrix: Water
Associated Lab Samples: 2623872001, 2623872002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/12/19 15:31	
Fluoride	mg/L	ND	0.10	0.050	10/12/19 15:31	
Sulfate	mg/L	ND	1.0	0.50	10/12/19 15:31	

LABORATORY CONTROL SAMPLE: 2705167

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.1	100	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	50	50.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705168 2705169

Parameter	Units	2624007001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	150	50	50	189	191	78	83	90-110	1	10	M1
Fluoride	mg/L	1.1	2.5	2.5	3.4	3.3	94	88	90-110	4	10	M1
Sulfate	mg/L	13.6	50	50	62.1	58.4	97	90	90-110	6	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705170 2705171

Parameter	Units	92449004022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.2	50	50	61.3	61.5	104	105	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	3.1	3.2	124	126	90-110	1	10	M1
Sulfate	mg/L	466	50	50	501	506	70	79	90-110	1	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond -Huffaker GW6581
Pace Project No.: 2623872

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623872001	**FB-03**	EPA 3005A	36492	EPA 6020B	36507
2623872002	**EB-03**	EPA 3005A	36492	EPA 6020B	36507
2623872001	**FB-03**	SM 2540C	36551		
2623872002	**EB-03**	SM 2540C	36551		
2623872001	**FB-03**	EPA 300.0 Rev 2.1 1993	503241		
2623872002	**EB-03**	EPA 300.0 Rev 2.1 1993	503241		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
	Atlanta, GA 30339			Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 (Huff)

Regulatory Agency: —

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4	Residual Chlorine (Y/N)
																		N	N	N	N	N	N	N		
1	FB-03	WT	G	10-1-19	16:58	10-1-19	17:00	25	2	1		1						Y	Y	Y	Y	Y	Y	Y		N
2	EB-03	WT	G	10-1-19	17:05	10-1-19	17:09	25	2	1		1						Y	Y	Y	Y	Y	Y	Y		N
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

10-01-2019

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Dan Gibbs / Geosyntec	10-1-19	16:30	Yorlin Martinez / Geosyntec	10/01/19	16:30				
	Yorlin Martinez / Geosyntec	10/2/19	11:30	Pace	10.2.19	1130				
	Pace	10.2.19	1332	Chandra Hardy	10/2/19	1332	1.8	X	X	X

WO#: 2623872

2623872

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dan Gibbs

SIGNATURE of SAMPLER:

DATE Signed: 10-1-2019

Pace Analytical

Sample Condition Upon Receipt

WO# : 2623872

Client Name: GA Power CCR

PM: BM Due Date: 10/09/19

CLIENT: GAPower-CCR

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

Proj. Due Date:
Proj. Name:

Tracking #: _____

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

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

Thermometer Used 214 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.8°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/2/19 CDH

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.	
Sufficient Volume:	☑Yes ☐No ☐N/A	8.	
Correct Containers Used:	☑Yes ☐No ☐N/A	9.	
-Pace Containers Used:	☑Yes ☐No ☐N/A		
Containers Intact:	☑Yes ☐No ☐N/A	10.	
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.	
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix: W			
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.	
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.	
Trip Blank Present:	☐Yes ☐No ☑N/A	16.	
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A		
Pace Trip Blank Lot # (if purchased): _____			

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

December 17, 2019

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

RE: Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

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

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2623873001	**GWC-5**	Water	10/01/19 09:45	10/02/19 13:32
2623873002	**GWC-6**	Water	10/01/19 11:20	10/02/19 13:32
2623873003	**GWC-8**	Water	10/01/19 13:10	10/02/19 13:32
2623873004	**FD-03**	Water	10/01/19 13:20	10/02/19 13:32
2623873005	**GWC-7**	Water	10/01/19 15:00	10/02/19 13:32
2623873006	**GWC-10**	Water	10/01/19 10:04	10/02/19 13:32
2623873007	**GWC-22**	Water	10/01/19 11:09	10/02/19 13:32
2623873008	**GWC-21**	Water	10/01/19 12:05	10/02/19 13:32
2623873009	**GWC-20**	Water	10/01/19 13:15	10/02/19 13:32
2623873010	**GWC-19**	Water	10/01/19 14:12	10/02/19 13:32
2623873011	**GWC-18**	Water	10/01/19 15:13	10/02/19 13:32
2623873012	**GWC-23**	Water	10/01/19 11:47	10/02/19 13:32
2623873013	**GWC-9**	Water	10/01/19 14:01	10/02/19 13:32

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2623873001	**GWC-5**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873002	**GWC-6**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873003	**GWC-8**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873004	**FD-03**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873005	**GWC-7**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873006	**GWC-10**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873007	**GWC-22**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873008	**GWC-21**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873009	**GWC-20**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873010	**GWC-19**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873011	**GWC-18**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873012	**GWC-23**	EPA 6020B	CSW	17	PASI-GA
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
2623873013	**GWC-9**	EPA 6020B	CSW	17	PASI-GA

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SAMPLE ANALYTE COUNT

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	ALW	1	PASI-GA
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-5 **Lab ID: 2623873001** Collected: 10/01/19 09:45 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 19:33	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 19:33	7440-38-2	
Barium	**0.090**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 19:33	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 19:33	7440-41-7	
Boron	**0.071**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 19:33	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 19:33	7440-43-9	
Calcium	**70.6**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 19:38	7440-70-2	
Chromium	**0.0012J**	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 19:33	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 19:33	7440-48-4	
Copper	**0.00031J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 19:33	7440-50-8	
Lead	**0.000065J**	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 19:33	7439-92-1	
Nickel	**0.00088J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 19:33	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 19:33	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 19:33	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 19:33	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 19:33	7440-62-2	
Zinc	**0.0053J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 19:33	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**380**	mg/L	10.0	10.0	1		10/07/19 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**2.2**	mg/L	1.0	0.60	1		10/15/19 20:20	16887-00-6	
Fluoride	**0.064J**	mg/L	0.30	0.050	1		10/15/19 20:20	16984-48-8	
Sulfate	**68.1**	mg/L	1.0	0.50	1		10/15/19 20:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-6 **Lab ID: 2623873002** Collected: 10/01/19 11:20 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 19:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 19:56	7440-38-2	
Barium	**0.18**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 19:56	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 19:56	7440-41-7	
Boron	**0.042**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 19:56	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 19:56	7440-43-9	
Calcium	**64.2**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 20:01	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 19:56	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 19:56	7440-48-4	
Copper	**0.00023J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 19:56	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 19:56	7439-92-1	
Nickel	**0.00042J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 19:56	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 19:56	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 19:56	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 19:56	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 19:56	7440-62-2	
Zinc	**0.0056J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 19:56	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**348**	mg/L	10.0	10.0	1		10/07/19 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.6**	mg/L	1.0	0.60	1		10/15/19 20:36	16887-00-6	
Fluoride	**0.063J**	mg/L	0.30	0.050	1		10/15/19 20:36	16984-48-8	
Sulfate	**71.7**	mg/L	2.0	1.0	2		10/16/19 09:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-8 **Lab ID: 2623873003** Collected: 10/01/19 13:10 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 20:07	7440-36-0	
Arsenic	**0.0028J**	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 20:07	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 20:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 20:07	7440-41-7	
Boron	**0.046**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 20:07	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 20:07	7440-43-9	
Calcium	**64.0**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 20:13	7440-70-2	
Chromium	**0.00050J**	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 20:07	7440-47-3	
Cobalt	**0.00081J**	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 20:07	7440-48-4	
Copper	**0.00036J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 20:07	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 20:07	7439-92-1	
Nickel	**0.00063J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 20:07	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 20:07	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 20:07	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 20:07	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 20:07	7440-62-2	
Zinc	**0.0055J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 20:07	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**305**	mg/L	10.0	10.0	1		10/07/19 12:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.8**	mg/L	1.0	0.60	1		10/15/19 20:51	16887-00-6	
Fluoride	**0.13J**	mg/L	0.30	0.050	1		10/15/19 20:51	16984-48-8	
Sulfate	**47.1**	mg/L	1.0	0.50	1		10/15/19 20:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: FD-03 **Lab ID: 2623873004** Collected: 10/01/19 13:20 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 20:19	7440-36-0	
Arsenic	**0.0026J**	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 20:19	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 20:19	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 20:19	7440-41-7	
Boron	**0.046**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 20:19	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 20:19	7440-43-9	
Calcium	**67.4**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 20:24	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 20:19	7440-47-3	
Cobalt	**0.00076J**	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 20:19	7440-48-4	
Copper	**0.00020J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 20:19	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 20:19	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 20:19	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 20:19	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 20:19	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 20:19	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 20:19	7440-62-2	
Zinc	**0.0053J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 20:19	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**313**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.8**	mg/L	1.0	0.60	1		10/15/19 21:05	16887-00-6	
Fluoride	**0.13J**	mg/L	0.30	0.050	1		10/15/19 21:05	16984-48-8	
Sulfate	**47.0**	mg/L	1.0	0.50	1		10/15/19 21:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-7 **Lab ID: 2623873005** Collected: 10/01/19 15:00 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 20:30	7440-36-0	
Arsenic	**0.010**	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 20:30	7440-38-2	
Barium	**0.085**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 20:30	7440-39-3	
Beryllium	**0.00010J**	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 20:30	7440-41-7	
Boron	**0.050**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 20:30	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 20:30	7440-43-9	
Calcium	**28.5**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 20:36	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 20:30	7440-47-3	
Cobalt	**0.017**	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 20:30	7440-48-4	
Copper	**0.00034J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 20:30	7440-50-8	
Lead	**0.000050J**	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 20:30	7439-92-1	
Nickel	**0.070**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 20:30	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 20:30	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 20:30	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 20:30	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 20:30	7440-62-2	
Zinc	**0.12**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 20:30	7440-66-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**277**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.2**	mg/L	1.0	0.60	1		10/15/19 21:20	16887-00-6	
Fluoride	**0.16J**	mg/L	0.30	0.050	1		10/15/19 21:20	16984-48-8	
Sulfate	**120**	mg/L	3.0	1.5	3		10/16/19 09:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-10 **Lab ID: 2623873006** Collected: 10/01/19 10:04 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 20:41	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 20:41	7440-38-2	
Barium	**0.12**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 20:41	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 20:41	7440-41-7	
Boron	**0.031J**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 20:41	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 20:41	7440-43-9	
Calcium	**36.8**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 20:47	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 20:41	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 20:41	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 20:41	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 20:41	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 20:41	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 20:41	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 20:41	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 20:41	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 20:41	7440-62-2	
Zinc	**0.0049J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 20:41	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**186**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.5**	mg/L	1.0	0.60	1		10/15/19 21:35	16887-00-6	
Fluoride	**0.070J**	mg/L	0.30	0.050	1		10/15/19 21:35	16984-48-8	
Sulfate	**13.4**	mg/L	1.0	0.50	1		10/15/19 21:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-22 **Lab ID: 2623873007** Collected: 10/01/19 11:09 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 21:04	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 21:04	7440-38-2	
Barium	**0.10**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 21:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 21:04	7440-41-7	
Boron	**0.066**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 21:04	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 21:04	7440-43-9	
Calcium	**46.9**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 21:10	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 21:04	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 21:04	7440-48-4	
Copper	**0.00031J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 21:04	7440-50-8	
Lead	**0.00012J**	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 21:04	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 21:04	7440-02-0	
Selenium	**0.0014J**	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 21:04	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 21:04	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 21:04	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 21:04	7440-62-2	
Zinc	**0.0054J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 21:04	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**220**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.4**	mg/L	1.0	0.60	1		10/15/19 22:20	16887-00-6	
Fluoride	**0.079J**	mg/L	0.30	0.050	1		10/15/19 22:20	16984-48-8	
Sulfate	**1.9**	mg/L	1.0	0.50	1		10/15/19 22:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-21 **Lab ID: 2623873008** Collected: 10/01/19 12:05 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 21:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 21:16	7440-38-2	
Barium	**0.18**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 21:16	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 21:16	7440-41-7	
Boron	**0.059**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 21:16	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 21:16	7440-43-9	
Calcium	**82.8**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 21:22	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 21:16	7440-47-3	
Cobalt	**0.00046J**	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 21:16	7440-48-4	
Copper	**0.00084J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 21:16	7440-50-8	
Lead	**0.000075J**	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 21:16	7439-92-1	
Nickel	**0.0031J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 21:16	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 21:16	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 21:16	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 21:16	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 21:16	7440-62-2	
Zinc	**0.0078J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 21:16	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**336**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**2.0**	mg/L	1.0	0.60	1		10/15/19 22:35	16887-00-6	
Fluoride	**0.094J**	mg/L	0.30	0.050	1		10/15/19 22:35	16984-48-8	
Sulfate	**46.3**	mg/L	1.0	0.50	1		10/15/19 22:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-20 **Lab ID: 2623873009** Collected: 10/01/19 13:15 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 21:27	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 21:27	7440-38-2	
Barium	**0.14**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 21:27	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 21:27	7440-41-7	
Boron	**0.019J**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 21:27	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 21:27	7440-43-9	
Calcium	**59.1**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 21:33	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 21:27	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 21:27	7440-48-4	
Copper	**0.00023J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 21:27	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 21:27	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 21:27	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 21:27	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 21:27	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 21:27	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 21:27	7440-62-2	
Zinc	**0.0063J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 21:27	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**271**	mg/L	10.0	10.0	1		10/07/19 12:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.1**	mg/L	1.0	0.60	1		10/15/19 23:20	16887-00-6	
Fluoride	**0.069J**	mg/L	0.30	0.050	1		10/15/19 23:20	16984-48-8	
Sulfate	**52.3**	mg/L	1.0	0.50	1		10/15/19 23:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-19 **Lab ID: 2623873010** Collected: 10/01/19 14:12 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 21:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 21:39	7440-38-2	
Barium	**0.15**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 21:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 21:39	7440-41-7	
Boron	**0.17**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 21:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 21:39	7440-43-9	
Calcium	**42.3**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 21:44	7440-70-2	
Chromium	ND	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 21:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 21:39	7440-48-4	
Copper	**0.00019J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 21:39	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 21:39	7439-92-1	
Nickel	ND	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 21:39	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 21:39	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 21:39	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 21:39	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 21:39	7440-62-2	
Zinc	**0.0049J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 21:39	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**229**	mg/L	10.0	10.0	1		10/07/19 12:19		
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		10/15/19 23:35	16887-00-6	
Fluoride	**0.11J**	mg/L	0.30	0.050	1		10/15/19 23:35	16984-48-8	
Sulfate	**14.7**	mg/L	1.0	0.50	1		10/15/19 23:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-18 **Lab ID: 2623873011** Collected: 10/01/19 15:13 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 21:50	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 21:50	7440-38-2	
Barium	**0.082**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 21:50	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 21:50	7440-41-7	
Boron	**0.14**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 21:50	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 21:50	7440-43-9	
Calcium	**38.7**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 21:56	7440-70-2	
Chromium	**0.00086J**	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 21:50	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 21:50	7440-48-4	
Copper	**0.00037J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 21:50	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 21:50	7439-92-1	
Nickel	**0.0015J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 21:50	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 21:50	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 21:50	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 21:50	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 21:50	7440-62-2	
Zinc	**0.0060J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 21:50	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**196**	mg/L	10.0	10.0	1		10/07/19 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**0.94J**	mg/L	1.0	0.60	1		10/15/19 23:50	16887-00-6	
Fluoride	**0.11J**	mg/L	0.30	0.050	1		10/15/19 23:50	16984-48-8	
Sulfate	**8.9**	mg/L	1.0	0.50	1		10/15/19 23:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-23 **Lab ID: 2623873012** Collected: 10/01/19 11:47 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/04/19 14:03	10/07/19 22:13	7440-36-0	
Arsenic	**0.00082J**	mg/L	0.0050	0.00035	1	10/04/19 14:03	10/07/19 22:13	7440-38-2	
Barium	**0.082**	mg/L	0.010	0.00049	1	10/04/19 14:03	10/07/19 22:13	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/04/19 14:03	10/07/19 22:13	7440-41-7	
Boron	**0.024J**	mg/L	0.040	0.0049	1	10/04/19 14:03	10/07/19 22:13	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/04/19 14:03	10/07/19 22:13	7440-43-9	
Calcium	**39.1**	mg/L	5.0	0.55	50	10/04/19 14:03	10/07/19 22:19	7440-70-2	
Chromium	**0.0051J**	mg/L	0.010	0.00039	1	10/04/19 14:03	10/07/19 22:13	7440-47-3	
Cobalt	**0.00033J**	mg/L	0.0050	0.00030	1	10/04/19 14:03	10/07/19 22:13	7440-48-4	
Copper	**0.00083J**	mg/L	0.025	0.00019	1	10/04/19 14:03	10/07/19 22:13	7440-50-8	
Lead	**0.00022J**	mg/L	0.0050	0.000046	1	10/04/19 14:03	10/07/19 22:13	7439-92-1	
Nickel	**0.0035J**	mg/L	0.010	0.00031	1	10/04/19 14:03	10/07/19 22:13	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/04/19 14:03	10/07/19 22:13	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/04/19 14:03	10/07/19 22:13	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/04/19 14:03	10/07/19 22:13	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/04/19 14:03	10/07/19 22:13	7440-62-2	
Zinc	**0.0057J**	mg/L	0.010	0.0015	1	10/04/19 14:03	10/07/19 22:13	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**203**	mg/L	10.0	10.0	1		10/07/19 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**1.1**	mg/L	1.0	0.60	1		10/16/19 00:05	16887-00-6	
Fluoride	**0.079J**	mg/L	0.30	0.050	1		10/16/19 00:05	16984-48-8	
Sulfate	**5.8**	mg/L	1.0	0.50	1		10/16/19 00:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Sample: GWC-9 **Lab ID: 2623873013** Collected: 10/01/19 14:01 Received: 10/02/19 13:32 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Antimony	ND	mg/L	0.0030	0.00027	1	10/05/19 16:23	10/08/19 18:01	7440-36-0	
Arsenic	**0.00071J**	mg/L	0.0050	0.00035	1	10/05/19 16:23	10/08/19 18:01	7440-38-2	
Barium	**0.071**	mg/L	0.010	0.00049	1	10/05/19 16:23	10/08/19 18:01	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000074	1	10/05/19 16:23	10/08/19 18:01	7440-41-7	
Boron	**0.018J**	mg/L	0.040	0.0049	1	10/05/19 16:23	10/08/19 18:01	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00011	1	10/05/19 16:23	10/08/19 18:01	7440-43-9	
Calcium	**37.2**	mg/L	5.0	0.55	50	10/05/19 16:23	10/08/19 18:07	7440-70-2	M6
Chromium	ND	mg/L	0.010	0.00039	1	10/05/19 16:23	10/08/19 18:01	7440-47-3	
Cobalt	**0.00041J**	mg/L	0.0025	0.00030	1	10/05/19 16:23	10/08/19 18:01	7440-48-4	
Copper	ND	mg/L	0.025	0.00019	1	10/05/19 16:23	10/08/19 18:01	7440-50-8	
Lead	ND	mg/L	0.0050	0.000046	1	10/05/19 16:23	10/08/19 18:01	7439-92-1	
Nickel	**0.0022J**	mg/L	0.010	0.00031	1	10/05/19 16:23	10/08/19 18:01	7440-02-0	
Selenium	ND	mg/L	0.010	0.0013	1	10/05/19 16:23	10/08/19 18:01	7782-49-2	
Silver	ND	mg/L	0.010	0.00028	1	10/05/19 16:23	10/08/19 18:01	7440-22-4	
Thallium	ND	mg/L	0.0010	0.000052	1	10/05/19 16:23	10/08/19 18:01	7440-28-0	
Vanadium	ND	mg/L	0.010	0.00071	1	10/05/19 16:23	10/08/19 18:01	7440-62-2	
Zinc	**0.0052J**	mg/L	0.010	0.0015	1	10/05/19 16:23	10/08/19 18:01	7440-66-6	B
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**237**	mg/L	10.0	10.0	1		10/07/19 12:20		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993								
Chloride	**0.91J**	mg/L	1.0	0.60	1		10/16/19 00:20	16887-00-6	
Fluoride	**0.078J**	mg/L	0.30	0.050	1		10/16/19 00:20	16984-48-8	
Sulfate	**72.2**	mg/L	1.0	0.50	1		10/16/19 00:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

QC Batch: 36492 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2623873001, 2623873002, 2623873003, 2623873004, 2623873005, 2623873006, 2623873007, 2623873008, 2623873009, 2623873010, 2623873011, 2623873012

METHOD BLANK: 164870 Matrix: Water
Associated Lab Samples: 2623873001, 2623873002, 2623873003, 2623873004, 2623873005, 2623873006, 2623873007, 2623873008, 2623873009, 2623873010, 2623873011, 2623873012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	10/07/19 17:47	
Arsenic	mg/L	ND	0.0050	0.00035	10/07/19 17:47	
Barium	mg/L	ND	0.010	0.00049	10/07/19 17:47	
Beryllium	mg/L	ND	0.0030	0.000074	10/07/19 17:47	
Boron	mg/L	ND	0.040	0.0049	10/07/19 17:47	
Cadmium	mg/L	ND	0.0025	0.00011	10/07/19 17:47	
Calcium	mg/L	ND	0.10	0.011	10/07/19 17:47	
Chromium	mg/L	ND	0.010	0.00039	10/07/19 17:47	
Cobalt	mg/L	ND	0.0050	0.00030	10/07/19 17:47	
Copper	mg/L	ND	0.025	0.00019	10/07/19 17:47	
Lead	mg/L	ND	0.0050	0.000046	10/07/19 17:47	
Nickel	mg/L	ND	0.010	0.00031	10/07/19 17:47	
Selenium	mg/L	ND	0.010	0.0013	10/07/19 17:47	
Silver	mg/L	ND	0.010	0.00028	10/07/19 17:47	
Thallium	mg/L	ND	0.0010	0.000052	10/07/19 17:47	
Vanadium	mg/L	ND	0.010	0.00071	10/07/19 17:47	
Zinc	mg/L	0.0047J	0.010	0.0015	10/07/19 17:47	

LABORATORY CONTROL SAMPLE: 164871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.099	99	80-120	
Arsenic	mg/L	0.1	0.098	98	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	1.0	101	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Calcium	mg/L	1	0.97	97	80-120	
Chromium	mg/L	0.1	0.098	98	80-120	
Cobalt	mg/L	0.1	0.10	100	80-120	
Copper	mg/L	0.1	0.10	100	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Nickel	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Silver	mg/L	0.1	0.099	99	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	
Vanadium	mg/L	0.1	0.098	98	80-120	
Zinc	mg/L	0.1	0.10	104	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 164872 164873

Parameter	Units	2623808004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20	
Arsenic	mg/L	0.00063J	0.1	0.1	0.097	0.10	96	101	75-125	5	20	
Barium	mg/L	0.035	0.1	0.1	0.14	0.15	108	110	75-125	2	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	2	20	
Boron	mg/L	0.048	1	1	1.0	1.0	99	99	75-125	0	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.097	97	97	75-125	1	20	
Calcium	mg/L	41.5	1	1	42.5	41.7	98	25	75-125	2	20	M6
Chromium	mg/L	0.00072J	0.1	0.1	0.097	0.10	96	100	75-125	4	20	
Cobalt	mg/L	0.00049J	0.1	0.1	0.095	0.10	94	99	75-125	5	20	
Copper	mg/L	0.00070J	0.1	0.1	0.096	0.10	95	99	75-125	3	20	
Lead	mg/L	0.000066J	0.1	0.1	0.094	0.096	94	96	75-125	3	20	
Nickel	mg/L	0.0011J	0.1	0.1	0.098	0.10	97	100	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Silver	mg/L	ND	0.1	0.1	0.095	0.098	95	98	75-125	2	20	
Thallium	mg/L	0.000086J	0.1	0.1	0.096	0.099	96	99	75-125	3	20	
Vanadium	mg/L	ND	0.1	0.1	0.097	0.10	97	100	75-125	3	20	
Zinc	mg/L	0.0046J	0.1	0.1	0.10	0.10	95	99	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

QC Batch: 36528
QC Batch Method: EPA 3005A
Associated Lab Samples: 2623873013

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

METHOD BLANK: 165101
Associated Lab Samples: 2623873013

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00027	10/08/19 17:42	
Arsenic	mg/L	ND	0.0050	0.00035	10/08/19 17:42	
Barium	mg/L	ND	0.010	0.00049	10/08/19 17:42	
Beryllium	mg/L	ND	0.0030	0.000074	10/08/19 17:42	
Boron	mg/L	ND	0.040	0.0049	10/08/19 17:42	
Cadmium	mg/L	ND	0.0025	0.00011	10/08/19 17:42	
Calcium	mg/L	ND	0.10	0.011	10/08/19 17:42	
Chromium	mg/L	ND	0.010	0.00039	10/08/19 17:42	
Cobalt	mg/L	ND	0.0025	0.00030	10/08/19 17:42	
Copper	mg/L	ND	0.025	0.00019	10/08/19 17:42	
Lead	mg/L	ND	0.0050	0.000046	10/08/19 17:42	
Nickel	mg/L	ND	0.010	0.00031	10/08/19 17:42	
Selenium	mg/L	ND	0.010	0.0013	10/08/19 17:42	
Silver	mg/L	ND	0.010	0.00028	10/08/19 17:42	
Thallium	mg/L	ND	0.0010	0.000052	10/08/19 17:42	
Vanadium	mg/L	ND	0.010	0.00071	10/08/19 17:42	
Zinc	mg/L	0.0045J	0.010	0.0015	10/08/19 17:42	

LABORATORY CONTROL SAMPLE: 165102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	102	80-120	
Arsenic	mg/L	0.1	0.099	99	80-120	
Barium	mg/L	0.1	0.10	103	80-120	
Beryllium	mg/L	0.1	0.11	108	80-120	
Boron	mg/L	1	1.1	109	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Calcium	mg/L	1	1.0	102	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Copper	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Nickel	mg/L	0.1	0.098	98	80-120	
Selenium	mg/L	0.1	0.10	102	80-120	
Silver	mg/L	0.1	0.10	100	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	
Vanadium	mg/L	0.1	0.097	97	80-120	
Zinc	mg/L	0.1	0.11	105	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 165103 165104

Parameter	Units	2623873013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.098	0.10	98	103	75-125	5	20	
Arsenic	mg/L	0.00071J	0.1	0.1	0.095	0.10	94	100	75-125	6	20	
Barium	mg/L	0.071	0.1	0.1	0.17	0.17	94	101	75-125	4	20	
Beryllium	mg/L	ND	0.1	0.1	0.10	0.10	100	103	75-125	3	20	
Boron	mg/L	0.018J	1	1	0.99	1.0	97	102	75-125	5	20	
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	102	75-125	5	20	
Calcium	mg/L	37.2	1	1	35.7	37.8	-144	63	75-125	6	20	M6
Chromium	mg/L	ND	0.1	0.1	0.091	0.097	91	97	75-125	6	20	
Cobalt	mg/L	0.00041J	0.1	0.1	0.093	0.098	93	97	75-125	4	20	
Copper	mg/L	ND	0.1	0.1	0.093	0.097	93	97	75-125	5	20	
Lead	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	5	20	
Nickel	mg/L	0.0022J	0.1	0.1	0.096	0.099	94	97	75-125	3	20	
Selenium	mg/L	ND	0.1	0.1	0.094	0.099	93	98	75-125	5	20	
Silver	mg/L	ND	0.1	0.1	0.091	0.10	91	100	75-125	9	20	
Thallium	mg/L	ND	0.1	0.1	0.095	0.099	95	99	75-125	4	20	
Vanadium	mg/L	ND	0.1	0.1	0.093	0.097	93	97	75-125	5	20	
Zinc	mg/L	0.0052J	0.1	0.1	0.098	0.11	93	100	75-125	7	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

QC Batch: 36551 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2623873001, 2623873002, 2623873003, 2623873004, 2623873005, 2623873006, 2623873007, 2623873008, 2623873009, 2623873010, 2623873011, 2623873012, 2623873013

LABORATORY CONTROL SAMPLE: 165142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	415	104	84-108	

SAMPLE DUPLICATE: 165144

Parameter	Units	2623873005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	277	277	0	10	

SAMPLE DUPLICATE: 165154

Parameter	Units	2623872002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11.0	12.0	9	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

QC Batch: 503542 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: 2623873001, 2623873002, 2623873003, 2623873004, 2623873005, 2623873006, 2623873007, 2623873008, 2623873009, 2623873010, 2623873011, 2623873012, 2623873013

METHOD BLANK: 2706348 Matrix: Water
Associated Lab Samples: 2623873001, 2623873002, 2623873003, 2623873004, 2623873005, 2623873006, 2623873007, 2623873008, 2623873009, 2623873010, 2623873011, 2623873012, 2623873013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/15/19 17:21	
Fluoride	mg/L	ND	0.10	0.050	10/15/19 17:21	
Sulfate	mg/L	ND	1.0	0.50	10/15/19 17:21	

LABORATORY CONTROL SAMPLE: 2706349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.0	98	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	50	49.6	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2706350 2706351

Parameter	Units	92449348001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.8	50	50	81.7	82.6	104	106	90-110	1	10	
Fluoride	mg/L	0.16	2.5	2.5	2.6	2.7	98	101	90-110	2	10	
Sulfate	mg/L	18.8	50	50	70.4	71.3	103	105	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2706352 2706353

Parameter	Units	2623873006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.5	50	50	54.1	54.9	105	107	90-110	2	10	
Fluoride	mg/L	0.070J	2.5	2.5	2.6	2.6	101	103	90-110	2	10	
Sulfate	mg/L	13.4	50	50	65.8	66.6	105	106	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

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.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant Hammond - GW6581
Pace Project No.: 2623873

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2623873001	GWC-5	EPA 3005A	36492	EPA 6020B	36507
2623873002	GWC-6	EPA 3005A	36492	EPA 6020B	36507
2623873003	GWC-8	EPA 3005A	36492	EPA 6020B	36507
2623873004	FD-03	EPA 3005A	36492	EPA 6020B	36507
2623873005	GWC-7	EPA 3005A	36492	EPA 6020B	36507
2623873006	GWC-10	EPA 3005A	36492	EPA 6020B	36507
2623873007	GWC-22	EPA 3005A	36492	EPA 6020B	36507
2623873008	GWC-21	EPA 3005A	36492	EPA 6020B	36507
2623873009	GWC-20	EPA 3005A	36492	EPA 6020B	36507
2623873010	GWC-19	EPA 3005A	36492	EPA 6020B	36507
2623873011	GWC-18	EPA 3005A	36492	EPA 6020B	36507
2623873012	GWC-23	EPA 3005A	36492	EPA 6020B	36507
2623873013	GWC-9	EPA 3005A	36528	EPA 6020B	36530
2623873001	GWC-5	SM 2540C	36551		
2623873002	GWC-6	SM 2540C	36551		
2623873003	GWC-8	SM 2540C	36551		
2623873004	FD-03	SM 2540C	36551		
2623873005	GWC-7	SM 2540C	36551		
2623873006	GWC-10	SM 2540C	36551		
2623873007	GWC-22	SM 2540C	36551		
2623873008	GWC-21	SM 2540C	36551		
2623873009	GWC-20	SM 2540C	36551		
2623873010	GWC-19	SM 2540C	36551		
2623873011	GWC-18	SM 2540C	36551		
2623873012	GWC-23	SM 2540C	36551		
2623873013	GWC-9	SM 2540C	36551		
2623873001	GWC-5	EPA 300.0 Rev 2.1 1993	503542		
2623873002	GWC-6	EPA 300.0 Rev 2.1 1993	503542		
2623873003	GWC-8	EPA 300.0 Rev 2.1 1993	503542		
2623873004	FD-03	EPA 300.0 Rev 2.1 1993	503542		
2623873005	GWC-7	EPA 300.0 Rev 2.1 1993	503542		
2623873006	GWC-10	EPA 300.0 Rev 2.1 1993	503542		
2623873007	GWC-22	EPA 300.0 Rev 2.1 1993	503542		
2623873008	GWC-21	EPA 300.0 Rev 2.1 1993	503542		
2623873009	GWC-20	EPA 300.0 Rev 2.1 1993	503542		
2623873010	GWC-19	EPA 300.0 Rev 2.1 1993	503542		
2623873011	GWC-18	EPA 300.0 Rev 2.1 1993	503542		
2623873012	GWC-23	EPA 300.0 Rev 2.1 1993	503542		
2623873013	GWC-9	EPA 300.0 Rev 2.1 1993	503542		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	standard TAT	Project #:	GWC581	Pace Profile #:	328 (Huff)

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4					Residual Chlorine (Y/N)	
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																	N	N	N	N	N	N	N						
1	GWC-5	GW	G	10/1	0937	10/1	0945	23	2	1		1						Y	Y	Y	Y	Y	Y	Y					N	1
2	GWC-6	GW	G	10/1	1109	10/1	1120	21	2	1		1						Y	Y	Y	Y	Y	Y	Y					N	2
3	GWC-8	GW	G	10/1	1258	10/1	1310	24	2	1		1						Y	Y	Y	Y	Y	Y	Y					N	3
4	FD-03	GW	G	10/1	1310	10/1	1320	24	2	1		1						Y	Y	Y	Y	Y	Y	Y					N	4
5	GWC-7	GW	G	10/1	1255	10/1	1500	19	2	1		1						Y	Y	Y	Y	Y	Y	Y					N	5
6																														
7																														
8																														
9																														
10																														
11																														
12																														

CR 10/1/19

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Chad Russo geo	10/1/19	1630	Malia Morton / Geosyntec	10/01/19	16:30				
	Malia Morton / Geosyntec	10/2/19	1130	Pace	10.2.19	1130				
	Pace	10.3.19	1332		10/2/19	1332	1.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo DATE Signed: 10/1/19

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

WO# : 2623873

2623873

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	STANDARD TAT	Project #:	GW6581	Pace Profile #:	328 (Huff)

Regulatory Agency

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4	Residual Chlorine (Y/N)	
																		N	N	N	N	N	N	N			
1	GWC-10	WT	G	10-1-19	9:57	10-1-19	10:04	20.4/23	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		6
2	GWC-22	WT	G	10-1-19	11:00	10-1-19	11:09	20.4	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		7
3	GWC-21	WT	G	10-1-19	11:54	10-1-19	12:05	21.4	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		8
4	GWC-20	WT	G	10-1-19	13:05	10-1-19	13:15	21.7	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		9
5	GWC-19	WT	G	10-1-19	14:05	10-1-19	14:12	23.1	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		10
6	GWC-18	WT	G	10-1-19	15:06	10-1-19	15:13	20.1	2	1		1						Y	Y	Y	Y	Y	Y	Y	N		11
7																											
8																											
9																											
10																											
11																											
12																											

DG 10-01-2019

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	DAN GIBBS / Geosyntec	10-1-19	16:30	Nadia Mardan / Geosyntec	10/01/19	16:30				
	Nadia Mardan / Geosyntec	10/2/19	11:30	[illegible] / Pace	10.2.19	1130				
	[illegible] / Pace	10.2.19	1332	Charles Hardy	10/2/19	1332	1.8	Y	X	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DAN GIBBS

SIGNATURE of SAMPLER: [signature]

DATE Signed: 10-01-2019

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

WO#: 2623873

PM: BM Due Date: 10/09/19

CLIENT: GAPower-CCR

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power - Coal Combustion Residuals	Report To:	Joju Abraham	Attention:	scsinvoices@southernco.com
Address:	2480 Maner Road	Copy To:	Lauren Petty, Geosyntec	Company Name:	
Atlanta, GA 30339				Address:	
Email:	jabraham@southernco.com	Purchase Order #:	SCS10382775	Pace Quote:	
Phone:	(404)506-7239 Fax:	Project Name:	Plant Hammond	Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Requested Due Date:	Standard TAT	Project #:	GW6581	Pace Profile #:	328 (Huff)

Regulatory Agency:

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Antimony, Arsenic, Barium	Beryllium, Boron, Calcium	Cadmium, Chromium, Cobalt	Copper, Lead, Nickel	Selenium, Silver, Thallium	Vanadium, Zinc	TDS, Cl, F, SO4	Residual Chlorine (Y/N)	
		MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																N	N	N	N	N	N	N		
1	GWC-23	WT	G	10/01/19	1140	10/01/19	1147	20	2	1		1						Y	Y	Y	Y	Y	Y	Y	N	12
2	GWC-9	WT	G	10/01/19	1354	10/01/19	1401	21	2	1		1						Y	Y	Y	Y	Y	Y	Y	N	13
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

NM 10/01/19

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Noelia Muskus / Geosyntec	10/02/19	11:30	Pace	10.2.19	1130	
	Pace	10.2.19	1332		10/2/19	1332	1.8 X X X

WO#: 2623873

PM: BM Due Date: 10/09/19

CLIENT: GAPower-CCR

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Noelia Muskus					
SIGNATURE of SAMPLER:	Noelia Muskus	DATE Signed: 10/01/19				

Pace Analytical

Sample Condition Upon Receipt

WO#: 2623873

PM: BM Due Date: 10/09/19

CLIENT: GAPower-CCR

Client Name: GA Power CCR

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

Tracking #: _____

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

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

Thermometer Used 214 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 1.8°C Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 10/2/19 CH

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed: Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

November 14, 2019

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

RE: Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Betsy McDaniel
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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

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

Pace Analytical Services, LLC
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Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2625374001	**GWC-21**	Water	11/06/19 12:12	11/07/19 14:30
2625374002	**GWC-20**	Water	11/06/19 13:44	11/07/19 14:30
2625374003	**GWC-7**	Water	11/06/19 15:10	11/07/19 14:30
2625374004	**FB-01**	Water	11/06/19 15:40	11/07/19 14:30
2625374005	**EB-01**	Water	11/06/19 15:45	11/07/19 14:30

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SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2625374001	**GWC-21**	EPA 6020B	CSW	1
		SM 2540C	ALW	1
2625374002	**GWC-20**	EPA 300.0	MWB	1
2625374003	**GWC-7**	EPA 6020B	CSW	1
2625374004	**FB-01**	EPA 6020B	CSW	2
		SM 2540C	ALW	1
		EPA 300.0	MWB	1
2625374005	**EB-01**	EPA 6020B	CSW	2
		SM 2540C	ALW	1
		EPA 300.0	MWB	1

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(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Sample: GWC-21 **Lab ID: 2625374001** Collected: 11/06/19 12:12 Received: 11/07/19 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Calcium	**74.9**	mg/L	5.0	0.55	50	11/12/19 14:24	11/13/19 20:44	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**336**	mg/L	10.0	10.0	1		11/11/19 13:31		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Sample: GWC-20 **Lab ID: 2625374002** Collected: 11/06/19 13:44 Received: 11/07/19 14:30 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								
Sulfate	**47.3**	mg/L	1.0	0.017	1		11/11/19 16:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Sample: GWC-7 **Lab ID: 2625374003** Collected: 11/06/19 15:10 Received: 11/07/19 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	**0.011**	mg/L	0.0050	0.00035	1	11/12/19 14:24	11/13/19 20:49	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Sample: FB-01 **Lab ID: 2625374004** Collected: 11/06/19 15:40 Received: 11/07/19 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	11/12/19 14:24	11/13/19 21:41	7440-38-2	
Calcium	ND	mg/L	0.10	0.011	1	11/12/19 14:24	11/13/19 21:41	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/11/19 13:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**0.068J**	mg/L	1.0	0.017	1		11/11/19 17:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Sample: EB-01 **Lab ID: 2625374005** Collected: 11/06/19 15:45 Received: 11/07/19 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.0050	0.00035	1	11/12/19 14:24	11/13/19 21:47	7440-38-2	
Calcium	ND	mg/L	0.10	0.011	1	11/12/19 14:24	11/13/19 21:47	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		11/11/19 13:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	ND	mg/L	1.0	0.017	1		11/11/19 17:29	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

QC Batch: 38622 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2625374001, 2625374003, 2625374004, 2625374005

METHOD BLANK: 175522 Matrix: Water
Associated Lab Samples: 2625374001, 2625374003, 2625374004, 2625374005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	0.00048J	0.0050	0.00035	11/13/19 20:26	
Calcium	mg/L	ND	0.10	0.011	11/13/19 20:26	

LABORATORY CONTROL SAMPLE: 175523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.098	98	80-120	
Calcium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 175524 175525

Parameter	Units	2625374003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.011	0.1	0.1	0.11	0.11	98	97	75-125	1	20	
Calcium	mg/L	28.2	1	1	29.1	28.6	98	47	75-125	2	20	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

QC Batch: 38558 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2625374001, 2625374004, 2625374005

LABORATORY CONTROL SAMPLE: 175190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	400	100	84-108	

SAMPLE DUPLICATE: 175191

Parameter	Units	2625426001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	151000 ug/L	149	1	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

QC Batch: 38587 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 2625374002, 2625374004, 2625374005

METHOD BLANK: 175341 Matrix: Water
Associated Lab Samples: 2625374002, 2625374004, 2625374005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	1.0	0.017	11/11/19 15:58	

LABORATORY CONTROL SAMPLE: 175342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	10	9.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 175343 175344

Parameter	Units	2625374005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	10	10	9.8	9.8	98	98	90-110	0	15	

MATRIX SPIKE SAMPLE: 175345

Parameter	Units	2625381001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	95.1	10	93.1	-20	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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2625374

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2625374001	**GWC-21**	EPA 3005A	38622	EPA 6020B	38720
2625374003	**GWC-7**	EPA 3005A	38622	EPA 6020B	38720
2625374004	**FB-01**	EPA 3005A	38622	EPA 6020B	38720
2625374005	**EB-01**	EPA 3005A	38622	EPA 6020B	38720
2625374001	**GWC-21**	SM 2540C	38558		
2625374004	**FB-01**	SM 2540C	38558		
2625374005	**EB-01**	SM 2540C	38558		
2625374002	**GWC-20**	EPA 300.0	38587		
2625374004	**FB-01**	EPA 300.0	38587		
2625374005	**EB-01**	EPA 300.0	38587		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request

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

WO# : 2625374

2625374

Section A
Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax:
Requested Due Date:	standard TAT

Section B
Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	SCS10348606
Project Name:	Plant Hammond Huffaker
Project #:	GW6581

Section C
Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	betsy.mcdaniel@pacelabs.com,
Pace Profile #:	328

Regulatory Agency

State / Location
GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Arsenic	Calcium	SO4	TDS	Residual Chlorine (Y/N)
	MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS																		N	N	N	N	
1	GWC-21	GW	G	11/6	1157	11/6	1212	18	2	1		1								Y		Y	N
2	GWC-20	GW	G	"	1343	"	1344	18	1	1											Y		N
3	GWC-7	GW	G	"	1505	"	1510	20	1			1							Y				N
4	FB-01			"	1535	"	1540		2	1		1							Y	Y	Y	Y	N
5	EB-01			"	1540	"	1545		2	1		1							Y	Y	Y	Y	N
6																							
7																							
8																							
9																							
10																							
11																							
12																							

CR 11/6/19

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Chad Russo/geo	11/6/19	1855	Malia Mullen/Geosyntec	11/06/19	1755	
	Malia Mullen/Geosyntec	11/07/19	1110	T Elrod	11-7-19	1110	
	T Elrod	11-7-19	1220				
				MABailey	11/7/19	14:30	4.3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed: 11/6/19

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

Pace Analytical

Sample Condition Upon Receipt

WO#: 2625374

PM: BM Due Date: 11/14/19

CLIENT: GAPower-CCR

Client Name: _____

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

Tracking #: _____

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

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

Thermometer Used 083

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.3

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: _____

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A
Sufficient Volume:	☑Yes	☐No	☐N/A
Correct Containers Used:	☑Yes	☐No	☐N/A
-Pace Containers Used:	☑Yes	☑No	☐N/A
Containers Intact:	☑Yes	☐No	☐N/A
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A
Sample Labels match COC:	☑Yes	☐No	☐N/A
-Includes date/time/ID/Analysis Matrix: GW			
All containers needing preservation have been checked.	☐Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No	
Samples checked for dechlorination:	☑Yes	☐No	☐N/A
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A
Trip Blank Present:	☐Yes	☐No	☑N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased): _____			

Comments	Initial when completed	Lot # of added preservative
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

3000 W28

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

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

December 06, 2019

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

RE: Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

Dear Joju Abraham:
Enclosed are the analytical results for sample(s) received by the laboratory on November 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
kevin.herring@pacelabs.com
(704)875-9092
HORIZON Database Administrator

Enclosures

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

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

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2626198001	**GWC-21**	Water	11/26/19 17:03	11/27/19 09:48

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2626198001	**GWC-21**	EPA 6020B	CSW	1
		SM 2540C	ALW	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

Sample: GWC-21 **Lab ID: 2626198001** Collected: 11/26/19 17:03 Received: 11/27/19 09:48 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								
Calcium	**45.8**	mg/L	5.0	0.55	50	12/04/19 19:40	12/06/19 12:00	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
Total Dissolved Solids	**236**	mg/L	10.0	10.0	1		12/02/19 12:37		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

QC Batch: 39976 Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A Analysis Description: 6020B MET
Associated Lab Samples: 2626198001

METHOD BLANK: 181646 Matrix: Water
Associated Lab Samples: 2626198001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	0.031J	0.10	0.011	12/06/19 11:09	

LABORATORY CONTROL SAMPLE: 181647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 181648 181649

Parameter	Units	2626196001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	23.1	1	1	24.3	24.9	115	182	75-125	3	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

QC Batch: 39749
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 2626198001

LABORATORY CONTROL SAMPLE: 180643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	395	99	84-108	

SAMPLE DUPLICATE: 180644

Parameter	Units	2626099001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	278	269	3	10	

SAMPLE DUPLICATE: 180645

Parameter	Units	2626164001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2330	2250	3	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALIFIERS

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

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.

Pace Analytical Services, LLC
110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT HAMMOND HUFFAKER
Pace Project No.: 2626198

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2626198001	**GWC-21**	EPA 3005A	39976	EPA 6020B	40001
2626198001	**GWC-21**	SM 2540C	39749		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power - Coal Combustion Residuals
Address:	2480 Maner Road
	Atlanta, GA 30339
Email:	jabraham@southernco.com
Phone:	(404)506-7239 Fax
Requested Due Date:	~~Standard~~ TAT 5 day (un)

Section B — Required Project Information:

Report To:	Joju Abraham
Copy To:	Lauren Petty, Geosyntec
Purchase Order #:	
Project Name:	Plant Hammond Huffaker
Project #:	GWCS81

Section C — Invoice Information:

Attention:	scsinvoices@southernco.com
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	kevin.herring@pacelabs.com,
Pace Profile #:	

Regulatory Agency	State / Location
	GA

Matrix codes: MATRIX / CODE — Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Calcium (Filtered: N)	TDS (Filtered: N)	Residual Chlorine (Y/N)
1	GWC-21	GW	G	11/26	1703	11/26	1708	15	2	1		1							Y	Y	N
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

(Rows 2–12 struck through; annotated "CR 11/26/19")

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Chad Russo / Geo	11/26/19	2040	Nadia Munhoz / Geo	11/26/19	2040				
	Nadia Munhoz / Geo	11/27/19	0945	Romero Hicks / Pace	11/26/19	9:48				
				K. WELLINGTON / PACE	11/27	1220	4.8	Y	N	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Chad Russo

SIGNATURE of SAMPLER: Chad Russo

DATE Signed: 11/26/19

Sample Condition Upon Receipt

Pace Analytical

Client Name: _____ Project # _____

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

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☐ no Seals intact: ☐ yes ☐ no

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

Thermometer Used THR083 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 4.8 Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C Comments:

Date and Initials of person examining contents: _____

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☐Yes ☐No ☐N/A	8.
Correct Containers Used:	☐Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☐No ☐N/A	
Containers Intact:	☐Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☐N/A	11.
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: GW		
All containers needing preservation have been checked.	☐Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

3000 W28

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

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

Data Validation Reports
(Pending 2019 2nd semester)

Geosyntec consultants

180A Market Place Boulevard
Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date:	June 3, 2019
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2617140, 2617148, 2617207, 2617209, 2617267 and 2617269**

SITE: Plant Hammond-Huffaker Road Landfill

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of seventeen aqueous samples, one field duplicate sample, two equipment blanks and two field blanks, collected 5-9 April 2019, as part of the Plant Hammond-Huffaker Road Landfill on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by EPA Methods 3005A/6020B and 3010A/6020B
- Mercury by EPA Method 7470A
- Anions by EPA Method 300.0
- Total Dissolved Solids (TDS) by Standard Method 2540C

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data as qualified are usable for meeting project objectives. The qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2617140001	GWA-3
2617148001	FB-01
2617207001	FB-02
2617207002	EB-01
2617209001	GWA-1
2617209002	GWC-8
2617209003	GWC-7
2617209004	FD-02
2617209005	GWA-2
2617209006	GWC-9
2617209007	GWC-6

Laboratory ID	Client ID
2617209008	GWA-4
2617209009	GWA-11
2617209010	GWC-23
2617267001	GWC-5
2617267002	GWC-10
2617267003	GWC-20
2617267004	GWC-18
2617267005	GWC-19
2617267006	GWC-21
2617267007	GWC-22
2617269001	EB-02

The samples were received within 0-6^{o}C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 261740 and 2617267: The year was missing from the start and stop times for the sample collections.
- 2617140, 2617148, 2617207, 2617209, 2617267 and 2617269: The relinquishing signatures, dates and times were missing for the final sample transfers on the COCs.
- 2617209: A collection time was not listed on the COC for the field duplicate. The field duplicate was logged in with the collection time of 00:00.

Laboratory reports 2617148 and 2617209 were revised on April 16, 2019 to correct the units reported for the metals data, per the client's request.

Laboratory report 2617267 was revised on April 18, 2019 to remove the mercury data, per the client's request.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020B and 3010A/6020B. (Mercury was evaluated separately in Section 2.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for these sample sets is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported (batches 468622, 469500 and 26237). Metals were not detected in the method blanks above the method detection limits (MDLs).

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported using samples FB-01 and GWC-5. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

2617267: The recoveries of calcium were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample GWC-5. Since the calcium concentration in sample GWC-5 was greater than four times the spiked concentration and based on professional and technical judgment, no qualifications were applied to the data.

One batch MS/MSD pair was also reported. Since these were batch QC, the results do not affect the samples in these sample sets and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Metals were not detected in the equipment blanks above the MDLs, with the following exceptions.

Nickel (0.0071 mg/L) and zinc (0.0021 mg/L) were detected at estimated concentrations greater than the MDLs and less than the reporting limits (RLs) and chromium (0.028 mg/L) was detected above the RL in EB-02. Since chromium was not detected in the associated samples, no qualifications were applied to the chromium data. However, the nickel and zinc concentrations in the associated samples less than five times the equipment blank concentration were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier**	Reason Code***
GWA-3	Nickel	0.00075	J	0.00075	U*	BE
GWA-3	Zinc	0.0013	J	0.0013	U*	BE
GWA-1	Nickel	0.00034	J	0.00034	U*	BE
GWC-8	Nickel	0.00064	J	0.00064	U*	BE
GWC-8	Zinc	0.0012	J	0.0012	U*	BE
GWC-7	Nickel	0.030	NA	0.030	U*	BE
FD-02	Nickel	0.00068	J	0.00068	U*	BE
FD-02	Zinc	0.0013	J	0.0013	U*	BE
GWA-2	Zinc	0.0014	J	0.0014	U*	BE
GWC-9	Nickel	0.0021	J	0.0021	U*	BE
GWC-9	Zinc	0.0016	J	0.0016	U*	BE
GWC-6	Nickel	0.00032	J	0.00032	U*	BE
GWC-6	Zinc	0.0013	J	0.0013	U*	BE
GWA-4	Nickel	0.00089	J	0.00089	U*	BE
GWA-4	Zinc	0.0023	J	0.0023	U*	BE
GWA-11	Nickel	0.0023	J	0.0023	U*	BE
GWA-11	Zinc	0.0024	J	0.0024	U*	BE
GWC-23	Nickel	0.0011	J	0.0011	U*	BE
GWC-23	Zinc	0.0016	J	0.0016	U*	BE
GWC-5	Nickel	0.00098	J	0.00098	U*	BE

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier**	Reason Code***
GWC-18	Zinc	0.0037	J	0.0037	U*	BE
GWC-21	Nickel	0.0048	J	0.0048	U*	BE
GWC-21	Zinc	0.0041	J	0.0041	U*	BE
GWC-22	Chromium	0.0023	J	0.0023	U*	BE

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
NA-not applicable
** Validation qualifiers are defined in Attachment 1 at the end of this report
***Reason codes are defined in Attachment 2 at the end of this report

1.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Metals were not detected in the field blanks above the MDLs, with the following exceptions.

Barium (0.000078 mg/L) and calcium (0.024 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs and zinc (0.017 mg/L) was detected at a concentration greater than the RL in FB-01. Since barium and calcium were either not detected or detected at concentrations greater than five times the field blank concentration, no qualifications were applied to the barium and calcium data. However, the zinc concentrations in the associated samples less than five times the field blank concentration were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
GWA-3	Zinc	0.0013	J	0.0013	U*	BF
GWC-8	Zinc	0.0012	J	0.0012	U*	BF
GWC-7	Zinc	0.051	NA	0.051	U*	BF
FD-02	Zinc	0.0013	J	0.0013	U*	BF
GWA-2	Zinc	0.0014	J	0.0014	U*	BF
GWC-9	Zinc	0.0016	J	0.0016	U*	BF
GWC-6	Zinc	0.0013	J	0.0013	U*	BF
GWA-4	Zinc	0.0023	J	0.0023	U*	BF
GWA-11	Zinc	0.0024	J	0.0024	U*	BF
GWC-23	Zinc	0.0016	J	0.0016	U*	BF
GWC-18	Zinc	0.0037	J	0.0037	U*	BF
GWC-21	Zinc	0.0041	J	0.0041	U*	BF

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
NA-not applicable

1.8 Field Duplicate

One field duplicate, FD-02, was collected with the sample sets. Acceptable precision (RPD $\leq$ 20% or the difference < RL) was demonstrated between the field duplicate and the original sample, GWC-8.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flags C0, BC and M6 used in the level II reports were not included in the EDDs. In addition, there were EDDs that included project data for samples from different laboratory reports when the sample was used for laboratory batch QC (i.e., the sample in the other report was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

2.0 MERCURY

The samples were analyzed by EPA method 7470A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

2.1 Overall Assessment

The mercury data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for these sample sets is 100%.

2.2 Holding Time

The holding time for the mercury analysis of a water sample is 28 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 468895 and 26291). Mercury was not detected in the method blanks above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in these sample sets and qualifications were not applied to the data.

2.5 Laboratory Control Sample

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

2.6 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. Mercury was not detected in the equipment blanks above the MDL.

2.7 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. Mercury was not detected in the field blanks above the MDL.

2.8 Field Duplicate

One field duplicate was collected, but was not analyzed for mercury.

2.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

2.10 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. There were EDDs that included project data for samples from different laboratory reports when the sample was used for laboratory batch (i.e., the sample in the other report was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

3.0 WET CHEMISTRY

The samples were analyzed for anions (chloride, fluoride and sulfate) by EPA method 300.0 and TDS by Standard Method 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

3.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to

the total number of analytical results requested on samples submitted for these analyses, for these sample sets is 100%.

3.2 Holding Times

The holding times for the chloride, fluoride and sulfate analyses of a water sample are 28 days from sample collection to analysis. The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Three method blanks were reported for the anions (batches 26064, 26135 and 26352). The anions were not detected in the method blanks above the MDLs, with the following exceptions.

2617148, 2617207 and 2617209: Chloride (0.064 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 26135. Therefore, the chloride concentrations in the associated samples greater than the MDL and less than five times the method blank concentration were U* qualified as not detected at the reported concentrations.

2617267 and 2617269: Chloride (0.31 mg/L) was detected at a concentration greater than the RL in the method blank in batch 26352. Therefore, the chloride concentrations in the associated samples greater than the MDL and less than five times the method blank concentration were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
FB-01	Chloride	0.11	J	0.11	U*	BL
FB-02	Chloride	0.25	J	0.25	U*	BL
EB-01	Chloride	0.22	J	0.22	U*	BL
EB-02	Chloride	0.38	NA	0.38	U*	BL

mg/L-milligrams per liter
J-estimated concentration greater than the MDL and less than the RL
NA-not applicable

3.4 Matrix Spike/Matrix Spike Duplicate

One sample set specific MS/MSD pair using sample GWC-5 and two MSs using samples FB-02 and GWC-10 were reported for the anions. The recovery and RPD results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

The recoveries of sulfate were low and outside the laboratory and SOP specified acceptance criteria in the MS/MSD pair using sample GWC-5. Since the sulfate concentration in sample GWC-5 was

greater than four times the spiked concentration and based on professional and technical judgment, no qualifications were applied.

Two batch MSs and one batch MS/MSD pair were also reported for the anions. Since these were batch QC, the results do not affect the samples in these sample sets and qualifications were not applied to the data.

3.5 Laboratory Control Sample

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

3.6 Laboratory Duplicate

Five sample set specific laboratory duplicates were reported for TDS, using samples HGWC-120, HGWC-124, HGWC-105, GWC-9 and GWC-20. The RPD results were within the laboratory and SOP specified acceptance criteria.

One batch laboratory duplicate was also reported for TDS. Since this was batch QC, the result does not affect the samples in sample sets and qualifications were not applied to the data.

3.7 Equipment Blank

Two equipment blanks were collected with the sample sets, EB-01 and EB-02. The wet chemistry parameters were not detected in the equipment blanks above the MDLs, with the following exceptions.

TDS (12.0 mg/L), chloride (0.22 mg/L) and sulfate (0.38 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in EB-01. Since the chloride concentration in EB-01 was U qualified as not detected at the reported concentration due to the method blank contamination and TDS and sulfate were detected in the associated samples at concentrations greater than five times the equipment blank concentrations, no additional qualifications were applied to the data, based on professional and technical judgment.

3.8 Field Blank

Two field blanks were collected with the sample sets, FB-01 and FB-02. The wet chemistry parameters were not detected in the field blanks above the MDLs, with the following exceptions.

Chloride (0.11 mg/L) and sulfate (0.069 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-01. Since the chloride concentration in FB-01 was U qualified as not detected at the reported concentration due to the method blank contamination and

sulfate was detected in the associated samples at concentrations greater than five times the field blank concentration, no additional qualifications were applied to the data, based on professional and technical judgment.

TDS (14.0 mg/L), chloride (0.25 mg/L) and sulfate (0.13 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-02. Since the chloride concentration in FB-02 was U qualified as not detected at the reported concentration due to the method blank contamination and TDS and sulfate were detected in the associated samples at concentrations greater than five times the field blank concentrations, no additional qualifications were applied to the data, based on professional and technical judgment.

3.9 Field Duplicate

One field duplicate, FD-02, was collected with the sample sets. Acceptable precision (RPD $\leq$ 20% or the difference < RL) was demonstrated between the field duplicate and the original sample, GWC-8.

3.10 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

3.11 Electronic Data Deliverable Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flags B and M1 used in the level II reports were not included in the EDDs. In addition, there were EDDs that included project data for samples from different laboratory reports when the sample was used for laboratory batch (i.e., the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BL	Laboratory blank contamination. The result should be considered "not-detected."
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

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Memorandum

Date:	July 1, 2019
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2619807, 2619847, 2619851 and 2619925**

SITE: Plant Hammond-Huffaker Road Landfill

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of three aqueous samples and one equipment blank, collected 17-19 June 2019, as part of the Plant Hammond-Huffaker Road Landfill on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals (Barium, Boron and Calcium) by EPA Methods 3005A/6020B
- Anions (Chloride, Fluoride and Sulfate) by EPA Method 300.0
- Total Dissolved Solids (TDS) by Standard Method 2540C

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2619807001	EB-01
2619847001	GWC-20

Laboratory ID	Client ID
2619851001	GWC-8
2619925001	GWC-6

The samples were received within 0-6ºC. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC) forms:

- 2619807 and 2619851: The year was missing from the start and stop times for the sample collections.
- 2619807 and 2619847: The relinquishing signatures, dates and times were missing for the third sample transfers.
- 2619851: The relinquishing signatures, dates and times were missing for the fourth sample transfers.
- 2619925: The relinquishing signatures, dates and times were missing for the second sample transfers.

1.0 METALS

The samples were analyzed by EPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for these sample sets is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 30489 and 30563). Metals were not detected in the method blanks above the method detection limits (MDLs).

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two batch MS/MSD pairs were reported. Since these were batch QC, the results do not affect the samples in these sample sets and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

One equipment blank was collected with the sample sets, EB-01. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The EDDs included project data for samples from different laboratory reports when the sample was used for laboratory batch QC (i.e., the sample in the other report was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

2.0 WET CHEMISTRY

The samples were analyzed for anions (chloride, fluoride and sulfate) by EPA method 300.0 and TDS by Standard Method 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

2.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to

the total number of analytical results requested on samples submitted for these analyses, for these sample sets is 100%.

2.2 Holding Times

The holding times for the chloride, fluoride and sulfate analyses of a water sample are 28 days from sample collection to analysis. The holding time for the TDS analysis of a water sample is 7 days from sample collection to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported for the anions (batches 30603 and 30672). The anions were not detected in the method blanks above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported for the anions, using sample GWC-6. The RPD result was within the laboratory and SOP specified acceptance criteria. However, the recoveries of sulfate were low and outside the laboratory and SOP specified acceptance criteria r. Since the sulfate concentration in sample GWC-6 was greater than four times the spiked concentration and based on professional and technical judgment, no qualifications were applied.

Two batch MSs and one batch MS/MSD pair were also reported for the anions. Since these were batch QC, the results do not affect the samples in these sample sets and qualifications were not applied to the data.

2.5 Laboratory Control Sample

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

2.6 Laboratory Duplicate

Two batch laboratory duplicates were reported for TDS. Since these were batch QC, the results do not affect the samples in the sample sets and qualifications were not applied to the data.

2.7 Equipment Blank

One equipment blank was collected with the sample sets, EB-01. Sulfate was not detected in the equipment blank above the MDL. However, TDS (14.0 mg/L), chloride (0.93 mg/L) and fluoride (0.38 mg/L) were detected at concentrations the RLs. Since TDS, chloride and sulfate were not reported in the associated samples, no qualifications were applied to the data.

2.8 Field Blank

A field blank was not collected with the sample sets.

2.9 Field Duplicate

A field duplicate was not collected with the sample sets.

2.10 Sensitivity

The samples were reported to the MDLs for the anions and to the RL for TDS. No elevated nondetect results were reported.

2.11 Electronic Data Deliverable Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flag M1 used in the level II reports were not included in the EDDs. In addition, the EDDs included project data for samples from different laboratory reports when the sample was used for laboratory batch (i.e., the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II reports and the EDDs.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BL	Laboratory blank contamination. The result should be considered "not-detected."
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

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Memorandum

Date:	July 10, 2019
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validation - Level II Data Deliverable – Pace Analytical Services, LLC Project Number 2620281**

SITE: Plant Hammond-Huffaker Road Landfill

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of two aqueous samples, collected 27 June 2019, as part of the Plant Hammond-Huffaker Road Landfill on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals (Barium and Calcium) by USEPA Methods 3005A/6020B
- Sulfate by USEPA Method 300.0

EXECUTIVE SUMMARY

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below and based on the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory report, professional and technical judgment and the following documents:

- USEPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011);
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001);

The following samples were analyzed and reported in the laboratory report:

Laboratory ID	Client ID
2620281001	GWC-8

Laboratory ID	Client ID
2620281002	GWC-20

The samples were received within 0-6ºC. No sample preservation issues were noted by the laboratory.

The following issue was noted with the chain of custody (COC) form:

- The relinquishing signature, date and time were missing for the second sample transfer.

1.0 METALS

The sample was analyzed for barium and calcium by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 31193). Metals were not detected in the method blank above the method detection limits (MDLs).

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported using sample GWC-8. The recovery and relative percent difference (RPD) results were within the laboratory and SOP specified acceptance criteria, with the following exceptions.

The recoveries of calcium in the MS/MSD pair were high and outside the laboratory and SOP specified acceptance criteria. Since the calcium concentration in sample GWC-8 was greater than four times the spiked concentration, no qualifications were applied to the data, based on professional and technical judgment.

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The EDD included project data for samples from different laboratory reports when the sample was used for laboratory batch QC (i.e., the sample in the other report was used for the MS/MSD analyses). No other discrepancies were identified between the level II report and the EDD.

2.0 SULFATE

The sample was analyzed for sulfate by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

2.1 Overall Assessment

The sulfate data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding time for the sulfate analysis of a water sample is 28 days from sample collection to analysis. The holding time was met for the sample analysis.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 31128). Sulfate was detected in the method blank at an estimated concentration greater than the MDL and less than the reporting limit (RL). Since sulfate was detected in the associated sample at a concentration greater than five times the method blank concentration, no qualifications were applied to the data.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS and one batch MS/MSD pair were reported. Since these were batch QC, the results do not affect the sample in this sample set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory and SOP specified acceptance criteria.

2.6 Laboratory Duplicate

Laboratory duplicates were not reported with the data.

2.7 Equipment Blank

An equipment blank was not collected with the sample set.

2.8 Field Blank

A field blank was not collected with the sample set.

2.9 Field Duplicate

A field duplicate was not collected with the sample set.

2.10 Sensitivity

The sample was reported to the MDL. No elevated nondetect results were reported.

2.11 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. The EDD included project data for samples from different laboratory reports when the sample was used for laboratory batch (i.e., the sample was used for the MS/MSD analyses). No other discrepancies were identified between the level II report and the EDD.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team per the SOP

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team per the SOP

Reason Code	Explanation
BL	Laboratory blank contamination. The result should be considered "not-detected."
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

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Memorandum

Date:	17 January 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Numbers 2623500, 2623749 and 2623794**

SITE: Plant Hammond Huffaker

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of seventeen aqueous samples, one field duplicate sample, one equipment blank and one field blank, collected 30 September – 1 October 2019, as part of the Plant Hammond Huffaker on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by United States (US) Environmental Protection Agency (EPA) Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C
- Chloride, Fluoride and Sulfate by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011); and,
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2623793001	GWA-2
2623793002	GWA-1
2623793003	GWA-3
2623793004	GWA-4
2623793005	GWA-11
2623872001	FB-03
2623872002	EB-03
2623873001	GWC-5
2623873002	GWC-6
2623873003	GWC-8

Laboratory ID	Client ID
2623873004	FD-03
2623873005	GWC-7
2623873006	GWC-10
2623873007	GWC-22
2623873008	GWC-21
2623873009	GWC-20
2623873010	GWC-19
2623873011	GWC-18
2623873012	GWC-23
2623873013	GWC-9

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

The following issues were noted with the chain of custody (COC) forms:

- 2623793 and 2623873: The year was missing for the sample collection times for samples GWA-2, GWA-1, GWC-5, GWC-6, GWC-8, FD-03 and GWC-7.
- 2623793: The relinquished by date and time were not documented for the final sample transfer.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The metals data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported (batches 36434, 36492 and 36528). Metals were not detected in the method blanks above the method detection limits (MDLs), with the following exceptions.

2623793, 2623872 and 2623873: Zinc was detected at concentrations greater than the reporting limit (RL) in the method blanks in batches 36079 (0.013 mg/L), 36492 (0.0047 mg/L) and 36528 (0.0045 mg/L). Therefore, the zinc concentrations in the associated samples less than five times the method blank concentrations were U* qualified as not detected at the reported concentrations.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
GWA-2	Zinc	0.0043	J B	0.0043	U*	BL
GWA-1	Zinc	0.0032	J B	0.0032	U*	BL
GWA-3	Zinc	0.0045	J B	0.0045	U*	BL
GWA-4	Zinc	0.0059	J B	0.0059	U*	BL
GWA-11	Zinc	0.0040	J B	0.0040	U*	BL
FB-03	Zinc	0.0056	J B	0.0056	U*	BL
EB-03	Zinc	0.0059	J B	0.0059	U*	BL
GWC-5	Zinc	0.0053	J B	0.0053	U*	BL
GWC-6	Zinc	0.0056	J B	0.0056	U*	BL
GWC-8	Zinc	0.0055	J B	0.0055	U*	BL
FD-03	Zinc	0.0053	J B	0.0053	U*	BL
GWC-10	Zinc	0.0049	J B	0.0049	U*	BL
GWC-22	Zinc	0.0054	J B	0.0054	U*	BL
GWC-21	Zinc	0.0078	J B	0.0078	U*	BL
GWC-20	Zinc	0.0063	J B	0.0063	U*	BL
GWC-19	Zinc	0.0049	J B	0.0049	U*	BL

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier*	Reason Code**
GWC-18	Zinc	0.0060	J B	0.0060	U*	BL
GWC-23	Zinc	0.0057	J B	0.0057	U*	BL
GWC-9	Zinc	0.0052	J B	0.0052	U*	BL

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL
B-laboratory flag indicating analyte was detected in the associated method blank
* Validation qualifiers are defined in Attachment 1 at the end of this report
**Reason codes are defined in Attachment 2 at the end of this report

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two sample set specific MS/MSD pairs were reported using samples GWA-1 and GWC-9. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of calcium were high and outside the laboratory specified acceptance criteria in the MS/MSD pair using sample GWA-1. Since the calcium concentration in sample GWA-1 was greater than four times the spiked concentration, no qualifications were applied to the data.

The recoveries of calcium were low and outside the laboratory specified acceptance criteria in the MS/MSD pair using sample GWC-9. Since the calcium concentration in sample GWC-9 was greater than four times the spiked concentration, no qualifications were applied to the data.

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

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

One equipment blank was collected with the sample sets, EB-03. Metals were not detected in the equipment blank above the MDLs, with the following exceptions.

Calcium (0.016 mg/L) and zinc (0.0059 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in EB-03. Since the zinc concentration in EB-03 was U* qualified due to method blank contamination and the calcium concentration in the associated

samples were greater than five times the equipment blank concentration, no additional qualifications were applied to the arsenic data.

1.7 Field Blank

One field blank was collected with the sample sets, FB-03. Metals were not detected in the field blank above the MDLs.

Boron (0.011 mg/L), copper (0.00036 mg/L), nickel (0.00053 mg/L) and zinc (0.0056 mg/L) were detected at estimated concentrations greater than the MDLs and less than the RLs in FB-03. Since the zinc concentration in FB-03 was U* qualified due to method blank contamination, no additional qualifications were applied to the zinc data, based on professional and technical judgment. However, the boron, copper and nickel concentrations in the associated samples less than five times the method blank concentrations were U* qualified as not detected at the reported concentration.

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
GWA-1	Boron	0.025	J	0.025	U*	BF
GWA-1	Nickel	0.00037	J	0.00037	U*	BF
GWA-4	Nickel	0.0013	J	0.0013	U*	BF
GWA-11	Boron	0.039	J	0.039	U*	BF
GWA-11	Nickel	0.0017	J	0.0017	U*	BF
GWC-5	Copper	0.00031	J	0.00031	U*	BF
GWC-5	Nickel	0.00088	J	0.00088	U*	BF
GWC-6	Boron	0.042	NA	0.042	U*	BF
GWC-6	Copper	0.00023	J	0.00023	U*	BF
GWC-6	Nickel	0.00042	J	0.00042	U*	BF
GWC-8	Boron	0.046	NA	0.046	U*	BF
GWC-8	Copper	0.00036	J	0.00036	U*	BF
GWC-8	Nickel	0.00063	J	0.00063	U*	BF
FD-03	Boron	0.046	NA	0.046	U*	BF
FD-03	Copper	0.00020	J	0.00020	U*	BF
GWC-7	Boron	0.050	NA	0.050	U*	BF
GWC-7	Copper	0.00034	J	0.00034	U*	BF
GWC-10	Boron	0.031	J	0.031	U*	BF
GWC-22	Copper	0.00031	J	0.00031	U*	BF
GWC-21	Copper	0.00084	J	0.00084	U*	BF
GWC-20	Boron	0.019	J	0.019	U*	BF
GWC-20	Copper	0.00023	J	0.00023	U*	BF
GWC-19	Copper	0.00019	J	0.00019	U*	BF
GWC-18	Copper	0.00037	J	0.00037	U*	BF
GWC-18	Nickel	0.0015	J	0.0015	U*	BF
GWC-23	Boron	0.024	J	0.024	U*	BF

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
GWC-23	Copper	0.00083	J	0.00083	U*	BF
GWC-9	Boron	0.018	J	0.018	U*	BF
GWC-9	Nickel	0.0022	J	0.0022	U*	BF

mg/L- milligram per liter
J- estimated concentration greater than the MDL and less than the RL
NA-not applicable

1.8 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-03. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample GWC-8.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverables (EDDs) Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flags B and M6 used in the level II reports were not included in the EDDs. No other discrepancies were identified between the level II reports and the EDDs.

2.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard Method 2540C and chloride, fluoride and sulfate by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Method Blank
⊗ Matrix Spike/Matrix Spike Duplicate
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank

✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverables Review

2.1 Overall Assessment

The wet chemistry data reported in these packages are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

2.2 Holding Times

The holding times for the analysis of a water sample for the wet chemistry parameters are listed below. The holding times were met for the sample analyses.

Analyte	Holding Time
TDS	7 days from collection to analysis
Chloride, Fluoride and Sulfate	28 days from collection to analysis

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three method blanks were reported for the anions (batches 36584, 503241 and 503542). The anions were not detected in the method blanks above the MDLs, with the following exception.

2623793: Chloride (0.030 mg/L) was detected at an estimated concentration greater than the MDL and less than the RL in the method blank in batch 36584. Since the chloride concentrations in the associated samples were greater than five times the method blank concentration, no qualifications were applied to the data.

2.4 Matrix Spike/Matrix Spike Duplicate

Two sample set MS/MSD pairs were reported using samples GWA-2 and GWC-10 for the anions. The RPD and recovery results were within the laboratory specified acceptance criteria, with the following exceptions.

The recovery of sulfate in the MS using sample GWA-2 was low and outside the laboratory specified acceptance criteria. Therefore, the sulfate concentration in sample GWA-2 was J qualified as estimated.

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

Sample	Analyte	Laboratory Result (mg/L)	Laboratory Flag	Validation Result (mg/L)	Validation Qualifier	Reason Code
GWA-2	Sulfate	17.5	M1	17.5	J	M-

mg/L- milligram per liter
M1-laboratory flag indicating matrix spike recovery exceeded QC limits

2.5 Laboratory Control Sample

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

2.6 Laboratory Duplicate

Three sample set specific laboratory duplicates were reported for TDS using samples GWA-3, EB-03 and GWC-7. The RPD results were within the laboratory specified acceptance criteria.

Batch laboratory duplicates were also reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

One equipment blank was collected with the sample sets, EB-03. The wet chemistry parameters were not detected in the equipment blank above the MDLs, with the following exceptions.

TDS (11.0 mg/L) was detected at a concentration greater than the RL in EB-03. Since TDS was detected at concentrations greater than five times the equipment blank concentration, no qualifications were applied to the data.

2.8 Field Blank

One field blank was collected with the sample sets, FB-03. The wet chemistry parameters were not detected in the field blank above the MDLs.

2.9 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-03. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample GWC-8.

2.10 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

2.11 Electronic Data Deliverables Review

The results and sample IDs in the EDDs were reviewed against the information provided by the associated level II reports at a minimum of 20% as part of the data validation process. The laboratory flag M1 used in the level II reports was not included in the EDDs. No other discrepancies were identified between the level II reports and the EDDs.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Reason Code	Explanation
13	Other
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
H	Holding time exceedance.
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

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Memorandum

Date:	18 January 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Number 2625374**

SITE: Plant Hammond Huffaker

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of three aqueous samples, one equipment blank and one field blank, collected 6 November 2019, as part of the Plant Hammond Huffaker on-site sampling event.

The samples were analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Metals by United States (US) Environmental Protection Agency (EPA) Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C
- Sulfate by USEPA Method 300.0

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below and the information provided, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011); and,
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001).

The following samples were analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2625374001	GWC-21
2625374002	GWC-20
2625374003	GWC-7

Laboratory ID	Client ID
2625374004	FB-01
2625374005	EB-01

The samples were received within 0-6ºC. No sample preservation issues were noted by the laboratory.

The year was not documented on the chain of custody (COC) form for the sample collection times.

1.0 METALS

The samples were analyzed for metals by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The metals data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

1.2 Holding Time

The holding time for the metals analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 38622). Metals were not detected in the method blank above the method detection limits (MDLs), with the following exception.

Arsenic was detected at an estimated concentration greater than the MDL and less than the reporting limit (RL). Since arsenic was not detected in the associated samples, no qualifications were applied to the data.

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported using sample GWC-7. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exception.

The MSD recovery of calcium was low and outside the laboratory specified acceptance criteria. Since the calcium concentration in sample GWC-7 was greater than four times the spiked concentration, no qualifications were applied to the data.

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

One equipment blank was collected with the sample sets, EB-01. Metals were not detected in the equipment blank above the MDLs.

1.7 Field Blank

One field blank was collected with the sample sets, FB-01. Metals were not detected in the field blank above the MDLs.

1.8 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-03. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample GWC-8.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 WET CHEMISTRY

The samples were analyzed for TDS by Standard Method 2540C and sulfate by USEPA method 300.0.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

2.1 Overall Assessment

The wet chemistry data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

2.2 Holding Times

The holding times for the analysis of a water sample for the wet chemistry parameters are listed below. The holding times were met for the sample analyses.

Analyte	Holding Time
TDS	7 days from collection to analysis
Sulfate	28 days from collection to analysis

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported for the sulfate (batch 38587). Sulfate was not detected in the method blank above the MDL.

2.4 Matrix Spike/Matrix Spike Duplicate

One sample set MS/MSD pair was reported for sulfate using sample EB-01. The RPD and recovery results were within the laboratory specified acceptance criteria.

One batch MS was also reported for the sulfate. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Laboratory Control Sample

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

2.6 Laboratory Duplicate

One batch laboratory duplicate was reported for TDS. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.7 Equipment Blank

One equipment blank was collected with the sample sets, EB-01. The wet chemistry parameters were not detected in the equipment blank above the MDLs.

2.8 Field Blank

One field blank was collected with the sample sets, FB-01. The wet chemistry parameters were not detected in the field blank above the MDLs, with the following exception.

Sulfate was detected at an estimated concentration greater than the MDL and less than the RL in FB-01. Since sulfate was detected in the associated sample at a concentration greater than five times the field blank concentration, no qualifications were applied to the data.

2.9 Field Duplicate

One field duplicate sample was collected with the sample sets, FD-03. Acceptable precision (RPD $\leq$ 20% or the difference between the concentrations < RL) was demonstrated between the field duplicate and the original sample GWC-8.

2.10 Sensitivity

The samples were reported to the MDLs. No elevated nondetect results were reported.

2.11 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

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ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Reason Code	Explanation
13	Other
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
H	Holding time exceedance.
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

Geosyntec consultants

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Knoxville, TN 37922
PH 865.330.0037
www.geosyntec.com

Memorandum

Date:	18 January 2020
To:	Whitney Law
From:	Kristoffer Henderson
CC:	J. Caprio
Subject:	**Stage 2A Data Validations - Level II Data Deliverables – Pace Analytical Services, LLC Project Number 2626198**

SITE: Plant Hammond Huffaker

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of one aqueous sample, collected 26 November 2019, as part of the Plant Hammond Huffaker on-site sampling event.

The sample was analyzed at Pace Analytical Services, LLC, Peachtree Corners, Georgia, for the following analytical tests:

- Calcium by United States (US) Environmental Protection Agency (EPA) Methods 3005A/6020B
- Total Dissolved Solids (TDS) by Standard Method 2540C

EXECUTIVE SUMMARY

Based on the Stage 2A data validation covering the quality control (QC) parameters listed below, the data are usable for meeting project objectives.

The data were reviewed based on the pertinent methods referenced in the laboratory reports, professional and technical judgment and the following documents:

- US EPA Region IV Data Validation Standard Operating Procedures (US EPA Region IV, September 2011); and,
- USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA 540-R-2017-001).

The following sample was analyzed and reported in the laboratory reports:

Laboratory ID	Client ID
2626198001	GWC-21

The sample was received within 0-6ºC. No sample preservation issues were noted by the laboratory.

The year was not documented on the chain of custody (COC) form for the sample collection time. The relinquished by signature, data and time were not documented on the COC for the third sample transfer.

1.0 CALCIUM

The sample was analyzed for calcium by USEPA methods 3005A/6020B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

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

1.1 Overall Assessment

The calcium data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

1.2 Holding Time

The holding time for the calcium analysis of a water sample is 180 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 39976).

Calcium was detected at an estimated concentration greater than the method detection limit (MDL) and less than the reporting limit (RL). Since calcium was not detected in the associated sample, no qualifications were applied to the data.

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

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One batch MS/MSD was reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

1.5 Laboratory Control Sample (LCS)

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

1.6 Equipment Blank

An equipment blank was not collected with the sample set.

1.7 Field Blank

A field blank was not collected with the sample set.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The sample was reported to the MDLs. Elevated nondetect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample ID in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 TOTAL DISSOLVED SOLIDS

The sample was analyzed for TDS by Standard Method 2540C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

✓ Overall Assessment
✓ Holding Times
✓ Laboratory Control Sample
✓ Laboratory Duplicate
✓ Equipment Blank
✓ Field Blank
✓ Field Duplicate
✓ Sensitivity
⊗ Electronic Data Deliverables Review

2.1 Overall Assessment

The TDS data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for the dataset is 100%.

2.2 Holding Times

The holding time for the analysis of a water sample for TDS is 7 days from collection to analysis. The holding time was met for the sample analysis.

2.3 Laboratory Control Sample

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

2.4 Laboratory Duplicate

Two batch laboratory duplicates were reported. Since these were batch QC, the results do not affect the samples in this data set and qualifications were not applied to the data.

2.5 Equipment Blank

An equipment blank was not collected with the sample set.

2.6 Field Blank

A field blank was not collected with the sample set.

2.7 Field Duplicate

A field duplicate was not collected with the sample set.

2.8 Sensitivity

The sample was reported to the MDL. No elevated nondetect results were reported.

2.9 Electronic Data Deliverable Review

The results and sample ID in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

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* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

U* This analyte should be considered "not-detected" because it was detected in an associated blank at a similar level.

UJ The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Reason Code	Explanation
13	Other
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
H	Holding time exceedance.
L	LCS and LCSD recoveries outside acceptance limits, indeterminate bias
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.

APPENDIX C2

Field Sampling Forms

Product Name: Low-Flow System

Date: 2019-04-08 10:48:26

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	30 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2239027 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	11.73 ft	Total Volume Pumped	5.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:36:07	300.07	15.81	6.99	152.88	0.55	12.17	6.25	93.22
Last 5	10:41:07	600.02	15.92	6.97	151.55	0.46	12.18	6.89	76.14
Last 5	10:46:07	900.02	15.89	6.86	150.12	0.81	12.20	6.75	54.99
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.12	-0.01	-1.33			0.64	-17.08
Variance 2			-0.04	-0.11	-1.43			-0.13	-21.15

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EP A 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 40.03

Grab Samples

GWA-1

Grab

Product Name: Low-Flow System

Date: 2019-04-08 11:17:41

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWA-2	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.13 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:40:49	300.09	15.80	6.76	419.68	2.29	6.49	0.13	26.62
Last 5	10:45:49	600.01	15.79	6.78	419.80	1.23	6.49	0.13	23.57
Last 5	10:50:49	899.99	15.81	6.79	419.87	1.60	6.46	0.08	21.67
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.02	0.02	0.13			-0.00	-3.04
Variance 2			0.03	0.01	0.06			-0.05	-1.90

Notes

Two Bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =26.1

Grab Samples

GWA-2

Grab

Product Name: Low-Flow System

Date: 2019-04-05 15:17:20

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	13 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1480245 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.67 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:05:18	300.04	16.61	6.85	773.76	2.81	5.15	0.21	117.72
Last 5	15:10:18	600.02	16.93	6.80	767.99	2.49	5.14	0.22	104.78
Last 5	15:15:18	900.02	17.26	6.77	757.81	2.58	5.14	0.29	100.56
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.32	-0.05	-5.78			0.02	-12.94
Variance 2			0.33	-0.04	-10.17			0.07	-4.22

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EP A 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 21.64

Grab Samples

GWA-3

Grab

Product Name: Low-Flow System

Date: 2019-04-08 13:04:31

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	38.0 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	37.0 ft

Well Information:		Pumping Information:	
Well ID	GWA-4	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2596101 L
Well Total Depth	47.00 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	9.83 ft	Total Volume Pumped	14 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:29:26	2999.95	15.93	6.88	750.66	0.75	10.16	0.96	72.70
Last 5	12:34:26	3299.95	15.93	6.86	745.99	0.71	10.17	0.91	72.90
Last 5	12:39:26	3599.94	15.98	6.84	745.45	1.01	10.16	0.81	73.00
Last 5	12:44:26	3899.93	16.09	6.83	747.52	1.12	10.18	0.85	72.69
Last 5	12:49:26	4199.92	16.11	6.82	737.39	1.61	10.18	0.80	72.89
Variance 0			0.05	-0.03	-0.54			-0.10	0.10
Variance 1			0.11	-0.00	2.07			0.04	-0.31
Variance 2			0.01	-0.01	-10.13			-0.05	0.20

Notes

For AP wells:
Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 21.8

Grab Samples
GWA-4

Grab

Product Name: Low-Flow System

Date: 2019-04-08 16:18:38

Project Information:		Pump Information:	
Operator Name	Aaron Reeder	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	32.45 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	31.45 ft

Well Information:		Pumping Information:	
Well ID	GWA-11	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2348381 L
Well Total Depth	36.45 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	15.65 ft	Total Volume Pumped	22 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:51:00	5103.90	16.12	6.61	198.56	12.32	15.97	0.49	0.88
Last 5	15:56:00	5403.89	16.17	6.61	199.42	10.12	15.95	0.50	0.38
Last 5	16:01:00	5703.89	16.14	6.61	198.70	10.00	15.97	0.46	-0.23
Last 5	16:06:00	6003.88	16.21	6.61	200.12	5.87	15.97	0.46	-0.83
Last 5	16:11:00	6303.87	16.19	6.61	200.37	4.87	15.96	0.46	-1.10
Variance 0			-0.03	-0.00	-0.72			-0.04	-0.61
Variance 1			0.07	-0.00	1.42			-0.00	-0.60
Variance 2			-0.01	-0.00	0.24			0.01	-0.27

Notes

For AP wells:

Two bottles One 250-mil bottle with HNO3 for metals and one 500-mL plastic bottle for TDS and anions .Total depth = 36.45

Grab Samples

GWA-11

Grab

Product Name: Low-Flow System

Date: 2019-04-09 09:28:53

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	13 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-5	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.1480245 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.46 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:07:16	600.02	15.69	6.69	641.36	3.75	4.55	2.20	-6.49
Last 5	09:12:16	900.02	15.78	6.70	636.77	2.43	4.56	2.28	-8.34
Last 5	09:17:16	1200.01	15.83	6.71	638.10	1.94	4.56	2.57	-9.13
Last 5	09:22:16	1500.01	15.94	6.70	633.73	1.70	4.56	1.65	-9.50
Last 5	09:27:16	1800.01	16.11	6.72	631.95	1.04	4.56	0.17	-8.90
Variance 0			0.06	0.00	1.33			0.29	-0.79
Variance 1			0.11	-0.01	-4.36			-0.92	-0.36
Variance 2			0.17	0.02	-1.78			-1.48	0.59

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 21.73

Grab Samples

GWC-5

Grab

Product Name: Low-Flow System

Date: 2019-04-08 16:55:02

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	15.11 ft	Total Volume Pumped	26 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:42:26	5999.82	17.53	7.01	493.49	2.49	15.20	0.72	-0.77
Last 5	15:47:26	6299.81	17.53	7.01	493.77	3.28	15.21	0.65	-2.88
Last 5	15:52:25	6599.80	17.46	7.01	498.00	2.82	15.21	0.60	-4.35
Last 5	15:57:25	6899.79	17.49	7.01	509.97	4.00	15.20	0.52	-6.09
Last 5	16:02:25	7199.78	17.53	7.00	503.68	3.02	15.20	0.45	-7.49
Variance 0			-0.07	0.00	4.23			-0.05	-1.47
Variance 1			0.03	-0.00	11.97			-0.09	-1.74
Variance 2			0.04	-0.00	-6.29			-0.06	-1.40

Notes

Two Bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =43.05

Grab Samples

GWC-6

Grab

Product Name: Low-Flow System

Date: 2019-04-08 17:44:03

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-7	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1926587 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	13.34 ft	Total Volume Pumped	21 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	17:21:46	9910.94	17.47	6.28	430.42	6.33	13.74	0.16	-7.17
Last 5	17:26:46	10210.95	17.44	6.29	442.83	8.21	13.74	0.15	-7.36
Last 5	17:31:46	10510.94	17.38	6.27	441.73	7.74	13.73	0.16	-5.78
Last 5	17:36:46	10810.98	17.58	6.28	443.19	6.47	13.74	0.15	-5.79
Last 5	17:41:46	11110.96	17.53	6.26	435.45	6.01	13.74	0.15	-4.35
Variance 0			-0.07	-0.02	-1.10			0.00	1.58
Variance 1			0.20	0.00	1.46			-0.00	-0.01
Variance 2			-0.05	-0.01	-7.74			-0.00	1.44

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 32.25

Grab Samples

GWC-7

Grab

Product Name: Low-Flow System

Date: 2019-04-08 12:57:55

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	19 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWA-8	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1748051 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	10.02 ft	Total Volume Pumped	11 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:35:04	2400.00	16.60	6.88	738.20	8.69	12.05	0.86	17.99
Last 5	12:40:04	2700.00	16.65	6.88	732.64	6.83	12.02	0.83	16.17
Last 5	12:45:04	3000.00	16.73	6.89	715.80	6.82	12.01	0.79	13.09
Last 5	12:50:04	3300.00	16.74	6.89	704.60	6.32	12.00	0.72	11.29
Last 5	12:55:04	3600.00	16.87	6.91	695.79	4.98	12.00	0.71	8.92
Variance 0			0.08	0.01	-16.84			-0.04	-3.09
Variance 1			0.00	-0.01	-11.20			-0.07	-1.80
Variance 2			0.13	0.02	-8.81			-0.01	-2.37

Notes

Four bottles: Two 1-L plastic bottles with HNO3 for radium (EPA 9315/9320); one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 27.60

Grab Samples

GWC-8

Grab

FD-2

Grab at GWC-8

Product Name: Low-Flow System

Date: 2019-04-08 13:14:26

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-9	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	13.03 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:51:39	300.02	17.31	6.69	334.35	2.16	13.30	0.44	-15.44
Last 5	12:56:39	600.01	17.40	6.70	330.31	1.75	13.30	0.35	-17.37
Last 5	13:01:39	900.00	17.57	6.72	329.19	1.65	13.31	0.32	-20.38
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.09	0.01	-4.04			-0.08	-1.93
Variance 2			0.17	0.02	-1.12			-0.03	-3.01

Notes

Two Bottles; one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =52.48

Grab Samples

GWC-9

Grab

Product Name: Low-Flow System

Date: 2019-04-09 11:18:19

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	25 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-10	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2015856 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	12.63 ft	Total Volume Pumped	8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:56:56	300.05	16.29	7.19	358.10	7.01	12.68	0.45	-53.33
Last 5	11:01:56	600.02	16.37	7.20	358.59	6.42	12.69	0.44	-53.25
Last 5	11:06:56	900.02	16.41	7.20	351.32	7.56	12.69	0.43	-57.72
Last 5	11:11:56	1200.02	16.55	7.22	349.02	5.75	12.70	0.45	-56.61
Last 5	11:16:56	1500.02	16.58	7.22	345.50	4.80	12.70	0.45	-59.05
Variance 0			0.05	-0.00	-7.28			-0.01	-4.47
Variance 1			0.13	0.02	-2.30			0.01	1.11
Variance 2			0.03	-0.00	-3.52			0.01	-2.44

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 34.48

Grab Samples

GWC-10

Grab

Product Name: Low-Flow System

Date: 2019-04-09 10:32:37

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-18	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	12.43 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:58:43	300.09	17.00	7.22	365.53	3.17	13.58	1.42	93.79
Last 5	10:03:42	600.01	16.93	7.36	365.45	2.78	13.63	1.38	90.36
Last 5	10:08:42	900.00	17.00	7.42	363.38	1.46	13.69	1.35	90.93
Last 5	10:13:43	1200.03	17.08	7.48	361.59	1.97	13.71	1.38	90.83
Last 5									
Variance 0			-0.06	0.14	-0.08			-0.03	-3.43
Variance 1			0.06	0.06	-2.07			-0.03	0.57
Variance 2			0.09	0.06	-1.80			0.02	-0.11

Notes

Two Bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =57.1

Grab Samples

Grab

GWC-18

Product Name: Low-Flow System

Date: 2019-04-09 12:25:16

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	497259		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-19	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.49 ft	Total Volume Pumped	7.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:48:23	300.06	17.00	7.34	400.99	5.05	18.59	1.23	22.01
Last 5	11:53:23	600.01	17.05	7.37	397.39	5.11	18.59	0.81	13.69
Last 5	11:58:23	900.00	17.17	7.37	394.93	3.09	18.60	0.69	8.74
Last 5	12:03:24	1200.99	17.26	7.38	392.15	3.75	18.60	0.52	8.88
Last 5	12:08:24	1500.99	17.36	7.40	385.37	4.10	18.59	0.30	11.52
Variance 0			0.12	0.00	-2.45			-0.12	-4.95
Variance 1			0.09	0.00	-2.78			-0.17	0.14
Variance 2			0.10	0.03	-6.78			-0.22	2.64

Notes

Two Bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth =57.11

Grab Samples

GWC-19

Grab

Product Name: Low-Flow System

Date: 2019-04-09 14:08:31

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	26 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	588863		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-20	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.206049 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	2.99 ft	Total Volume Pumped	18 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:46:53	3600.00	17.08	7.26	388.30	5.43	3.84	0.44	-85.71
Last 5	13:51:53	3899.99	16.91	7.26	386.90	4.87	3.84	0.51	-85.48
Last 5	13:56:53	4199.99	16.93	7.25	385.53	6.13	3.85	0.57	-84.50
Last 5	14:01:53	4499.99	17.23	7.26	381.85	5.19	3.85	0.58	-82.89
Last 5	14:06:53	4799.99	16.87	7.26	376.90	4.70	3.85	0.59	-81.36
Variance 0			0.02	-0.01	-1.37			0.06	0.98
Variance 1			0.30	0.01	-3.68			0.01	1.60
Variance 2			-0.36	0.00	-4.94			0.01	1.53

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and IV metals (EPA 6020B/7470A). Total depth = 31.46

Grab Samples

GWC-20

Grab

Product Name: Low-Flow System

Date: 2019-04-09 10:47:41

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-21	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.91 ft	Total Volume Pumped	6.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:04:56	1200.02	13.90	6.56	294.05	0.25	5.17	0.82	3.86
Last 5	10:09:56	1500.02	14.18	6.51	283.88	0.25	5.10	0.80	3.05
Last 5	10:14:56	1800.02	14.26	6.49	282.88	0.33	5.10	0.97	2.04
Last 5	10:19:56	2100.02	14.40	6.47	276.91	0.41	5.10	0.90	1.32
Last 5	10:24:56	2400.02	14.41	6.46	273.50	0.39	5.10	0.95	2.06
Variance 0			0.09	-0.02	-0.99			0.17	-1.01
Variance 1			0.14	-0.02	-5.98			-0.06	-0.72
Variance 2			0.01	-0.00	-3.41			0.05	0.74

Notes

Two bottles: One 500-mL plastic bottle for TDS and anions and one 250-mL plastic bottle with HNO3 for metals. Total depth = 18.34 ft.

Grab Samples

GWC-21

Grab

Product Name: Low-Flow System

Date: 2019-04-09 13:04:36

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-22	Final Pumping Rate	140 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	1.83 ft	Total Volume Pumped	8.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:28:46	2100.02	19.15	7.50	355.83	5.71	2.49	0.40	-61.18
Last 5	12:33:46	2400.02	19.32	7.49	355.43	5.17	2.49	0.35	-73.04
Last 5	12:38:46	2700.02	19.33	7.49	355.62	5.71	2.51	0.32	-80.82
Last 5	12:43:46	3000.02	18.83	7.50	354.83	5.43	2.53	0.34	-78.03
Last 5	12:48:47	3300.61	18.80	7.49	356.83	4.52	2.53	0.44	-85.52
Variance 0			0.01	-0.00	0.19			-0.03	-7.78
Variance 1			-0.50	0.02	-0.79			0.02	2.79
Variance 2			-0.04	-0.02	2.00			0.10	-7.50

Notes

Two bottles: One 500-mL plastic bottle for TDS and anions and one 250-mL plastic bottle with HNO3 for metals. Total depth = 42.16 ft.

Grab Samples

GWC-22

Grab

Product Name: Low-Flow System

Date: 2019-04-08 16:01:27

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	364452		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-23	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.96 ft	Total Volume Pumped	16.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:13:54	8101.76	16.64	6.89	306.38	5.79	8.16	0.17	-48.76
Last 5	15:18:54	8401.76	16.61	6.88	306.07	5.33	8.16	0.16	-49.06
Last 5	15:23:54	8701.76	16.69	6.88	306.08	5.18	8.16	0.16	-49.12
Last 5	15:28:54	9001.76	16.65	6.87	306.23	5.29	8.16	0.15	-48.90
Last 5	15:33:54	9301.76	16.74	6.88	306.16	4.89	8.16	0.13	-49.13
Variance 0			0.09	-0.00	0.01			-0.00	-0.06
Variance 1			-0.04	-0.01	0.15			-0.01	0.22
Variance 2			0.09	0.00	-0.07			-0.01	-0.23

Notes

Two bottles: One 500-mL plastic bottle for TDS and anions and one 250-mL plastic bottle with HNO3 for App. III and D&O metals. Total depth = 50.02 ft.

Grab Samples

GWC-23

Grab

Product Name: Low-Flow System

Date: 2019-06-19 10:42:48

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	16.59 ft	Total Volume Pumped	10 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:06:04	900.00	19.29	7.01	505.59	11.50	16.68	0.18	-29.00
Last 5	10:11:04	1200.00	19.39	7.02	499.74	10.12	16.70	0.17	-33.55
Last 5	10:16:04	1499.99	19.46	7.02	498.51	7.36	16.71	0.19	-37.69
Last 5	10:21:04	1799.98	19.39	7.02	500.58	6.74	16.71	0.14	-41.95
Last 5	10:26:04	2099.98	19.48	7.03	499.79	4.03	16.72	0.15	-45.34
Variance 0			0.07	0.01	-1.23			0.03	-4.14
Variance 1			-0.07	-0.00	2.07			-0.05	-4.26
Variance 2			0.08	0.01	-0.79			0.00	-3.39

Notes

Parameters to be analyzed Sulfate. Total depth= 43.09 ft

Grab Samples

GWC-6

Grab

Product Name: Low-Flow System

Date: 2019-06-18 13:40:32

Project Information:		Pump Information:	
Operator Name	Grant Walter	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	20 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	647057		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-8	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.1792685 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	12.75 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:18:58	1504.02	18.99	6.76	852.99	4.57	15.22	0.10	-22.05
Last 5	13:23:58	1804.02	19.30	6.78	830.47	3.60	15.23	0.11	-25.36
Last 5	13:28:58	2104.02	19.30	6.81	804.02	4.23	15.24	0.11	-28.78
Last 5	13:33:58	2404.02	19.06	6.84	774.04	3.97	15.26	0.11	-30.98
Last 5	13:38:58	2704.02	19.39	6.85	770.46	3.24	15.28	0.14	-32.55
Variance 0			0.00	0.03	-26.45			0.01	-3.43
Variance 1			-0.25	0.03	-29.97			-0.01	-2.20
Variance 2			0.34	0.01	-3.59			0.03	-1.56

Notes

Parameters to be analyzed: Barium, Calcium. Total depth =27.60

Grab Samples

GWC-8

Grab

Product Name: Low-Flow System

Date: 2019-06-18 14:08:24

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642533		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-20	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.31 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:37:44	300.02	19.42	7.33	401.48	0.69	5.90	0.27	-39.46
Last 5	13:42:44	600.01	19.34	7.34	399.83	0.66	5.92	0.20	-55.56
Last 5	13:47:44	900.00	19.13	7.35	399.82	0.59	5.93	0.17	-75.37
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.08	0.01	-1.66			-0.08	-16.10
Variance 2			-0.22	0.00	-0.01			-0.03	-19.81

Notes

Parameters to be analyzed Sulfate. Total depth= 31.49 ft

Grab Samples

GWC-20

Grab

Product Name: Low-Flow System

Date: 2019-06-27 14:12:45

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-8	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	12.39 ft	Total Volume Pumped	7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:45:06	900.01	19.38	7.00	608.18	6.80	14.65	1.47	-39.67
Last 5	13:50:06	1200.00	19.28	7.02	601.81	6.49	14.67	1.21	-42.72
Last 5	13:55:06	1500.00	19.17	7.03	598.87	3.22	14.67	0.99	-44.52
Last 5	14:00:06	1799.99	19.19	7.04	596.58	3.44	14.68	0.58	-46.31
Last 5	14:05:06	2099.99	19.19	7.05	592.25	3.90	14.70	0.39	-47.67
Variance 0			-0.11	0.01	-2.95			-0.23	-1.80
Variance 1			0.02	0.01	-2.29			-0.41	-1.79
Variance 2			-0.00	0.01	-4.33			-0.19	-1.36

Notes

Parameters to be analyzed barium and calcium. Total depth = 28.51 ft

Grab Samples

GWC-8

Grab

Product Name: Low-Flow System

Date: 2019-06-27 13:00:11

Project Information:		Pump Information:	
Operator Name	Dalton Anderson	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-20	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.19 ft	Total Volume Pumped	18 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.2	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:32:50	3899.85	19.84	7.27	382.93	0.29	6.01	0.72	-52.68
Last 5	12:37:50	4199.85	19.85	7.28	383.54	0.20	6.02	0.55	-58.15
Last 5	12:42:50	4499.84	19.85	7.29	384.41	0.22	6.02	0.58	-63.08
Last 5	12:47:50	4799.84	19.84	7.30	385.73	0.33	6.03	0.52	-67.94
Last 5	12:52:51	5100.83	19.86	7.31	386.55	0.31	6.03	0.40	-72.68
Variance 0			0.01	0.01	0.87			0.03	-4.93
Variance 1			-0.01	0.01	1.32			-0.07	-4.86
Variance 2			0.01	0.01	0.81			-0.11	-4.74

Notes

Parameters to be analyzed Sulfate. Total depth = 31.47 ft

Grab Samples

GWC-20

Grab

Product Name: Low-Flow System

Date: 2019-09-30 16:44:04

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	34.83 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	34.83 ft

Well Information:		Pumping Information:	
Well ID	GWA-1	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.245461 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.41 ft	Total Volume Pumped	4.25 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:01:55	300.08	20.92	7.17	183.29	1.34	18.65	1.32	-6.51
Last 5	16:06:55	600.03	20.48	7.13	179.47	0.63	18.66	0.64	-15.09
Last 5	16:11:55	900.02	20.32	7.10	179.88	0.65	18.67	0.41	-23.15
Last 5	16:16:55	1200.02	20.39	7.11	181.05	2.12	18.67	0.34	-28.48
Last 5	16:21:55	1500.02	20.48	7.15	182.37	0.85	18.67	0.35	-37.54
Variance 0			-0.16	-0.04	0.42			-0.23	-8.06
Variance 1			0.07	0.01	1.17			-0.07	-5.33
Variance 2			0.09	0.04	1.32			0.01	-9.06

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O Metals (EPA 6020B/7470A). Total depth = 40.04'

Grab Samples

GWA-1

Grab

Product Name: Low-Flow System

Date: 2019-09-30 14:44:00

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	20.92 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	20.92 ft

Well Information:		Pumping Information:	
Well ID	GWA-2	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1833748 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	9.63 ft	Total Volume Pumped	4.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:15:58	300.04	23.88	6.82	426.21	1.81	9.99	0.30	-106.50
Last 5	14:20:58	600.02	23.14	6.85	423.44	0.62	9.97	0.20	-106.94
Last 5	14:25:58	900.02	22.98	6.86	421.58	1.11	9.98	0.16	-108.18
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.74	0.03	-2.77			-0.09	-0.44
Variance 2			-0.16	0.01	-1.86			-0.05	-1.25

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O Metals (EPA 6020B/7470A). Total depth = 26.11'

Grab Samples

GWA-2

Grab

Product Name: Low-Flow System

Date: 2019-09-30 14:59:51

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	18.45 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	16.45 ft

Well Information:		Pumping Information:	
Well ID	GWA-3	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1723502 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	7.71 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:26:55	300.03	24.64	6.78	767.34	6.49	8.05	0.21	99.35
Last 5	14:31:55	600.02	24.38	6.79	765.82	6.78	8.05	0.18	89.68
Last 5	14:36:55	900.02	24.44	6.78	762.18	4.78	8.06	0.15	84.08
Last 5	14:41:55	1200.03	24.62	6.76	757.21	4.22	8.06	0.15	79.91
Last 5	14:46:55	1500.03	24.69	6.73	752.35	3.27	8.06	0.14	75.98
Variance 0			0.07	-0.01	-3.64			-0.02	-5.60
Variance 1			0.18	-0.02	-4.97			-0.01	-4.17
Variance 2			0.07	-0.02	-4.86			-0.01	-3.93

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O Metals (EPA 6020B/7470A). Total depth = 21.63'

Grab Samples

GWA-3

Grab

Product Name: Low-Flow System

Date: 2019-09-30 16:04:25

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	18.51 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	16.51 ft

Well Information:		Pumping Information:	
Well ID	GWA-4	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.172618 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	13.34 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	15:29:00	300.03	23.97	6.95	700.12	1.60	13.52	0.92	78.31
Last 5	15:34:00	600.03	23.79	6.90	707.05	0.92	13.52	0.50	77.63
Last 5	15:44:00	1200.03	23.21	6.83	701.07	0.77	13.56	0.20	78.03
Last 5	15:49:00	1500.03	23.25	6.79	702.49	0.81	13.57	0.20	77.87
Last 5	15:54:00	1800.02	23.14	6.77	700.46	0.69	13.58	0.16	77.93
Variance 0			-0.58	-0.07	-5.99			-0.29	0.39
Variance 1			0.04	-0.03	1.43			-0.01	-0.16
Variance 2			-0.11	-0.02	-2.03			-0.04	0.06

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 21.75'

Grab Samples

GWA-4

Grab

Product Name: Low-Flow System

Date: 2019-09-30 16:48:41

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWA-11	Final Pumping Rate	175 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	20.56 ft	Total Volume Pumped	6.7 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:17:56	1200.01	19.45	7.07	192.92	13.00	20.88	0.21	-61.11
Last 5	16:22:56	1500.01	19.25	6.97	192.63	8.98	20.87	0.20	-57.85
Last 5	16:27:56	1800.01	19.05	6.91	193.15	6.73	20.87	0.19	-56.89
Last 5	16:32:56	2100.01	19.05	6.90	192.99	5.05	20.87	0.17	-56.34
Last 5	16:37:56	2400.00	19.15	6.86	194.03	4.37	20.87	0.17	-57.63
Variance 0			-0.20	-0.06	0.52			-0.01	0.96
Variance 1			-0.00	-0.01	-0.15			-0.02	0.54
Variance 2			0.11	-0.04	1.03			0.00	-1.29

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 36.41 ft.

Grab Samples

GWA-11

Grab

Product Name: Low-Flow System

Date: 2019-10-01 09:50:01

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	16.54 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	16.54 ft

Well Information:		Pumping Information:	
Well ID	GWC-5	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.163825 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.71 ft	Total Volume Pumped	5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:22:57	300.10	22.83	6.77	608.39	4.13	6.79	0.24	-28.90
Last 5	09:27:57	600.02	22.85	6.78	604.32	1.90	6.79	0.18	-37.08
Last 5	09:32:57	900.02	23.00	6.81	600.65	1.50	6.80	0.16	-42.83
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.02	0.02	-4.07			-0.07	-8.18
Variance 2			0.16	0.02	-3.67			-0.02	-5.75

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O Metals EPA 6020B/7470A). Total depth = 21.77'

Grab Samples

GWC-5

Grab

Product Name: Low-Flow System

Date: 2019-10-01 11:33:28

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammondk	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	37.9 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	37.9 ft

Well Information:		Pumping Information:	
Well ID	GWC-6	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2591638 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.32 ft	Total Volume Pumped	3.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:43:46	300.04	22.00	6.95	498.79	9.23	18.39	0.75	-51.00
Last 5	10:48:46	600.02	21.50	6.94	494.86	5.23	18.39	0.37	-60.69
Last 5	10:53:46	900.03	21.31	6.96	490.08	4.70	18.39	0.31	-64.37
Last 5	10:58:46	1200.02	21.42	6.96	484.41	4.86	18.39	0.27	-68.00
Last 5	11:03:46	1500.02	21.33	6.97	482.44	4.56	18.40	0.29	-70.17
Variance 0			-0.19	0.02	-4.78			-0.06	-3.68
Variance 1			0.11	0.00	-5.67			-0.03	-3.62
Variance 2			-0.10	0.01	-1.96			0.02	-2.17

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plasticl bottle with HNO3 for App. III and D&O Metals (EPA 6020B/7470A). Total Depth: 43.10'

Grab Samples

GWC-6

Grab

Product Name: Low-Flow System

Date: 2019-10-01 15:14:42

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	27.12 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	27.12 ft

Well Information:		Pumping Information:	
Well ID	GWC-7	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.211048 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.5 ft	Total Volume Pumped	6 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:18:02	1200.02	24.06	6.13	440.38	8.83	18.59	0.24	-29.34
Last 5	14:23:02	1500.02	23.53	6.12	442.11	6.19	18.59	0.23	-27.32
Last 5	14:28:02	1800.02	24.01	6.11	431.35	4.41	18.59	0.22	-27.57
Last 5	14:33:02	2100.02	23.56	6.10	422.48	4.05	18.59	0.21	-24.98
Last 5	14:38:02	2400.01	24.14	6.09	421.90	3.95	18.59	0.21	-24.93
Variance 0			0.48	-0.01	-10.76			-0.01	-0.26
Variance 1			-0.45	-0.01	-8.86			-0.01	2.60
Variance 2			0.57	-0.01	-0.59			0.00	0.05

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O Metals (EPA 6020B/7470A). Total Depth: 18.5'

Grab Samples

GWC-7

Grab

Product Name: Low-Flow System

Date: 2019-10-01 13:23:49

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	22.4 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	642531		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	22.4 ft

Well Information:		Pumping Information:	
Well ID	GWC-8	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.1899807 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	15.12 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:32:43	300.08	23.47	7.13	504.32	3.05	15.92	0.57	-48.02
Last 5	12:37:43	600.02	23.83	7.13	501.52	2.02	15.90	0.50	-56.45
Last 5	12:42:43	900.02	24.08	7.12	506.82	2.14	15.91	0.42	-61.31
Last 5	12:47:43	1200.02	24.24	7.12	502.08	2.27	15.95	0.36	-66.22
Last 5	12:52:43	1500.02	24.17	7.11	505.42	1.89	16.02	0.32	-70.01
Variance 0			0.24	-0.01	5.31			-0.08	-4.86
Variance 1			0.16	0.00	-4.75			-0.06	-4.91
Variance 2			-0.07	-0.01	3.34			-0.05	-3.79

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O M etals (EPA 6020B/7470A). Total Depth: 27.55'

Grab Samples

GWC-8

Grab

FD-03

Grab

Product Name: Low-Flow System

Date: 2019-10-01 14:08:57

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-9	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.55 ft	Total Volume Pumped	8.8 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:31:24	2700.00	21.32	6.76	337.71	8.46	18.73	0.29	-79.94
Last 5	13:36:24	3000.00	20.97	6.77	337.51	5.62	18.75	0.26	-81.44
Last 5	13:41:24	3300.00	20.95	6.75	341.27	5.31	18.75	0.23	-82.10
Last 5	13:46:24	3600.00	21.13	6.77	339.46	5.76	18.75	0.20	-83.74
Last 5	13:51:24	3899.99	20.92	6.77	337.04	3.11	18.75	0.20	-84.40
Variance 0			-0.02	-0.02	3.76			-0.03	-0.66
Variance 1			0.17	0.02	-1.81			-0.03	-1.64
Variance 2			-0.21	-0.00	-2.42			0.00	-0.67

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 52.49 ft.

Grab Samples

GWC-9

Grab

Product Name: Low-Flow System

Date: 2019-10-01 10:03:25

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	31.29 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	29.29 ft

Well Information:		Pumping Information:	
Well ID	GWC-10	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.2296605 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	19.65 ft	Total Volume Pumped	13 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	09:32:38	2700.03	17.71	7.07	280.77	19.40	19.69	0.20	25.90
Last 5	09:37:38	3000.03	17.90	7.06	285.06	7.62	19.69	0.18	23.94
Last 5	09:42:38	3300.03	17.94	7.07	282.84	5.38	19.69	0.17	21.76
Last 5	09:47:38	3600.03	18.08	7.07	281.19	4.94	19.69	0.18	19.97
Last 5	09:52:38	3900.03	18.26	7.07	283.72	4.86	19.69	0.18	18.11
Variance 0			0.04	0.01	-2.22			-0.01	-2.18
Variance 1			0.14	0.00	-1.65			0.01	-1.79
Variance 2			0.18	-0.00	2.53			-0.01	-1.86

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O m etals (EPA 6020B/7470A). Total depth = 34.45'

Grab Samples

GWC-10

Grab

Geosyntec consultants

GROUNDWATER SAMPLING LOG SHEET

Client:	SCS	Project No.:	GW 6581	Sampling Date:	10-01-2019
Site:	Huffaker	Location:	Huffaker	Sampler's Name:	D. GIBBS
Well ID:	GWC-18	Pump Type/Model:	Perry Alexis	Sample Collection Time:	1506 / 1513
Total Depth (ft):	57.03	Tubing Material:	Poly	Sample Purge Rate (mL/min):	200
Depth to Water (ft):	16.15	Pump Intake Depth (ft):	51.95	Sample ID:	GWC-18
Well Diameter (in):	2.0	Start/Stop Purge Time:	1442 /	Laboratory Analyses:	APP III + DOC
Well Volume (gal) = 0.041d²h:	6.7	Purge Rate (mL/min):	200		
Well Volume (L) = gal * 3.785:	25.38	Total Purge Volume (L):	4		
d = well diameter (inches); h = length of water column (feet)		Purge Method:	(Low-Flow) Well Volume Other: —	QA/QC Collected?	NO
Well Type:	Flush (Stick Up)	Sampling Method:	(Pump Discharge) Other: —	QA/QC I.D.	N/A
Well Lock:	(Yes) No				
Well Cap Condition:	(Good) Replace	**All sample containers requiring chemical preservation properly preserved prior to demob from well?**		(Yes) No	
Well Tag Present:	(Yes) No				

Time	pH (SU)	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Temp. (°C)	Turbidity (NTUs)	DTW (ft btoc)	Purge Rate (mL/min)	Purged Volume (L)	Notes (Purge method, water clarity, odor, purge rate, issues with pump/well/weather/etc.)
1449	7.57	330.40	6.00	0.88	21.42	0.73	17.15	200	1	
1454	7.62	321.20	6.30	0.75	20.44	0.38	17.36	200	2	
1459	7.64	325.40	7.30	0.69	20.39	0.40	17.44	200	3	
1504	7.65	320.80	8.60	0.46	20.13	0.66	17.47	200	4	
1506										grab sample
Stabilizing Criteria	**+/- 0.1 SU**	**+/- 5%**		0.2 mg/L or 10% for DO > 0.5 mg/L (whichever is greater)		**< 5 NTUs**	**< 0.3 ft**	**> 100 mL < 250 mL**	**> 3L**	

DO - 10-01-2019

Product Name: Low-Flow System

Date: 2019-10-01 14:15:06

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	54.51 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	52.51 ft

Well Information:		Pumping Information:	
Well ID	GWC-19	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.3333012 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	22.19 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:45:27	300.03	22.07	7.30	383.21	2.39	22.48	0.50	22.71
Last 5	13:50:27	600.03	21.87	7.31	389.51	1.16	22.48	0.37	17.23
Last 5	13:55:27	900.02	22.33	7.31	388.44	1.74	22.46	0.35	13.34
Last 5	14:00:27	1200.02	22.71	7.31	387.65	2.96	22.45	0.32	10.15
Last 5									
Variance 0			-0.20	0.01	6.29			-0.13	-5.48
Variance 1			0.47	0.00	-1.06			-0.02	-3.90
Variance 2			0.38	-0.00	-0.79			-0.03	-3.19

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O m etals (EPA 6020B/7470A). Total depth = 56.94'

Grab Samples

GWC-19

Grab

Product Name: Low-Flow System

Date: 2019-10-01 13:15:00

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	31.36 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	29.36 ft

Well Information:		Pumping Information:	
Well ID	GWC-20	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.2299729 L
Well Total Depth	7.36 ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	ft	Total Volume Pumped	2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	12:45:01	300.03	21.16	7.14	405.85	0.29	7.80	0.69	4.36
Last 5	12:50:01	600.07	20.71	7.16	411.68	0.30	7.84	0.44	-1.56
Last 5	12:55:01	900.03	20.81	7.16	410.54	0.25	7.85	0.40	-6.41
Last 5	13:00:01	1200.03	20.71	7.16	408.11	0.72	7.85	0.33	-10.93
Last 5									
Variance 0			-0.46	0.01	5.83			-0.25	-5.91
Variance 1			0.11	0.00	-1.14			-0.04	-4.85
Variance 2			-0.11	0.00	-2.44			-0.07	-4.53

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O m etals (EPA 6020B/7470A). Total depth = 31.46'

Grab Samples

GWC-20

Grab

Product Name: Low-Flow System

Date: 2019-10-01 12:07:17

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	15.23 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	13.23 ft

Well Information:		Pumping Information:	
Well ID	GWC-21	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.1579779 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	10.11 ft	Total Volume Pumped	1.5 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:39:03	300.02	21.62	6.93	549.23	0.99	10.43	0.77	38.42
Last 5	11:44:03	600.02	21.45	6.92	551.27	2.14	10.52	0.67	36.49
Last 5	11:49:03	900.03	21.40	6.90	552.26	--	--	0.80	35.65
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.17	-0.01	2.04			-0.11	-1.93
Variance 2			-0.06	-0.02	0.99			0.13	-0.84

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 18.49'

Grab Samples

GWC-21

Grab

Product Name: Low-Flow System

Date: 2019-10-01 11:11:25

Project Information:		Pump Information:	
Operator Name	Dan Gibbs	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	39.05 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	463453		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	37.05 ft

Well Information:		Pumping Information:	
Well ID	GWC-22	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.2642967 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.57 ft	Total Volume Pumped	2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:40:27	300.03	20.66	7.21	382.20	1.29	7.06	0.29	43.15
Last 5	10:45:27	600.02	20.35	7.32	380.81	0.81	7.15	0.24	41.67
Last 5	10:50:27	900.02	20.18	7.36	382.79	1.13	7.15	0.22	40.82
Last 5	10:55:27	1200.02	20.44	7.38	383.24	0.70	7.15	0.23	39.29
Last 5									
Variance 0			-0.31	0.11	-1.39			-0.05	-1.49
Variance 1			-0.16	0.04	1.98			-0.02	-0.85
Variance 2			0.25	0.02	0.45			0.01	-1.53

Notes

Two bottles: One 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 42.25'

Grab Samples

GWC-22

Grab

Product Name: Low-Flow System

Date: 2019-10-01 11:57:02

Project Information:		Pump Information:	
Operator Name	Noelia Muskus	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	513028		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-23	Final Pumping Rate	135 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	18.76 ft	Total Volume Pumped	7.3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:17:32	2430.00	19.74	6.90	319.04	6.79	19.04	0.23	-90.00
Last 5	11:22:32	2730.00	19.72	6.95	318.62	6.74	19.07	0.20	-93.00
Last 5	11:27:32	3030.00	19.68	6.97	317.94	5.74	19.08	0.17	-95.69
Last 5	11:32:32	3330.00	19.68	6.97	316.74	5.17	19.08	0.17	-96.45
Last 5	11:37:32	3629.99	19.96	7.00	314.62	4.43	19.05	0.17	-98.50
Variance 0			-0.04	0.02	-0.68			-0.02	-2.69
Variance 1			-0.00	0.00	-1.20			-0.00	-0.76
Variance 2			0.28	0.02	-2.12			-0.00	-2.05

Notes

Two bottles: one 500-mL plastic bottle for TDS (EPA 2540C), Cl, F, SO4 (EPA 300.0); and one 250-mL plastic bottle with HNO3 for App. III and D&O metals (EPA 6020B/7470A). Total depth = 50.13 ft.

Grab Samples

GWC-23

Grab

Product Name: Low-Flow System

Date: 2019-11-06 15:11:13

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	27 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	27 ft

Well Information:		Pumping Information:	
Well ID	GWC-7	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.2105124 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	15.43 ft	Total Volume Pumped	4 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	14:39:32	900.02	19.66	6.20	455.04	2.95	16.53	0.49	63.88
Last 5	14:44:32	1200.02	19.80	6.18	452.14	3.31	16.53	0.60	66.91
Last 5	14:49:32	1500.01	19.91	6.19	451.95	2.83	16.53	0.36	65.91
Last 5	14:54:32	1800.01	20.07	6.18	448.67	2.29	16.53	0.38	65.07
Last 5	14:59:32	2100.01	20.06	6.18	446.86	2.61	16.53	0.47	65.01
Variance 0			0.11	0.00	-0.20			-0.24	-1.00
Variance 1			0.15	-0.01	-3.28			0.02	-0.84
Variance 2			-0.00	-0.01	-1.80			0.08	-0.06

Notes

One bottle: One 250-mL plastic bottle with HNO3 for metals (EPA 6020B). Total depth = 32.30′

Grab Samples

GWC-7

Grab

Product Name: Low-Flow System

Date: 2019-11-06 13:47:37

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	29 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	29 ft

Well Information:		Pumping Information:	
Well ID	GWC-20	Final Pumping Rate	100 mL/min
Well diameter	2 in	Total System Volume	0.2194393 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	5.28 ft	Total Volume Pumped	2 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	13:27:50	300.03	18.17	7.43	396.52	1.44	5.75	0.47	80.17
Last 5	13:32:50	600.02	18.11	7.44	396.36	1.72	5.76	0.38	74.12
Last 5	13:37:50	900.02	18.08	7.44	396.90	1.42	5.78	0.31	15.01
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			-0.06	0.01	-0.16			-0.10	-6.05
Variance 2			-0.03	0.00	0.54			-0.06	-59.11

Notes

One bottle: 120-mL plastic bottle for SO4 (EPA 300.0). Total depth = 31.46’

Grab Samples

GWC-20

Grab

Product Name: Low-Flow System

Date: 2019-11-06 12:08:27

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	13 ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	13 ft

Well Information:		Pumping Information:	
Well ID	GWC-21	Final Pumping Rate	150 mL/min
Well diameter	2 in	Total System Volume	0.1480245 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	6.68 ft	Total Volume Pumped	2.75 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	11:37:36	300.04	17.56	7.02	565.44	1.83	6.83	2.43	127.86
Last 5	11:42:36	600.02	17.61	6.93	570.27	1.98	6.83	2.37	127.43
Last 5	11:47:36	900.02	17.61	6.88	564.92	2.28	6.83	2.36	127.01
Last 5	11:52:36	1200.01	17.64	6.84	562.11	1.70	6.84	2.39	126.68
Last 5									
Variance 0			0.05	-0.09	4.84			-0.06	-0.43
Variance 1			0.00	-0.05	-5.36			-0.01	-0.42
Variance 2			0.02	-0.04	-2.81			0.04	-0.33

Notes

Two bottles: One 250-mL plastic bottle with HNO3 for metals (EPA 6020B) and one 250-mL plastic bottle for TDS and SO4 (EPA 300.0). Total depth = 18.51′

Grab Samples

GWC-21

Grab

Product Name: Low-Flow System

Date: 2019-11-06 10:41:28

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	ft
Latitude	0° 0' 0"		
Longitude	0° 0' 0"		
Sonde SN	541714		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	ft

Well Information:		Pumping Information:	
Well ID	GWC-22	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.09 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	3.81 ft	Total Volume Pumped	3 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	10:25:20	300.01	17.11	7.63	372.23	1.72	4.59	0.22	97.73
Last 5	10:30:19	599.96	17.11	7.65	371.52	1.32	4.60	0.18	97.88
Last 5	10:35:19	899.95	17.19	7.66	369.62	2.06	4.62	0.16	96.79
Last 5									
Last 5									
Variance 0			nan	nan	nan			nan	nan
Variance 1			0.00	0.02	-0.71			-0.04	0.16
Variance 2			0.07	0.01	-1.90			-0.01	-1.10

Notes

Well purged for pH verification, no samples taken.Total depth: 42.32'.

Grab Samples

Product Name: Low-Flow System

Date: 2019-11-26 17:00:41

Project Information:		Pump Information:	
Operator Name	Chad Russo	Pump Model/Type	Alexis
Company Name	Geosyntec Consultants	Tubing Type	polyethylene
Project Name	GP-Plant Hammond	Tubing Diameter	0.17 in
Site Name	Plant Hammond	Tubing Length	15 ft
Latitude	0º 0' 0"		
Longitude	0º 0' 0"		
Sonde SN	643819		
Turbidity Make/Model	LaMotte 2020we	Pump placement from TOC	14 ft

Well Information:		Pumping Information:	
Well ID	GWC-21	Final Pumping Rate	200 mL/min
Well diameter	2 in	Total System Volume	0.1569514 L
Well Total Depth	ft	Calculated Sample Rate	300 sec
Screen Length	10 ft	Stabilization Drawdown	3.6 in
Depth to Water	4.94 ft	Total Volume Pumped	9 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond µS/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 10
Last 5	16:38:21	1200.02	15.13	6.63	479.36	1.04	5.28	1.72	-27.74
Last 5	16:43:21	1500.02	15.10	6.56	458.44	0.98	5.27	1.62	-21.27
Last 5	16:48:21	1800.02	14.92	6.46	396.76	0.88	5.28	1.38	-14.69
Last 5	16:53:21	2100.02	14.89	6.43	391.69	0.75	5.29	1.45	-9.30
Last 5	16:58:21	2400.02	14.86	6.39	381.45	0.68	5.28	1.44	-5.35
Variance 0			-0.18	-0.10	-61.68			-0.24	6.58
Variance 1			-0.03	-0.03	-5.07			0.07	5.39
Variance 2			-0.03	-0.04	-10.25			-0.01	3.95

Notes

Two bottles: One 250-mL plastic bottle with HNO3 for metals (EPA 6020B) and one 500-mL plastic bottle for TDS (EPA 300.0). Total depth = 18.50'

Grab Samples

GWC-21

Grab

APPENDIX D

Statistical Analyses

Detection Monitoring Program Statistical Analysis Package
Plant Hammond Huffaker Road Landfill
April and September-October 2019 events
(D01 & D02)

Table D-1
Detection Monitoring Prediction Limit Comparison - Appendix III Parameters
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1					Semiannual Sampling Event 2				
		Upper PL	Lower PL	Apr 5-9, 2019	Jun 17-19, 2019	Jun 27, 2019	Upper PL	Lower PL	Sep 29 - Oct 1, 2019	Nov 6, 2019	Nov 26, 2019
Boron (mg/L)	GWC-10	0.048[3]	-	0.035 J	--	--	0.041	-	0.031 J	--	--
Boron (mg/L)	GWC-18	0.15	-	0.12	--	--	0.15	-	0.14	--	--
Boron (mg/L)	GWC-19	0.21	-	0.17	--	--	0.20	-	0.17	--	--
Boron (mg/L)	GWC-20	0.05	-	0.011 J	--	--	0.05	-	0.019 J	--	--
Boron (mg/L)	GWC-21	0.14	-	0.014 J	--	--	0.11	-	0.059	--	--
Boron (mg/L)	GWC-22	0.085	-	0.063	--	--	0.079	-	0.066	--	--
Boron (mg/L)	GWC-23	0.15	-	0.022 J	--	--	0.11	-	0.024 J	--	--
Boron (mg/L)	GWC-5	0.073	-	0.048	--	--	0.073	-	0.071	--	--
Boron (mg/L)	GWC-6	0.043	-	0.036 J	--	--	0.043	-	0.042	--	--
Boron (mg/L)	GWC-7	0.073	-	0.049 J	--	--	0.069	-	0.05	--	--
Boron (mg/L)	GWC-8	0.028	-	0.055 J	--	--	0.055	-	0.046	--	--
Boron (mg/L)	GWC-9	0.05	-	0.015 J	--	--	0.050	-	0.018 J	--	--
Calcium (mg/L)	GWC-10	50.4	-	48.8	--	--	55.8	-	36.8	--	--
Calcium (mg/L)	GWC-18	44.2	-	41.4	--	--	44.9	-	38.7	--	--
Calcium (mg/L)	GWC-19	50.2	-	45.8	--	--	48.3	-	42.3	--	--
Calcium (mg/L)	GWC-20	61.1	-	57.1	--	--	59.4	-	59.1	--	--
Calcium (mg/L)	GWC-21	82.7	-	35.4	--	--	73.8	-	82.8	74.9	45.8
Calcium (mg/L)	GWC-22	52.7	-	47.3	--	--	51.5	-	46.9	--	--
Calcium (mg/L)	GWC-23	42.1	-	39.8	--	--	43.4	-	39.1	--	--
Calcium (mg/L)	GWC-5	92.1	-	73.9	--	--	86.3	-	70.6	--	--
Calcium (mg/L)	GWC-6	68.2	-	67	--	--	69.3	-	64.2	--	--
Calcium (mg/L)	GWC-7	73.5	-	56.1	--	--	65.3	-	28.5	--	--
Calcium (mg/L)	GWC-8	76.2	-	81.5	83.7	75.9	83.8	-	64.0	--	--
Calcium (mg/L)	GWC-9	38.4	-	36.3	--	--	38.3	-	37.2	--	--
Chloride (mg/L)	GWC-10	1.9	-	1.9	--	--	2.1	-	1.5	--	--
Chloride (mg/L)	GWC-18	1.8	-	1.6	--	--	1.7	-	0.94 J	--	--
Chloride (mg/L)	GWC-19	2.5	-	1.9	--	--	2.3	-	1.3	--	--
Chloride (mg/L)	GWC-20	2.1	-	1.8	--	--	2.2	-	1.1	--	--
Chloride (mg/L)	GWC-21	3.5	-	2.6	--	--	3.6	-	2	--	--
Chloride (mg/L)	GWC-22	2.0	-	1.7	--	--	1.9	-	1.4	--	--
Chloride (mg/L)	GWC-23	2.1	-	1.5	--	--	1.9	-	1.1	--	--
Chloride (mg/L)	GWC-5	4.0	-	3.3	--	--	3.9	-	2.2	--	--
Chloride (mg/L)	GWC-6	2.3	-	2.1	--	--	2.3	-	1.6	--	--
Chloride (mg/L)	GWC-7	2.3	-	1.9	--	--	2.2	-	1.2	--	--
Chloride (mg/L)	GWC-8	2.1	-	3.2[4]	--	--	3.0	-	1.8	--	--
Chloride (mg/L)	GWC-9	1.7	-	1	--	--	1.7	-	0.91 J	--	--

Table D-1
Detection Monitoring Prediction Limit Comparison - Appendix III Parameters
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1					Semiannual Sampling Event 2				
		Upper PL	Lower PL	Apr 5-9, 2019	Jun 17-19, 2019	Jun 27, 2019	Upper PL	Lower PL	Sep 29 - Oct 1, 2019	Nov 6, 2019	Nov 26, 2019
Fluoride (mg/L)	GWC-10	0.18	-	0.067 J	--	--	0.18	-	0.07 J	--	--
Fluoride (mg/L)	GWC-18	0.21	-	0.1 J	--	--	0.21	-	0.11 J	--	--
Fluoride (mg/L)	GWC-19	0.27	-	0.1 J	--	--	0.25	-	0.11 J	--	--
Fluoride (mg/L)	GWC-20	0.17	-	0.056 J	--	--	0.18	-	0.069 J	--	--
Fluoride (mg/L)	GWC-21	0.26	-	0.063 J	--	--	0.21	-	0.094 J	--	--
Fluoride (mg/L)	GWC-22	0.13	-	0.063 J	--	--	0.15	-	0.079 J	--	--
Fluoride (mg/L)	GWC-23	0.15	-	0.057 J	--	--	0.18	-	0.079 J	--	--
Fluoride (mg/L)	GWC-5	0.33[(3)]	-	0.061 J	--	--	0.30	-	0.064 J	--	--
Fluoride (mg/L)	GWC-6	0.33	-	ND	--	--	0.27	-	0.063 J	--	--
Fluoride (mg/L)	GWC-7	0.56	-	0.17 J	--	--	0.48	-	0.16 J	--	--
Fluoride (mg/L)	GWC-8	0.36	-	0.1 J	--	--	0.40	-	0.13 J	--	--
Fluoride (mg/L)	GWC-9	0.14	-	0.058 J	--	--	0.17	-	0.078 J	--	--
pH (s.u.)	GWC-10	7.7	7.0	7.2	--	--	7.6	7.0	7.1	--	--
pH (s.u.)	GWC-18	7.8	7.4	7.5	--	--	7.7	7.4	7.7	--	--
pH (s.u.)	GWC-19	7.7	7.2	7.4	--	--	7.7	7.3	7.3	--	--
pH (s.u.)	GWC-20	7.6	7.2	7.3	--	--	7.5	7.1	7.2	--	--
pH (s.u.)	GWC-21	7.7	5.8	6.5	--	--	7.5	5.8	6.9	--	--
pH (s.u.)	GWC-22	7.9	7.5	7.5	--	--	7.9	7.4	7.4	7.7	--
pH (s.u.)	GWC-23	7.5	6.9	6.9	--	--	7.5	6.9	7.0	--	--
pH (s.u.)	GWC-5	7.2	6.5	6.7	--	--	7.2	6.5	6.8	--	--
pH (s.u.)	GWC-6	7.4	6.7	7.0	--	--	7.3	6.7	7.0	--	--
pH (s.u.)	GWC-7	6.6	5.5	6.3	--	--	6.5	5.6	6.1	--	--
pH (s.u.)	GWC-8	7.6	7.2	6.9	6.9	7.1	7.7	6.9	7.1	--	--
pH (s.u.)	GWC-9	7.3	6.3	6.7	--	--	7.2	6.4	6.8	--	--
Sulfate (mg/L)	GWC-10	33.0	-	21.4	--	--	36.2	-	13.4	--	--
Sulfate (mg/L)	GWC-18	15.1	-	11.3	--	--	13.9	-	8.9	--	--
Sulfate (mg/L)	GWC-19	21.4	-	16.7	--	--	19.7	-	14.7	--	--
Sulfate (mg/L)	GWC-20	37.4	-	50.3	38.7	46.0	48.8	-	52.3	47.3	--
Sulfate (mg/L)	GWC-21	53	-	19.9	--	--	47.3	-	46.3	--	--
Sulfate (mg/L)	GWC-22	12.0	-	11	--	--	11.4	-	1.9	--	--
Sulfate (mg/L)	GWC-23	43	-	6.2	--	--	43.0	-	5.8	--	--
Sulfate (mg/L)	GWC-5	166	-	83.6	--	--	139	-	68.1	--	--
Sulfate (mg/L)	GWC-6	128	-	131	108	--	137	-	71.7	--	--
Sulfate (mg/L)	GWC-7	178	-	97.1	--	--	171	-	120	--	--
Sulfate (mg/L)	GWC-8	63.3	-	39.9	--	--	57.1	-	47.1	--	--
Sulfate (mg/L)	GWC-9	77.6	-	73.5	--	--	81.4	-	72.2	--	--

Table D-1
Detection Monitoring Prediction Limit Comparison - Appendix III Parameters
Plant Hammond, Huffaker Road Landfill, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1					Semiannual Sampling Event 2				
		Upper PL	Lower PL	Apr 5-9, 2019	Jun 17-19, 2019	Jun 27, 2019	Upper PL	Lower PL	Sep 29 - Oct 1, 2019	Nov 6, 2019	Nov 26, 2019
TDS (mg/L)	GWC-10	268	-	213	--	--	258	-	186	--	--
TDS (mg/L)	GWC-18	427	-	212	--	--	427	-	196	--	--
TDS (mg/L)	GWC-19	396	-	253	--	--	393	-	229	--	--
TDS (mg/L)	GWC-20	282	-	267	--	--	278	-	271	--	--
TDS (mg/L)	GWC-21	382	-	167	--	--	317	-	336	336	236
TDS (mg/L)	GWC-22	324	-	222	--	--	324	-	220	--	--
TDS (mg/L)	GWC-23	330	-	191	--	--	284	-	203	--	--
TDS (mg/L)	GWC-5	542	-	371	--	--	491	-	380	--	--
TDS (mg/L)	GWC-6	364	-	353	--	--	411	-	348	--	--
TDS (mg/L)	GWC-7	376	-	295	--	--	345	-	277	--	--
TDS (mg/L)	GWC-8	268	-	438(4)	--	--	385	-	305	--	--
TDS (mg/L)	GWC-9	318	-	264	--	--	304	-	237	--	--

Notes:
- = Not applicable
-- = Indicates the parameter was not analyzed as part of the verification event.
J = Indicates that analyte was estimated and detected between the laboratory Method Detection Limit (MDL) and Reporting Limit (RL).
mg/L = milligrams per liter
ND = Indicates the parameter was not detected above the laboratory MDL.
PL = Prediction Limit
s.u. = standard unit
TDS = Total Dissolved Solids
(1) Shaded values indicate an exceedance of the statistically derived PL.
(2) The pH value presented was recorded at the time of sample collection in the field. This is the only parameter in which the field result is compared to both the upper and lower PL.
(3) The PL calculated in 2017 by previous consultant could not be verified due to an error in Non Detect values in the PL estimation. Following EPA's guidance, the PL was recalculated after collecting a minimum of four new data points, as reflected in the "Semiannual Sampling Event 2" section.
(4) Identified SSI addressed with an alternate source demonstration.

Table D-2
Detection Monitoring Prediction Limit Comparison - D&O Parameters
Plant Hammond, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1			Semiannual Sampling Event 2		
		Upper PL	Apr 5-8, 2019	Jun 17-18, 2019	Upper PL	Sep 29 - Oct 1, 2019	Nov 6, 2019
Antimony (mg/L)	GWC-10	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-18	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-19	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-20	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-21	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-22	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-23	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-5	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-6	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-7	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-8	0.003	ND	--	0.003	ND	--
Antimony (mg/L)	GWC-9	0.003	ND	--	0.003	ND	--
Arsenic (mg/L)	GWC-10	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-18	0.005	0.00063 J	--	0.005	ND	--
Arsenic (mg/L)	GWC-19	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-20	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-21	0.005	0.0018 J	--	0.005	ND	--
Arsenic (mg/L)	GWC-22	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-23	0.005	0.00034 J	--	0.005	0.00082 J	--
Arsenic (mg/L)	GWC-5	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-6	0.005	ND	--	0.005	ND	--
Arsenic (mg/L)	GWC-7	0.088	0.0057	--	0.0088	0.01	0.011
Arsenic (mg/L)	GWC-8	0.005	0.0015 J	--	0.005	0.0028 J	--
Arsenic (mg/L)	GWC-9	0.005	ND	--	0.005	0.00071 J	--
Barium (mg/L)	GWC-10	0.19	0.17	--	0.19	0.12	--
Barium (mg/L)	GWC-18	0.090	0.081	--	0.090	0.082	--
Barium (mg/L)	GWC-19	0.17	0.15	--	0.17	0.15	--
Barium (mg/L)	GWC-20	0.14	0.13	--	0.14	0.14	--
Barium (mg/L)	GWC-21	0.24	0.05	--	0.24	0.18	--
Barium (mg/L)	GWC-22	0.12	0.094	--	0.12	0.1	--
Barium (mg/L)	GWC-23	0.085	0.059	--	0.085	0.082	--
Barium (mg/L)	GWC-5	0.13	0.067	--	0.13	0.09	--
Barium (mg/L)	GWC-6	0.20	0.15	--	0.20	0.18	--
Barium (mg/L)	GWC-7	0.41	0.24	--	0.41	0.085	--
Barium (mg/L)	GWC-8	0.12	0.13	0.17	0.12	0.12	--
Barium (mg/L)	GWC-9	0.073	0.058	--	0.073	0.071	--
Beryllium (mg/L)	GWC-10	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-18	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-19	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-20	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-21	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-22	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-23	0.003	ND	--	0.003	ND	--

Table D-2
Detection Monitoring Prediction Limit Comparison - D&O Parameters
Plant Hammond, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1			Semiannual Sampling Event 2		
		Upper PL	Apr 5-8, 2019	Jun 17-18, 2019	Upper PL	Sep 29 - Oct 1, 2019	Nov 6, 2019
Beryllium (mg/L)	GWC-5	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-6	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-7	0.137	0.000058 J	--	0.137	0.0001 J	--
Beryllium (mg/L)	GWC-8	0.003	ND	--	0.003	ND	--
Beryllium (mg/L)	GWC-9	0.003	ND	--	0.003	ND	--
Cadmium (mg/L)	GWC-10	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-18	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-19	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-20	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-21	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-22	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-23	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-5	0.0015	ND	--	0.0015	ND	--
Cadmium (mg/L)	GWC-6	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-7	0.0081	ND	--	0.0081	ND	--
Cadmium (mg/L)	GWC-8	0.001	ND	--	0.001	ND	--
Cadmium (mg/L)	GWC-9	0.001	ND	--	0.001	ND	--
Chromium (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-18	0.01	ND	--	0.01	0.00086 J	--
Chromium (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-21	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-22	0.01	0.0023 J	--	0.01	ND	--
Chromium (mg/L)	GWC-23	0.01	ND	--	0.01	0.0051 J	--
Chromium (mg/L)	GWC-5	0.01	ND	--	0.01	0.0012 J	--
Chromium (mg/L)	GWC-6	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-7	0.01	ND	--	0.01	ND	--
Chromium (mg/L)	GWC-8	0.01	ND	--	0.01	0.0005 J	--
Chromium (mg/L)	GWC-9	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-18	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-21	0.01	0.0023 J	--	0.01	0.00046 J	--
Cobalt (mg/L)	GWC-22	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-23	0.01	0.00046 J	--	0.01	0.00033 J	--
Cobalt (mg/L)	GWC-5	0.01	ND	--	0.01	ND	--
Cobalt (mg/L)	GWC-6	0.01	0.00022 J	--	0.01	ND	--
Cobalt (mg/L)	GWC-7	0.080	0.0086 J	--	0.080	0.017	--
Cobalt (mg/L)	GWC-8	0.01	0.0017 J	--	0.01	0.00081 J	--
Cobalt (mg/L)	GWC-9	0.01	0.00041 J	--	0.01	0.00041 J	--
Copper (mg/L)	GWC-10	0.025	ND	--	0.025	ND	--
Copper (mg/L)	GWC-18	0.025	ND	--	0.025	0.00037 J	--

Table D-2
Detection Monitoring Prediction Limit Comparison - D&O Parameters
Plant Hammond, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1			Semiannual Sampling Event 2		
		Upper PL	Apr 5-8, 2019	Jun 17-18, 2019	Upper PL	Sep 29 - Oct 1, 2019	Nov 6, 2019
Copper (mg/L)	GWC-19	0.025	0.0014 J	--	0.025	0.00019 J	--
Copper (mg/L)	GWC-20	0.025	ND	--	0.025	0.00023 J	--
Copper (mg/L)	GWC-21	0.025	ND	--	0.025	0.00084 J	--
Copper (mg/L)	GWC-22	0.025	ND	--	0.025	0.00031 J	--
Copper (mg/L)	GWC-23	0.025	0.0005 J	--	0.025	0.00083 J	--
Copper (mg/L)	GWC-5	0.025	ND	--	0.025	0.00031 J	--
Copper (mg/L)	GWC-6	0.025	ND	--	0.025	0.00023 J	--
Copper (mg/L)	GWC-7	0.025	0.00025 J	--	0.025	0.00034 J	--
Copper (mg/L)	GWC-8	0.025	ND	--	0.025	0.00036 J	--
Copper (mg/L)	GWC-9	0.025	ND	--	0.025	ND	--
Lead (mg/L)	GWC-10	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-18	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-19	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-20	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-21	0.005	ND	--	0.005	0.000075 J	--
Lead (mg/L)	GWC-22	0.005	ND	--	0.005	0.00012 J	--
Lead (mg/L)	GWC-23	0.005	0.00018 J	--	0.005	0.00022 J	--
Lead (mg/L)	GWC-5	0.005	0.00039 J	--	0.005	0.000065 J	--
Lead (mg/L)	GWC-6	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-7	0.005	ND	--	0.005	0.00005 J	--
Lead (mg/L)	GWC-8	0.005	ND	--	0.005	ND	--
Lead (mg/L)	GWC-9	0.005	ND	--	0.005	ND	--
Nickel (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Nickel (mg/L)	GWC-18	0.01	ND	--	0.01	0.0015 J	--
Nickel (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Nickel (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Nickel (mg/L)	GWC-21	0.01	0.0048 J	--	0.01	0.0031 J	--
Nickel (mg/L)	GWC-22	0.01	ND	--	0.01	ND	--
Nickel (mg/L)	GWC-23	0.01	0.0011 J	--	0.01	0.0035 J	--
Nickel (mg/L)	GWC-5	0.01	0.00098 J	--	0.01	0.00088 J	--
Nickel (mg/L)	GWC-6	0.01	0.00032 J	--	0.01	0.00042 J	--
Nickel (mg/L)	GWC-7	0.33	0.030	--	0.33	0.07	--
Nickel (mg/L)	GWC-8	0.01	0.00064 J	--	0.01	0.00063 J	--
Nickel (mg/L)	GWC-9	0.01	0.0021 J	--	0.01	0.0022 J	--
Selenium (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-18	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-21	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-22	0.01	ND	--	0.01	0.0014 J	--
Selenium (mg/L)	GWC-23	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-5	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-6	0.01	ND	--	0.01	ND	--

Table D-2
Detection Monitoring Prediction Limit Comparison - D&O Parameters
Plant Hammond, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1			Semiannual Sampling Event 2		
		Upper PL	Apr 5-8, 2019	Jun 17-18, 2019	Upper PL	Sep 29 - Oct 1, 2019	Nov 6, 2019
Selenium (mg/L)	GWC-7	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-8	0.01	ND	--	0.01	ND	--
Selenium (mg/L)	GWC-9	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-18	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-21	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-22	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-23	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-5	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-6	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-7	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-8	0.01	ND	--	0.01	ND	--
Silver (mg/L)	GWC-9	0.01	ND	--	0.01	ND	--
Thallium (mg/L)	GWC-10	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-18	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-19	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-20	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-21	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-22	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-23	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-5	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-6	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-7	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-8	0.001	ND	--	0.001	ND	--
Thallium (mg/L)	GWC-9	0.001	ND	--	0.001	ND	--
Vanadium (mg/L)	GWC-10	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-18	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-19	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-20	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-21	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-22	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-23	0.01	0.00017 J	--	0.01	ND	--
Vanadium (mg/L)	GWC-5	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-6	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-7	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-8	0.01	ND	--	0.01	ND	--
Vanadium (mg/L)	GWC-9	0.01	ND	--	0.01	ND	--
Zinc (mg/L)	GWC-10	0.01	ND	--	0.01	0.0049 J	--
Zinc (mg/L)	GWC-18	0.01	0.0037 J	--	0.01	0.006 J	--
Zinc (mg/L)	GWC-19	0.013	ND	--	0.013	0.0049 J	--
Zinc (mg/L)	GWC-20	0.01	ND	--	0.01	0.0063 J	--

Table D-2
Detection Monitoring Prediction Limit Comparison - D&O Parameters
Plant Hammond, Floyd County, Georgia

Parameter	Well ID	Semiannual Sampling Event 1			Semiannual Sampling Event 2		
		Upper PL	Apr 5-8, 2019	Jun 17-18, 2019	Upper PL	Sep 29 - Oct 1, 2019	Nov 6, 2019
Zinc (mg/L)	GWC-21	0.01	0.0041 J	--	0.01	0.0078 J	--
Zinc (mg/L)	GWC-22	0.01	ND	--	0.01	0.0054 J	--
Zinc (mg/L)	GWC-23	0.01	0.0016 J	--	0.01	0.0057 J	--
Zinc (mg/L)	GWC-5	0.01	ND	--	0.01	0.0053 J	--
Zinc (mg/L)	GWC-6	0.01	0.0013 J	--	0.01	0.0056 J	--
Zinc (mg/L)	GWC-7	0.61	0.051	--	0.61	0.12	--
Zinc (mg/L)	GWC-8	0.01	0.0012 J	--	0.01	0.0055 J	--
Zinc (mg/L)	GWC-9	0.01	0.0016 J	--	0.01	0.0052 J	--

Notes:
-- = Indicates the parameter was not analyzed as part of the verification event.
J = Indicates that analyte was estimated and detected between the laboratory Method Detection Limit (MDL) and Reporting Limit (RL).
mg/L = milligrams per liter
ND = Indicates the parameter was not detected above the laboratory MDL.
PL = Prediction Limit
(1) Shaded values indicate an exceedance of the statistically derived PL.

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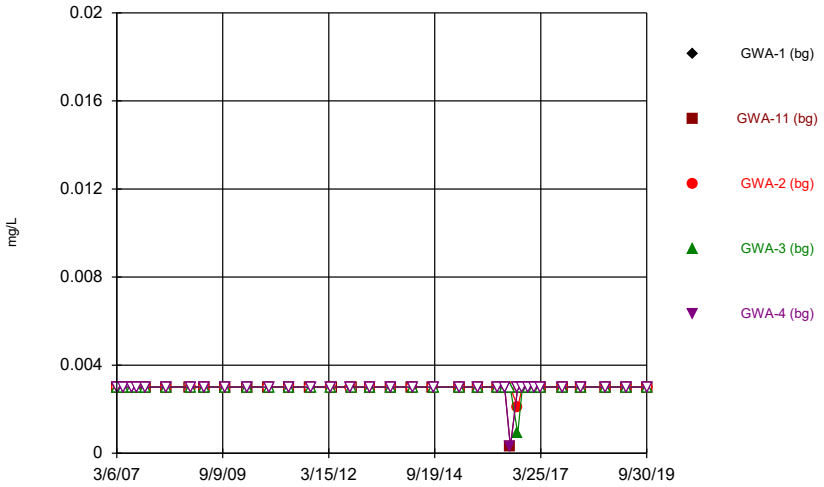

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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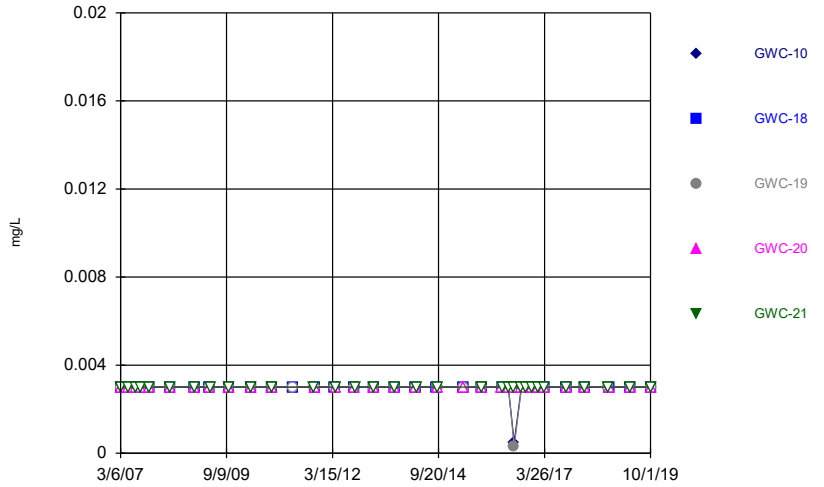

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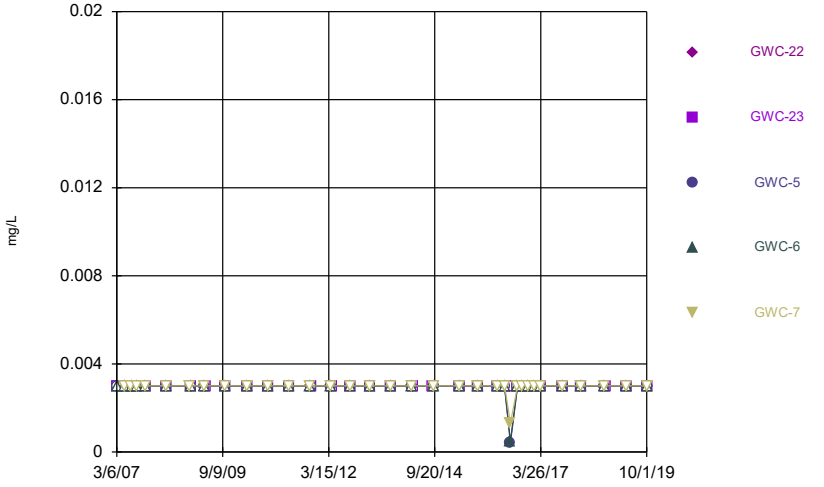

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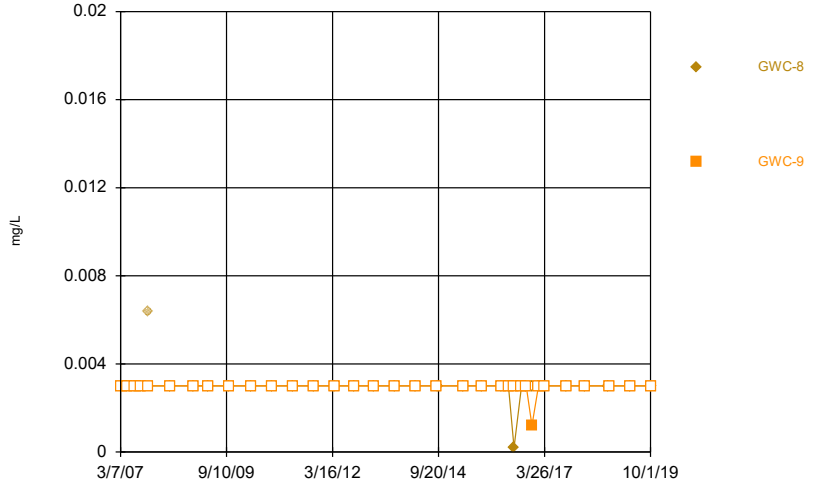

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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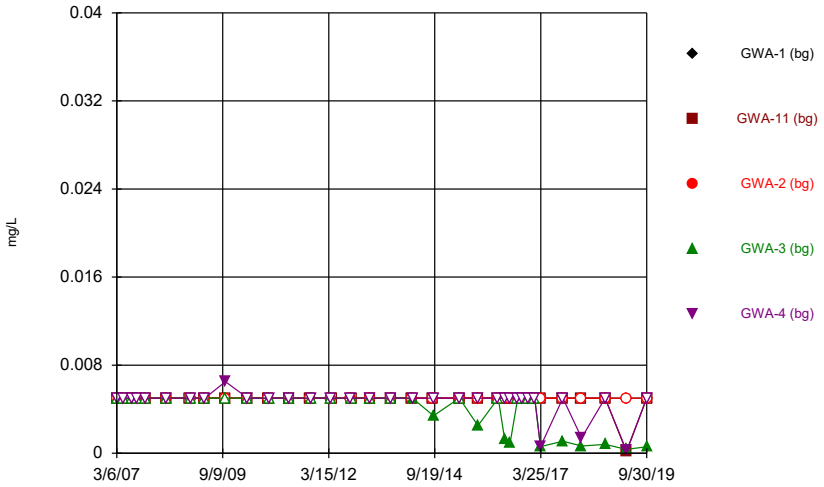

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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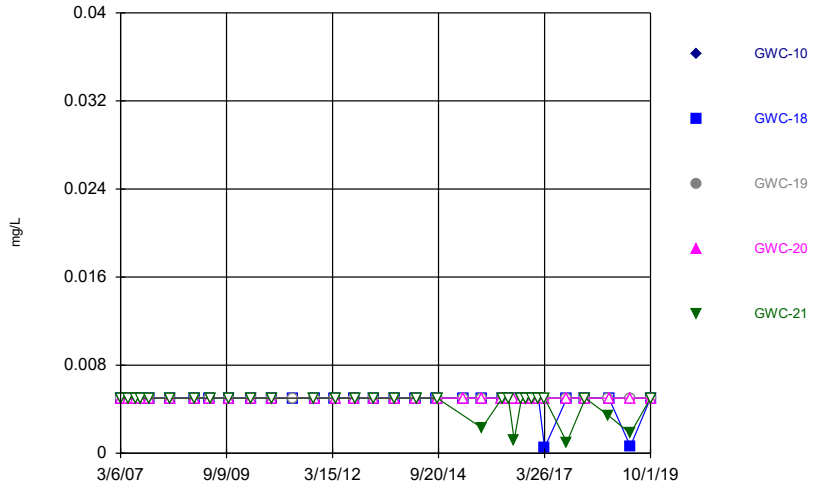

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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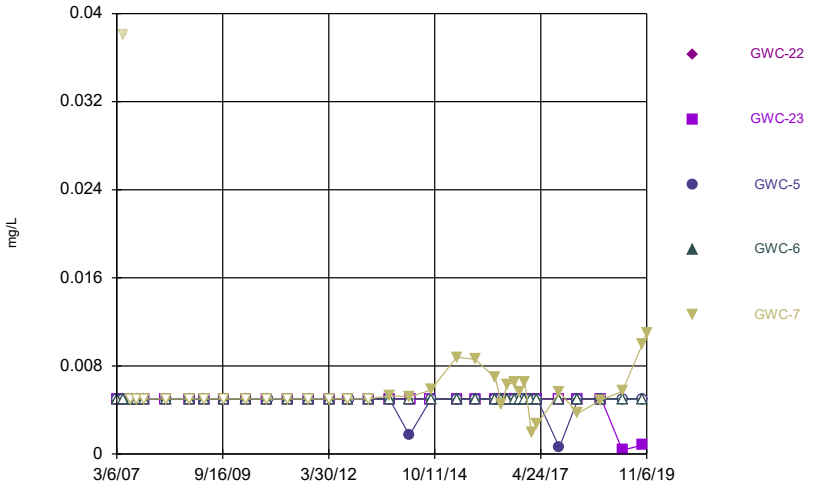

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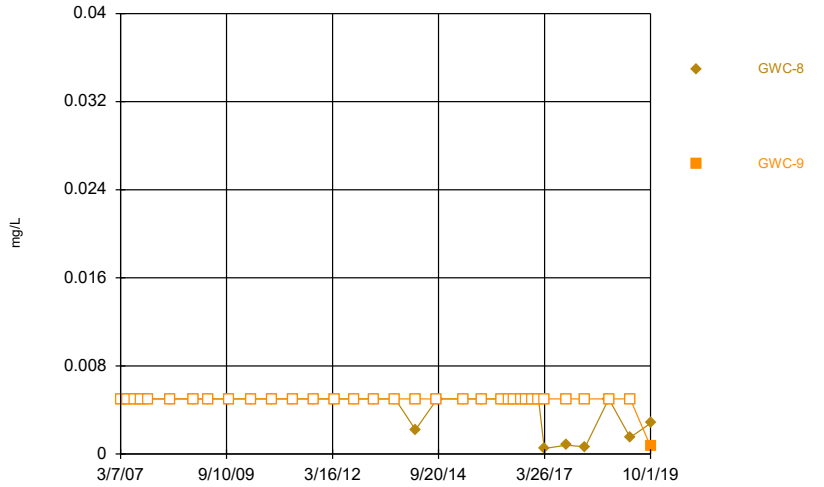

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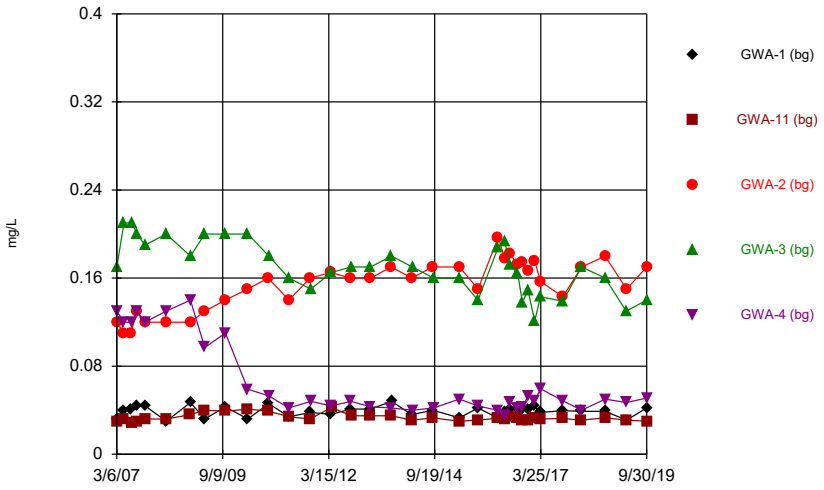

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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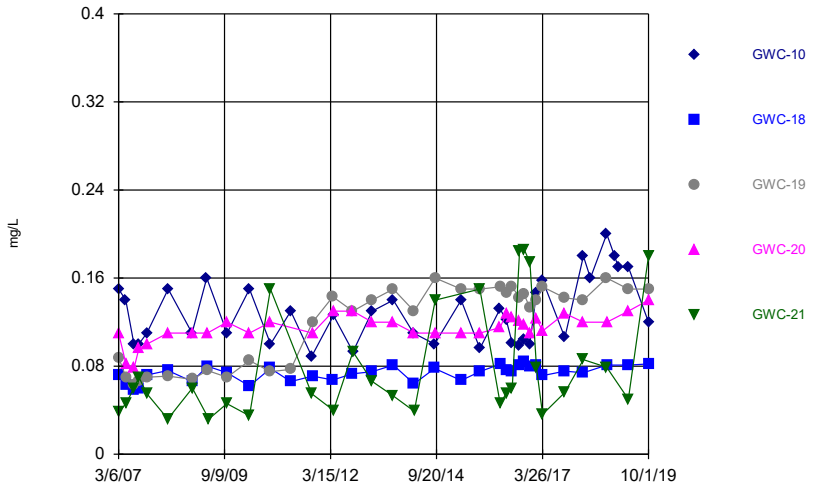

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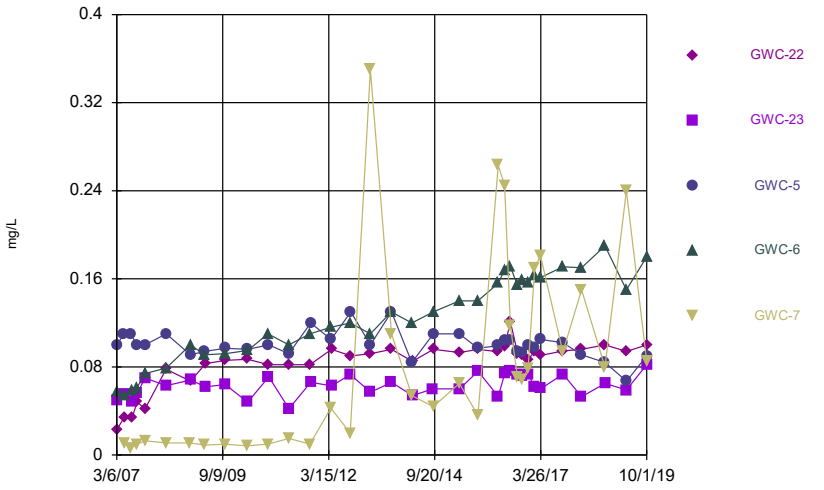

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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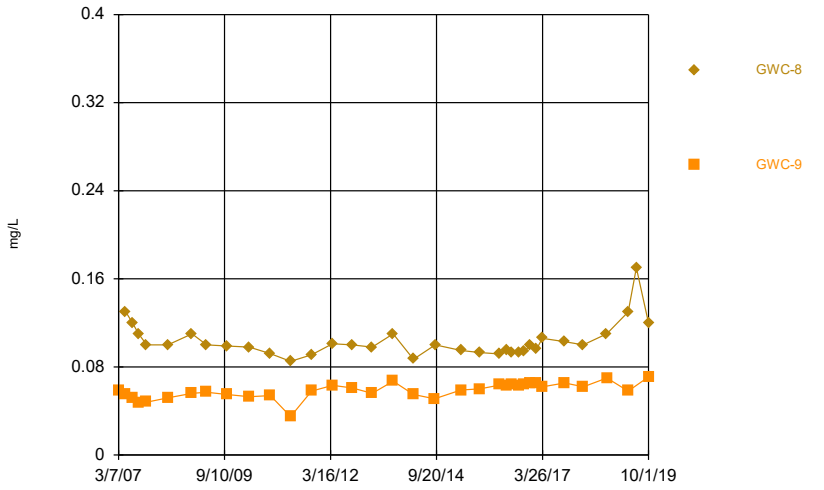

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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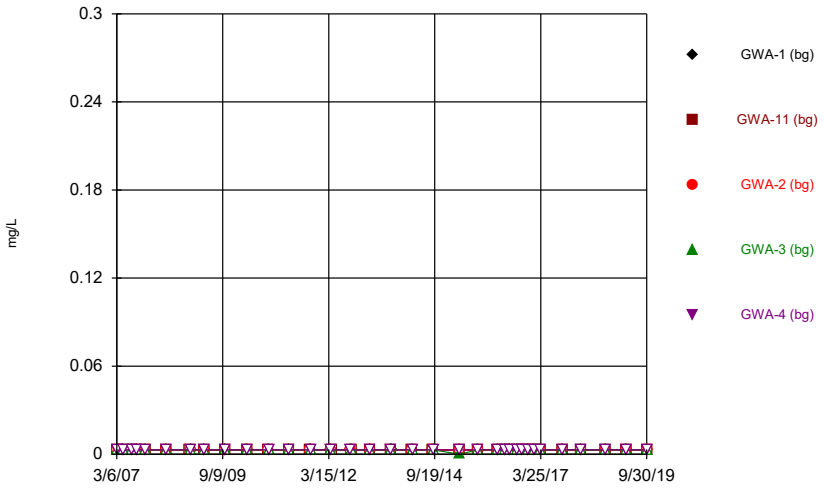

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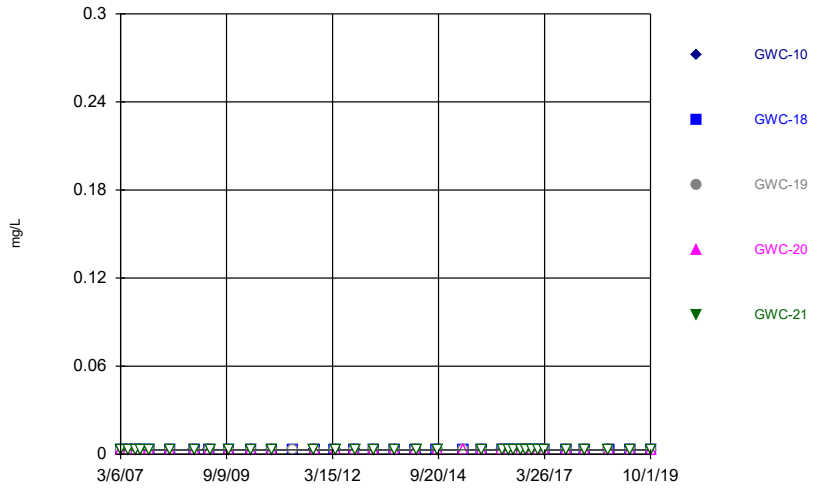

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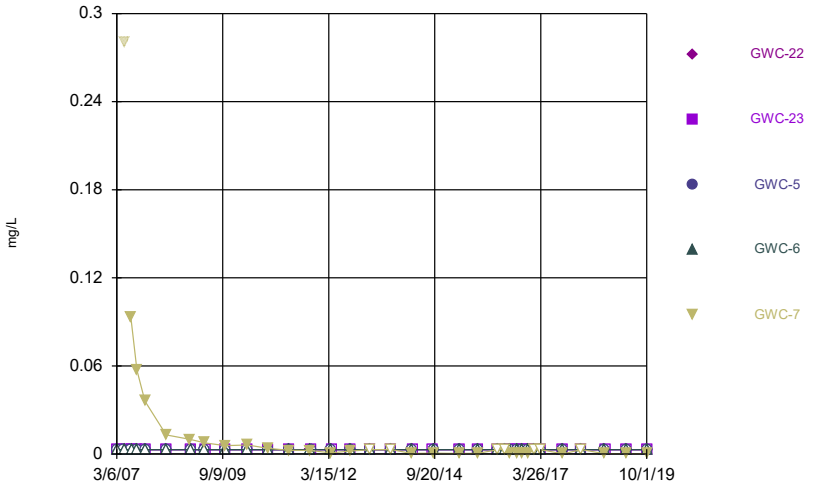

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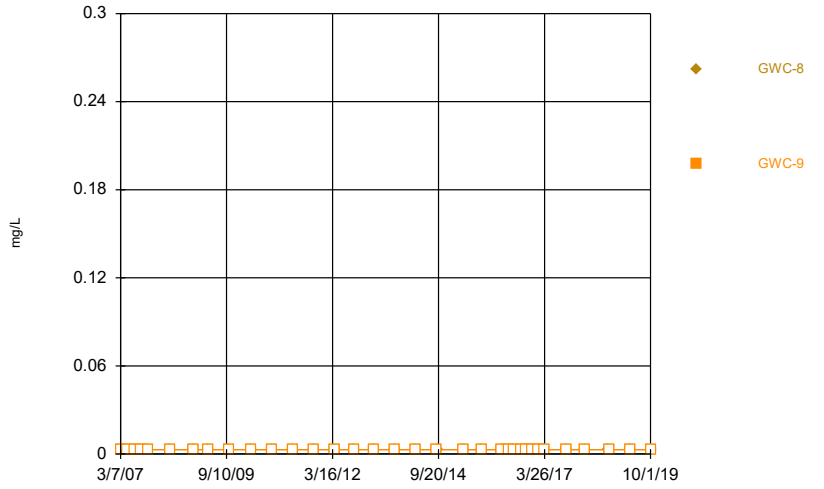

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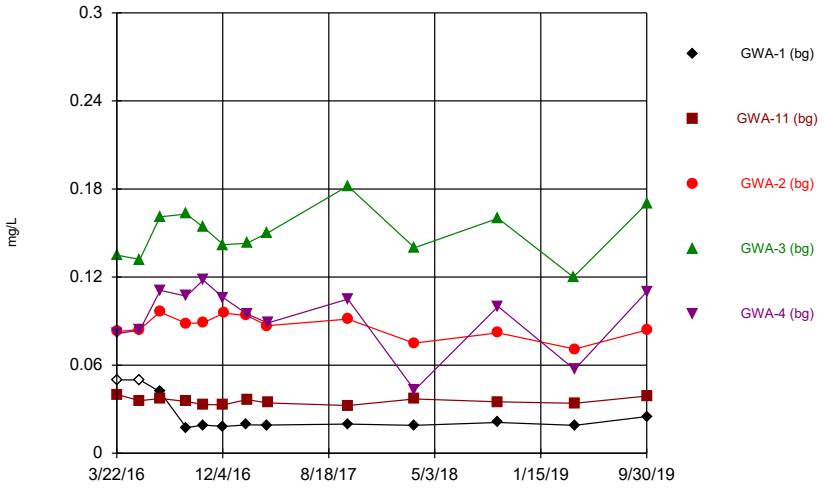

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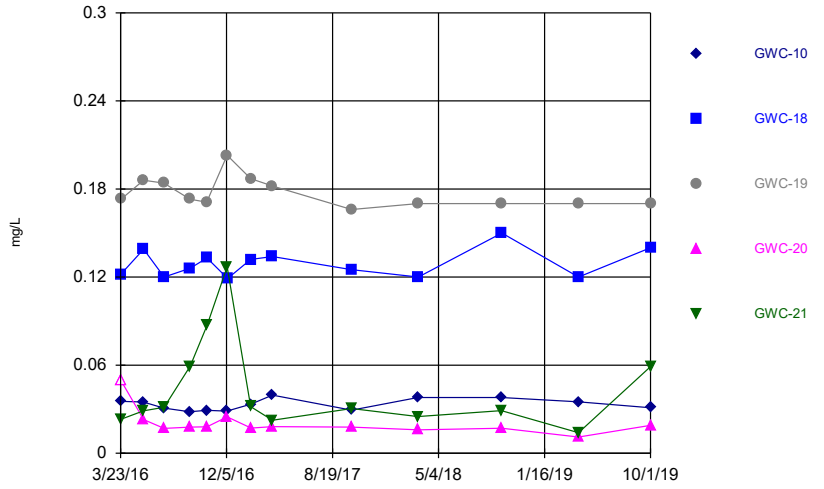

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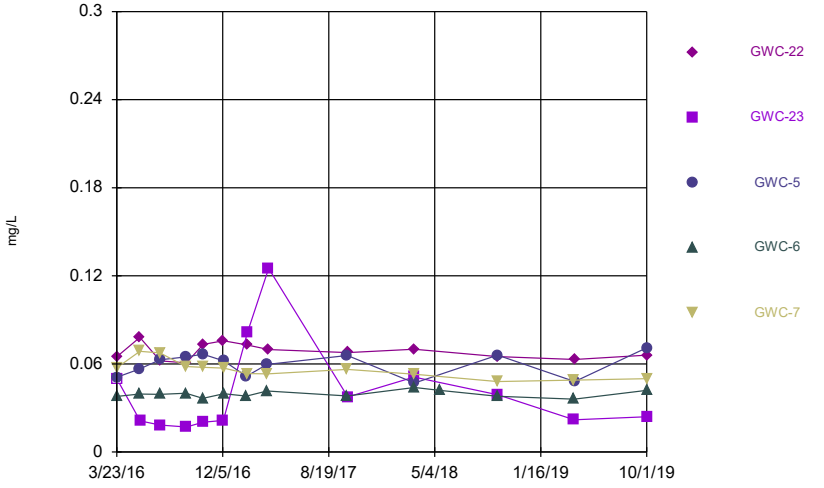

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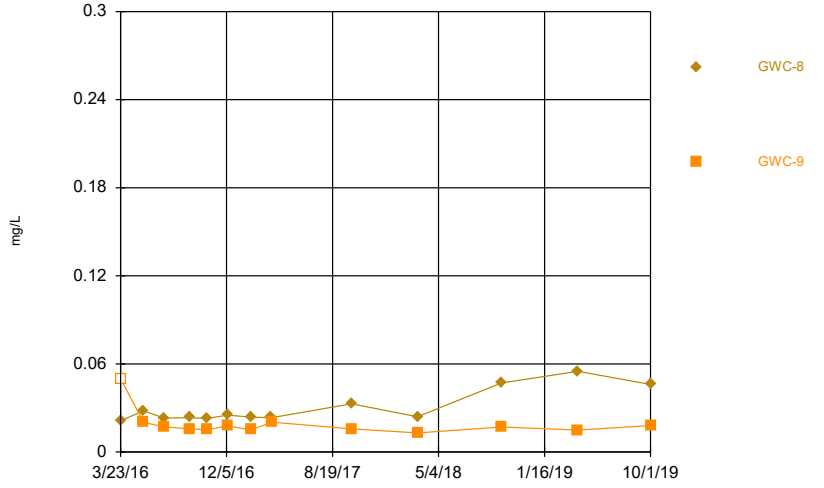

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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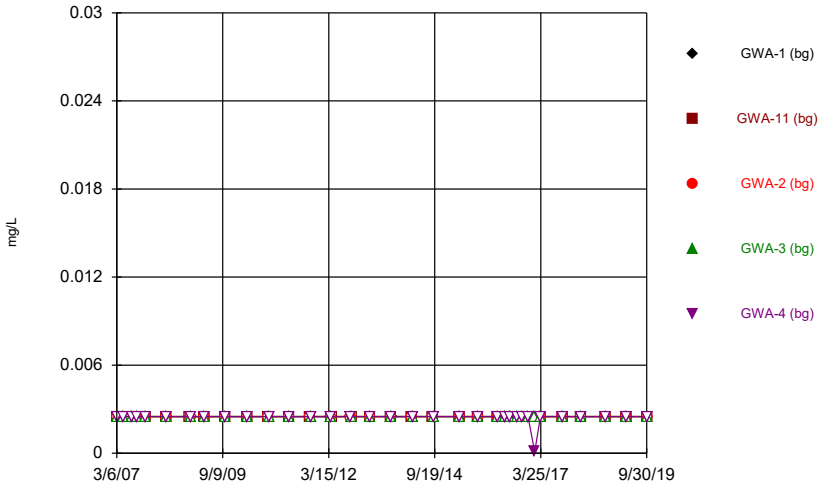
Hollow symbols indicate censored values.

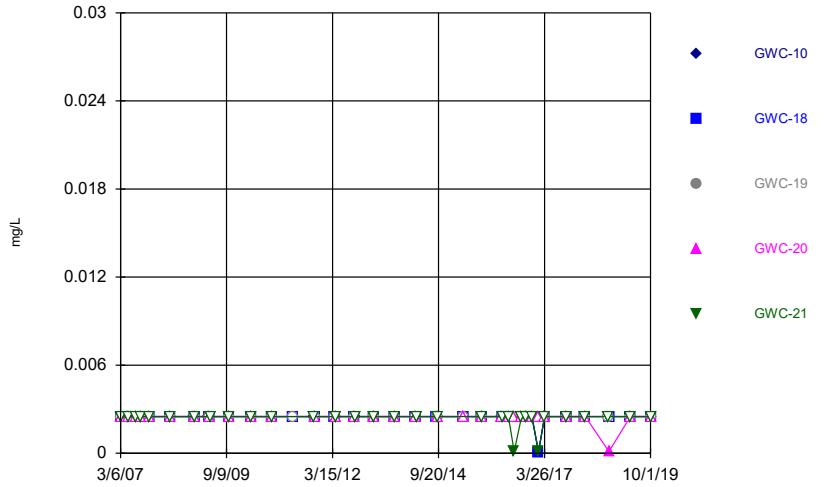
Time Series



Constituent: Cadmium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

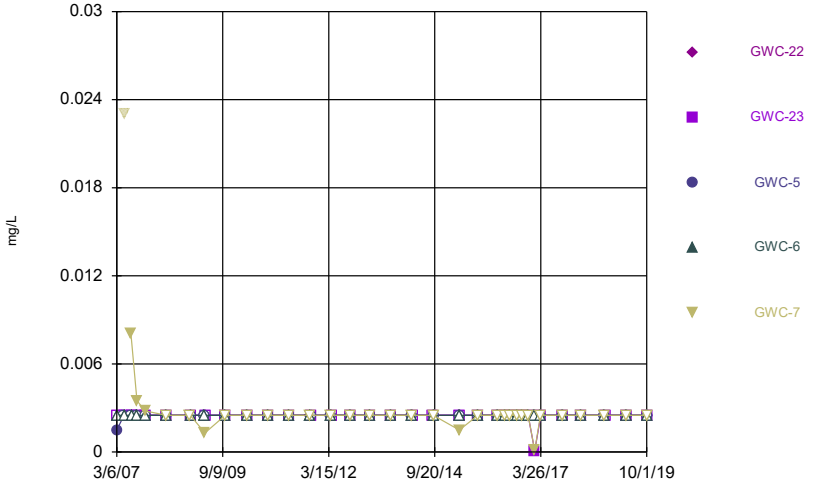
Time Series



Constituent: Cadmium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

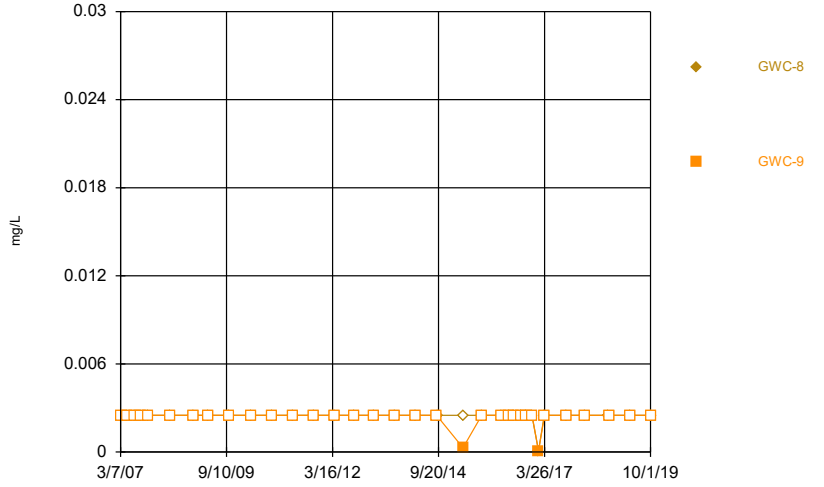
Time Series



Constituent: Cadmium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

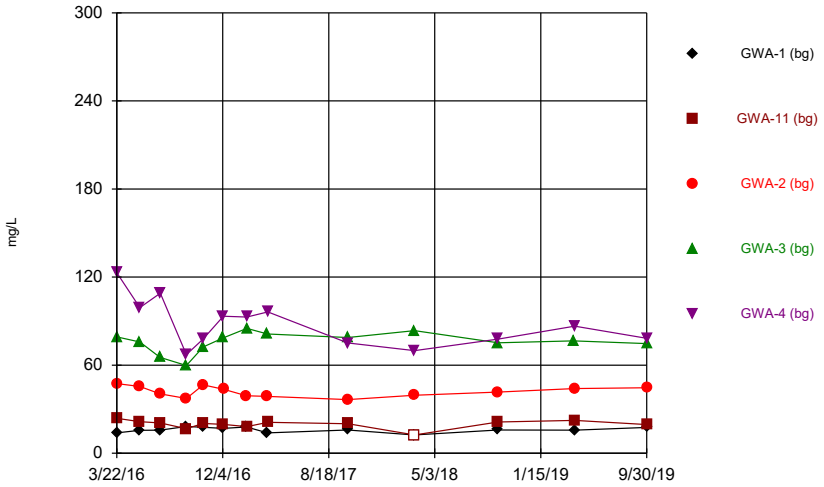
Time Series



Constituent: Cadmium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

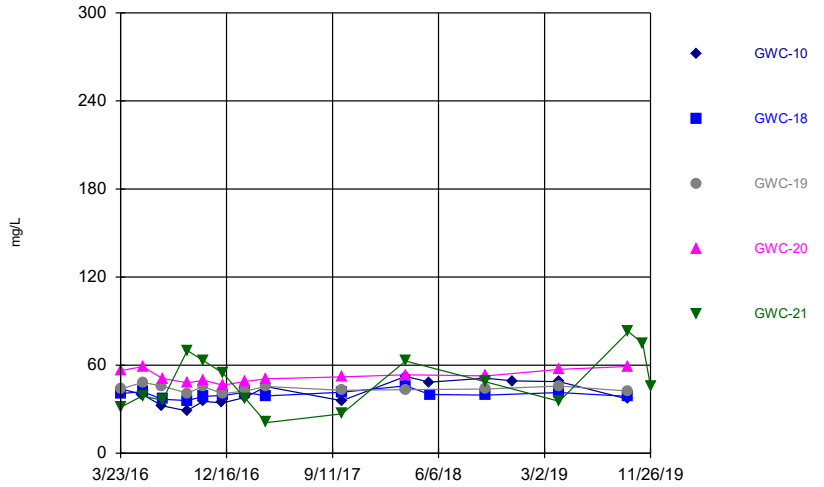
Time Series



Constituent: Calcium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

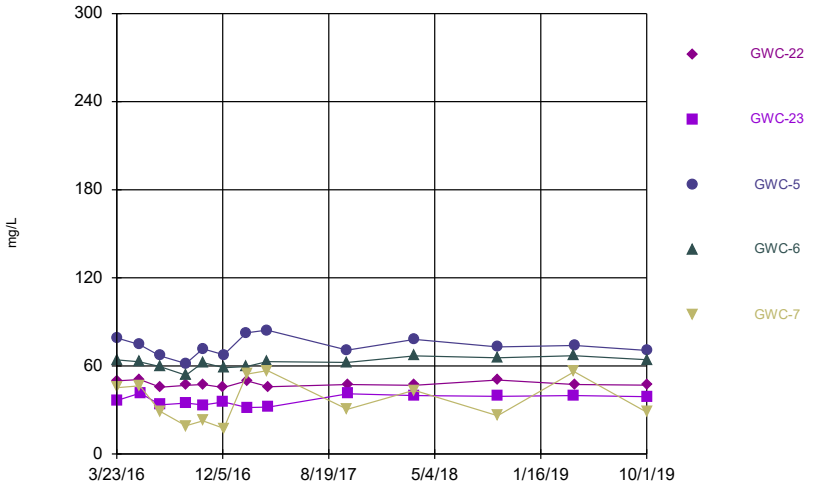
Time Series



Constituent: Calcium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

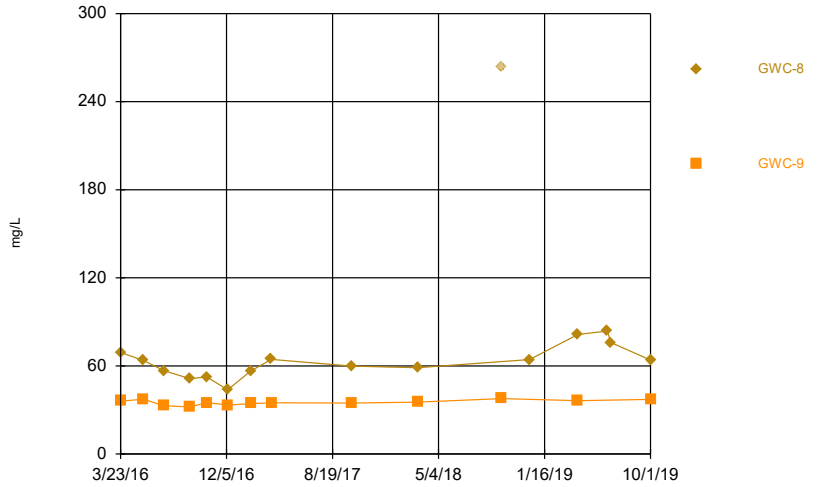
Time Series



Constituent: Calcium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

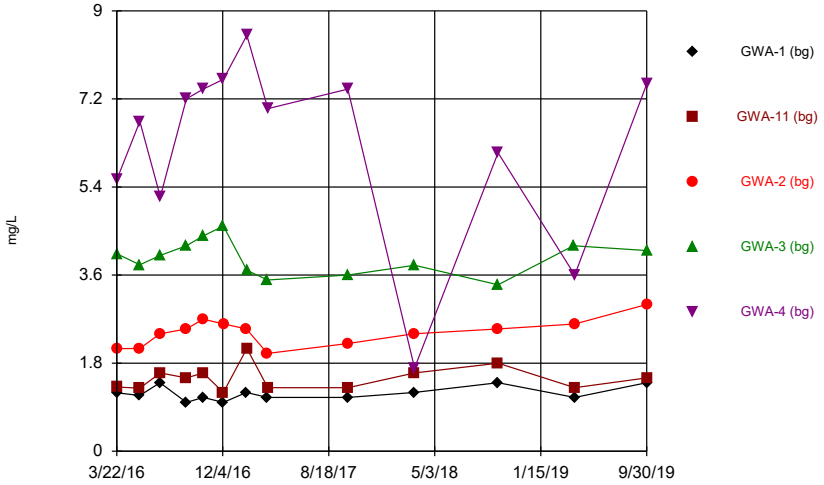
Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series



Constituent: Calcium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

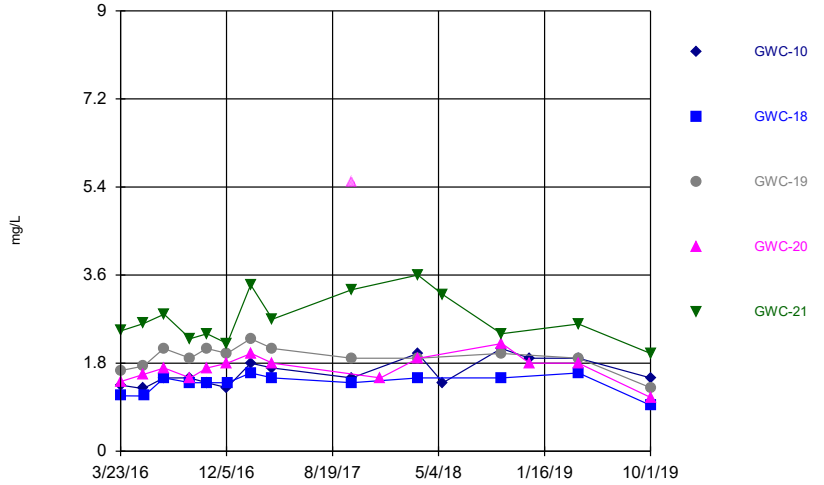
Time Series



Constituent: Chloride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

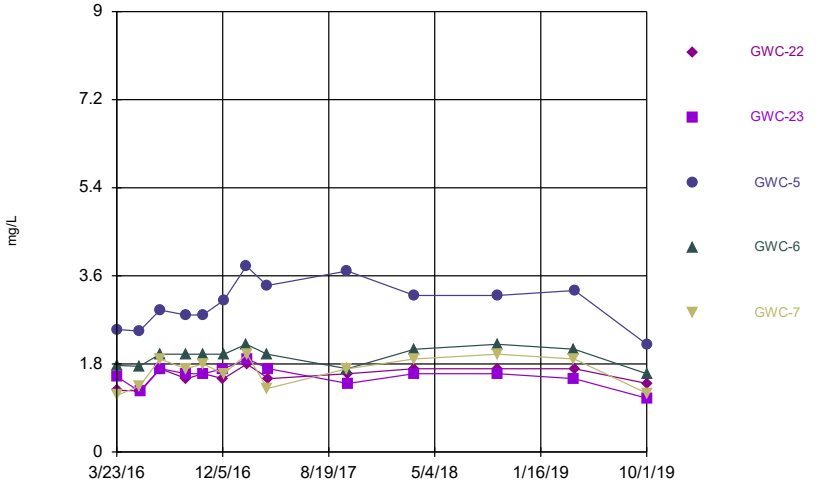
Time Series



Constituent: Chloride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

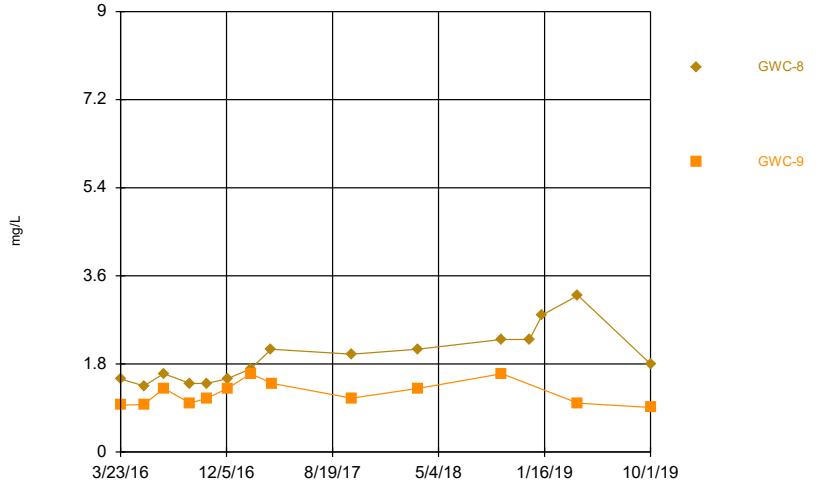
Time Series



Constituent: Chloride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

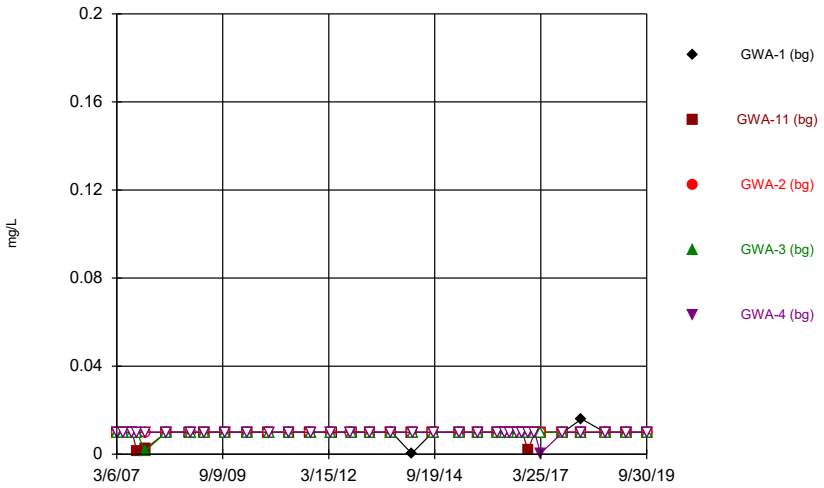
Time Series



Constituent: Chloride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

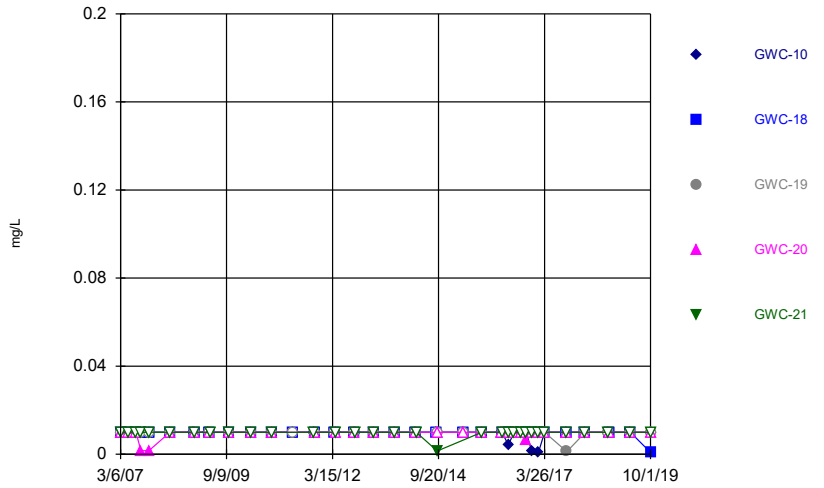
Time Series



Constituent: Chromium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

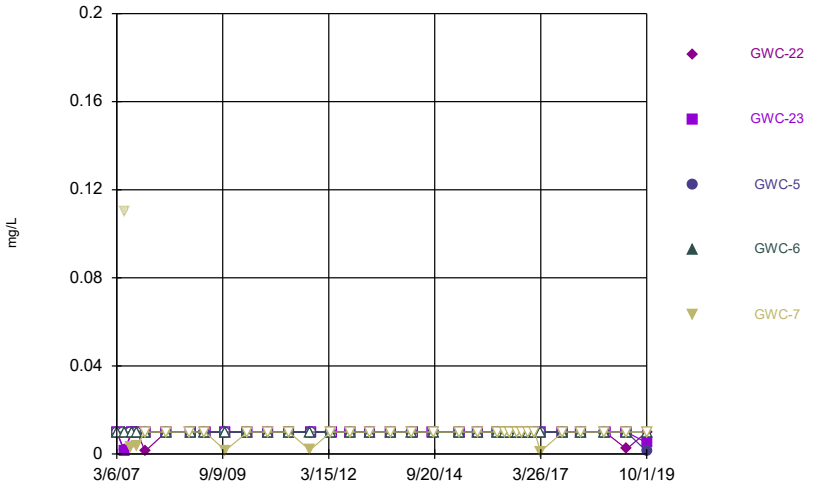
Time Series



Constituent: Chromium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

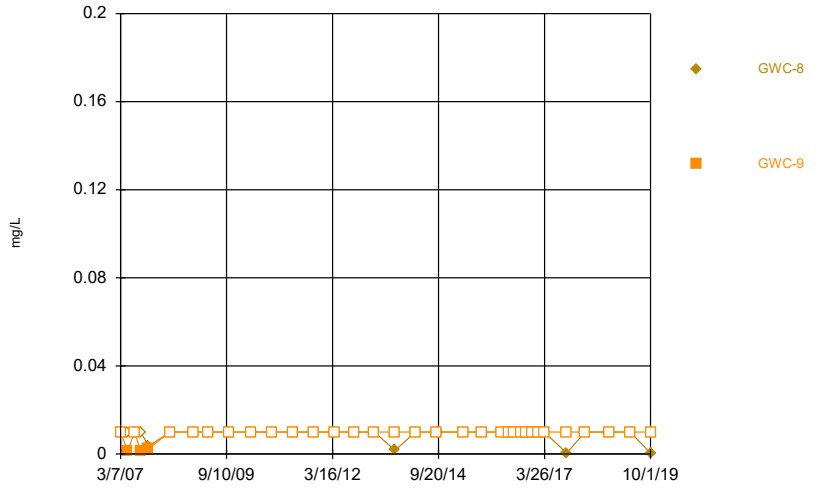
Time Series



Constituent: Chromium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

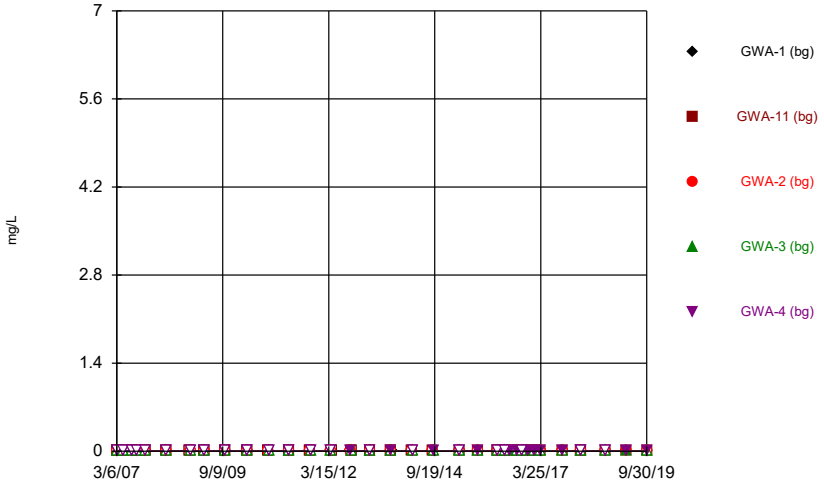
Time Series



Constituent: Chromium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

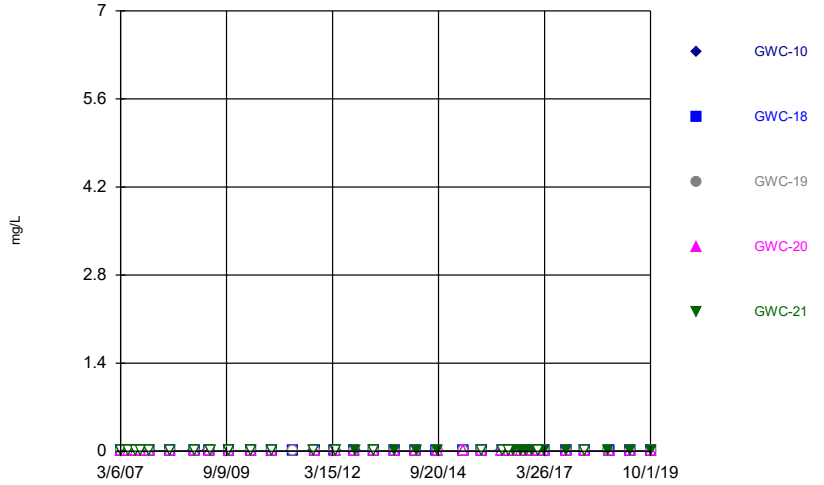
Time Series



Constituent: Cobalt Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Cobalt Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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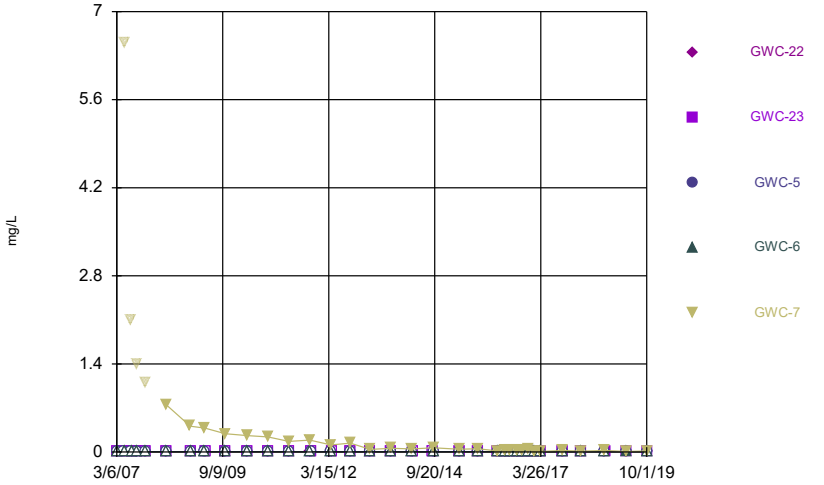
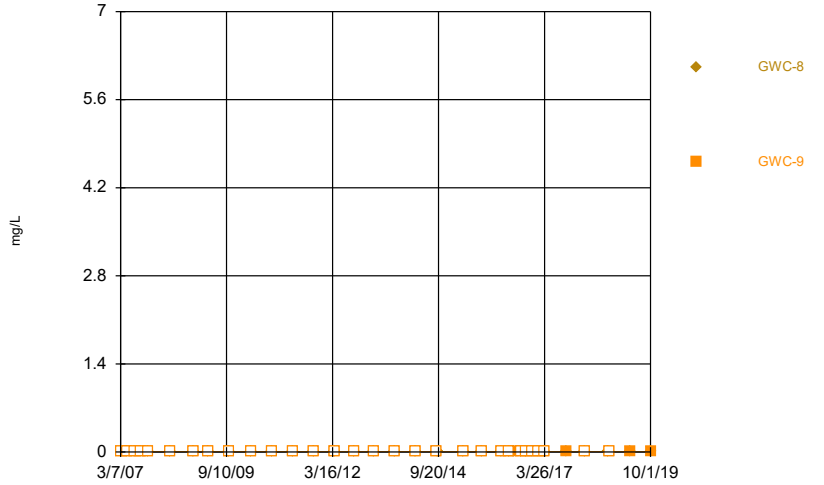


Constituent: Cobalt Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

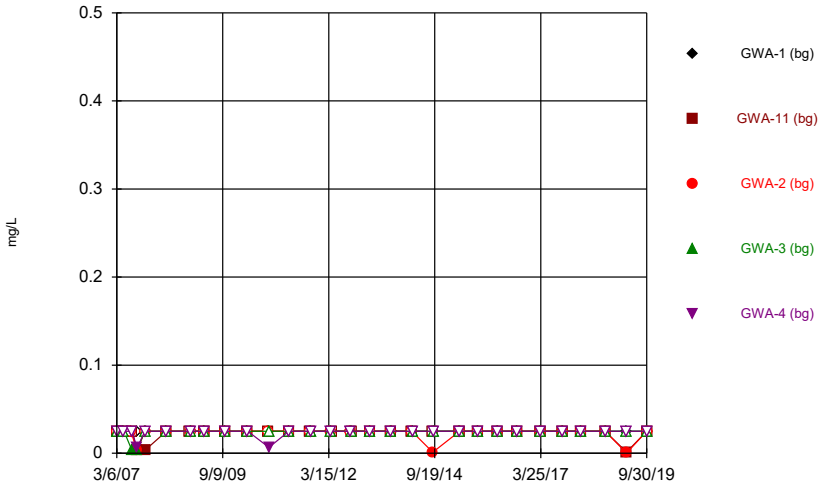
Time Series



Constituent: Cobalt Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

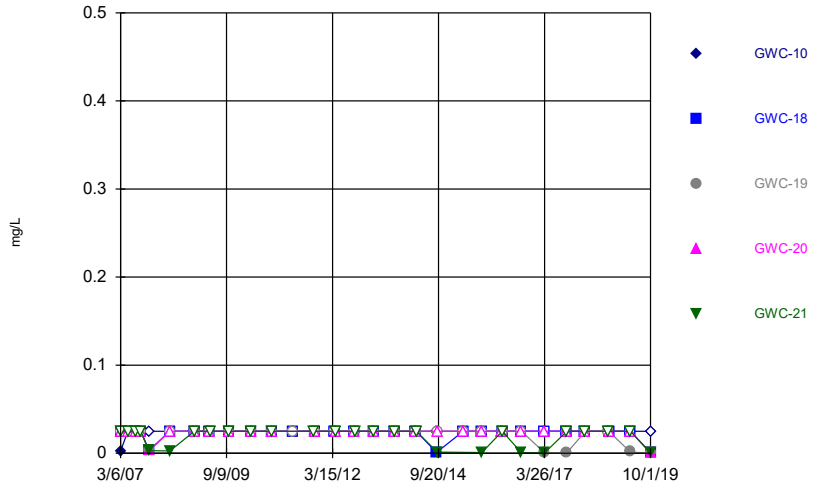
Time Series



Constituent: Copper Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

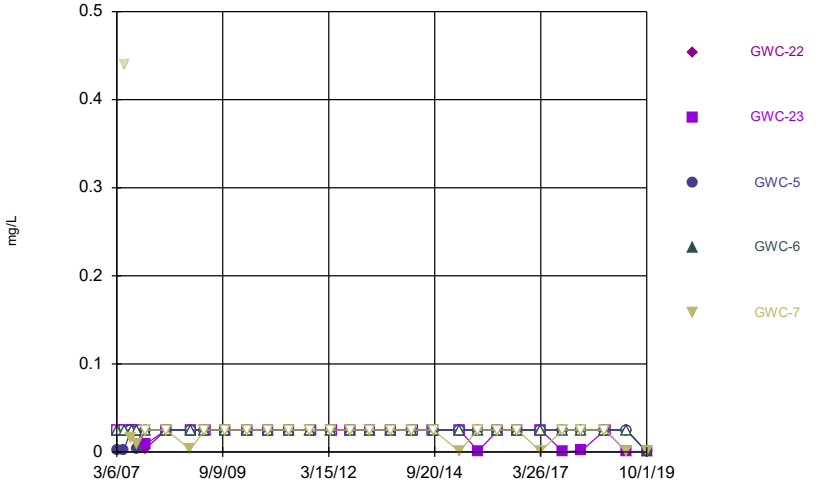
Time Series



Constituent: Copper Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

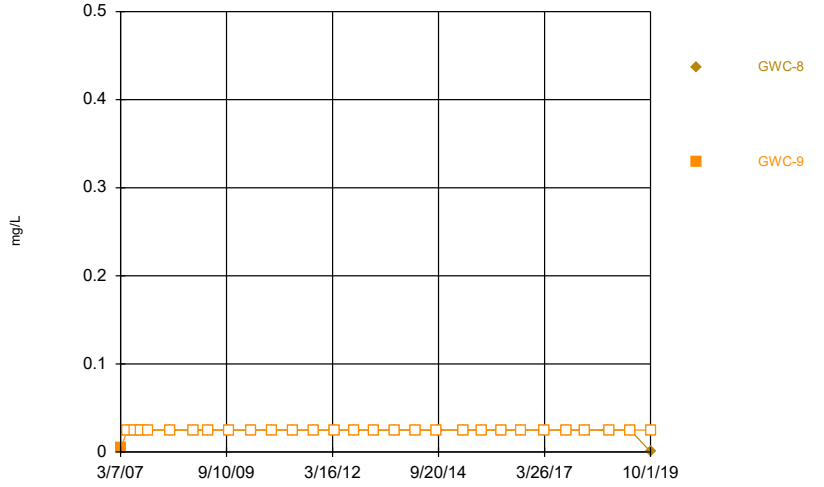
Time Series



Constituent: Copper Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

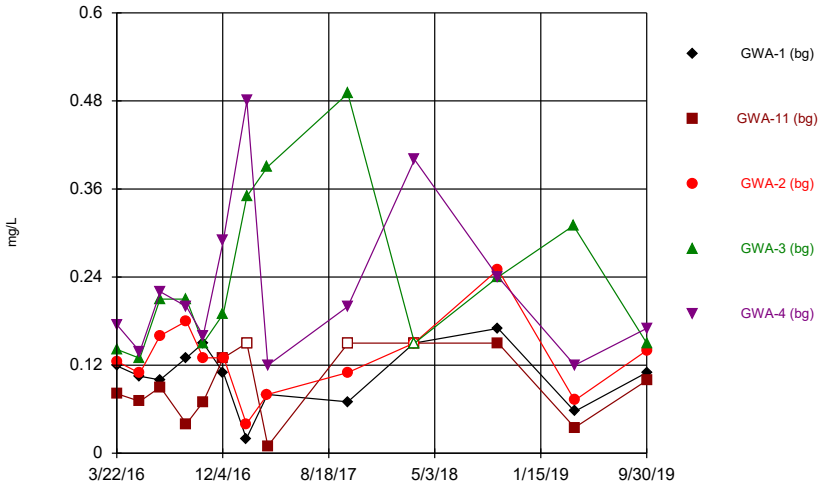
Time Series



Constituent: Copper Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

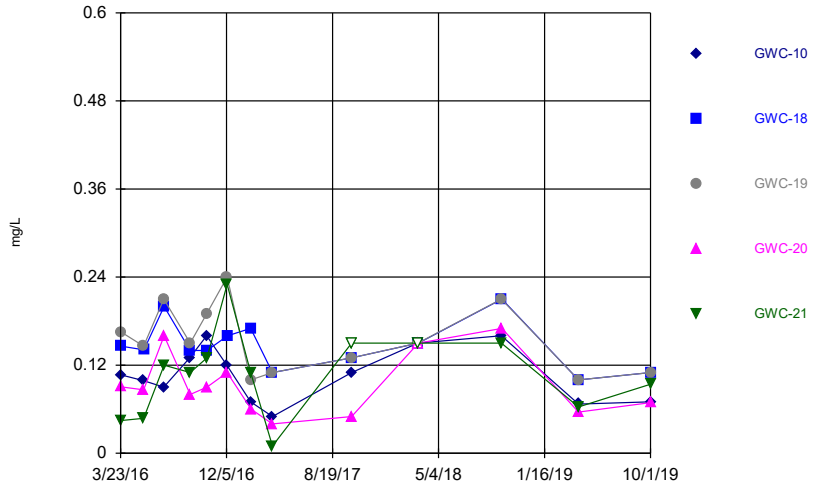
Time Series



Constituent: Fluoride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Fluoride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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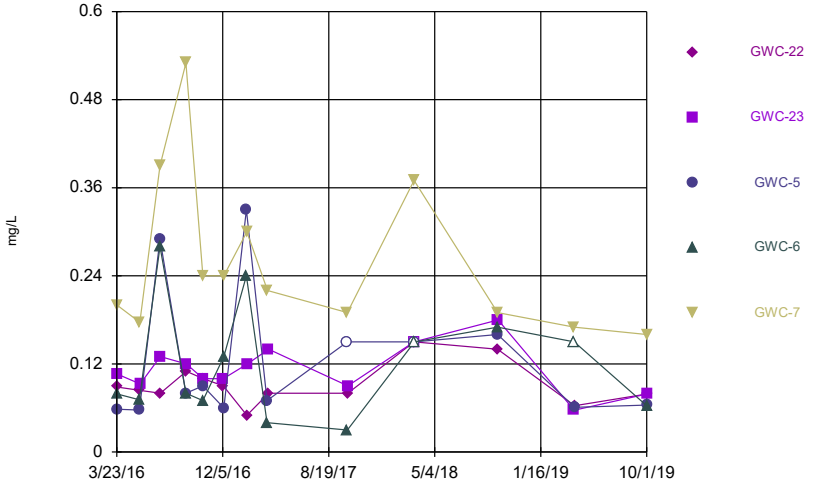
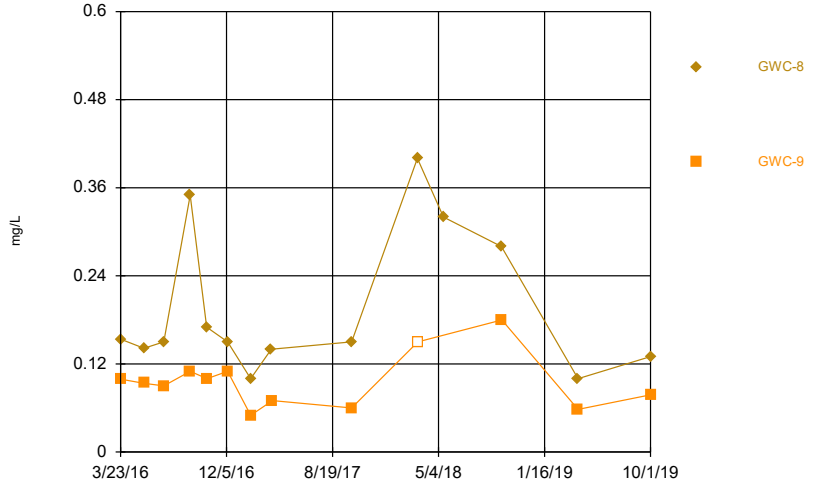
Time Series



Constituent: Fluoride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

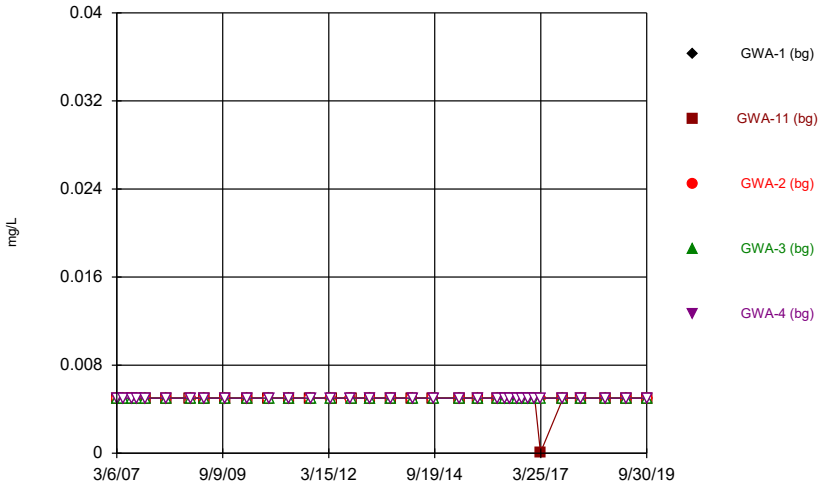
Time Series



Constituent: Fluoride Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

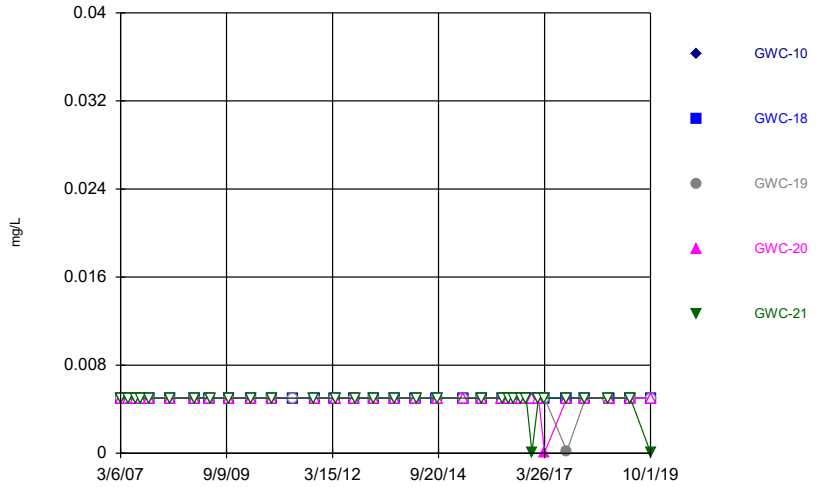
Time Series



Constituent: Lead Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

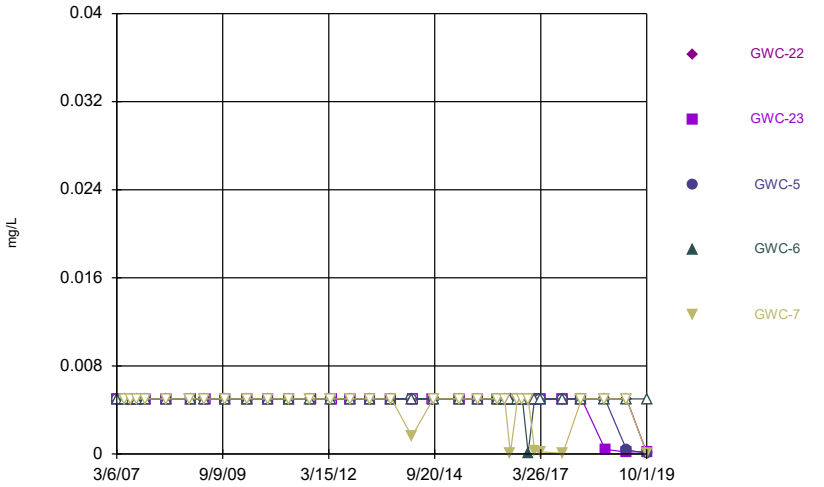
Time Series



Constituent: Lead Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

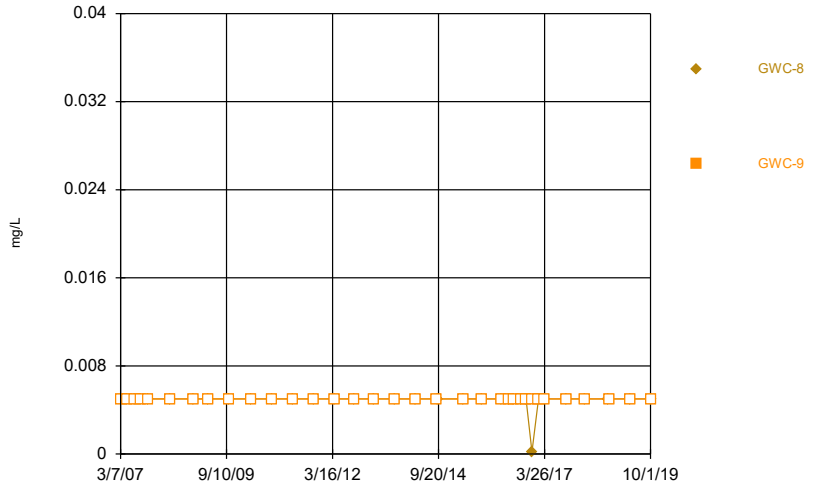
Time Series



Constituent: Lead Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

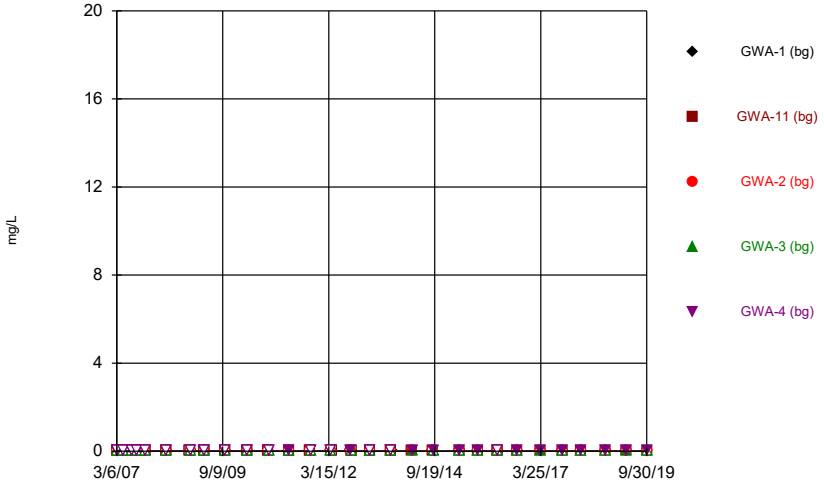
Time Series



Constituent: Lead Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

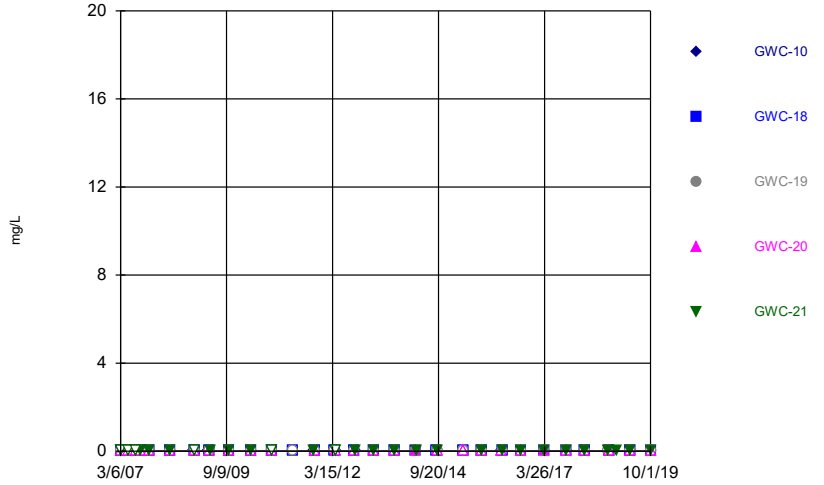
Time Series



Constituent: Nickel Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

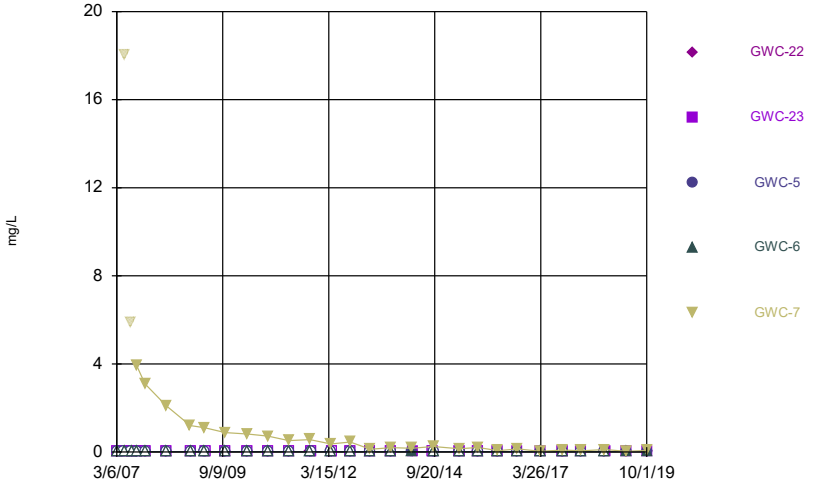
Time Series



Constituent: Nickel Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

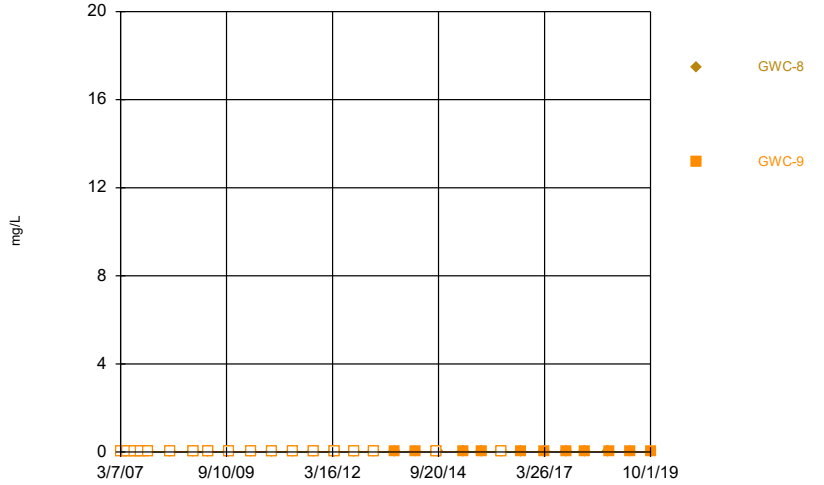
Time Series



Constituent: Nickel Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

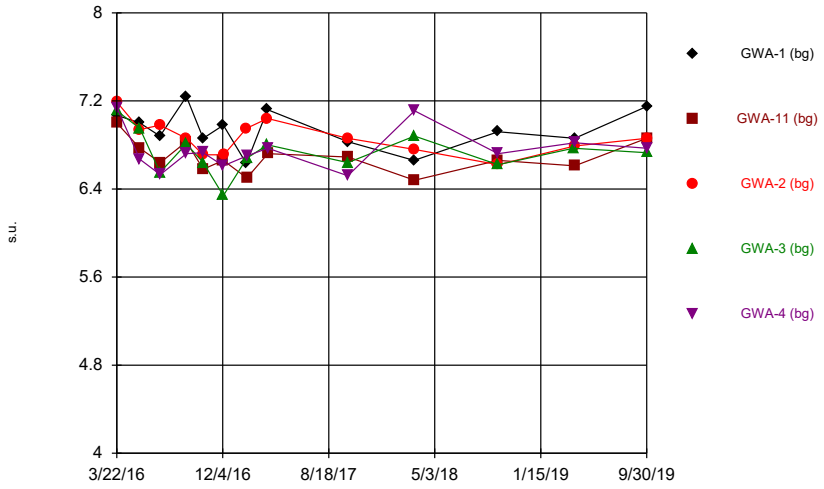
Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Nickel Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Time Series

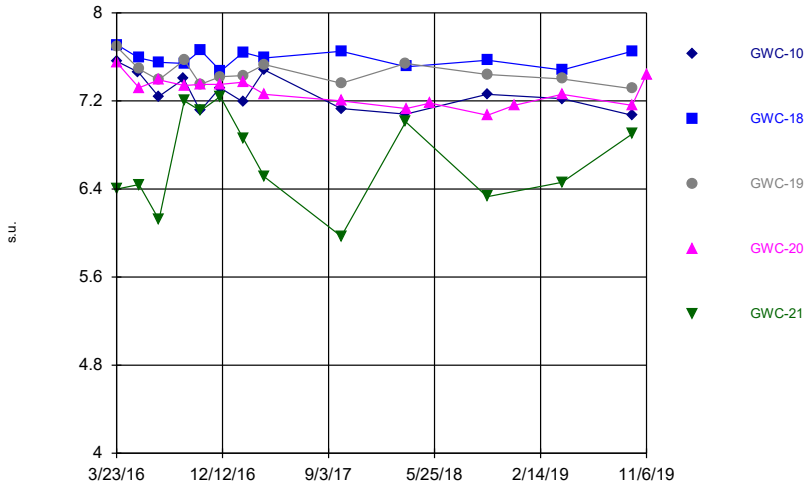


Constituent: pH Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series

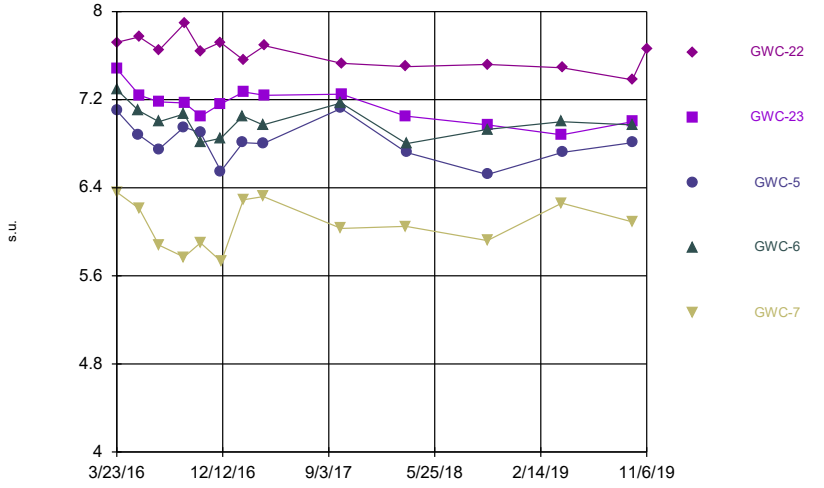


Constituent: pH Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series

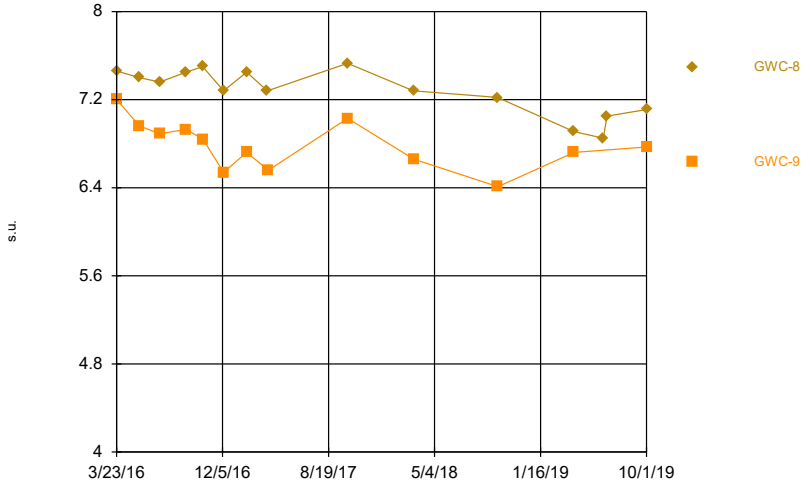


Constituent: pH Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series



Constituent: pH Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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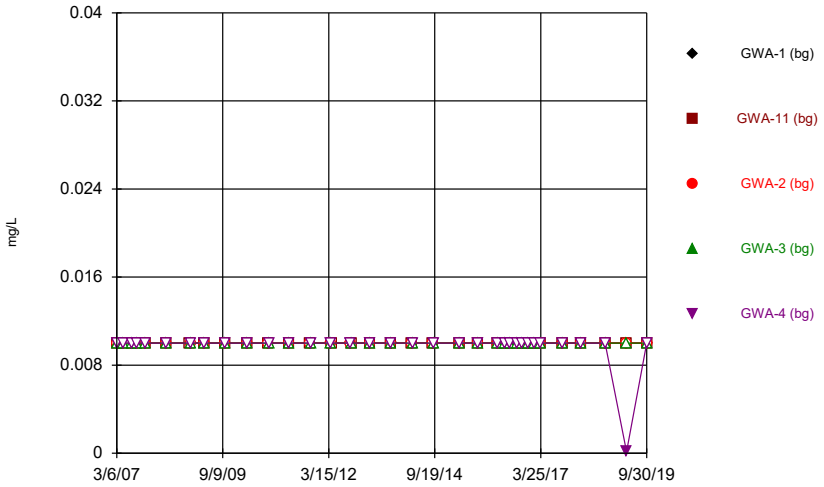
Hollow symbols indicate censored values.

Time Series



Constituent: Selenium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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Hollow symbols indicate censored values.

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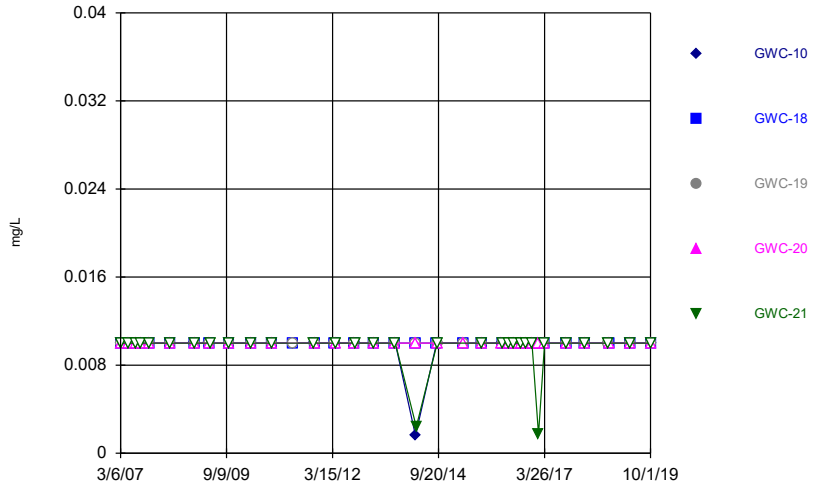

Constituent: Selenium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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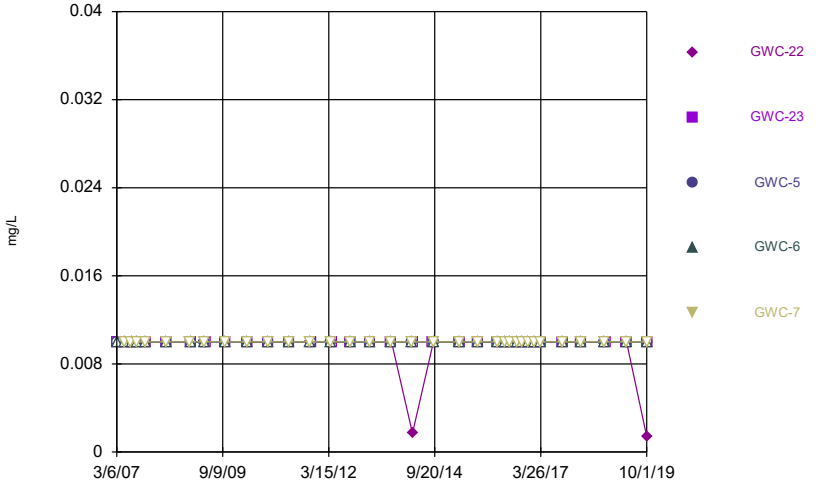

Constituent: Selenium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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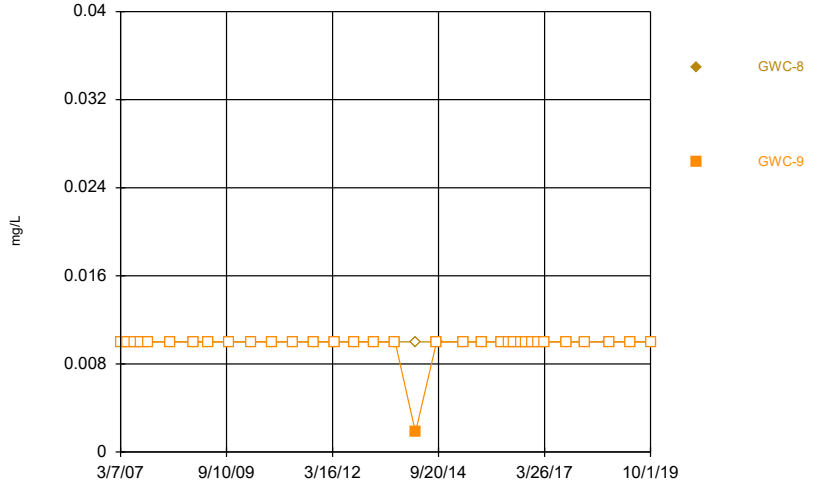

Constituent: Selenium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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Hollow symbols indicate censored values.

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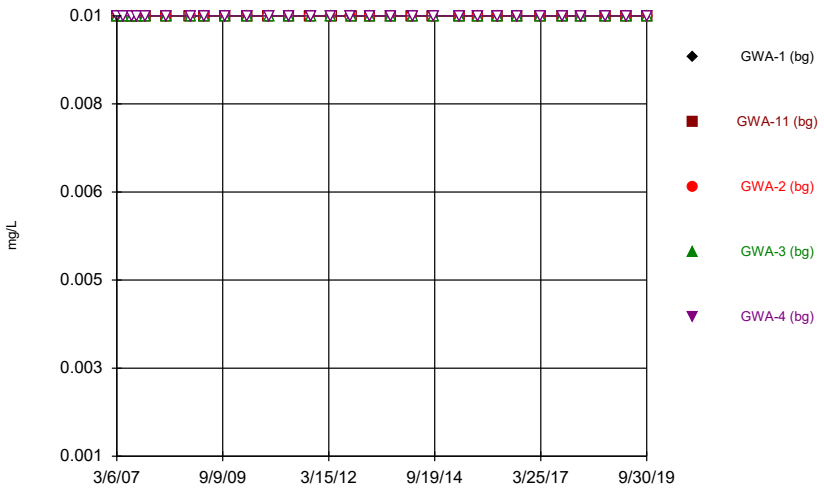

Constituent: Silver Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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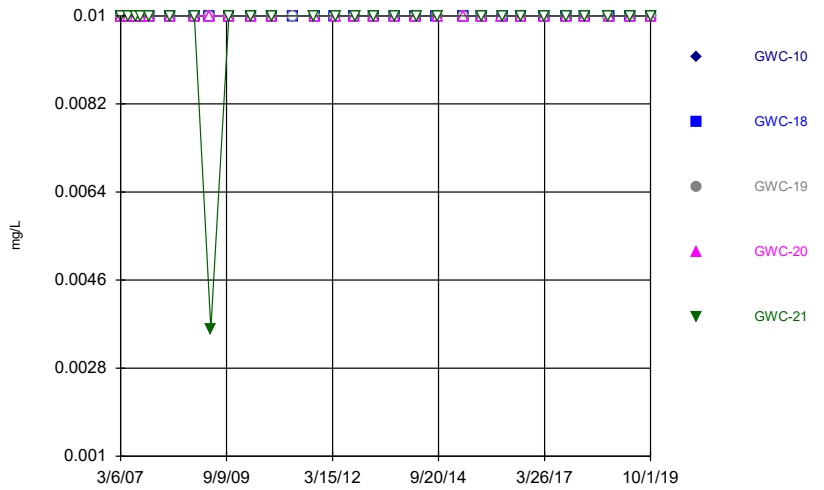

Constituent: Silver Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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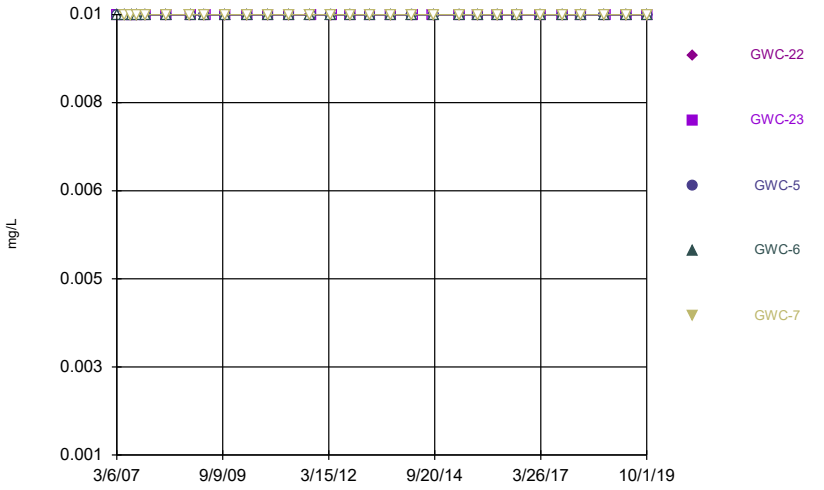
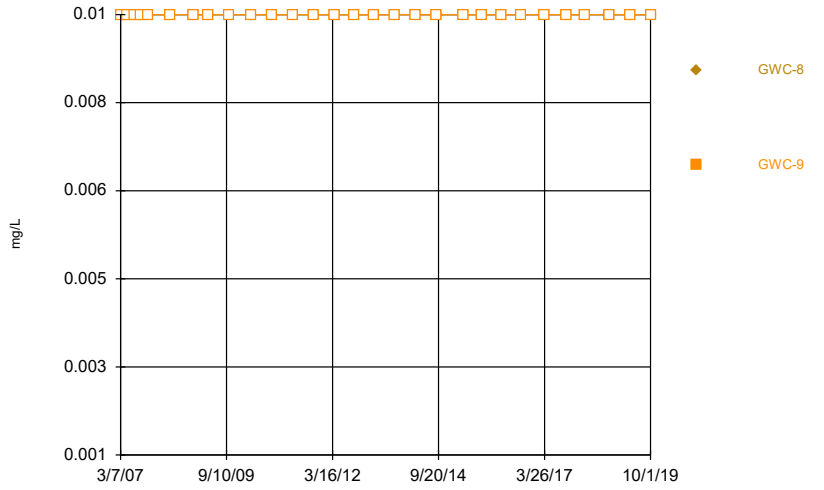


Constituent: Silver Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Time Series



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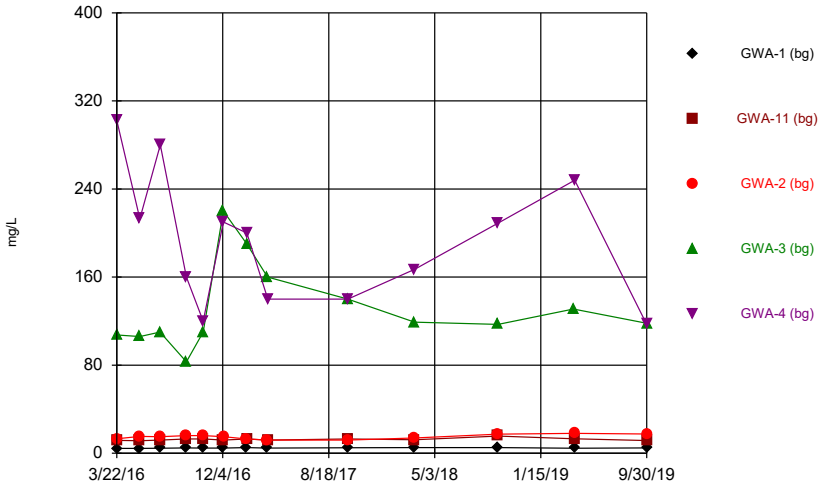
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Time Series



Constituent: Sulfate Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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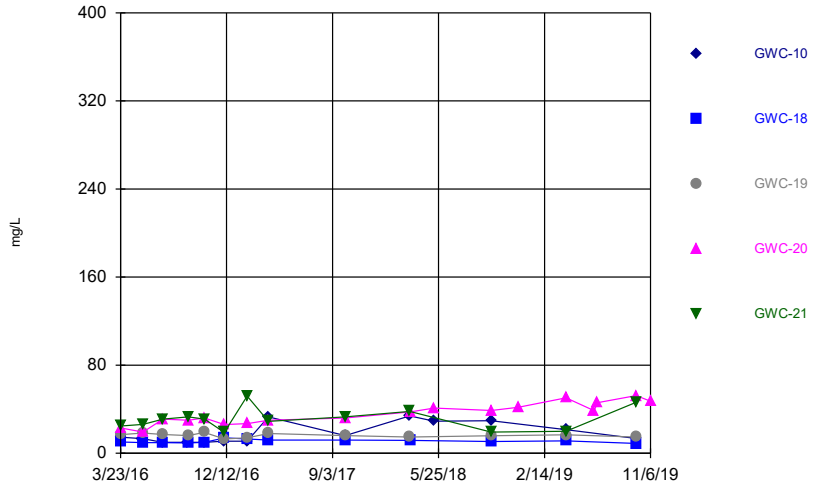
Time Series



Constituent: Sulfate Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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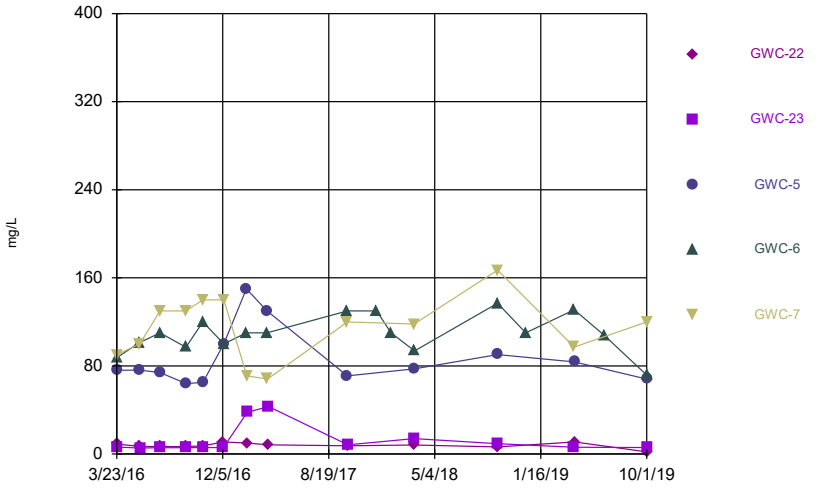
Time Series



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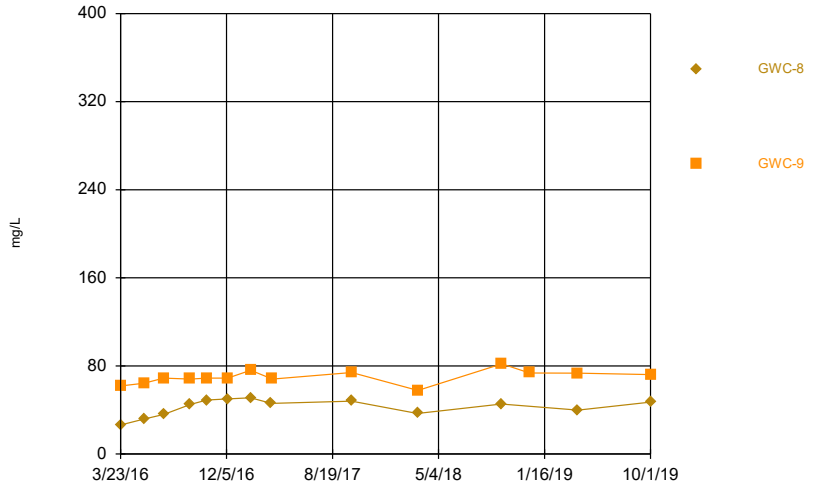
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series



Constituent: Sulfate Analysis Run 12/26/2019 6:48 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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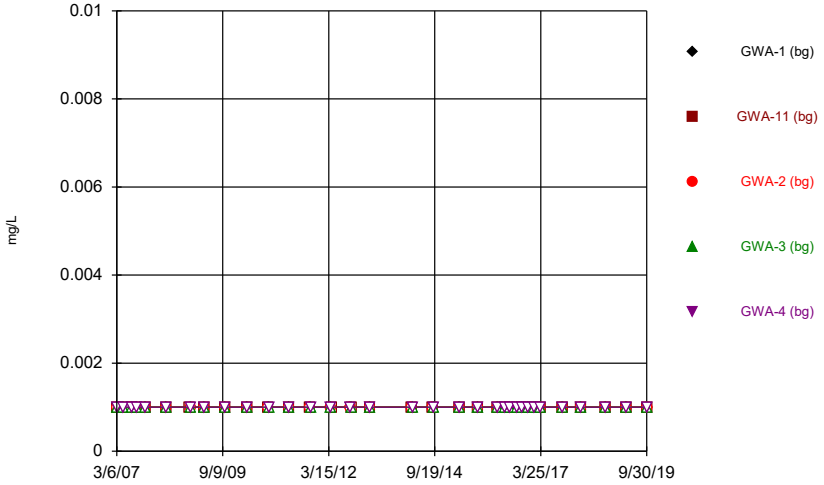
Hollow symbols indicate censored values.

Time Series



Constituent: Thallium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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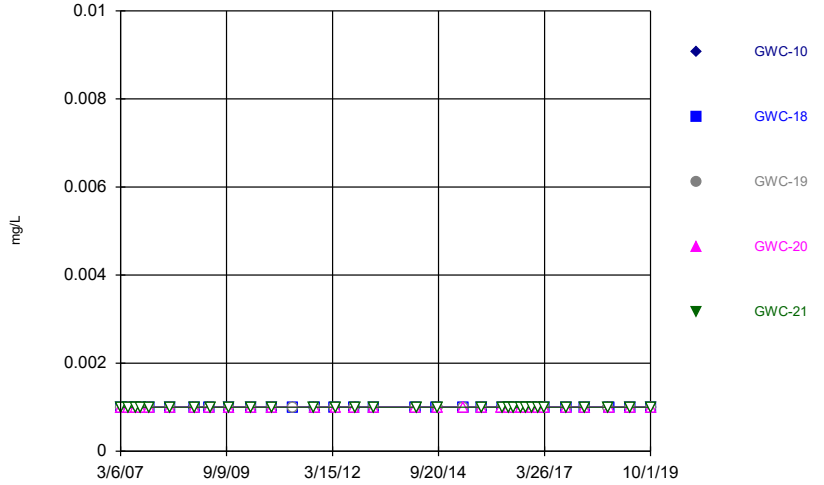

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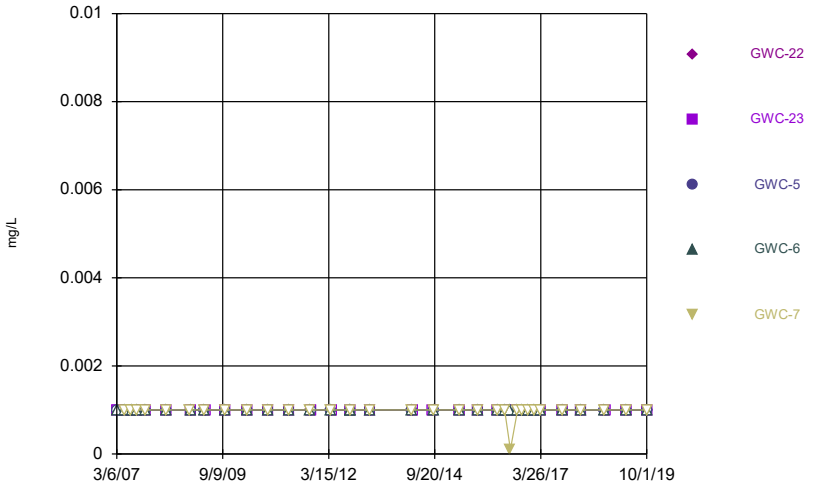

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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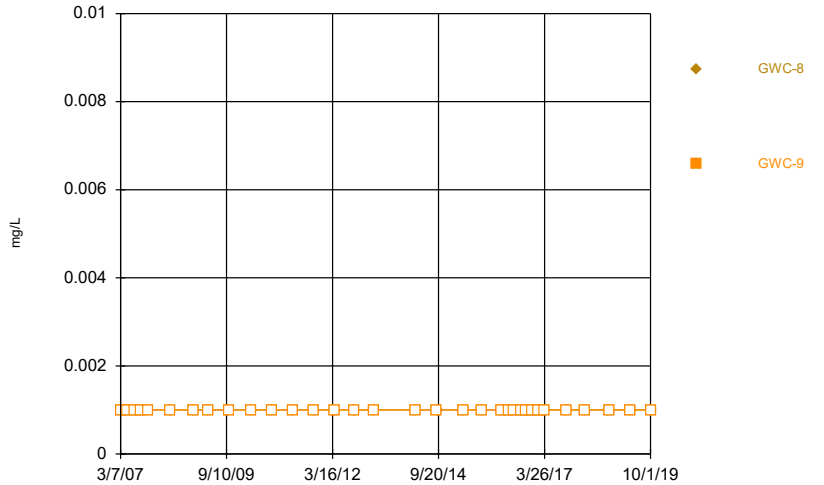

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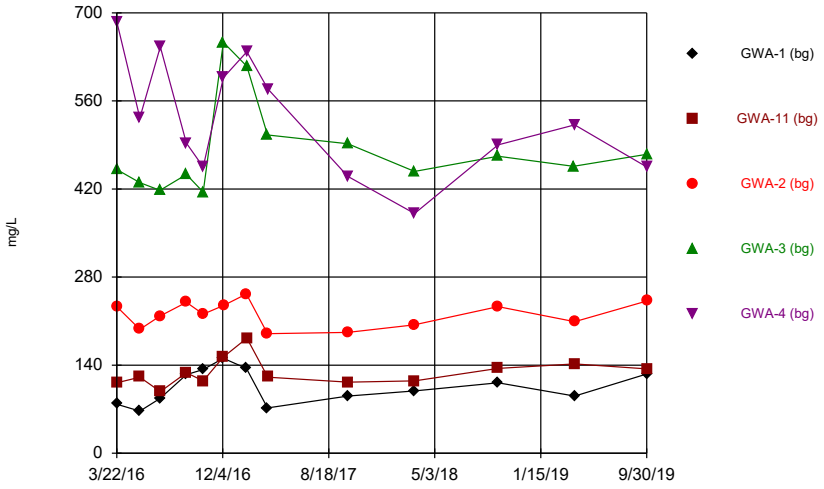
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

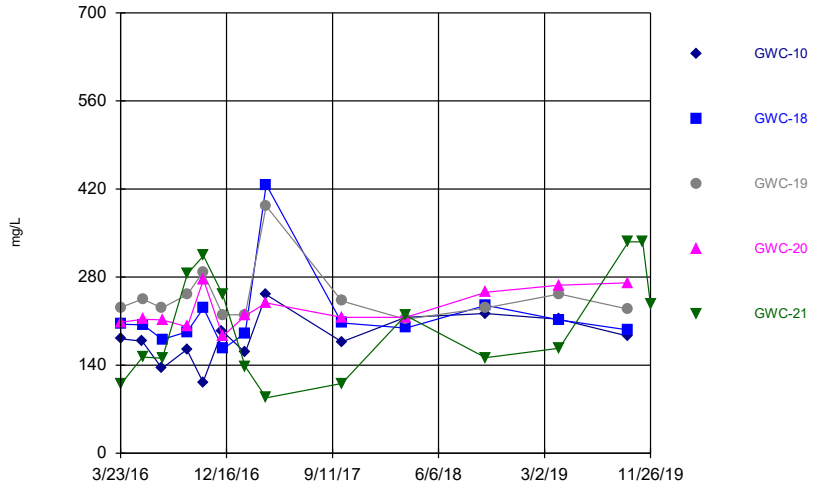
Time Series



Constituent: Total Dissolved Solids Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Time Series



Constituent: Total Dissolved Solids Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

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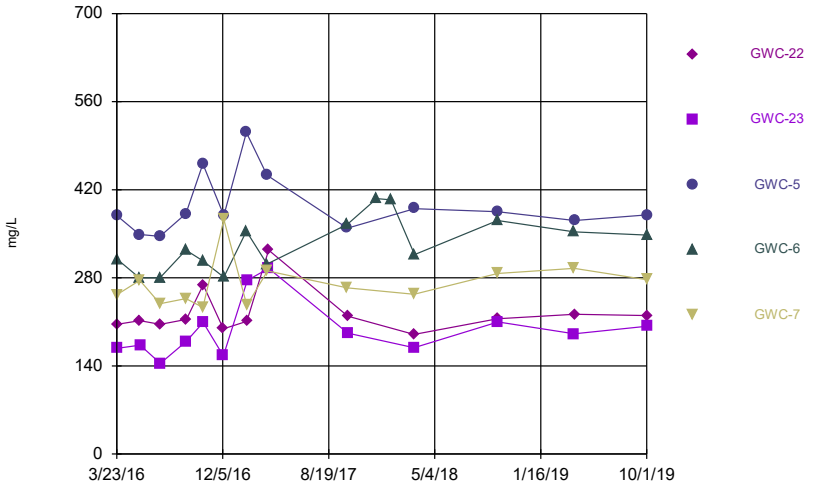

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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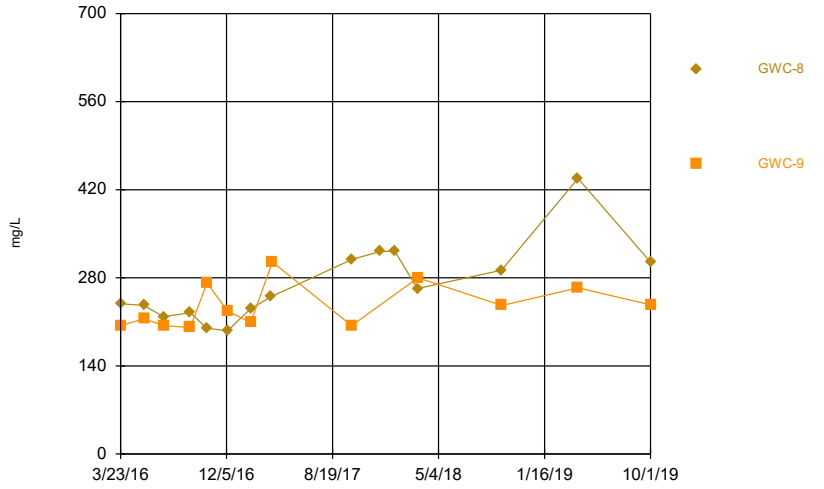
Time Series



Constituent: Total Dissolved Solids Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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Hollow symbols indicate censored values.

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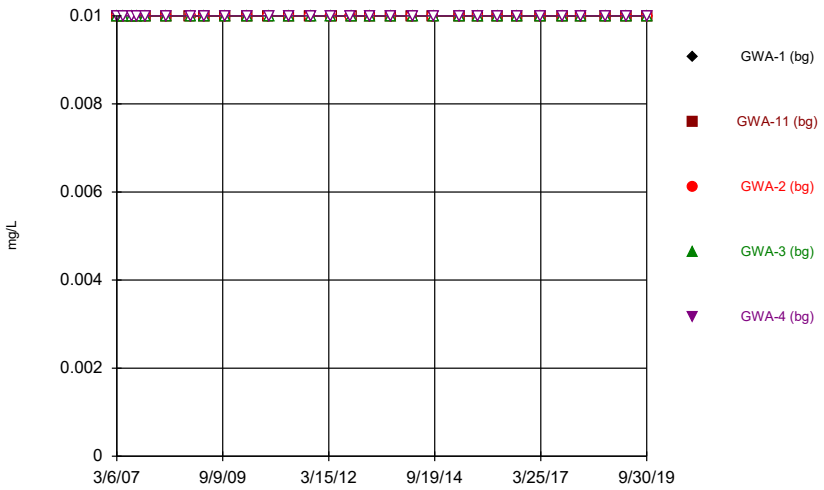

Constituent: Vanadium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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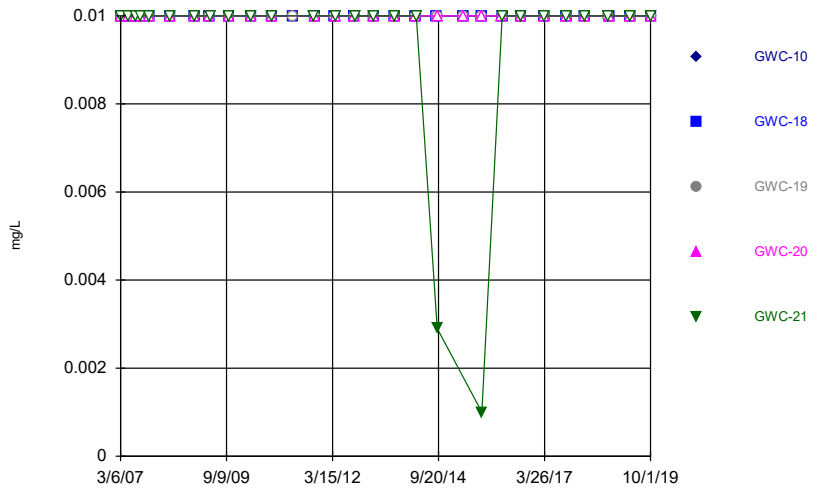
Hollow symbols indicate censored values.

Time Series



Constituent: Vanadium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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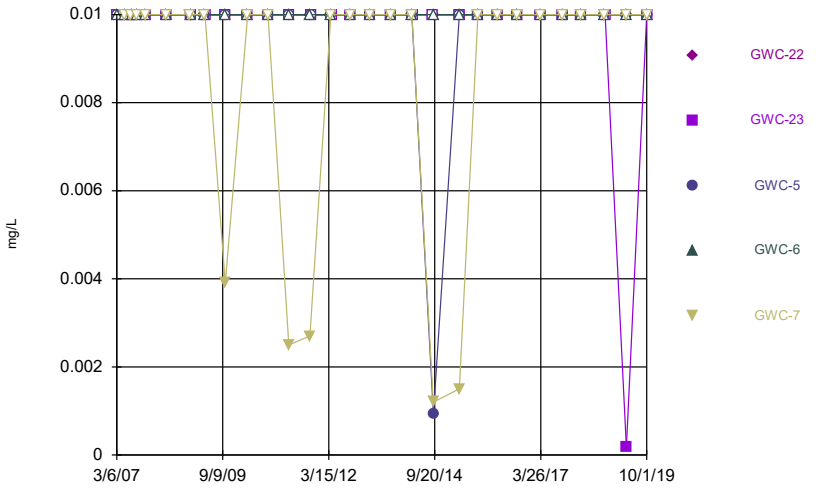

Constituent: Vanadium Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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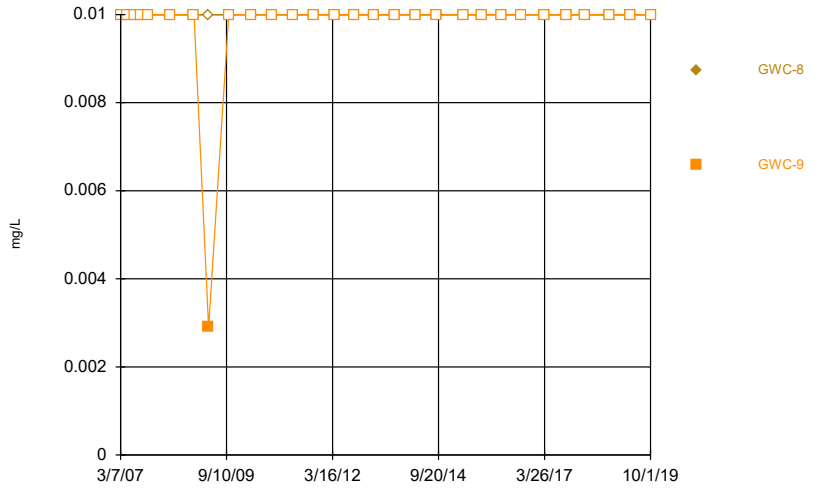

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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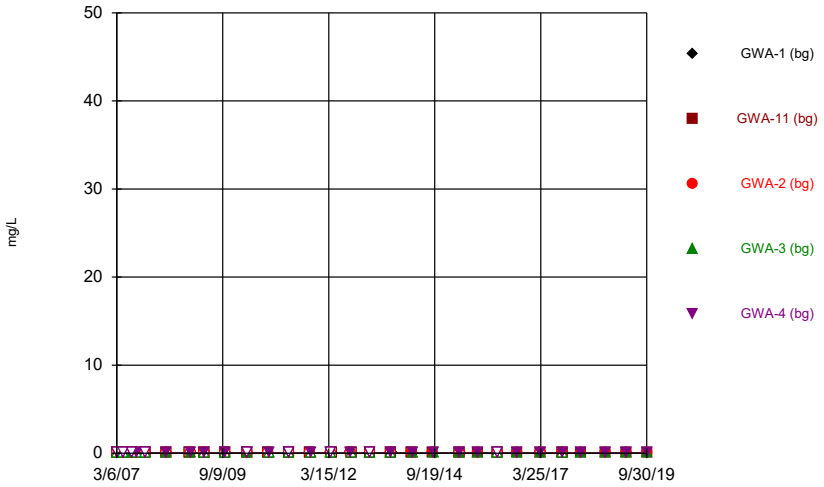

Constituent: Zinc Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

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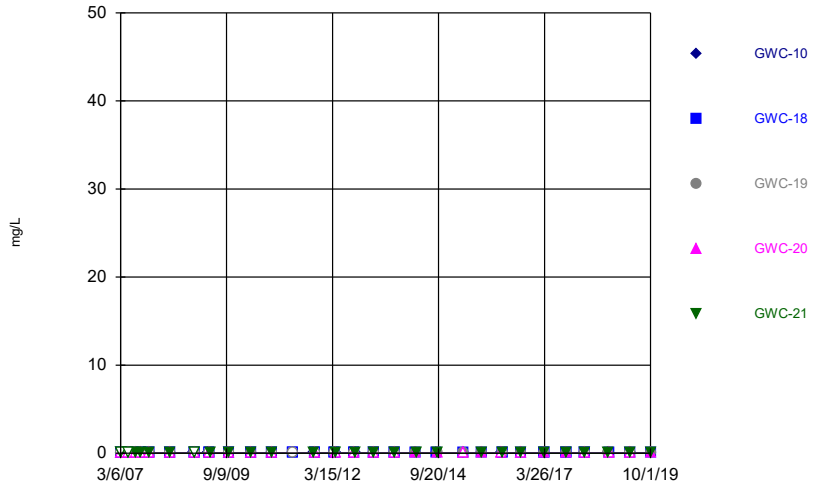

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Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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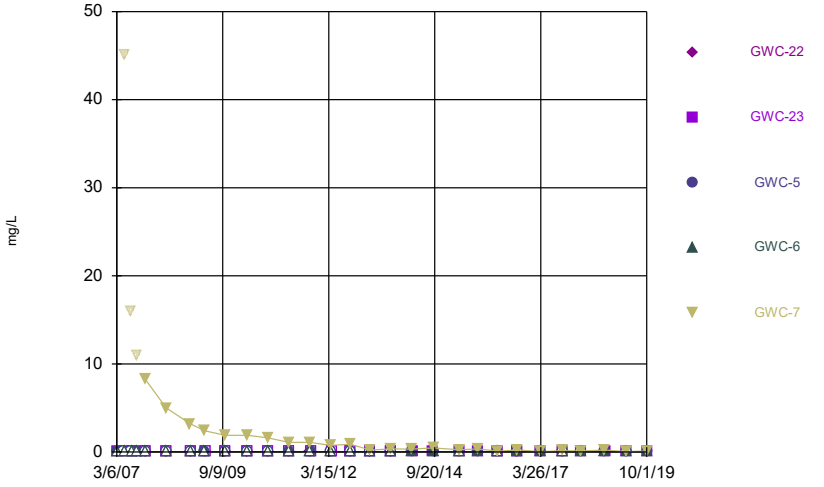

Constituent: Zinc Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
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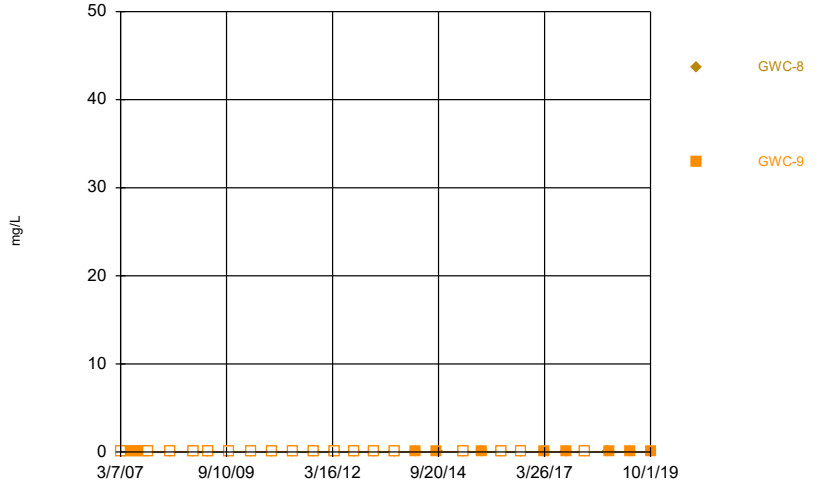


Constituent: Zinc Analysis Run 12/26/2019 6:48 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

April 2019 event (D01)

Appendix III Parameters
Statistical Analysis Package
(CCR and SW Program)
D01

Prediction Limit - Significant Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/15/2019, 5:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Chloride (mg/L) (1)	**GWC-8**	**2.129**	**n/a**	**4/8/2019**	**3.2**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**
pH (s.u.) (2)	**GWC-23**	**7.509**	**6.939**	**4/8/2019**	**6.88**	**Yes**	**8**	**0**	**No**	**0.0003135**	**Param Intra 1 of 3**
pH (s.u.)	**GWC-8**	**7.59**	**7.205**	**6/27/2019**	**7.05**	**Yes**	**8**	**0**	**No**	**0.0003135**	**Param Intra 1 of 3**
Sulfate (mg/L)	**GWC-20**	**37.44**	**n/a**	**6/27/2019**	**46**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**
Total Dissolved Solids (mg/L) (1)	**GWC-8**	**267.8**	**n/a**	**4/8/2019**	**438**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**

Notes:
(1) SSI addressed with an Alternate Source Demonstration.
(2) The measured pH for well GWC-23 was within the standard margin of error for the instrument (+/- 0.1 s.u.) and therefore not considered an SSI.

Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/15/2019, 5:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	GWC-10	0.04171	n/a	4/9/2019	0.035	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-18	0.1451	n/a	4/9/2019	0.12	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-19	0.2065	n/a	4/9/2019	0.17	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-20	0.05	n/a	4/9/2019	0.011	No	8	12.5	n/a	0.005912	NP Intra (normality) 1 of 3
Boron (mg/L)	GWC-21	0.1383	n/a	4/9/2019	0.014	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-22	0.08459	n/a	4/9/2019	0.063	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-23	0.151	n/a	4/8/2019	0.022	No	8	12.5	sqrt(x)	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-5	0.07287	n/a	4/9/2019	0.048	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-6	0.0426	n/a	4/8/2019	0.036	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-7	0.07255	n/a	4/8/2019	0.049	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-8	0.02841	n/a	4/8/2019	0.055	No	8	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-9	0.05	n/a	4/8/2019	0.015	No	8	12.5	n/a	0.005912	NP Intra (normality) 1 of 3
Calcium (mg/L)	GWC-10	50.37	n/a	4/9/2019	48.8	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-18	44.15	n/a	4/9/2019	41.4	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-19	50.19	n/a	4/9/2019	45.8	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-20	61.08	n/a	4/9/2019	57.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-21	82.74	n/a	4/9/2019	35.4	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-22	52.71	n/a	4/9/2019	47.3	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-23	42.07	n/a	4/8/2019	39.8	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-5	92.08	n/a	4/9/2019	73.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-6	68.16	n/a	4/8/2019	67	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-7	73.49	n/a	4/8/2019	56.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-8	76.22	n/a	6/27/2019	75.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-9	38.4	n/a	4/8/2019	36.3	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-10	1.911	n/a	4/9/2019	1.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-18	1.774	n/a	4/9/2019	1.6	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-19	2.477	n/a	4/9/2019	1.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-20	2.115	n/a	4/9/2019	1.8	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-21	3.478	n/a	4/9/2019	2.6	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-22	1.956	n/a	4/9/2019	1.7	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-23	2.062	n/a	4/8/2019	1.5	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-5	4.009	n/a	4/9/2019	3.3	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-6	2.297	n/a	4/8/2019	2.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-7	2.302	n/a	4/8/2019	1.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	**GWC-8**	**2.129**	**n/a**	**4/8/2019**	**3.2**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**
Chloride (mg/L)	GWC-9	1.741	n/a	4/8/2019	1	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-10	0.1828	n/a	4/9/2019	0.067	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-18	0.2117	n/a	4/9/2019	0.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-19	0.2743	n/a	4/9/2019	0.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-20	0.1713	n/a	4/9/2019	0.056	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-21	0.2567	n/a	4/9/2019	0.063	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-22	0.1258	n/a	4/9/2019	0.063	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-23	0.1516	n/a	4/8/2019	0.057	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-5	0.5204	n/a	4/9/2019	0.061	No	8	0	ln(x)	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-6	0.327	n/a	4/8/2019	0.15ND	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-7	0.5601	n/a	4/8/2019	0.17	No	8	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-8	0.3595	n/a	4/8/2019	0.1	No	8	0	ln(x)	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-9	0.138	n/a	4/8/2019	0.058	No	8	0	No	0.0006269	Param Intra 1 of 3
pH (s.u.)	GWC-10	7.705	6.985	4/9/2019	7.22	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-18	7.768	7.419	4/9/2019	7.48	No	8	0	No	0.0003135	Param Intra 1 of 3

Prediction Limit - All Results

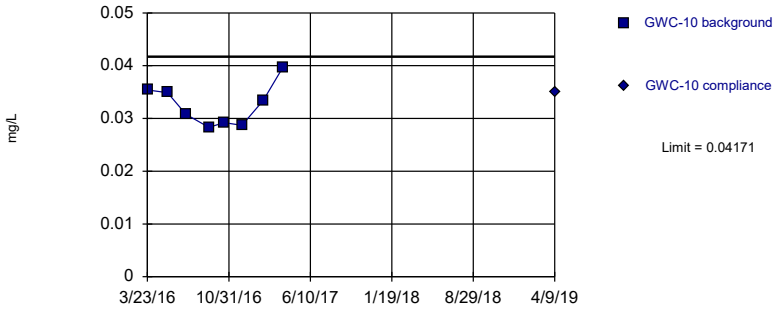
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/15/2019, 5:12 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH (s.u.)	GWC-19	7.739	7.229	4/9/2019	7.4	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-20	7.559	7.174	4/9/2019	7.26	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-21	7.71	5.76	4/9/2019	6.46	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-22	7.931	7.479	4/9/2019	7.49	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	**GWC-23**	**7.509**	**6.939**	**4/8/2019**	**6.88**	**Yes**	**8**	**0**	**No**	**0.0003135**	**Param Intra 1 of 3**
pH (s.u.)	GWC-5	7.211	6.474	4/9/2019	6.72	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-6	7.364	6.671	4/8/2019	7	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-7	6.663	5.452	4/8/2019	6.26	No	8	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	**GWC-8**	**7.59**	**7.205**	**6/27/2019**	**7.05**	**Yes**	**8**	**0**	**No**	**0.0003135**	**Param Intra 1 of 3**
pH (s.u.)	GWC-9	7.335	6.325	4/8/2019	6.72	No	8	0	No	0.0003135	Param Intra 1 of 3
Sulfate (mg/L)	GWC-10	33	n/a	4/9/2019	21.4	No	8	0	n/a	0.005912	NP Intra (normality) 1 of 3
Sulfate (mg/L)	GWC-18	15.08	n/a	4/9/2019	11.3	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-19	21.39	n/a	4/9/2019	16.7	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	**GWC-20**	**37.44**	**n/a**	**6/27/2019**	**46**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**
Sulfate (mg/L)	GWC-21	53	n/a	4/9/2019	19.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-22	11.96	n/a	4/9/2019	11	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-23	43	n/a	4/8/2019	6.2	No	8	0	n/a	0.005912	NP Intra (normality) 1 of 3
Sulfate (mg/L)	GWC-5	165.8	n/a	4/9/2019	83.6	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-6	127.6	n/a	6/19/2019	108	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-7	178	n/a	4/8/2019	97.1	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-8	63.3	n/a	4/8/2019	39.9	No	8	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-9	77.62	n/a	4/8/2019	73.5	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-10	267.9	n/a	4/9/2019	213	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-18	427	n/a	4/9/2019	212	No	8	0	n/a	0.005912	NP Intra (normality) 1 of 3
Total Dissolved Solids (mg/L)	GWC-19	396.3	n/a	4/9/2019	253	No	8	0	sqrt(x)	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-20	282.4	n/a	4/9/2019	267	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-21	382	n/a	4/9/2019	167	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-22	324	n/a	4/9/2019	222	No	8	0	n/a	0.005912	NP Intra (normality) 1 of 3
Total Dissolved Solids (mg/L)	GWC-23	329.5	n/a	4/8/2019	191	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-5	541.9	n/a	4/9/2019	371	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-6	363.9	n/a	4/8/2019	353	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-7	376.4	n/a	4/8/2019	295	No	8	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	**GWC-8**	**267.8**	**n/a**	**4/8/2019**	**438**	**Yes**	**8**	**0**	**No**	**0.0006269**	**Param Intra 1 of 3**
Total Dissolved Solids (mg/L)	GWC-9	317.7	n/a	4/8/2019	264	No	8	0	No	0.0006269	Param Intra 1 of 3

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03254, Std. Dev.=0.003986, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9167, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

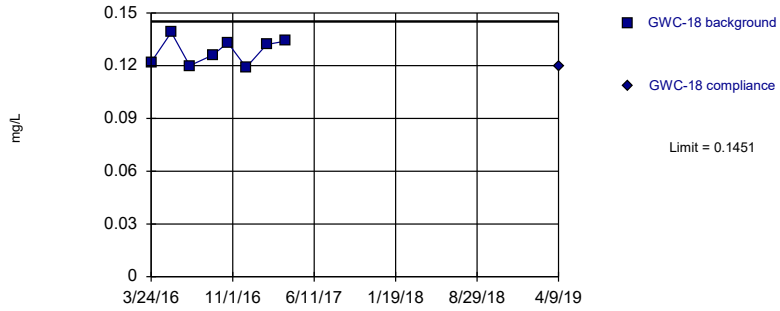
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1281, Std. Dev.=0.007396, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9219, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

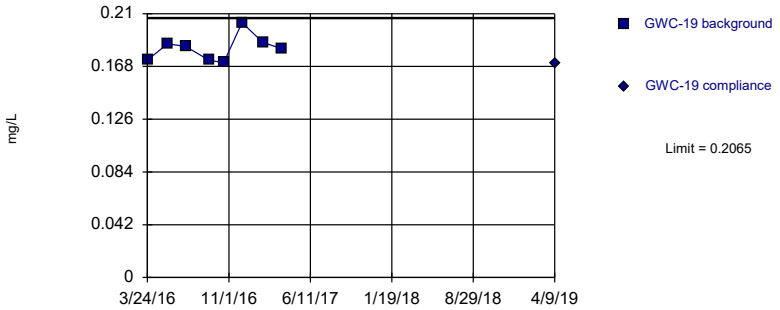
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1824, Std. Dev.=0.01047, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8922, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

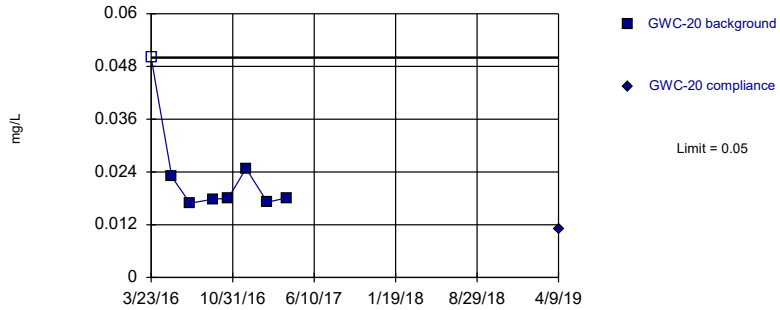
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. 12.5% NDs. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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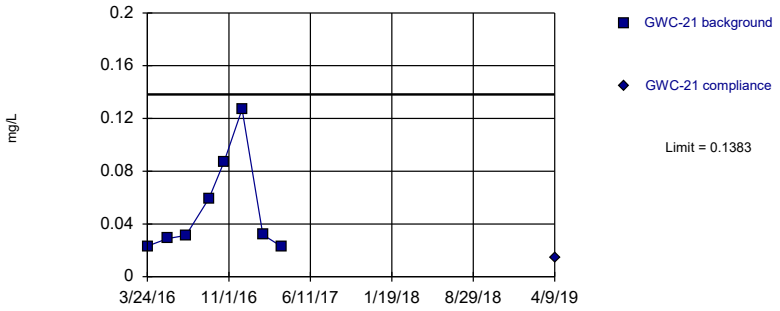
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.05138, Std. Dev.=0.03774, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7901, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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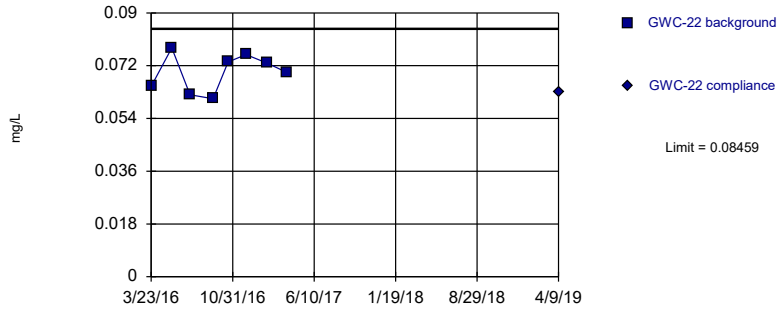
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.0697, Std. Dev.=0.006467, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9302, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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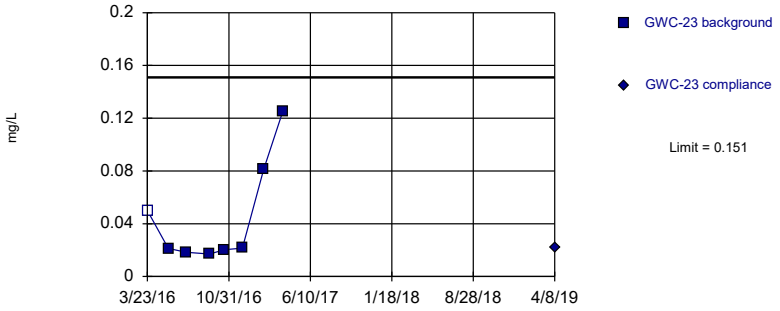
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.1953, Std. Dev.=0.08395, n=8, 12.5% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7837, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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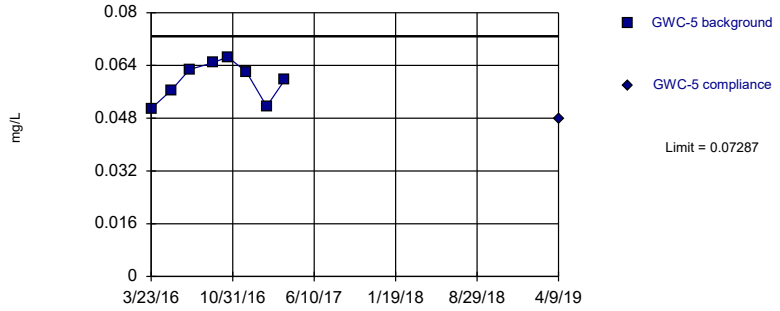
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.05936, Std. Dev.=0.005866, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9222, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

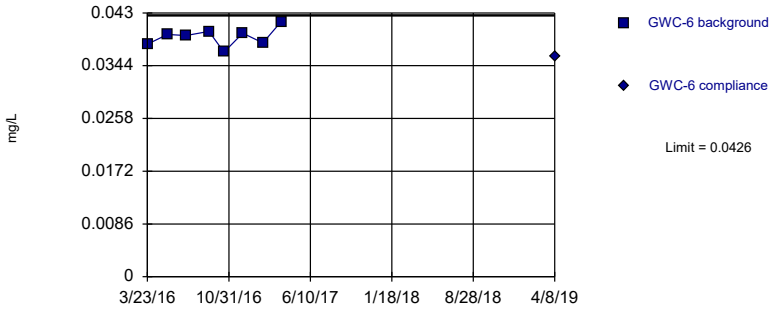
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03909, Std. Dev.=0.001526, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9715, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

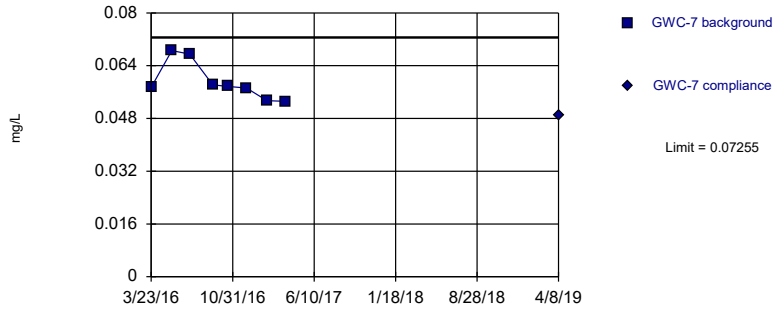
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.05915, Std. Dev.=0.005823, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8225, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

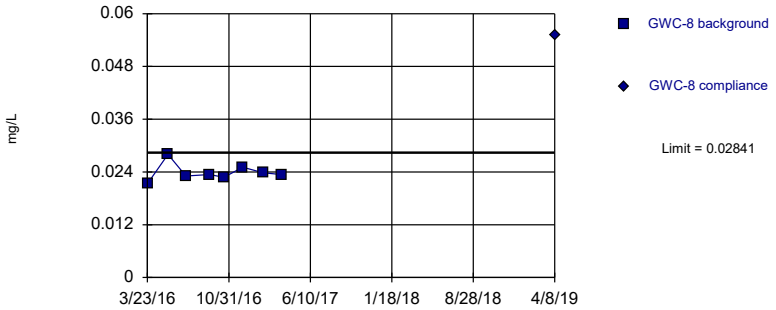
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.02386, Std. Dev.=0.001977, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8792, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 8/15/2019 5:07 PM

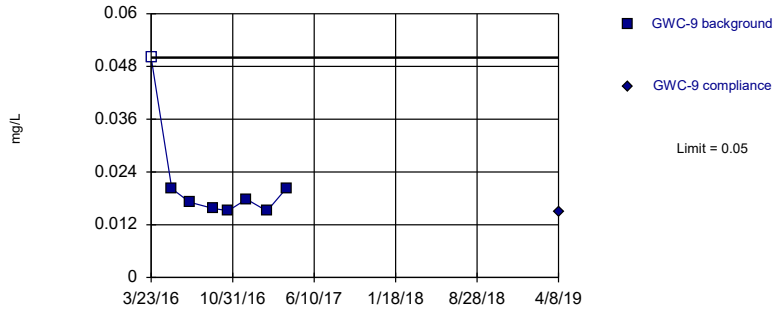
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. 12.5% NDs. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

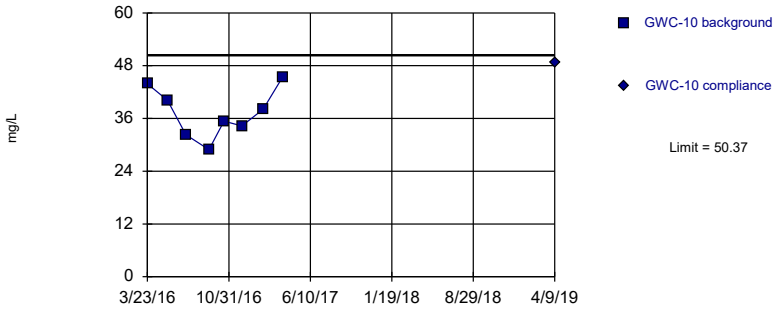
Constituent: Boron Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=37.3, Std. Dev.=5.68, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9724, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

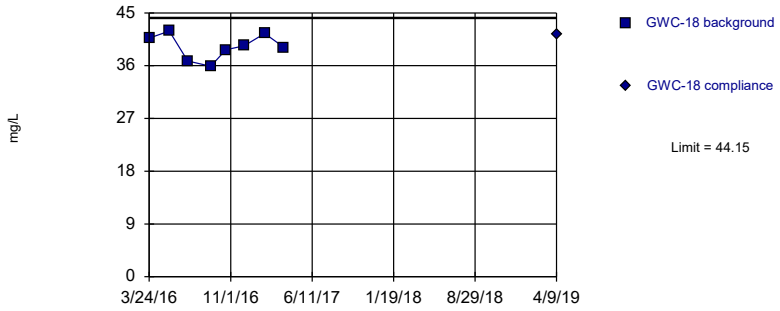
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=39.25, Std. Dev.=2.13, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9468, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

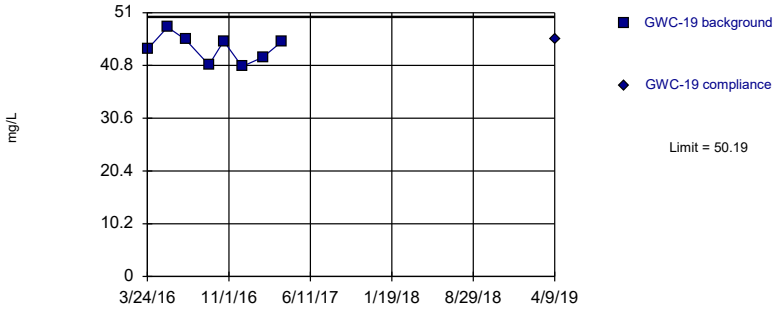
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=44.1, Std. Dev.=2.647, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9374, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

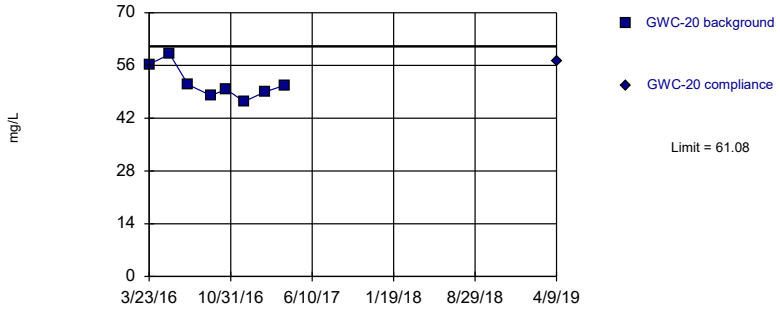
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=51.25, Std. Dev.=4.268, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8875, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

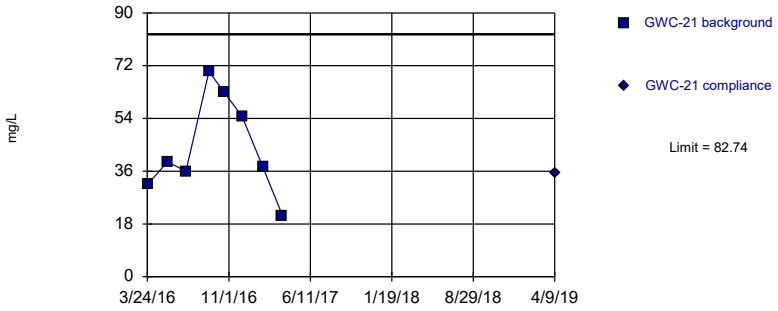
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=44.08, Std. Dev.=16.79, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9397, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

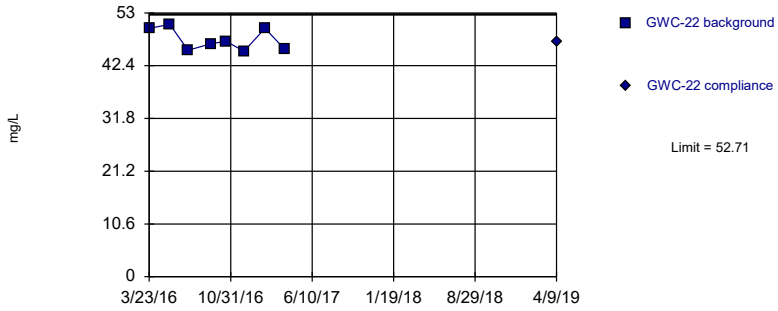
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=47.65, Std. Dev.=2.199, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8626, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

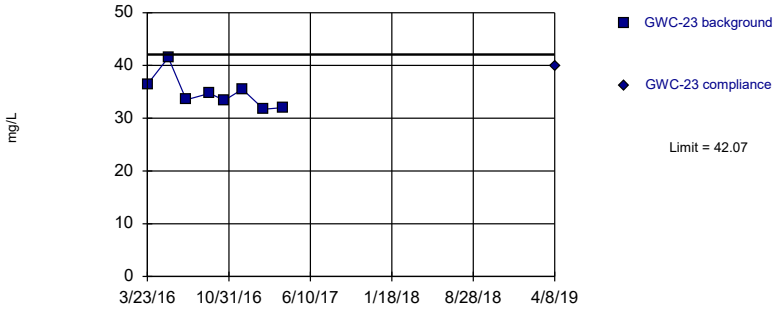
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=34.84, Std. Dev.=3.14, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8714, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

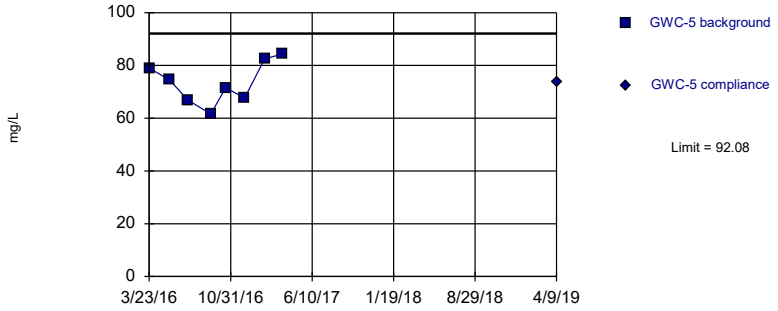
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=73.53, Std. Dev.=8.061, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9594, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

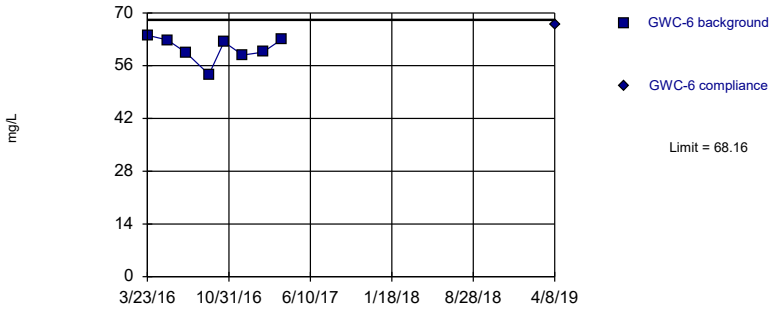
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=60.46, Std. Dev.=3.342, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.885, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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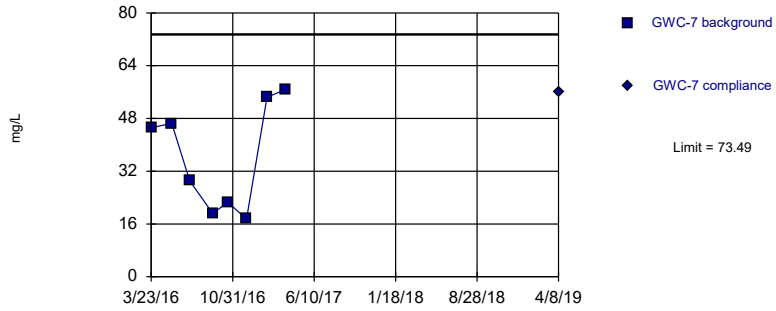
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.41, Std. Dev.=16.11, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8805, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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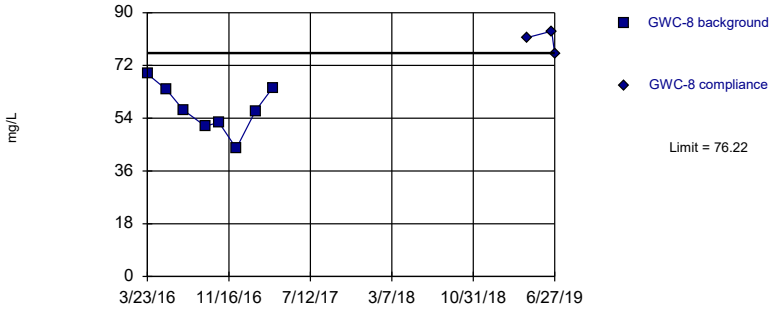
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=57.26, Std. Dev.=8.234, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9712, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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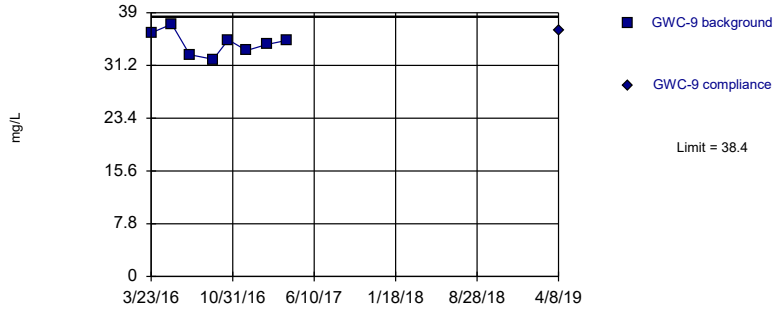
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=34.48, Std. Dev.=1.707, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9806, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

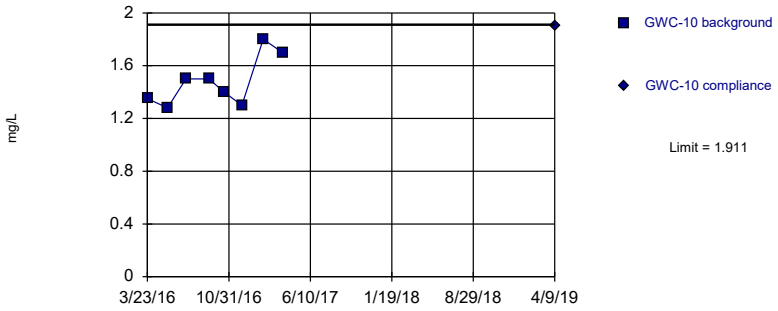
Constituent: Calcium Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.479, Std. Dev.=0.1879, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.905, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

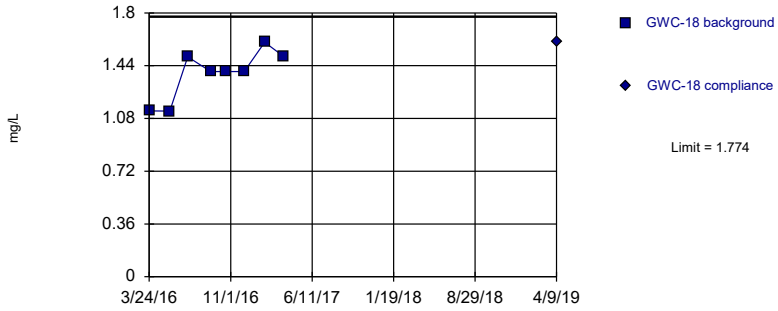
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.383, Std. Dev.=0.1702, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8642, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

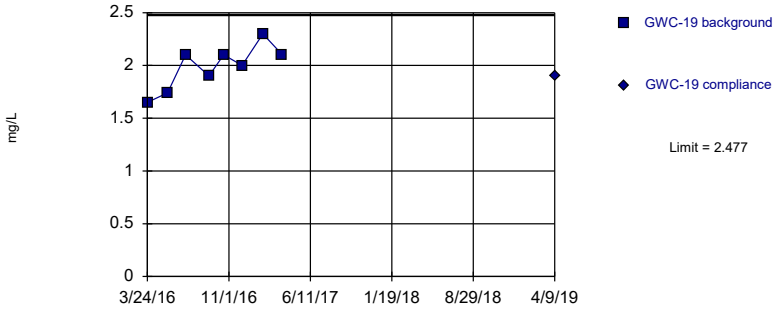
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.986, Std. Dev.=0.2134, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9418, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

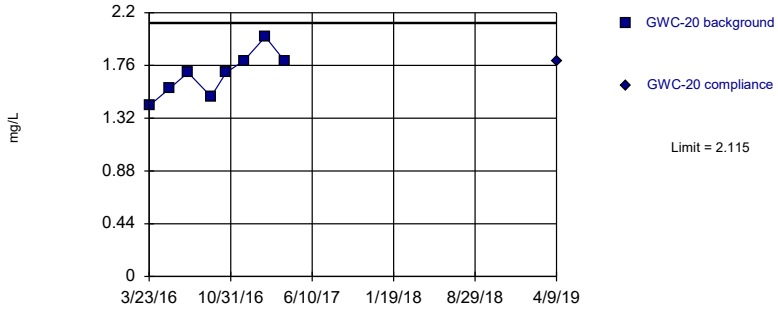
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.687, Std. Dev.=0.1858, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9678, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

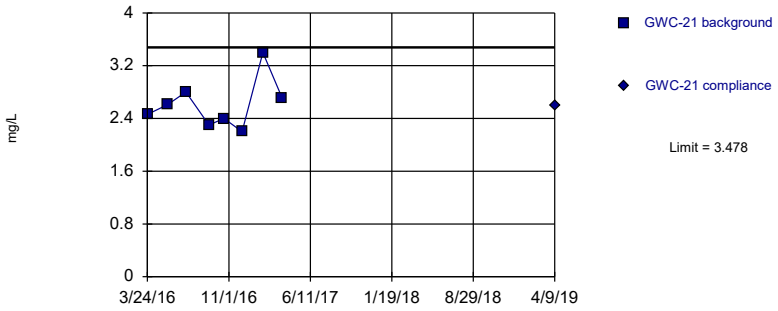
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.609, Std. Dev.=0.3777, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8943, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

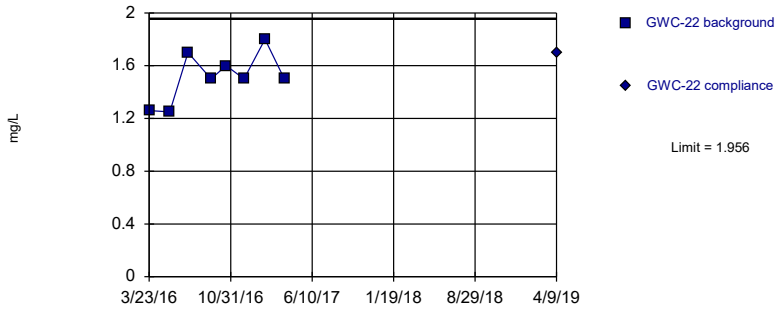
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.514, Std. Dev.=0.1923, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9263, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

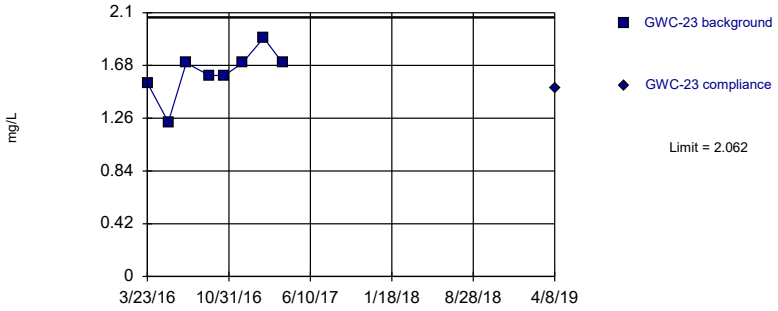
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.621, Std. Dev.=0.1915, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8932, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

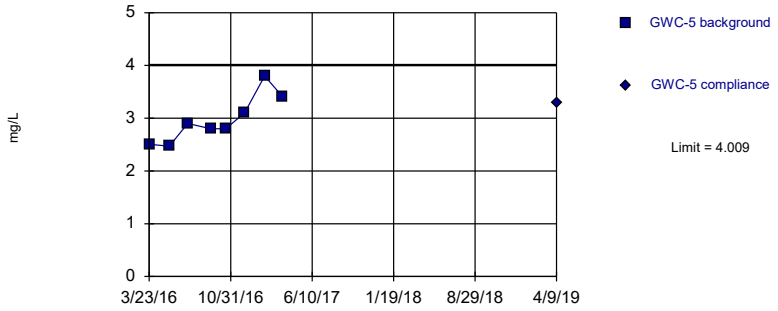
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.972, Std. Dev.=0.4504, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9251, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

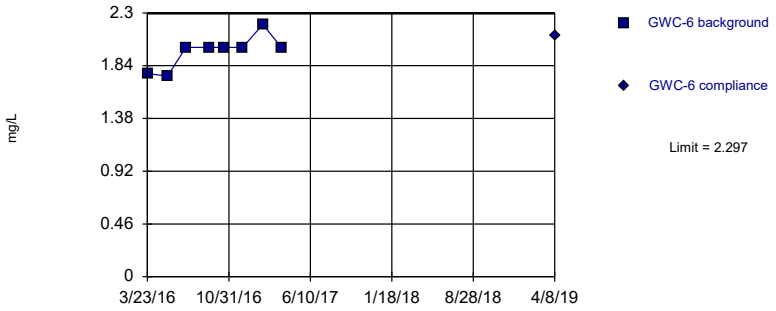
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.965, Std. Dev.=0.144, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8186, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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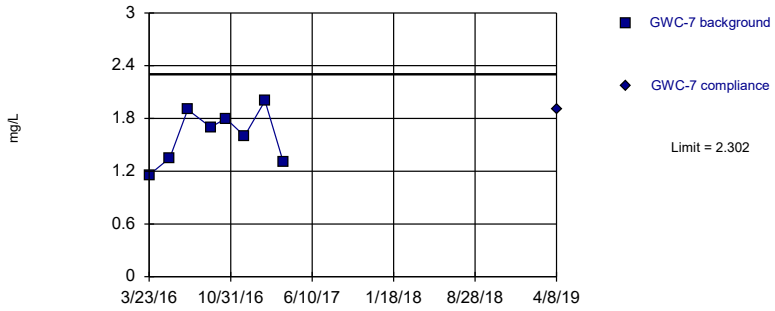
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.601, Std. Dev.=0.3045, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9476, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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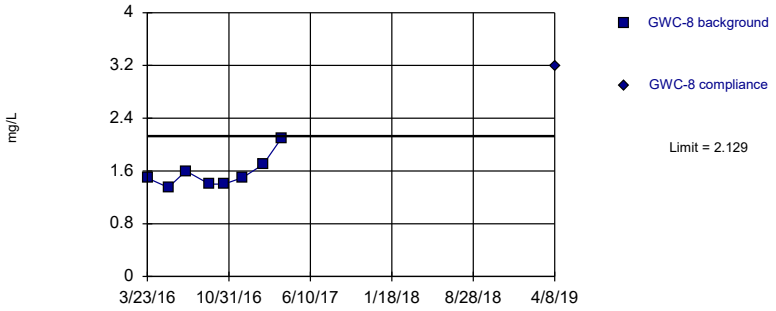
Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.568, Std. Dev.=0.2437, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8207, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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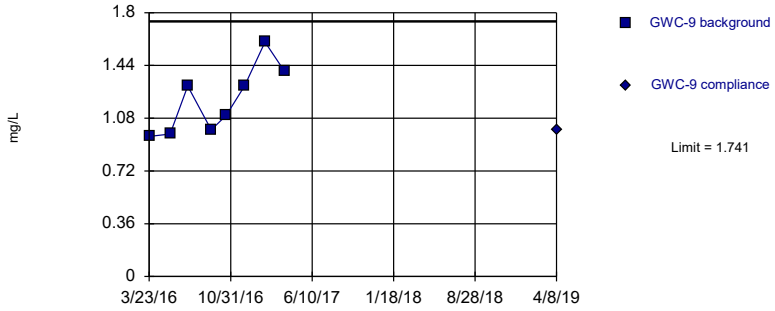
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.204, Std. Dev.=0.2334, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9085, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

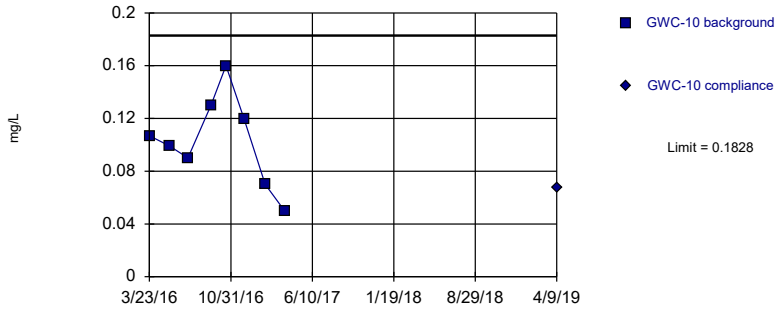
Constituent: Chloride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1033, Std. Dev.=0.03457, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9949, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

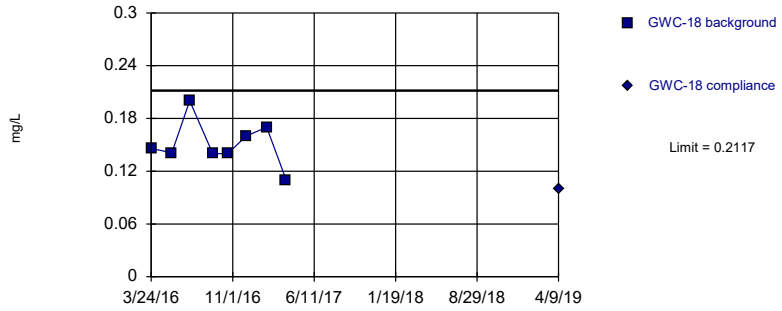
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1508, Std. Dev.=0.02645, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.937, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

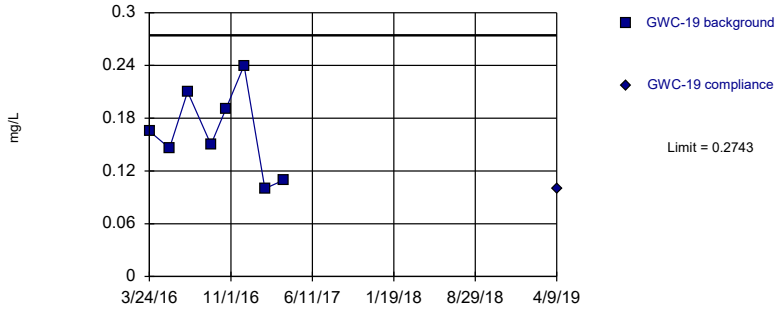
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1639, Std. Dev.=0.04797, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9688, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

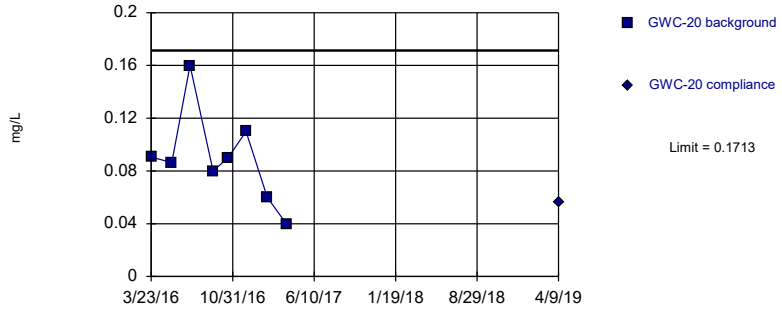
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.08961, Std. Dev.=0.03548, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.929, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

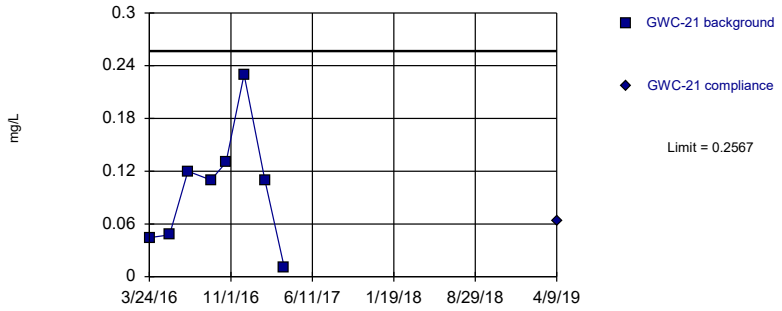
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1003, Std. Dev.=0.06796, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9239, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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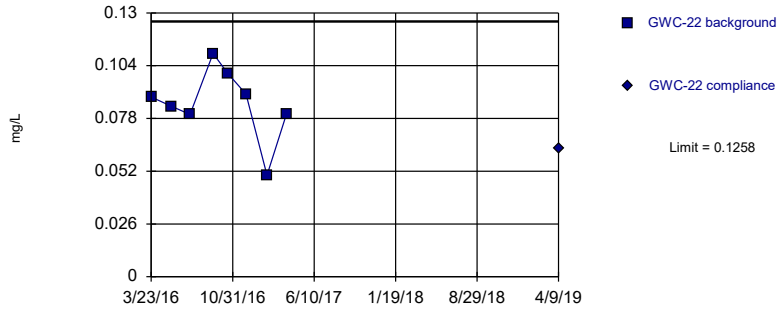
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.08531, Std. Dev.=0.01758, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9214, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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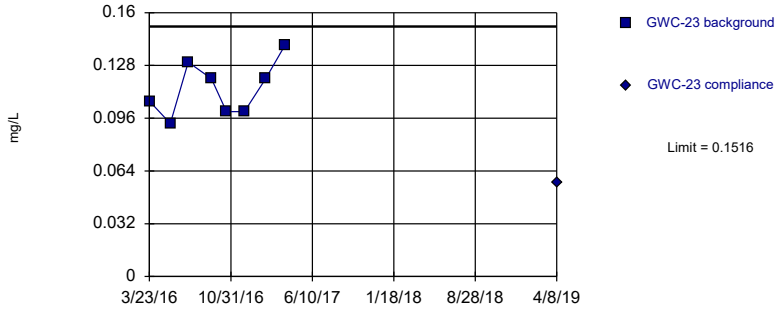
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1137, Std. Dev.=0.01648, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9409, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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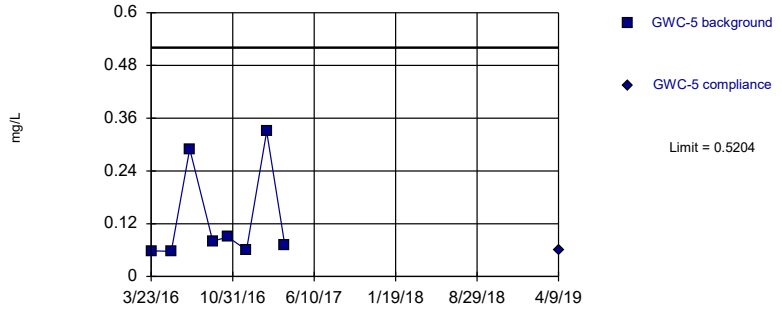
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=-2.307, Std. Dev.=0.7186, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7513, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

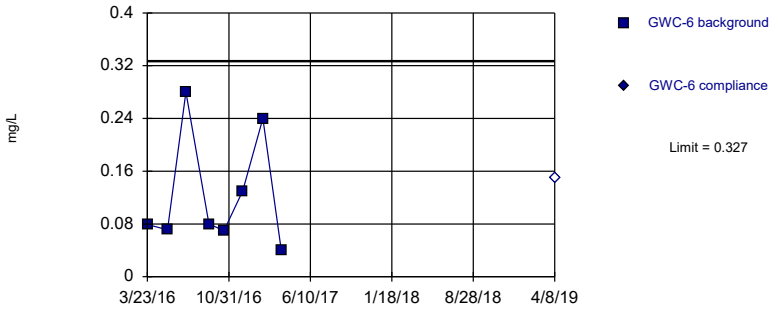
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1238, Std. Dev.=0.08827, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8035, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

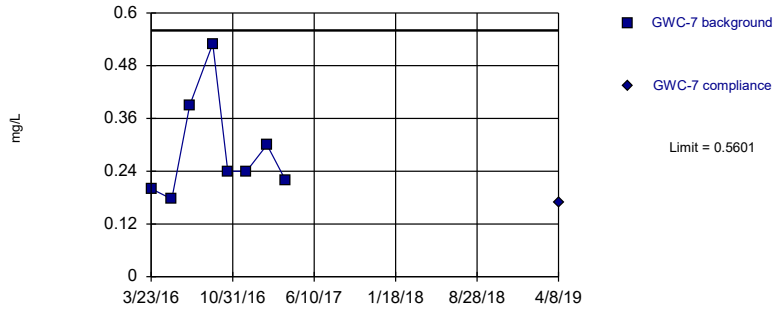
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2871, Std. Dev.=0.1186, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8416, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

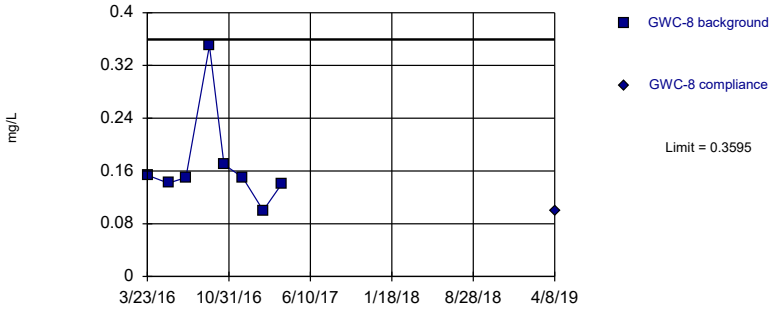
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=-1.839, Std. Dev.=0.3546, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7907, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

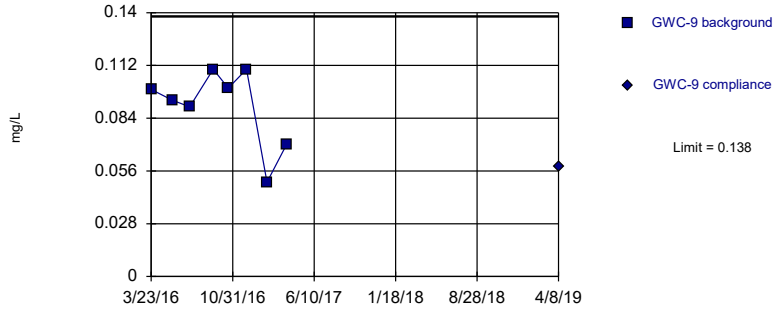
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.09036, Std. Dev.=0.0207, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8685, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

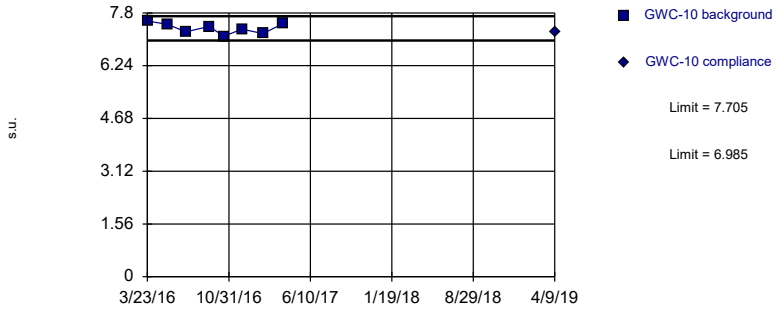
Constituent: Fluoride Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.345, Std. Dev.=0.1566, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.965, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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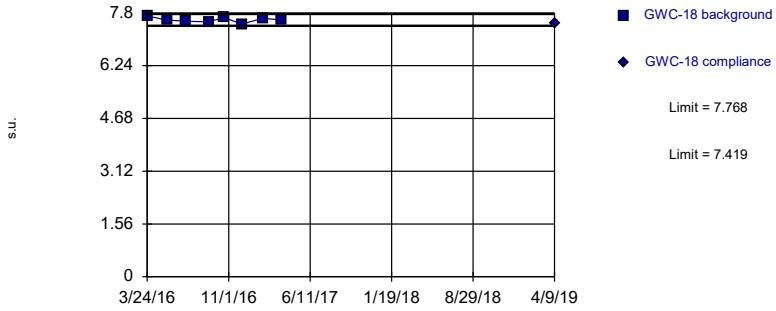
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.594, Std. Dev.=0.07577, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9844, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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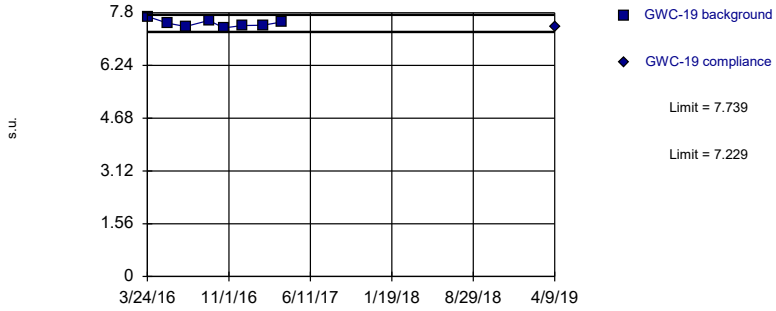
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.484, Std. Dev.=0.1107, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9485, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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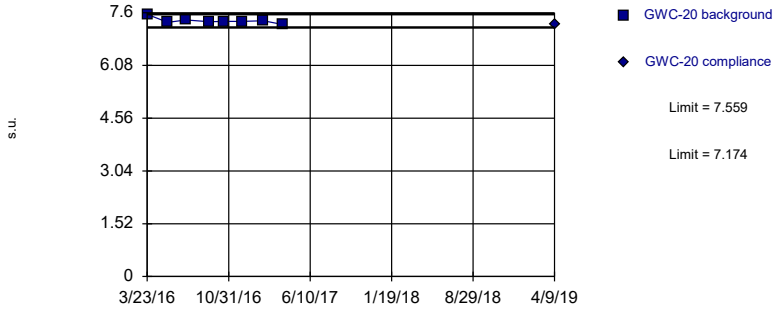
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.366, Std. Dev.=0.08366, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8403, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

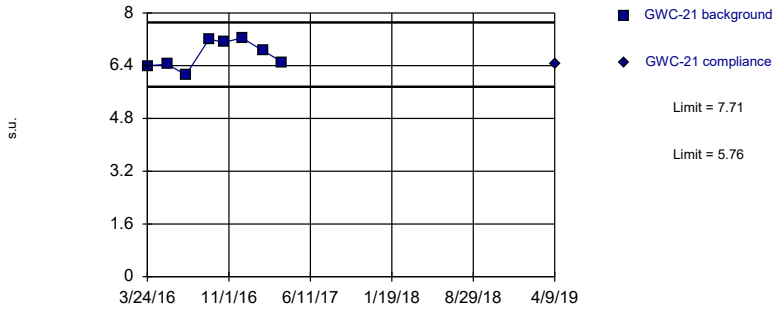
Constituent: pH Analysis Run 8/15/2019 5:07 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.735, Std. Dev.=0.4235, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9073, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

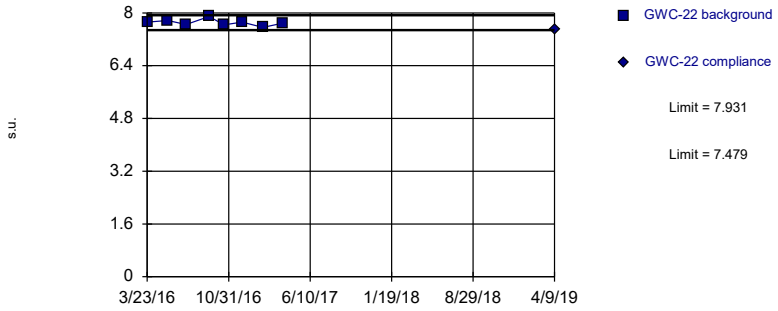
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.705, Std. Dev.=0.09813, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9627, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

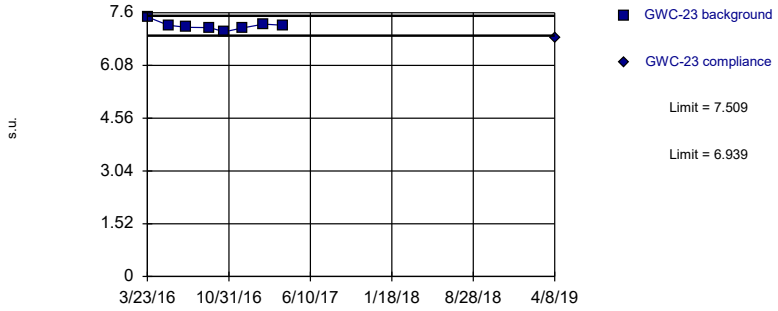
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Exceeds Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.224, Std. Dev.=0.1239, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8984, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

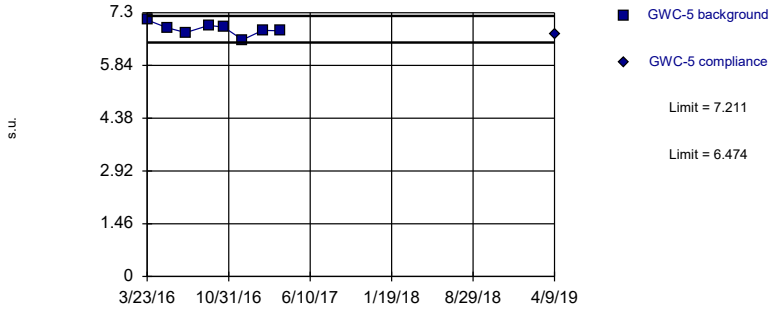
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.843, Std. Dev.=0.1602, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9708, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

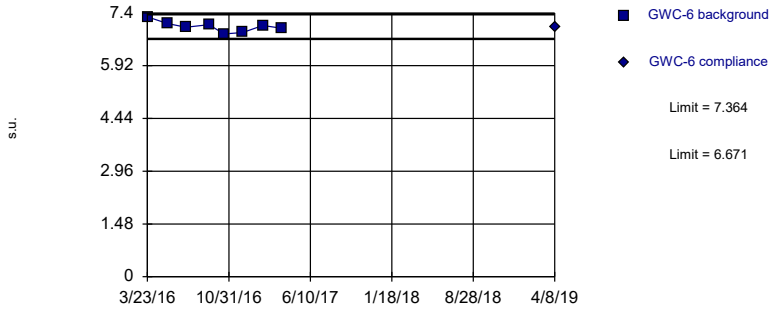
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.018, Std. Dev.=0.1505, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9585, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

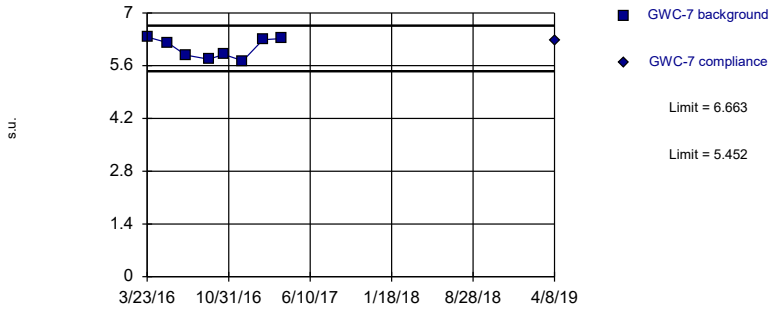
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.058, Std. Dev.=0.2629, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8574, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

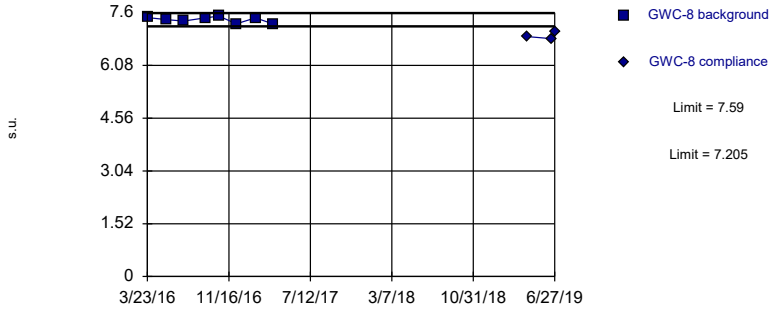
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Exceeds Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.398, Std. Dev.=0.08362, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8888, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

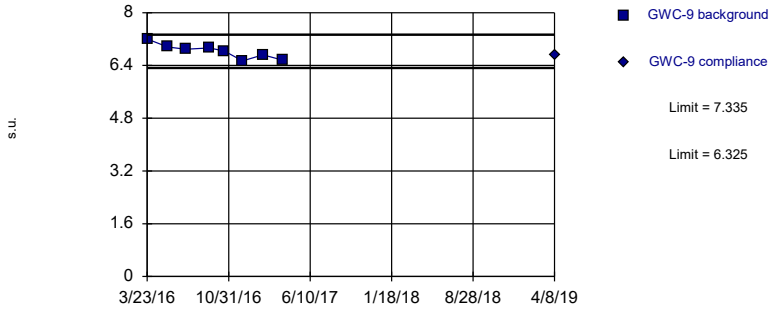
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.83, Std. Dev.=0.2193, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9497, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

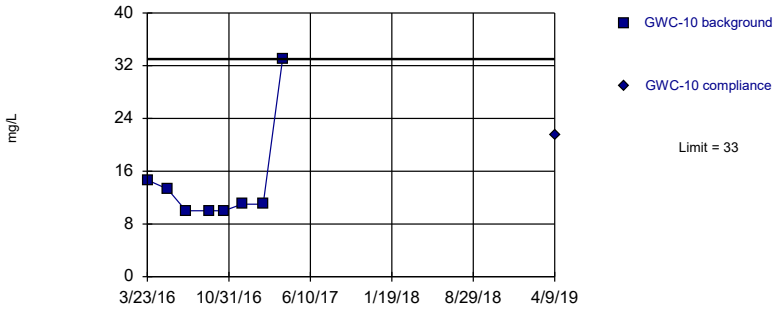
Constituent: pH Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

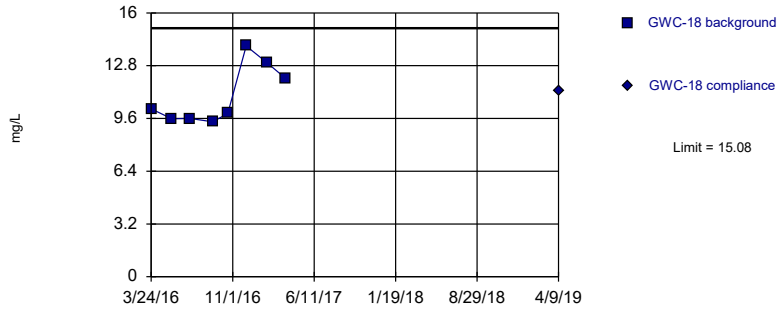
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=10.96, Std. Dev.=1.789, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8254, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

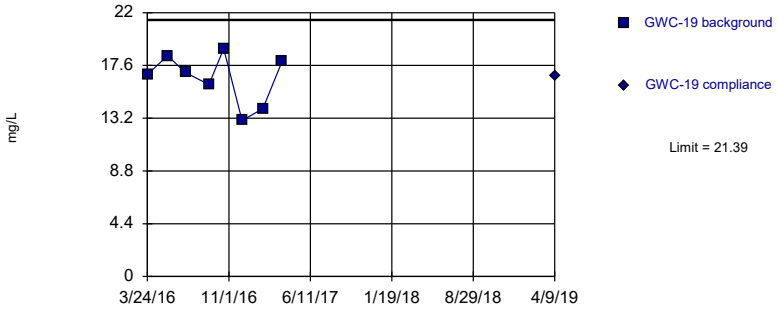
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=16.53, Std. Dev.=2.112, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9272, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

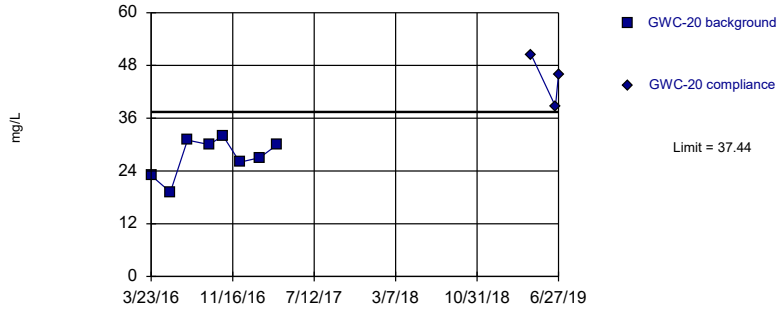
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=27.27, Std. Dev.=4.416, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9113, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

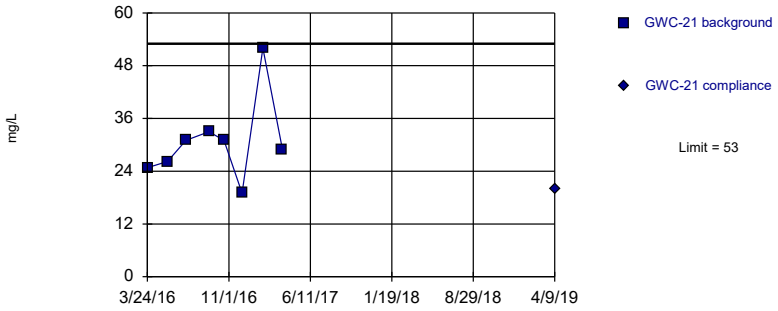
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=30.75, Std. Dev.=9.665, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8455, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

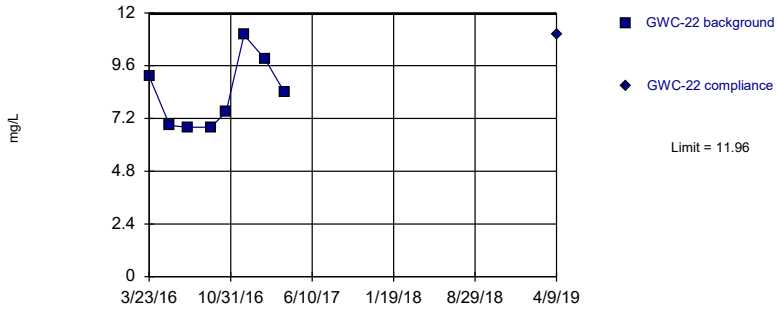
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.3, Std. Dev.=1.59, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8881, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

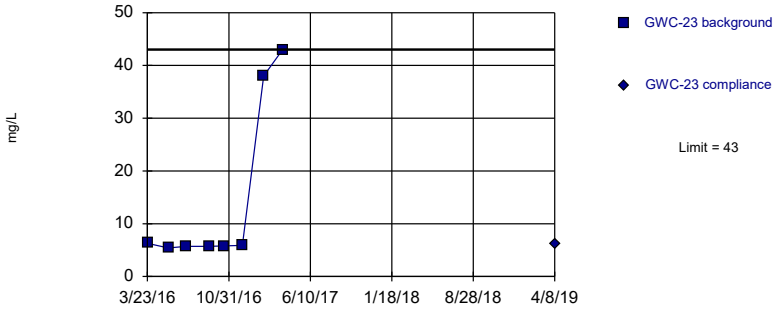
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

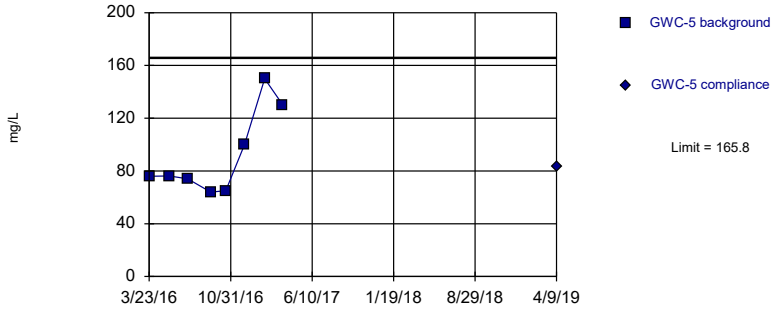
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=91.9, Std. Dev.=32.1, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8252, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

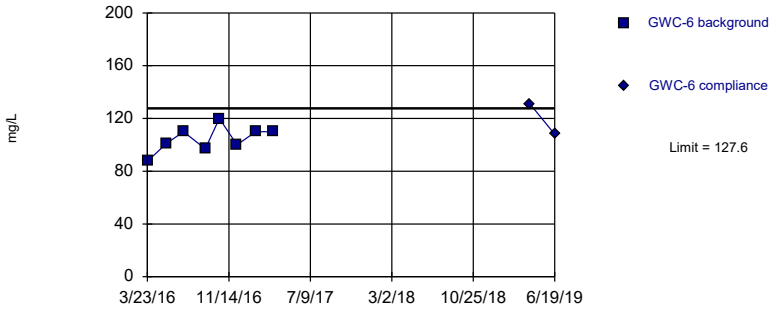
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=104.4, Std. Dev.=10.06, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9561, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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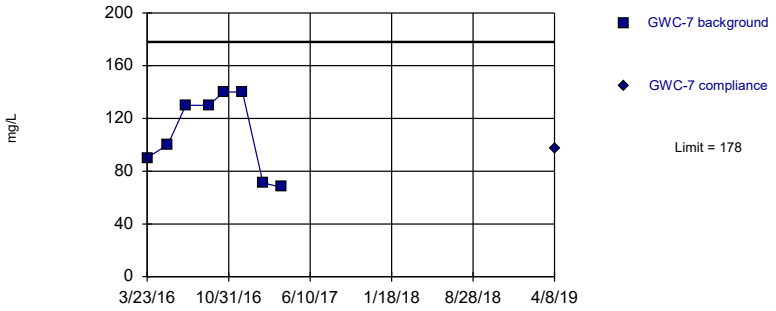
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=108.7, Std. Dev.=30.15, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8613, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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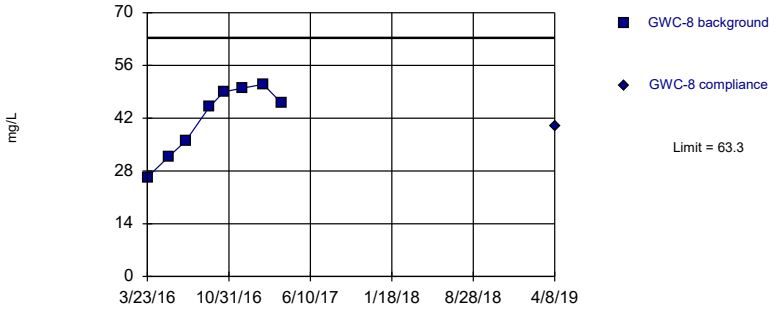
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=41.88, Std. Dev.=9.305, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8754, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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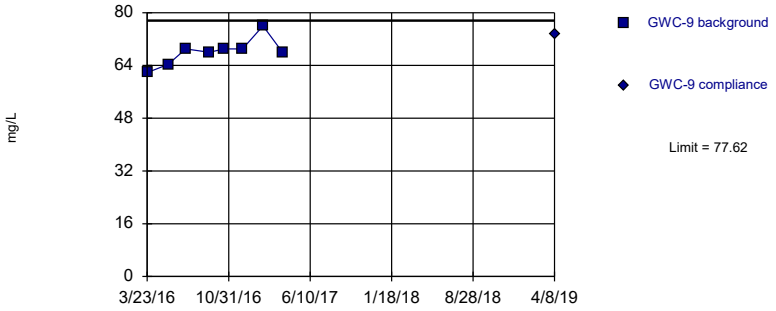
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=68.14, Std. Dev.=4.115, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8933, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

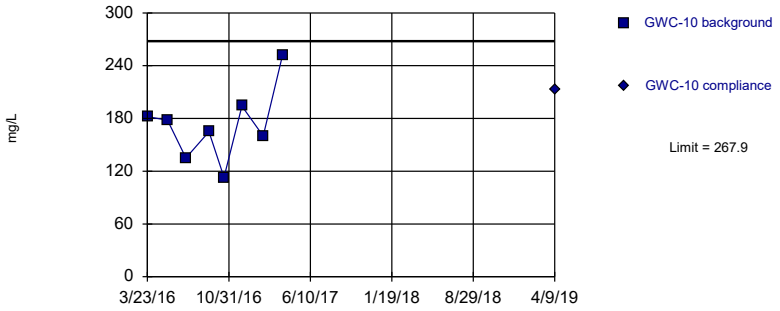
Constituent: Sulfate Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=172.4, Std. Dev.=41.51, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9555, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

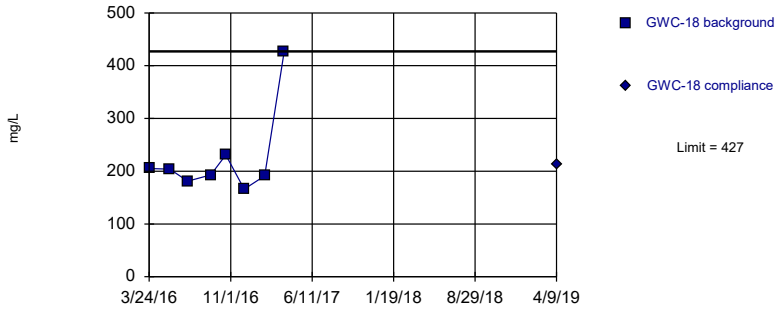
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

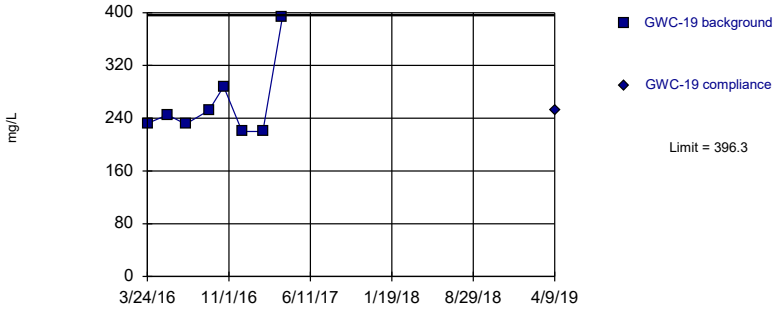
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=16.05, Std. Dev.=1.675, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7504, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

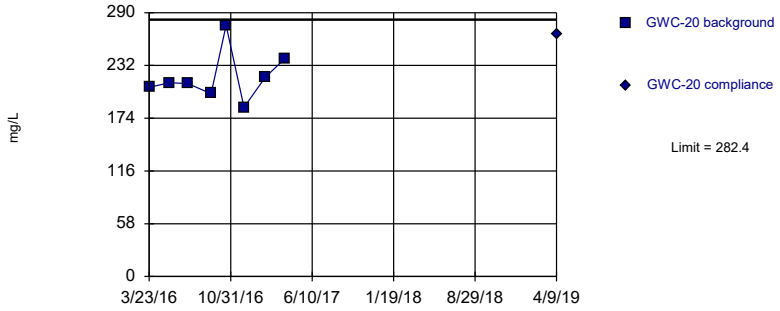
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=219.3, Std. Dev.=27.43, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8899, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

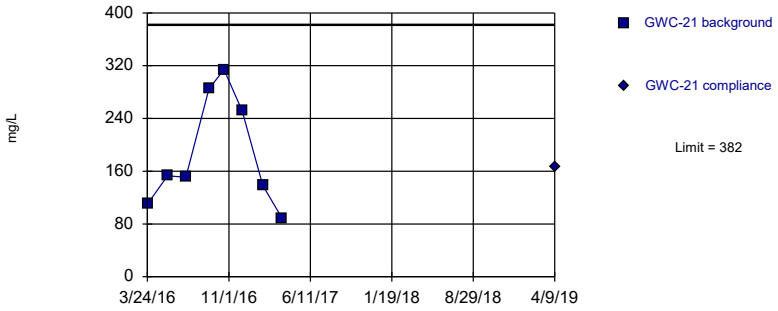
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=186.4, Std. Dev.=84.97, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8904, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

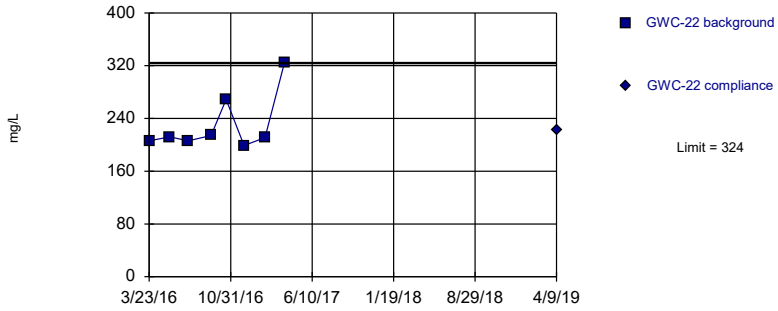
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 8 background values. Well-constituent pair annual alpha = 0.01179. Individual comparison alpha = 0.005912 (1 of 3).

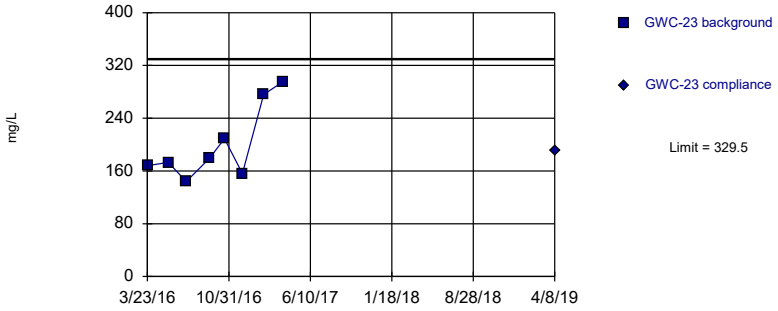
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=200, Std. Dev.=56.25, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8454, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

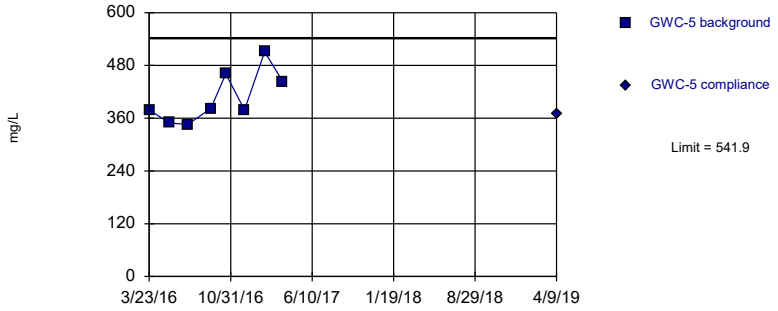
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=406.3, Std. Dev.=58.92, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8846, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

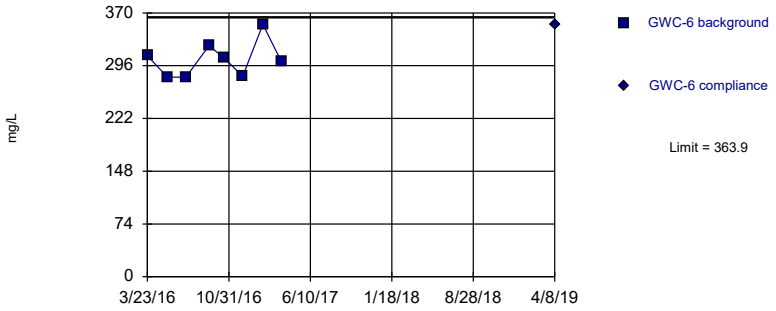
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=304.8, Std. Dev.=25.71, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8867, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

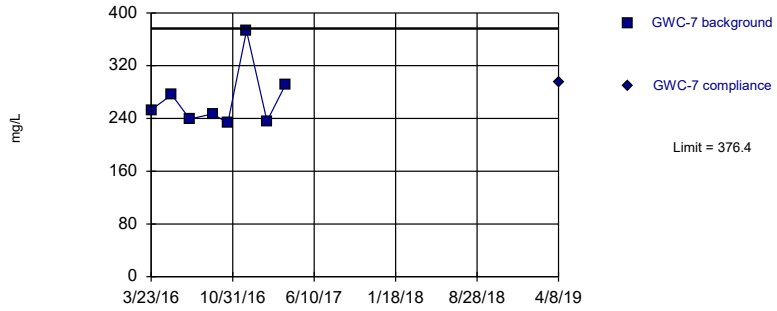
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=268.5, Std. Dev.=46.86, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7717, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

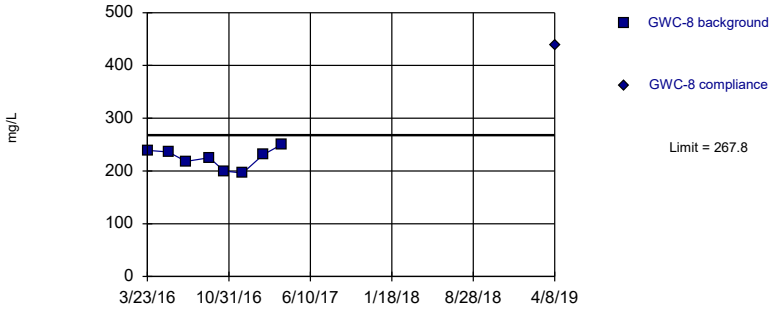
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=224.4, Std. Dev.=18.86, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9445, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

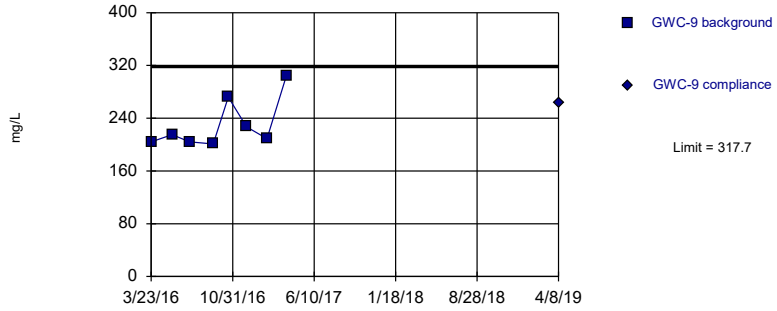
Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=229.6, Std. Dev.=38.28, n=8. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.7689, critical = 0.749. Kappa = 2.302 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 8/15/2019 5:08 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Trend Test - Significant Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/15/2019, 6:15 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
pH (s.u.)	**GWC-8**	**-0.1429**	**-49**	**-48**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	**GWC-20**	**6.912**	**86**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

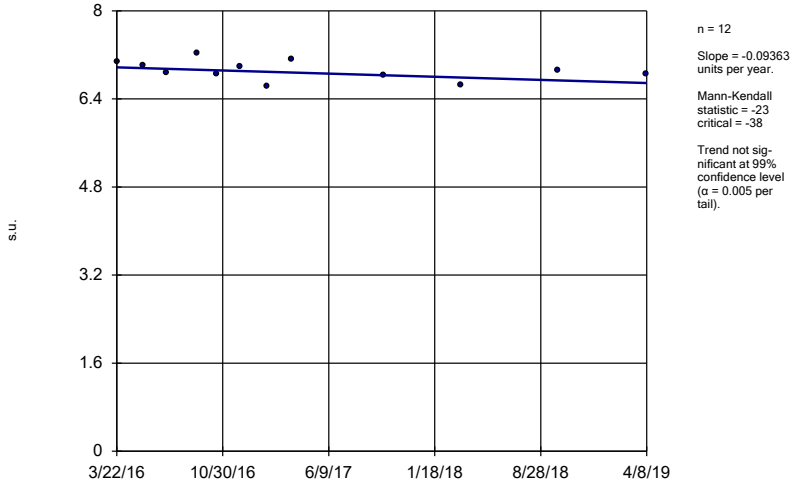
Trend Test - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/15/2019, 6:15 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
pH (s.u.)	GWA-1 (bg)	-0.09363	-23	-38	No	12	0	n/a	n/a	0.01	NP
pH (s.u.)	GWA-11 (bg)	-0.07656	-27	-38	No	12	0	n/a	n/a	0.01	NP
pH (s.u.)	GWA-2 (bg)	-0.1072	-26	-38	No	12	0	n/a	n/a	0.01	NP
pH (s.u.)	GWA-3 (bg)	-0.0371	-13	-38	No	12	0	n/a	n/a	0.01	NP
pH (s.u.)	GWA-4 (bg)	0.03756	9	38	No	12	0	n/a	n/a	0.01	NP
pH (s.u.)	**GWC-8**	**-0.1429**	**-49**	**-48**	**Yes**	**14**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Sulfate (mg/L)	GWA-1 (bg)	0.2702	33	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-11 (bg)	0.5058	35	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-2 (bg)	0.5451	5	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-3 (bg)	7.374	19	38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-4 (bg)	-18.44	-13	-38	No	12	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	**GWC-20**	**6.912**	**86**	**58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Sen's Slope Estimator

GWA-1 (bg)



n = 12

Slope = -0.09363 units per year.

Mann-Kendall statistic = -23 critical = -38

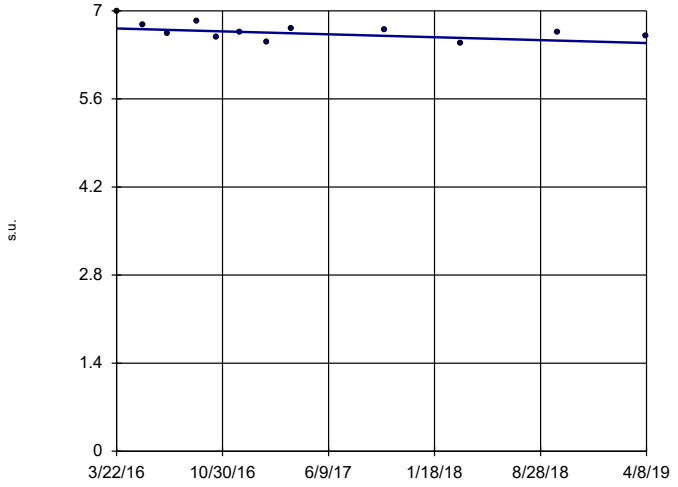
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-11 (bg)



n = 12

Slope = -0.07656 units per year.

Mann-Kendall statistic = -27 critical = -38

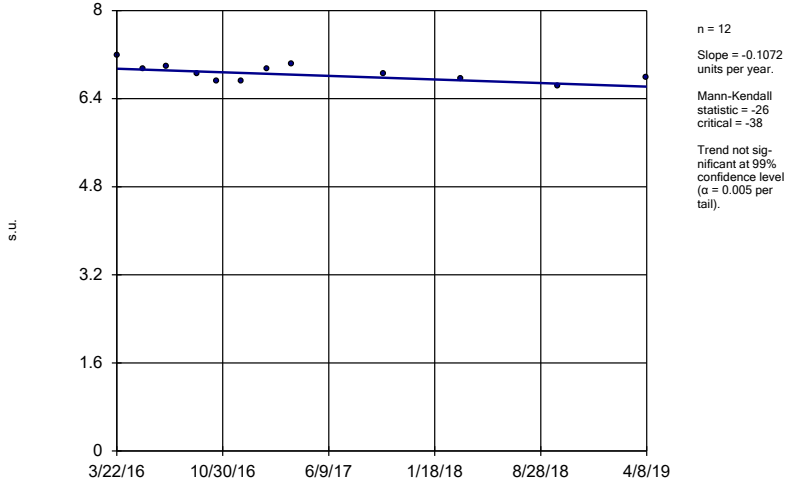
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-2 (bg)



n = 12

Slope = -0.1072 units per year.

Mann-Kendall statistic = -26 critical = -38

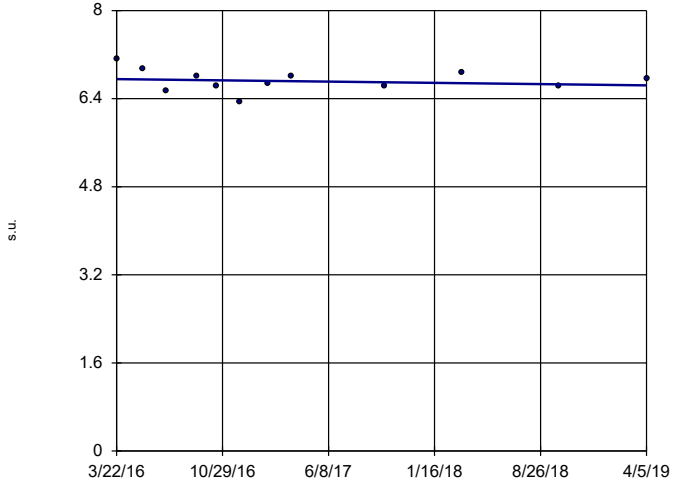
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-3 (bg)



n = 12

Slope = -0.0371 units per year.

Mann-Kendall statistic = -13 critical = -38

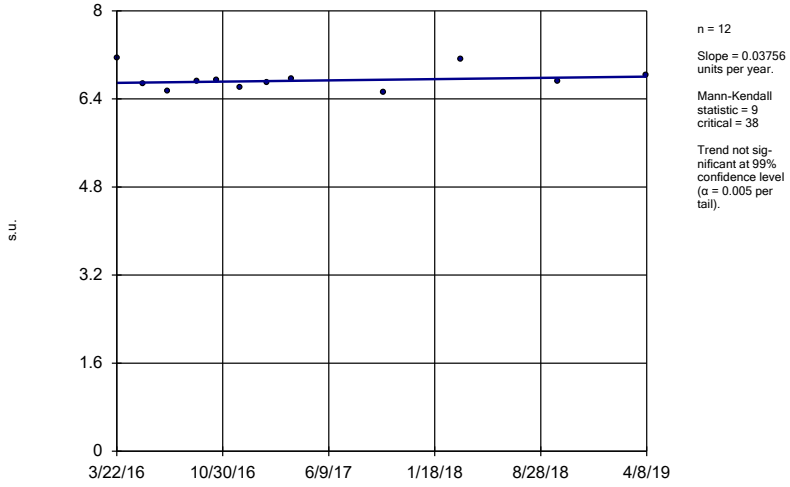
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-4 (bg)



n = 12

Slope = 0.03756 units per year.

Mann-Kendall statistic = 9
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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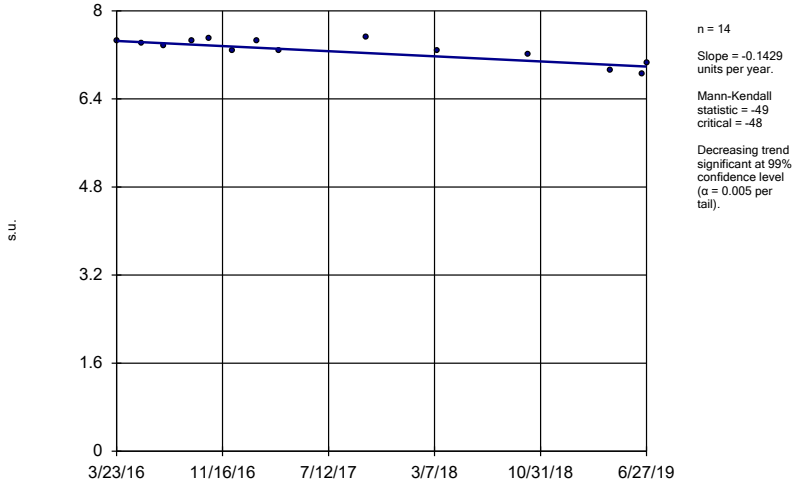
Sen's Slope Estimator

GWC-8



n = 14

Slope = -0.1429 units per year.

Mann-Kendall statistic = -49
critical = -48

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 8/15/2019 6:13 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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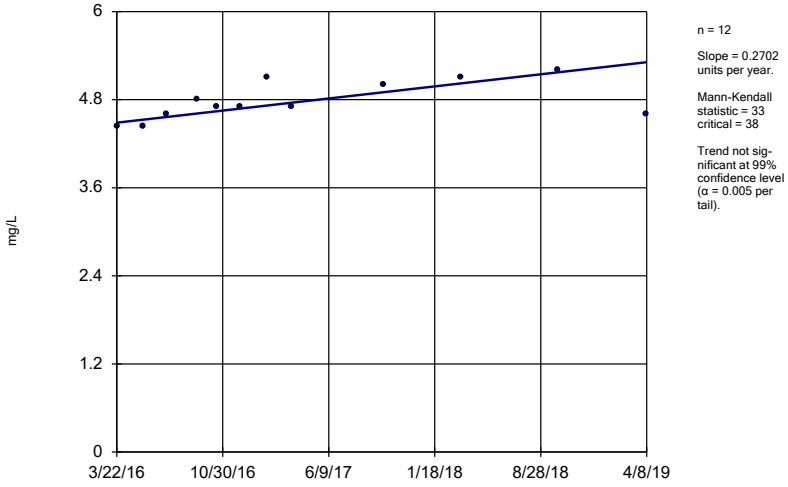
Sen's Slope Estimator

GWA-1 (bg)



n = 12

Slope = 0.2702 units per year.

Mann-Kendall statistic = 33
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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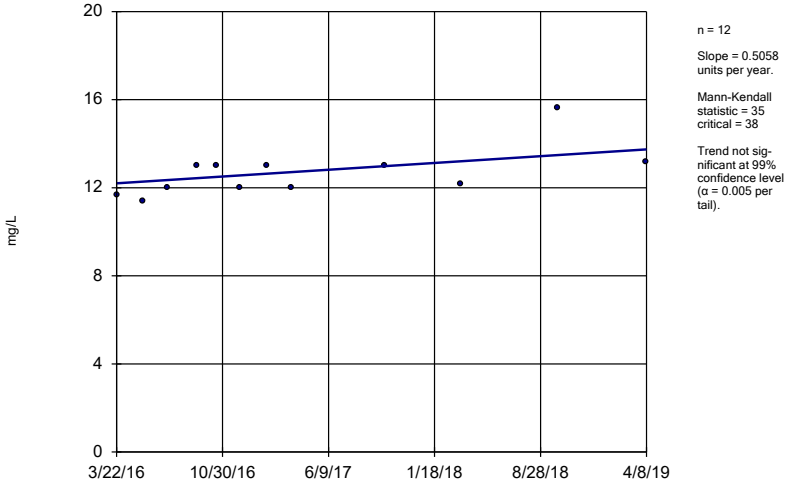
Sen's Slope Estimator

GWA-11 (bg)



n = 12

Slope = 0.5058 units per year.

Mann-Kendall statistic = 35
critical = 38

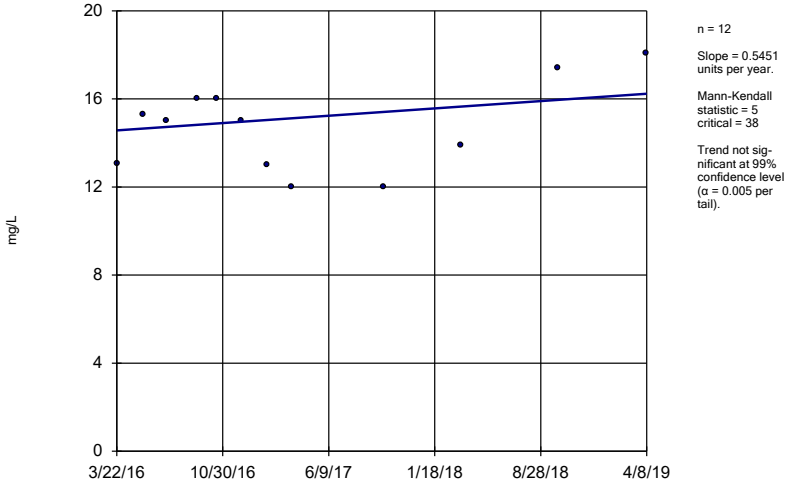
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-2 (bg)



n = 12

Slope = 0.5451 units per year.

Mann-Kendall statistic = 5
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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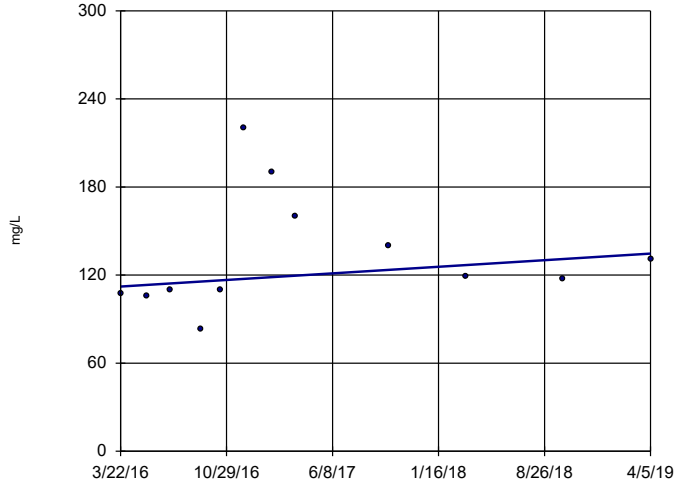
Sen's Slope Estimator

GWA-3 (bg)



n = 12

Slope = 7.374 units per year.

Mann-Kendall statistic = 19
critical = 38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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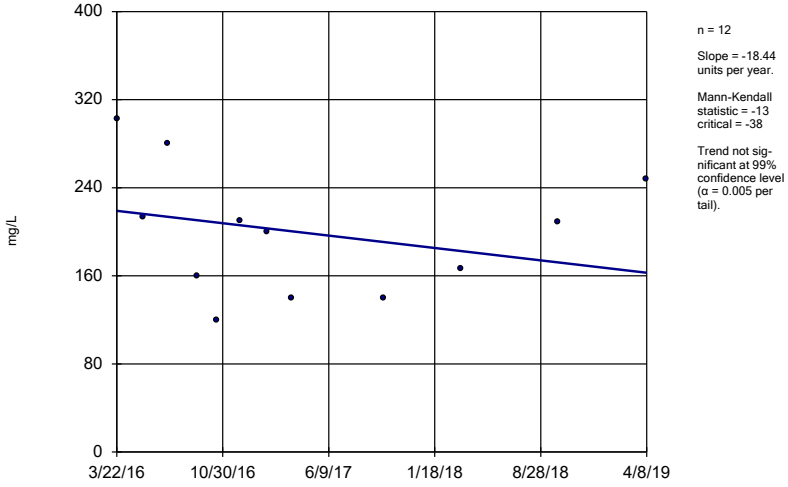
Sen's Slope Estimator

GWA-4 (bg)



n = 12

Slope = -18.44 units per year.

Mann-Kendall statistic = -13
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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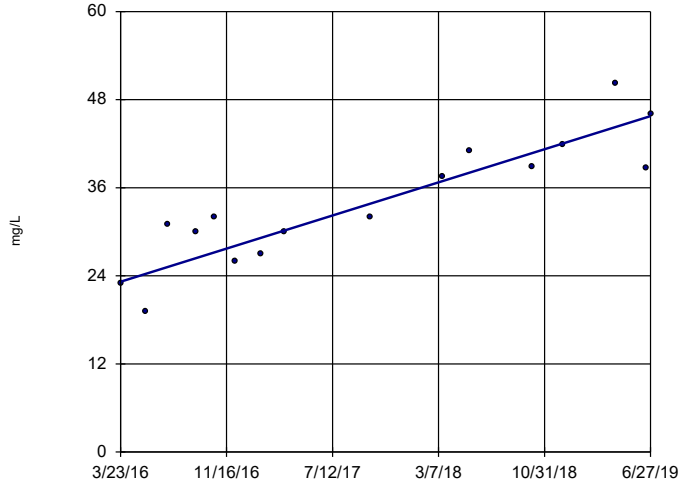
Sen's Slope Estimator

GWC-20



n = 16

Slope = 6.912 units per year.

Mann-Kendall statistic = 86
critical = 58

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Sulfate Analysis Run 8/15/2019 6:14 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

D&O Parameters Statistical Analysis Package (SW Program) D01

Outlier Summary - Huffaker Road Landfill

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/13/2019, 8:04 AM

	GWC-8 Antimony (mg/L)	GWC-7 Arsenic (mg/L)	GWC-7 Beryllium (mg/L)	GWC-7 Cadmium (mg/L)	GWC-7 Chromium (mg/L)	GWC-7 Cobalt (mg/L)	GWC-7 Copper (mg/L)	GWC-7 Nickel (mg/L)	GWC-7 Zinc (mg/L)
5/9/2007		0.038 (o)	0.28 (o)	0.023 (o)	0.11 (o)	6.5 (o)	0.44 (o)	18 (o)	45 (o)
7/6/2007						2.1 (o)		5.9 (o)	16 (o)
8/28/2007						1.4 (o)			11 (o)
11/6/2007	0.0064 (o)					1.1 (o)			

Date Ranges

Date: 8/14/2019 1:50 PM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Barium (mg/L)
- GWA-2 background:4/13/2010-10/4/2018
- GWC-19 background:4/13/2010-10/4/2018
- GWC-22 background:4/13/2010-10/4/2018
- GWC-6 background:3/23/2016-10/4/2018
- GWC-7 background:4/3/2012-10/4/2018
- GWC-9 background:10/4/2011-10/5/2018

Cobalt (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Nickel (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Zinc (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Prediction Limit - Significant Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:44 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Barium (mg/L)	**GWC-8**	**0.1227**	**n/a**	**6/18/2019**	**0.17**	**Yes**	**31**	**0**	**sqrt(x)**	**0.0002926**	**Param Intra 1 of 2**

Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:44 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GWC-10	0.003	n/a	4/9/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-18	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-19	0.003	n/a	4/9/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-20	0.003	n/a	4/9/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-21	0.003	n/a	4/9/2019	0.003ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-22	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-23	0.003	n/a	4/8/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-5	0.003	n/a	4/9/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-6	0.003	n/a	4/8/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-7	0.003	n/a	4/8/2019	0.003ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-8	0.003	n/a	4/8/2019	0.003ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-9	0.003	n/a	4/8/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-10	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-18	0.005	n/a	4/9/2019	0.00063	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-19	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-20	0.005	n/a	4/9/2019	0.005ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-21	0.005	n/a	4/9/2019	0.0018	No	30	86.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-22	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-23	0.005	n/a	4/8/2019	0.00034	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-5	0.005	n/a	4/9/2019	0.005ND	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-6	0.005	n/a	4/8/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-7	0.0088	n/a	4/8/2019	0.0057	No	30	46.67	n/a	0.002008	NP Intra (normality) 1 of 2
Arsenic (mg/L)	GWC-8	0.005	n/a	4/8/2019	0.0015	No	31	87.1	n/a	0.001905	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-9	0.005	n/a	4/8/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Barium (mg/L)	GWC-10	0.1912	n/a	4/9/2019	0.17	No	33	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-18	0.08974	n/a	4/9/2019	0.081	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-19	0.1697	n/a	4/9/2019	0.15	No	23	0	x^4	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-20	0.1358	n/a	4/9/2019	0.13	No	31	0	x^3	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-21	0.2404	n/a	4/9/2019	0.05	No	30	0	ln(x)	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-22	0.121	n/a	4/9/2019	0.094	No	23	0	n/a	0.003415	NP Intra (normality) 1 of 2
Barium (mg/L)	GWC-23	0.08464	n/a	4/8/2019	0.059	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-5	0.1274	n/a	4/9/2019	0.067	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-6	0.1978	n/a	4/8/2019	0.15	No	11	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-7	0.4063	n/a	4/8/2019	0.24	No	19	0	sqrt(x)	0.0002926	Param Intra 1 of 2
Barium (mg/L)	**GWC-8**	**0.1227**	**n/a**	**6/18/2019**	**0.17**	**Yes**	**31**	**0**	**sqrt(x)**	**0.0002926**	**Param Intra 1 of 2**
Barium (mg/L)	GWC-9	0.07338	n/a	4/8/2019	0.058	No	20	0	No	0.0002926	Param Intra 1 of 2
Beryllium (mg/L)	GWC-10	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-18	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-19	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-20	0.003	n/a	4/9/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-21	0.003	n/a	4/9/2019	0.003ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-22	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-23	0.003	n/a	4/8/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-5	0.003	n/a	4/9/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-6	0.003	n/a	4/8/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-7	0.137	n/a	4/8/2019	0.000058	No	30	23.33	ln(x)	0.0002926	Param Intra 1 of 2
Beryllium (mg/L)	GWC-8	0.003	n/a	4/8/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-9	0.003	n/a	4/8/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-10	0.001	n/a	4/9/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-18	0.001	n/a	4/9/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2

Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:44 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Cadmium (mg/L)	GWC-19	0.001	n/a	4/9/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-20	0.001	n/a	4/9/2019	0.001ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-21	0.001	n/a	4/9/2019	0.001ND	No	30	93.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-22	0.001	n/a	4/9/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-23	0.001	n/a	4/8/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-5	0.0015	n/a	4/9/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-6	0.001	n/a	4/8/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-7	0.0081	n/a	4/8/2019	0.001ND	No	30	80	n/a	0.002008	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-8	0.001	n/a	4/8/2019	0.001ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-9	0.001	n/a	4/8/2019	0.001ND	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	32	90.63	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	31	90.32	n/a	0.001905	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-21	0.01	n/a	4/9/2019	0.01ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.0023	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-7	0.01	n/a	4/8/2019	0.01ND	No	30	83.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.01ND	No	31	90.32	n/a	0.001905	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.01ND	No	32	90.63	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-21	0.01	n/a	4/9/2019	0.0023	No	30	63.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.00046	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.00022	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-7	0.08032	n/a	4/8/2019	0.0086	No	17	0	No	0.0002926	Param Intra 1 of 2
Cobalt (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.0017	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.00041	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-10	0.025	n/a	4/9/2019	0.025ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-18	0.025	n/a	4/9/2019	0.025ND	No	27	92.59	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-19	0.025	n/a	4/9/2019	0.0014	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-20	0.025	n/a	4/9/2019	0.025ND	No	26	96.15	n/a	0.002667	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-21	0.025	n/a	4/9/2019	0.025ND	No	25	76	n/a	0.002832	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-22	0.025	n/a	4/9/2019	0.025ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-23	0.025	n/a	4/8/2019	0.0005	No	27	85.19	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-5	0.025	n/a	4/9/2019	0.025ND	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-6	0.025	n/a	4/8/2019	0.025ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-7	0.025	n/a	4/8/2019	0.00025	No	25	80	n/a	0.002832	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-8	0.025	n/a	4/8/2019	0.025ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-9	0.025	n/a	4/8/2019	0.025ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-10	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-18	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-19	0.005	n/a	4/9/2019	0.005ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-20	0.005	n/a	4/9/2019	0.005ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2

Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:44 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Lead (mg/L)	GWC-21	0.005	n/a	4/9/2019	0.005ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-22	0.005	n/a	4/9/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-23	0.005	n/a	4/8/2019	0.00018	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-5	0.005	n/a	4/9/2019	0.00039	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-6	0.005	n/a	4/8/2019	0.005ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-7	0.005	n/a	4/8/2019	0.005ND	No	31	83.87	n/a	0.001905	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-8	0.005	n/a	4/8/2019	0.005ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-9	0.005	n/a	4/8/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	27	85.19	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	26	92.31	n/a	0.002667	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-21	0.0104	n/a	4/9/2019	0.0048	No	25	24	x^(1/3)	0.0002926	Param Intra 1 of 2
Nickel (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.0011	No	27	81.48	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.00098	No	27	92.59	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.00032	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-7	0.3321	n/a	4/8/2019	0.03	No	12	0	No	0.0002926	Param Intra 1 of 2
Nickel (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.00064	No	26	96.15	n/a	0.002667	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.0021	No	27	66.67	n/a	0.002502	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-21	0.01	n/a	4/9/2019	0.01ND	No	30	93.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-7	0.01	n/a	4/8/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-21	0.01	n/a	4/9/2019	0.01ND	No	25	96	n/a	0.002832	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-7	0.01	n/a	4/8/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-10	0.001	n/a	4/9/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-18	0.001	n/a	4/9/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-19	0.001	n/a	4/9/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-20	0.001	n/a	4/9/2019	0.001ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-21	0.001	n/a	4/9/2019	0.001ND	No	29	100	n/a	0.002172	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-22	0.001	n/a	4/9/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2

Prediction Limit - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:44 AM

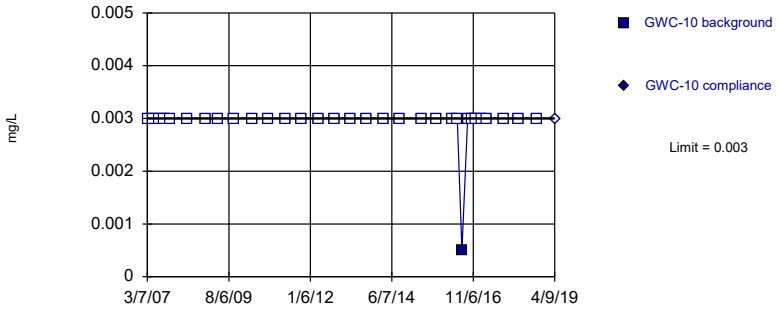
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Thallium (mg/L)	GWC-23	0.001	n/a	4/8/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-5	0.001	n/a	4/9/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-6	0.001	n/a	4/8/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-7	0.001	n/a	4/8/2019	0.001ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-8	0.001	n/a	4/8/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-9	0.001	n/a	4/8/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-19	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-21	0.01	n/a	4/9/2019	0.01ND	No	25	92	n/a	0.002832	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.00017	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-7	0.01	n/a	4/8/2019	0.01ND	No	26	80.77	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-10	0.01	n/a	4/9/2019	0.01ND	No	27	77.78	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-18	0.01	n/a	4/9/2019	0.0037	No	27	70.37	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-19	0.013	n/a	4/9/2019	0.01ND	No	27	59.26	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-20	0.01	n/a	4/9/2019	0.01ND	No	26	80.77	n/a	0.002667	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-21	0.00993	n/a	4/9/2019	0.0041	No	25	12	No	0.0002926	Param Intra 1 of 2
Zinc (mg/L)	GWC-22	0.01	n/a	4/9/2019	0.01ND	No	27	81.48	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-23	0.01	n/a	4/8/2019	0.0016	No	27	55.56	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-5	0.01	n/a	4/9/2019	0.01ND	No	27	55.56	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-6	0.01	n/a	4/8/2019	0.0013	No	27	74.07	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-7	0.6123	n/a	4/8/2019	0.051	No	12	0	No	0.0002926	Param Intra 1 of 2
Zinc (mg/L)	GWC-8	0.01	n/a	4/8/2019	0.0012	No	26	73.08	n/a	0.002667	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-9	0.01	n/a	4/8/2019	0.0016	No	27	66.67	n/a	0.002502	NP Intra (NDs) 1 of 2

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

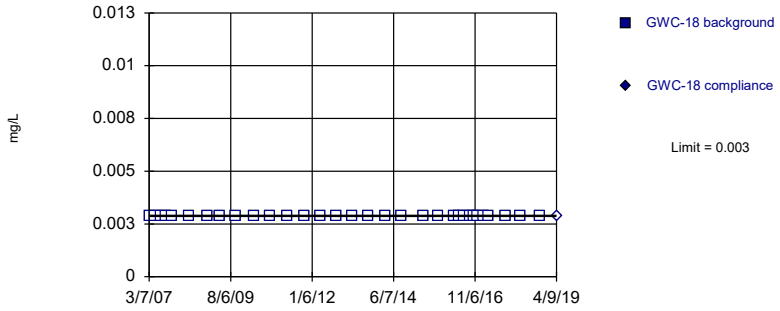
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

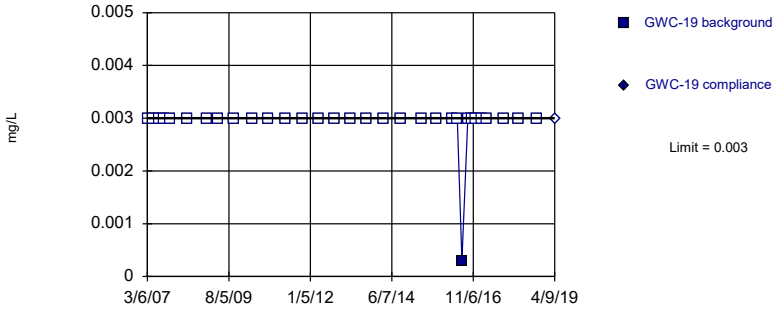
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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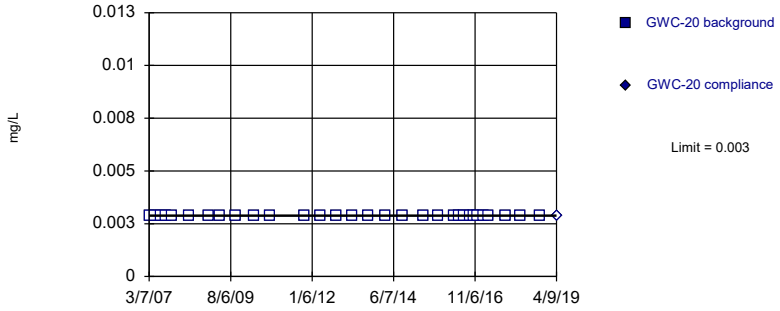
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

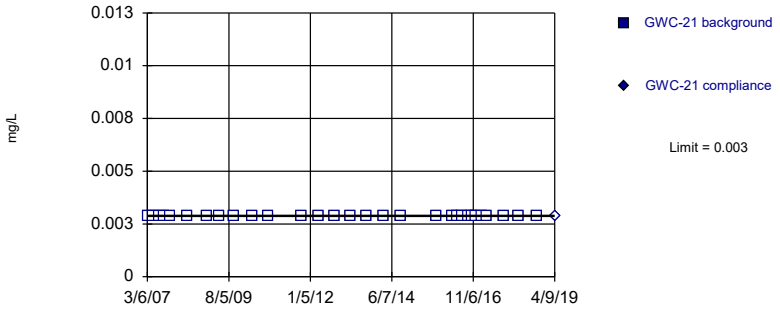
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

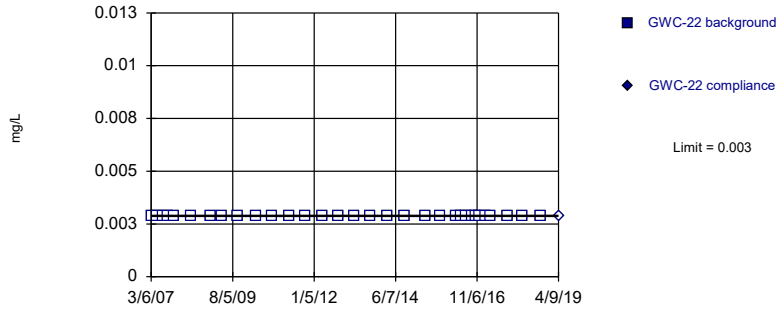
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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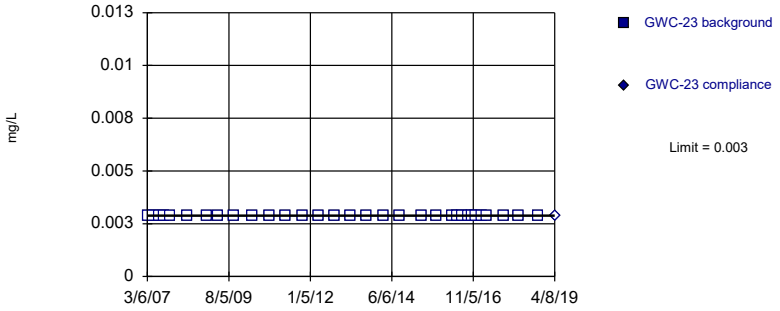
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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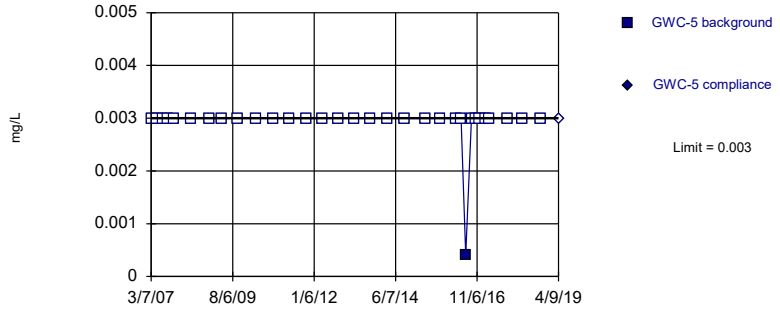
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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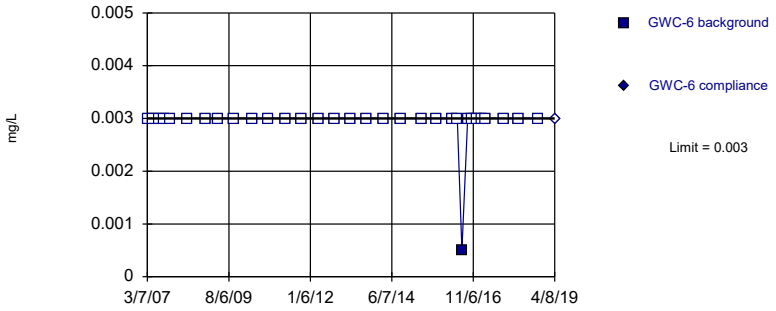
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

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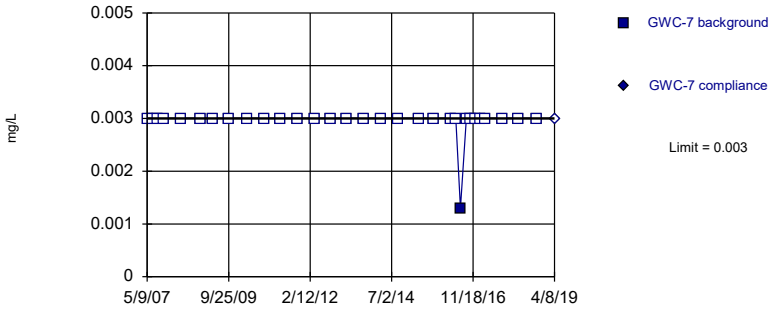
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

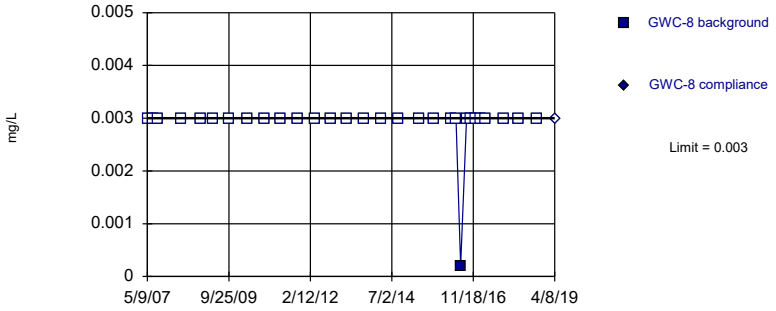
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

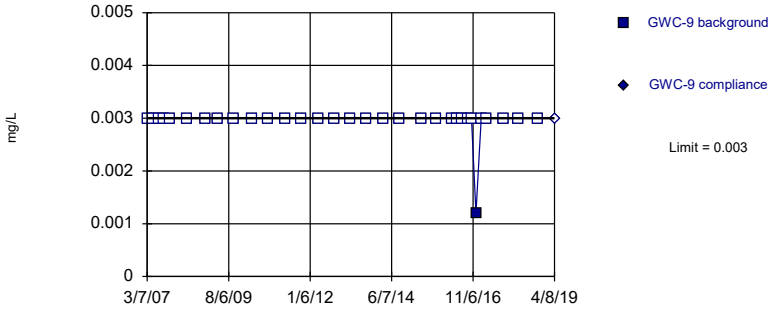
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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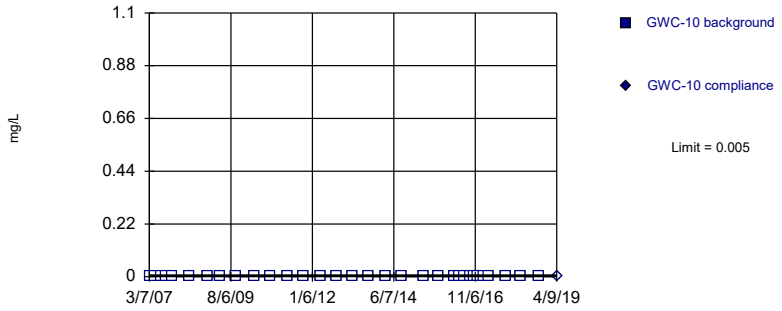
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

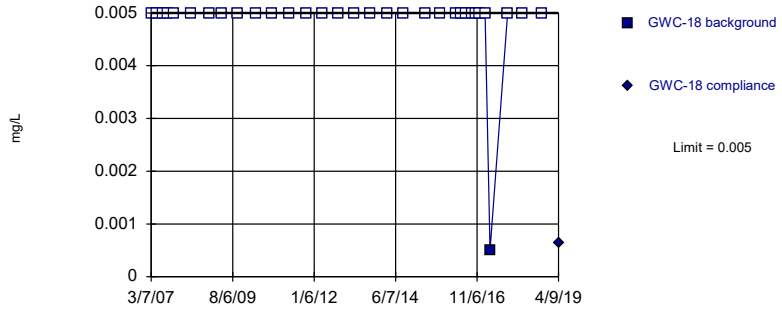
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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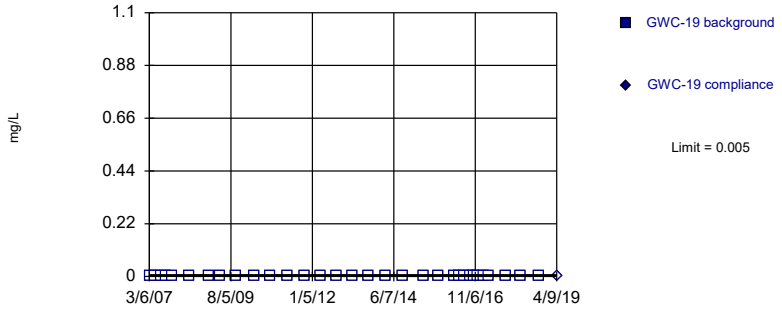
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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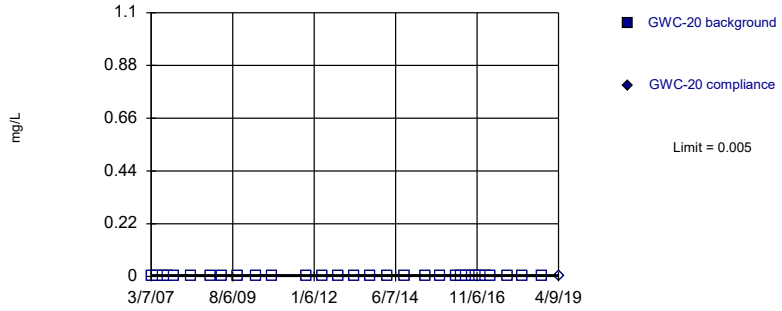
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

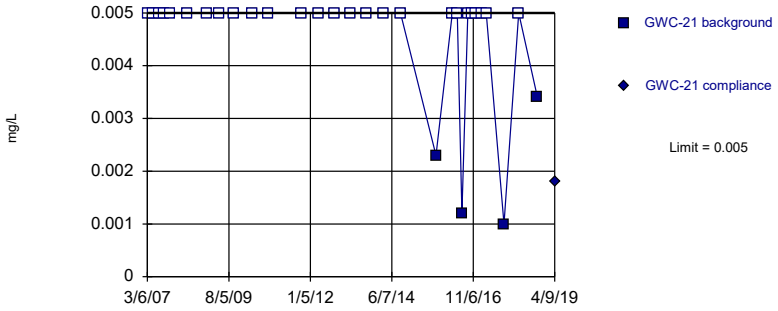
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

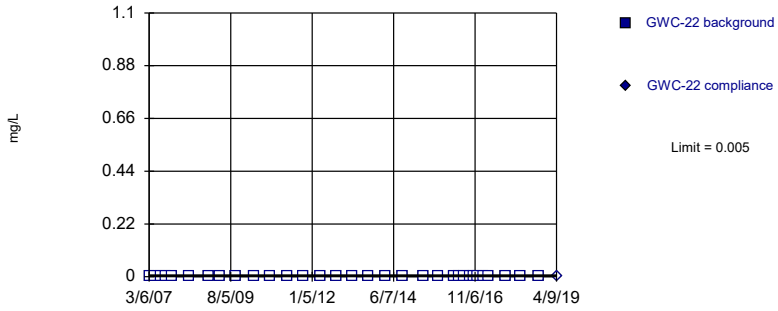
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

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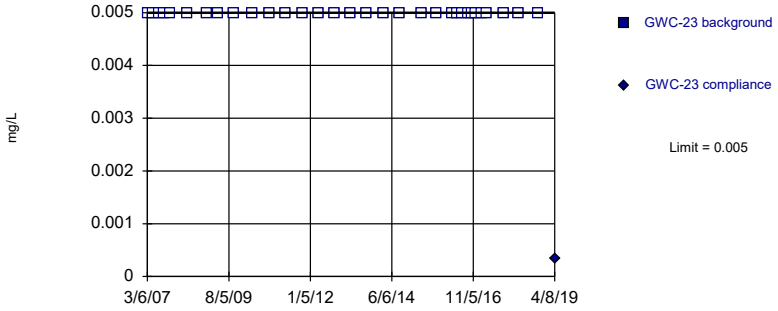
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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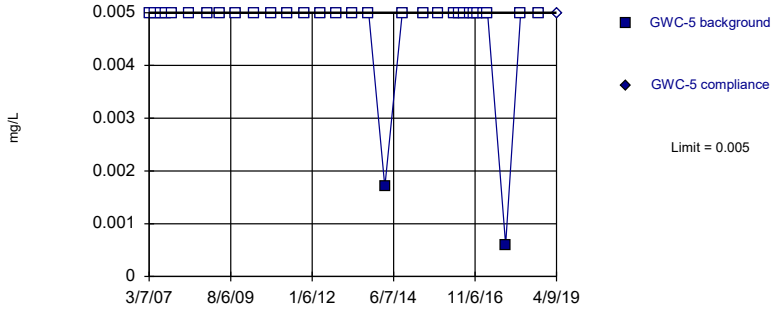
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

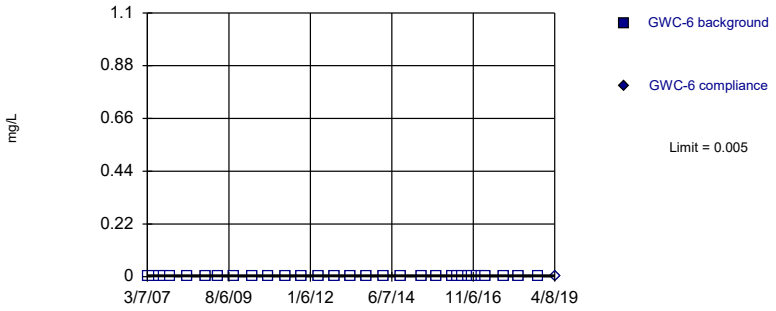
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

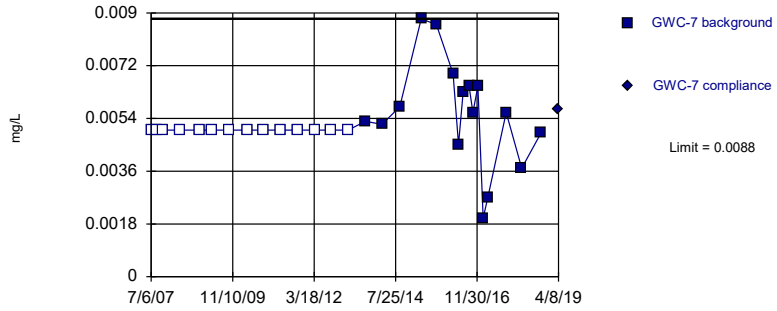
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 46.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

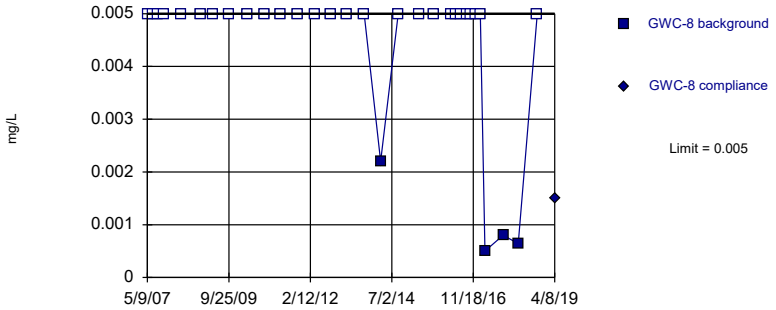
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 87.1% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

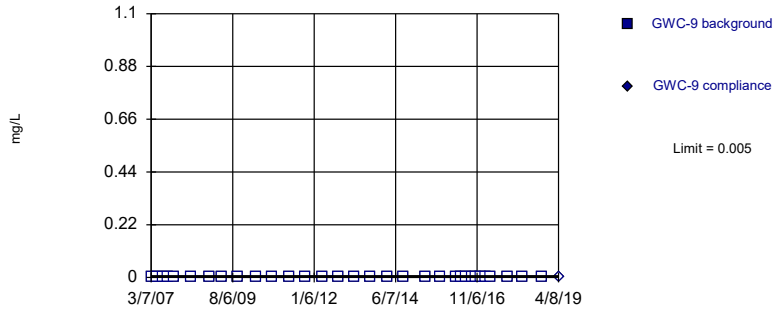
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

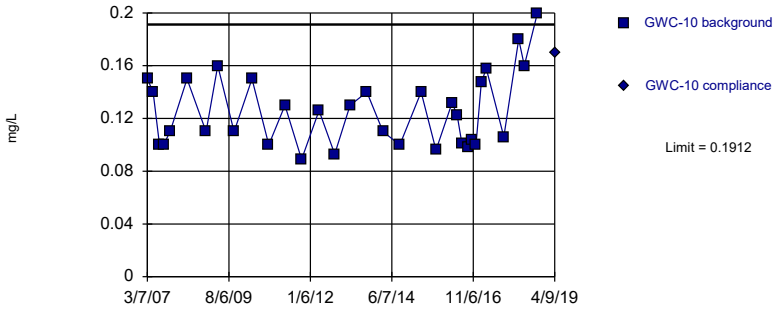
Constituent: Arsenic Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1255, Std. Dev.=0.02772, n=33. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9126, critical = 0.906. Kappa = 2.37 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

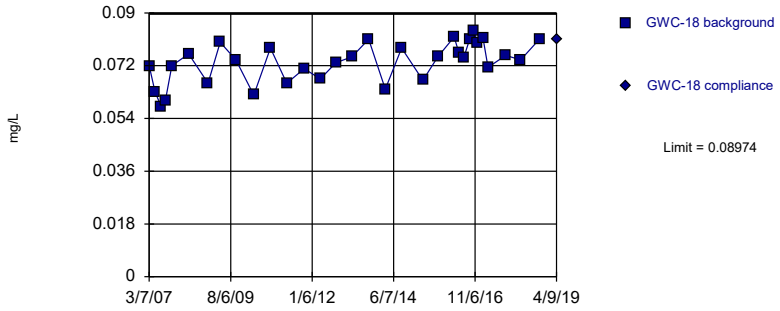
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.07311, Std. Dev.=0.006987, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.946, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

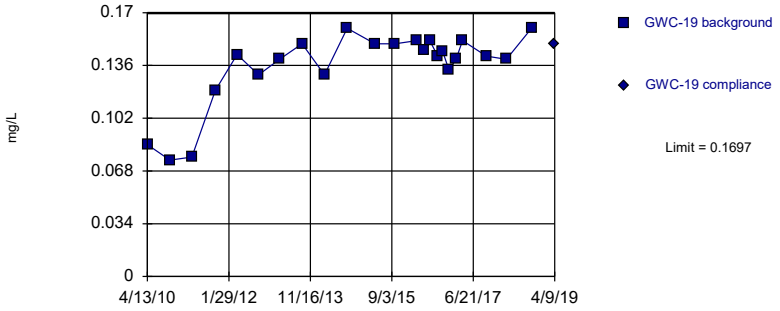
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=0.0003879, Std. Dev.=0.000176, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9161, critical = 0.881. Kappa = 2.512 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

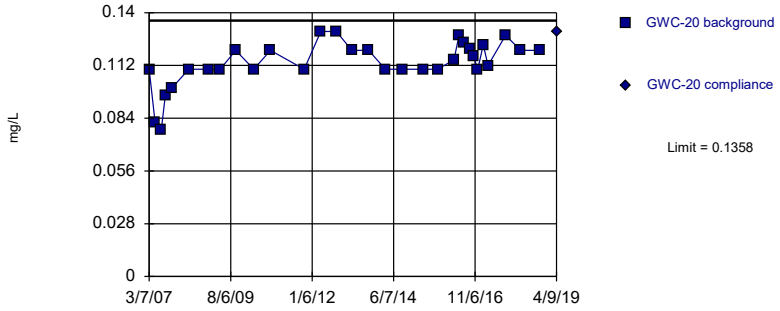
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=0.001502, Std. Dev.=0.0004195, n=31. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9239, critical = 0.902. Kappa = 2.39 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

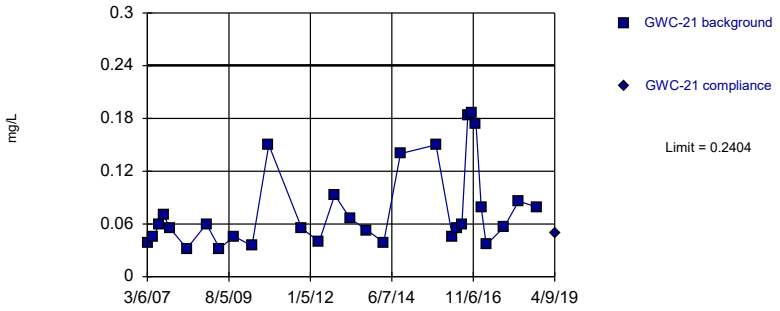
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=-2.722, Std. Dev.=0.5402, n=30. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9034, critical = 0.9. Kappa = 2.4 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

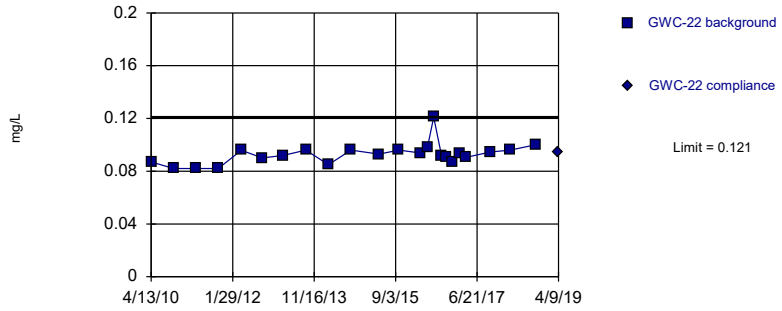
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

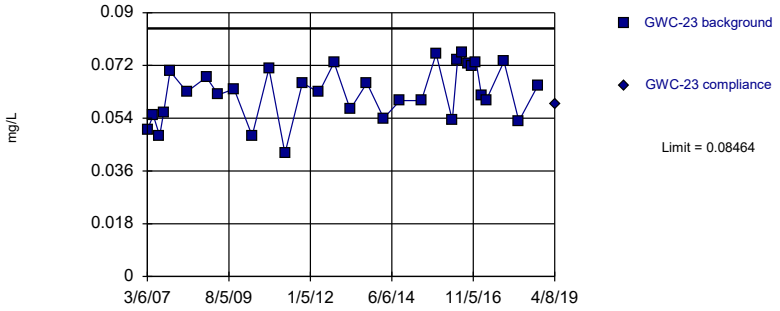
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.06272, Std. Dev.=0.009212, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9573, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

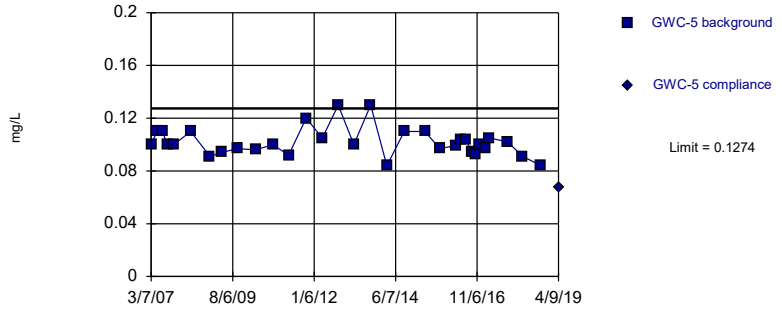
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1019, Std. Dev.=0.01074, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9137, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

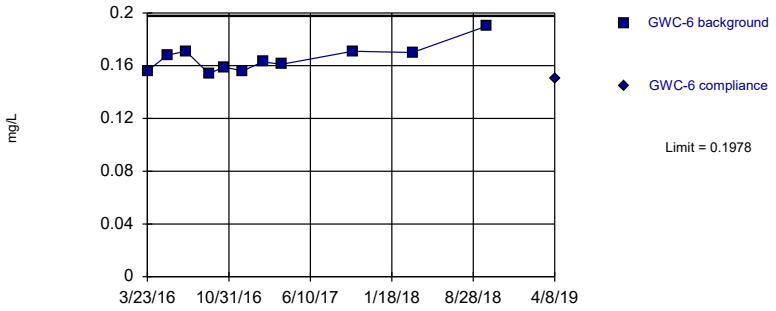
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1654, Std. Dev.=0.01034, n=11. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8754, critical = 0.792. Kappa = 3.135 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

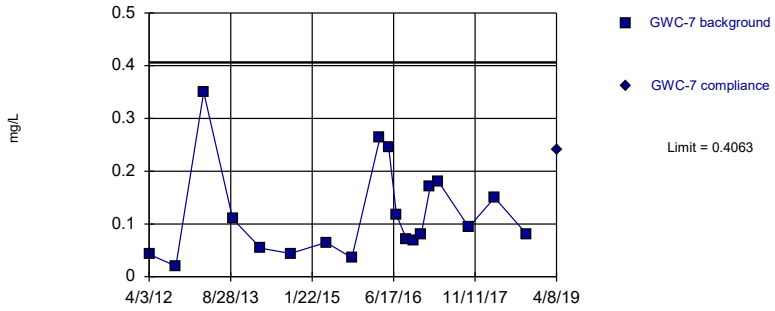
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.3226, Std. Dev.=0.1206, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9476, critical = 0.863. Kappa = 2.611 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

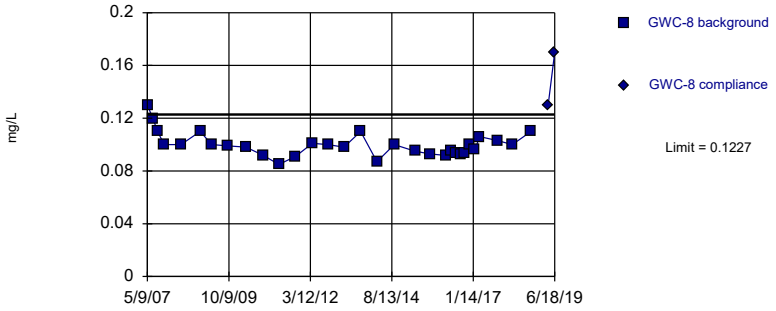
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.316, Std. Dev.=0.01439, n=31. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9173, critical = 0.902. Kappa = 2.39 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

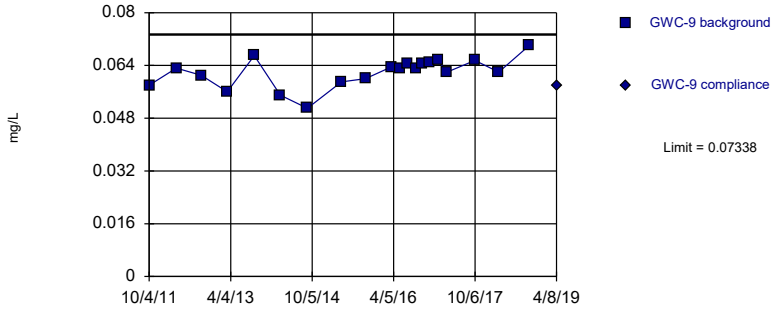
Constituent: Barium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.06193, Std. Dev.=0.00445, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9577, critical = 0.868. Kappa = 2.575 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Barium Analysis Run 8/16/2019 8:36 AM

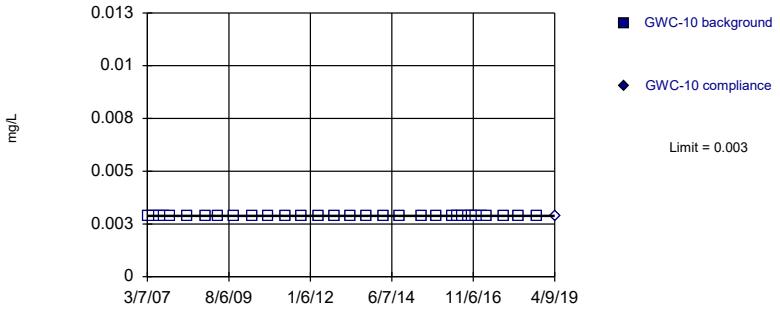
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

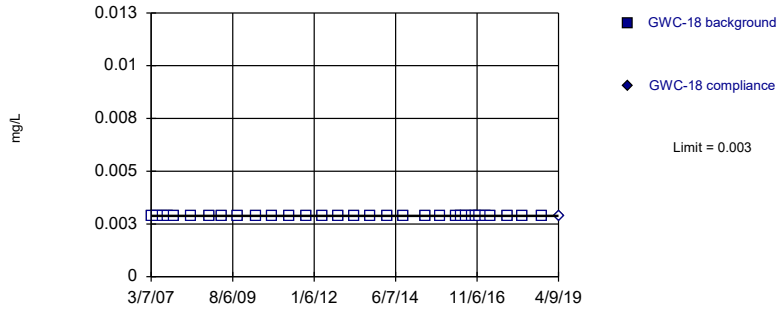
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

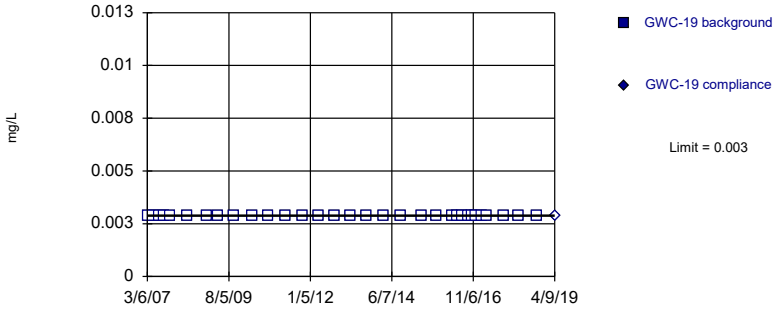
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

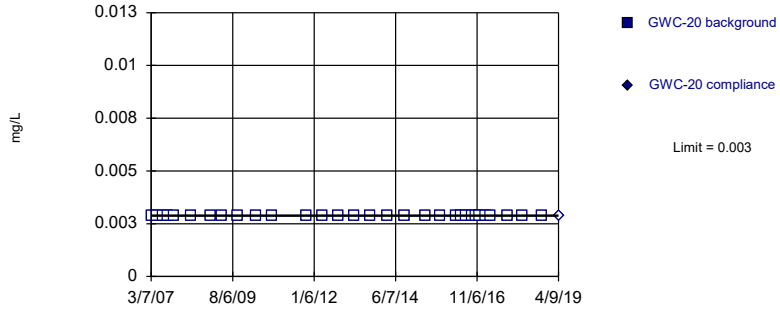
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

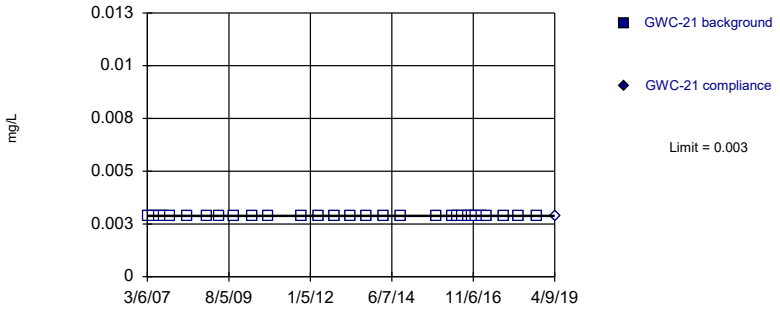
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

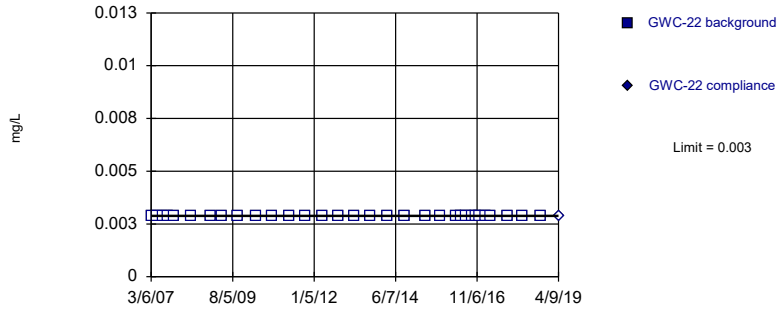
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

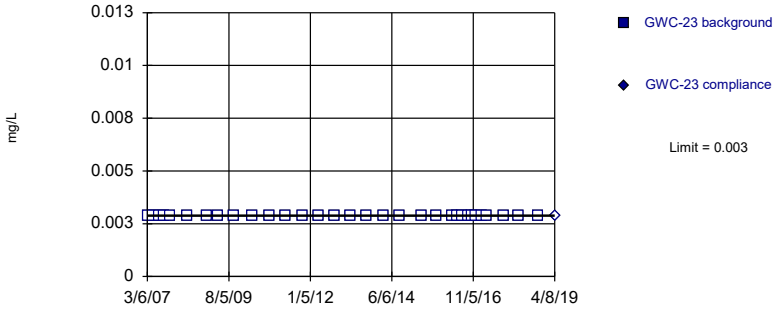
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

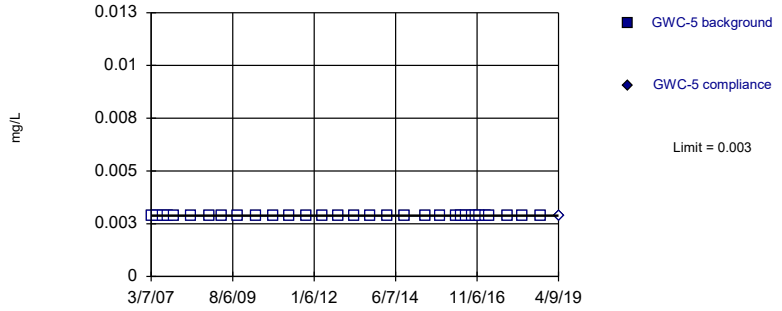
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

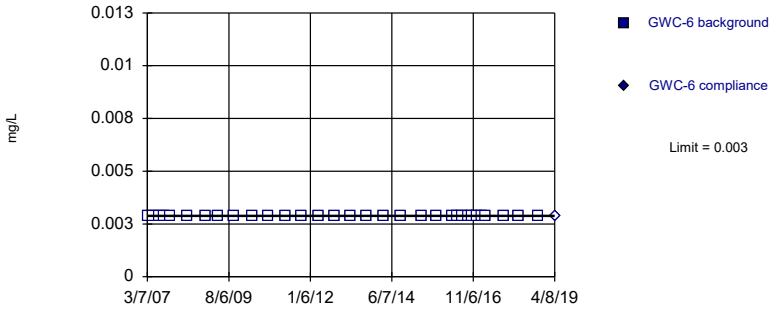
Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



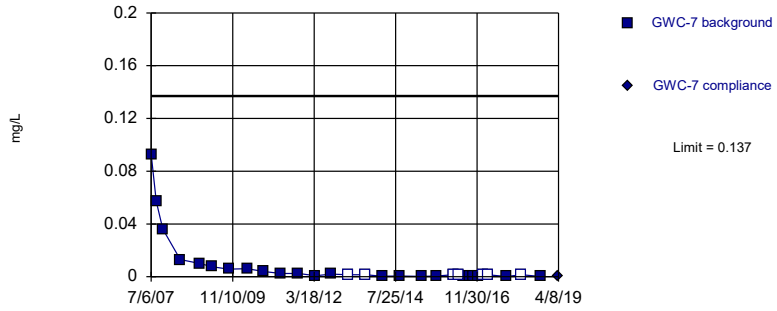
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Parametric



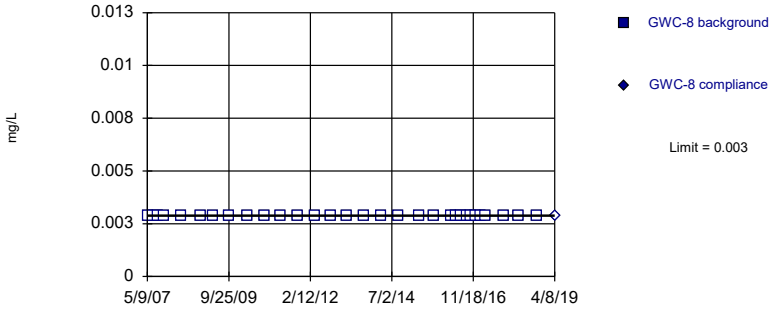
Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-6.771, Std. Dev.=1.993, n=30, 23.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.9. Kappa = 2.4 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



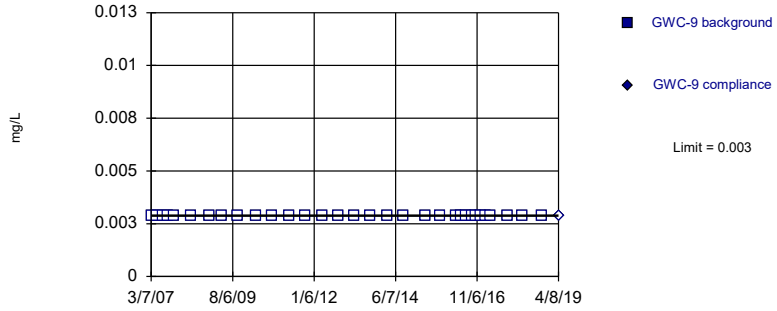
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

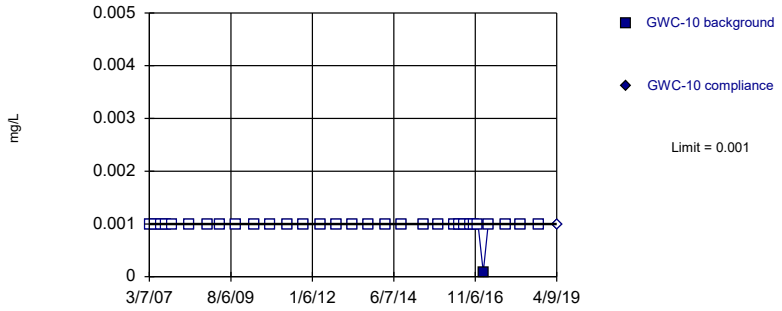
Constituent: Beryllium Analysis Run 8/16/2019 8:36 AM
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:36 AM

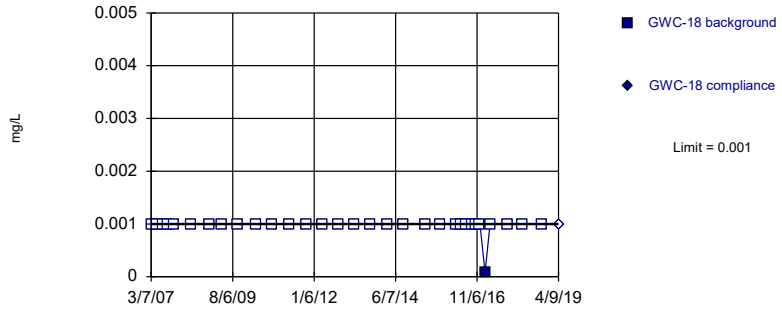
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:36 AM

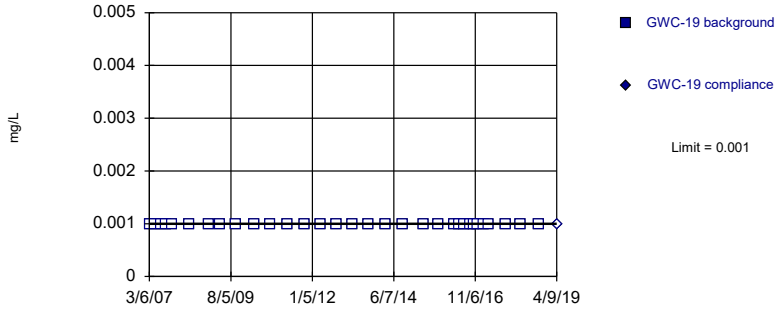
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:36 AM

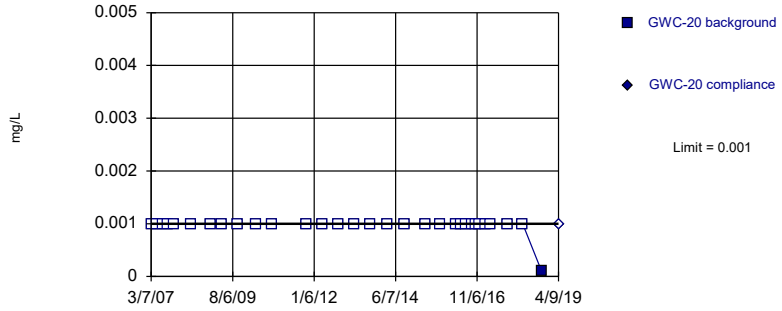
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

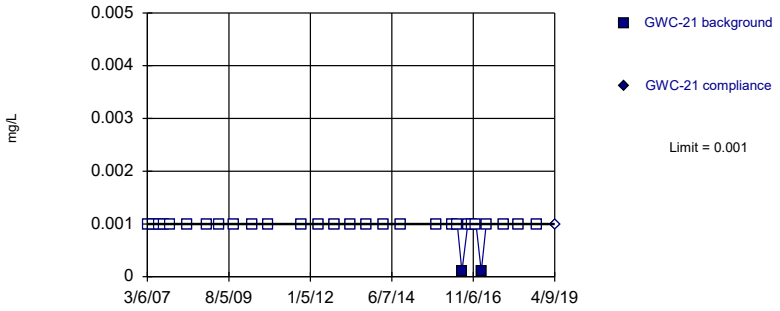
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 93.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

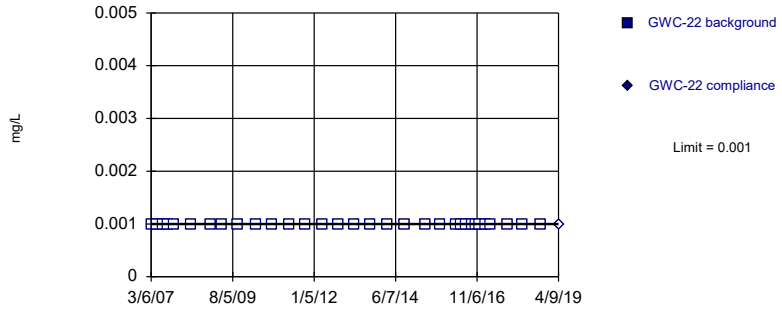
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

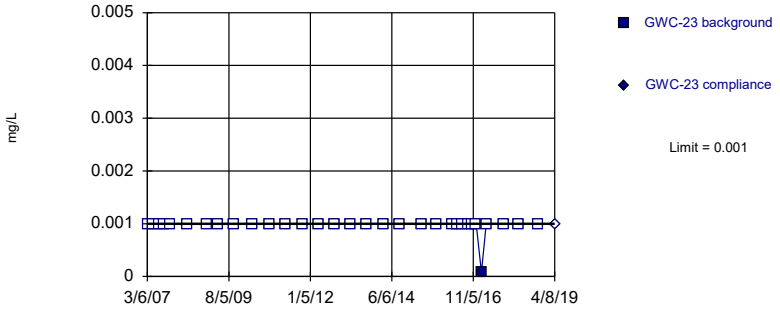
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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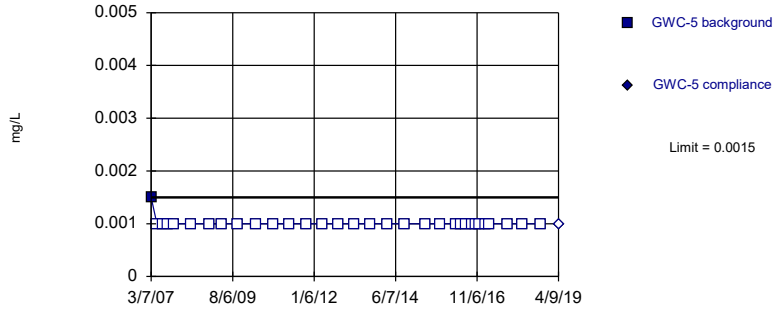
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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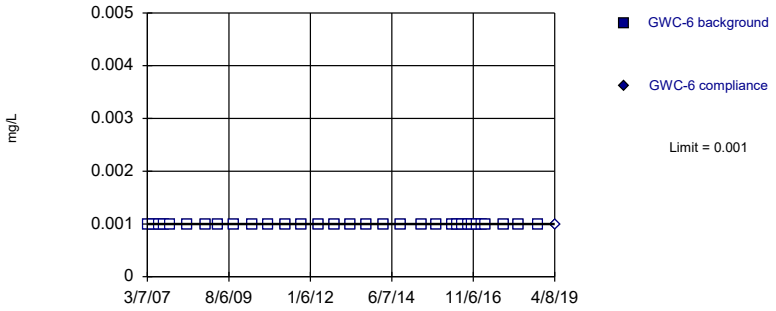
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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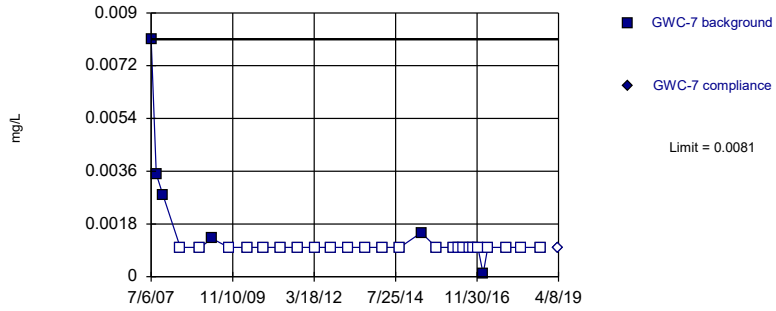
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 80% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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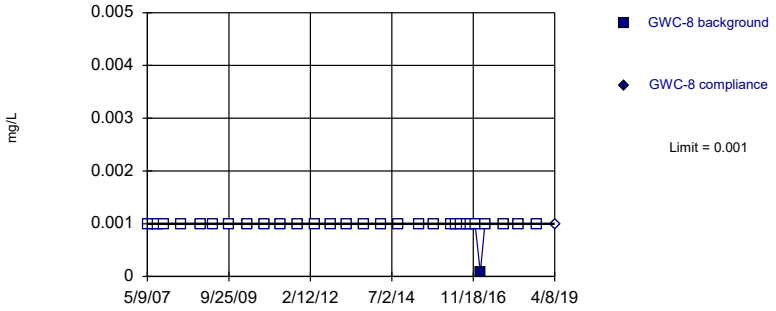
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

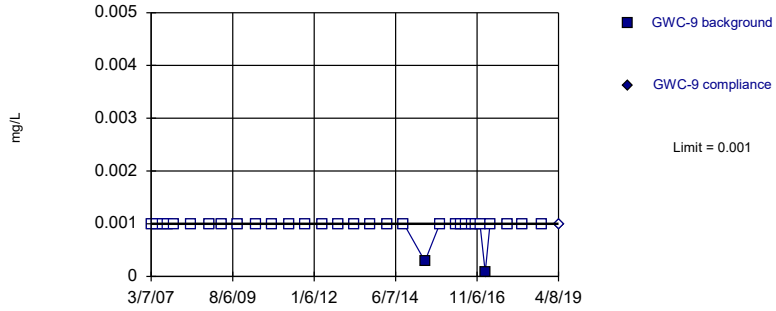
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

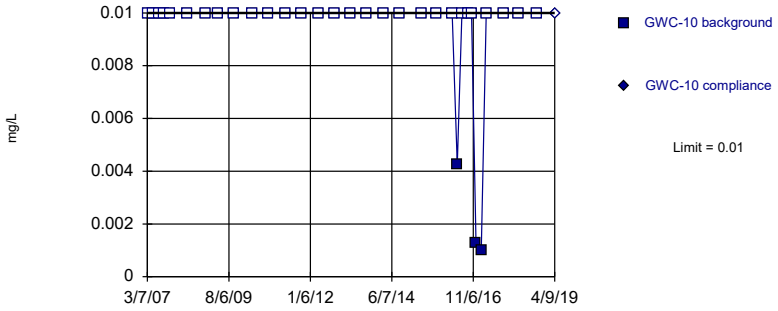
Constituent: Cadmium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 90.63% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

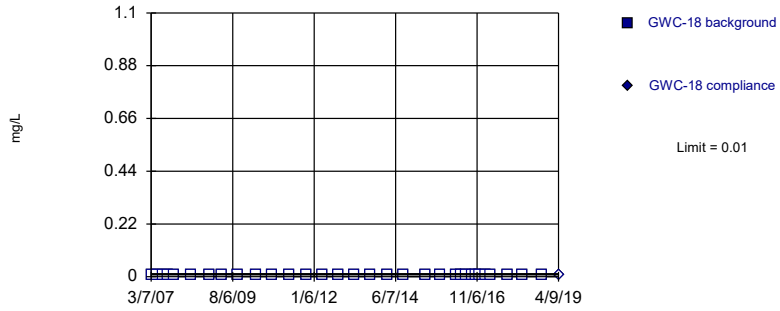
Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

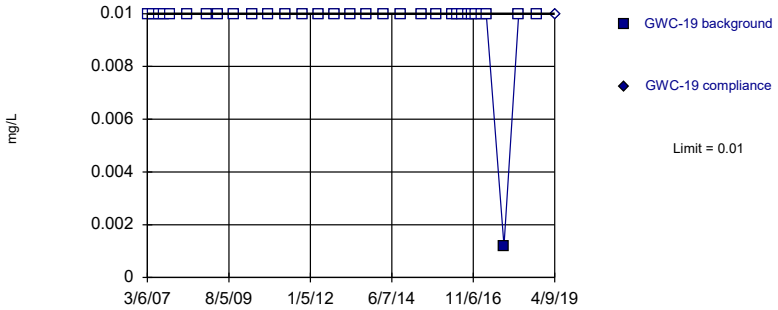
Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

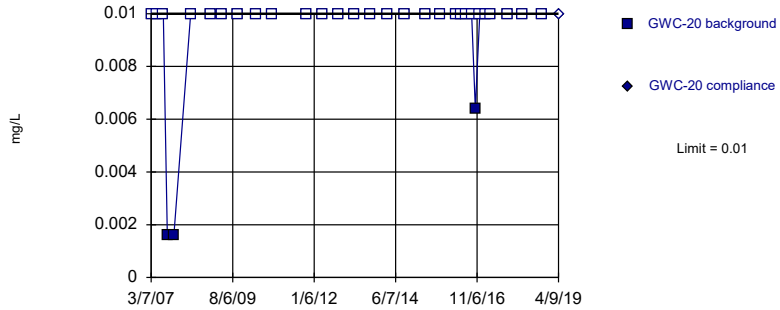
Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 90.32% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

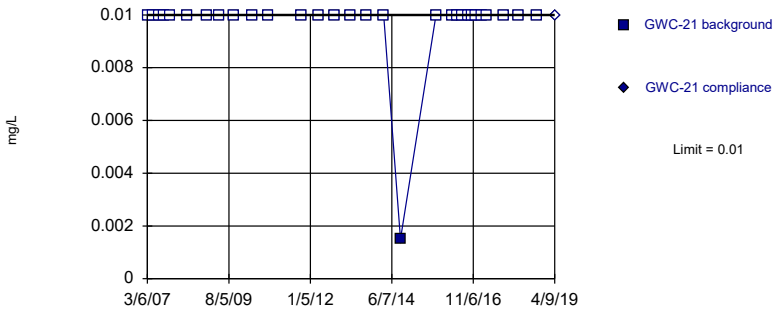
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

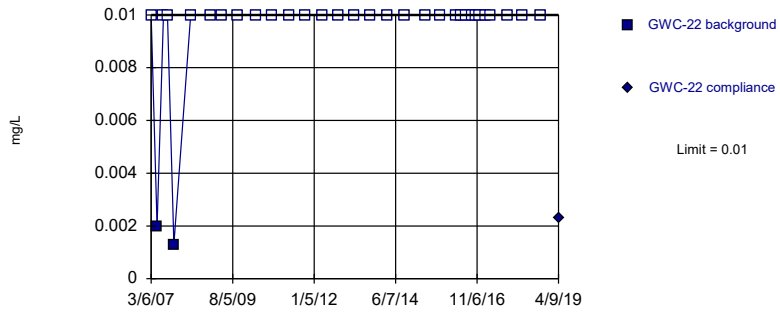
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

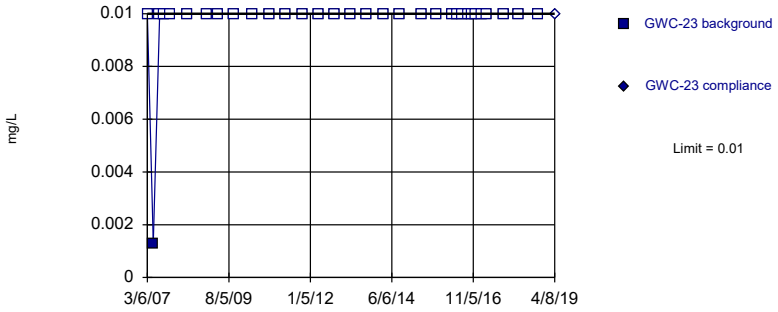
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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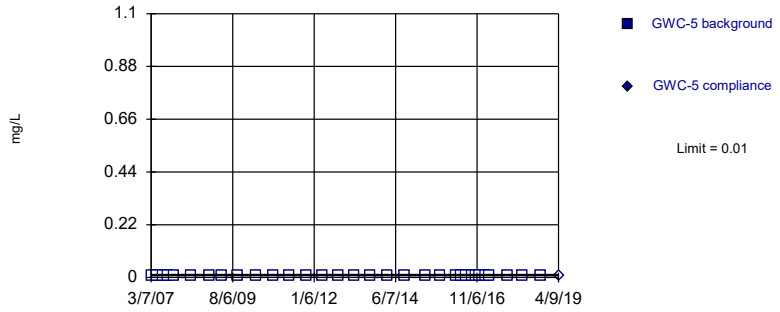
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

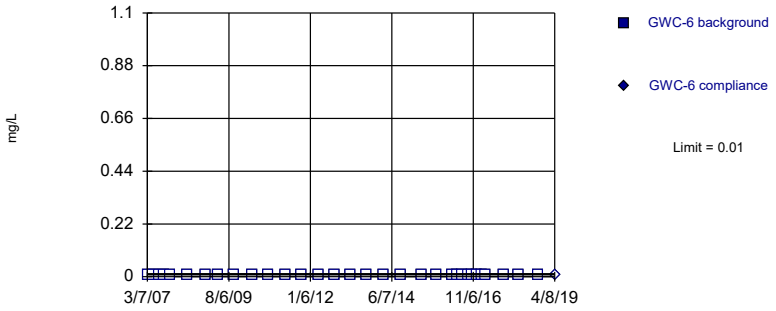
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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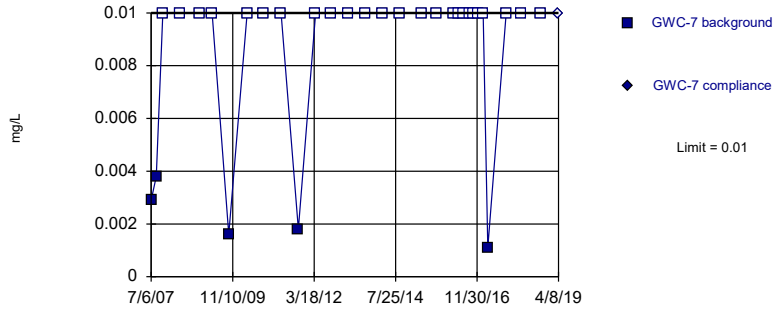
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 83.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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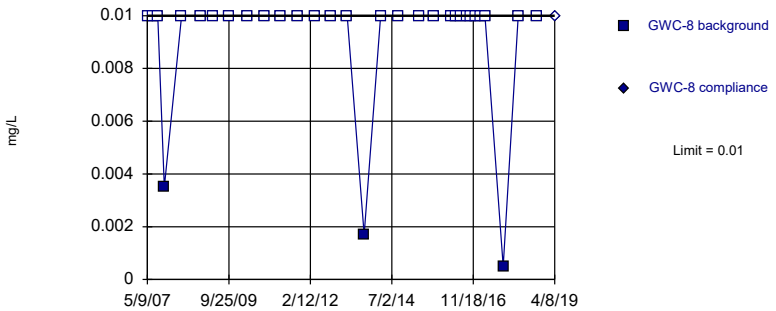
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 90.32% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

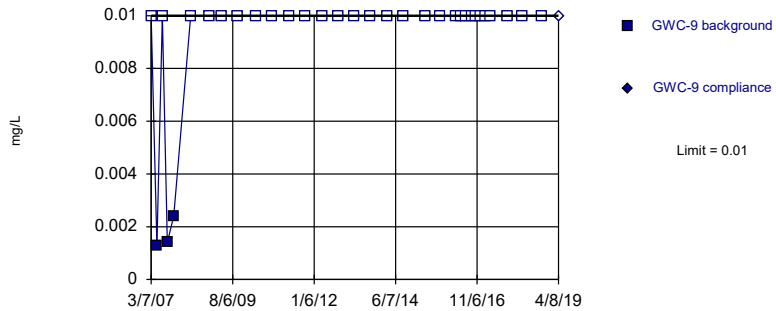
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 90.63% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 8/16/2019 8:37 AM

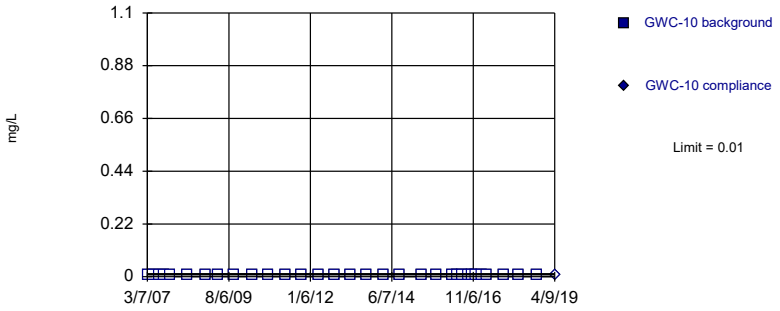
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

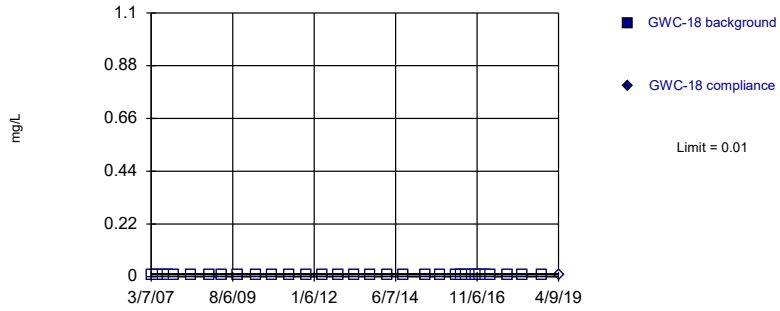
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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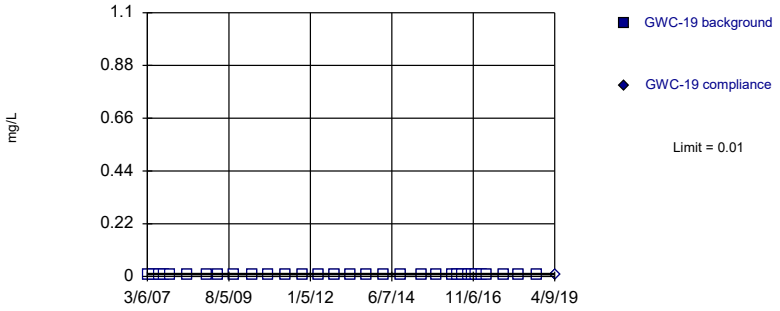
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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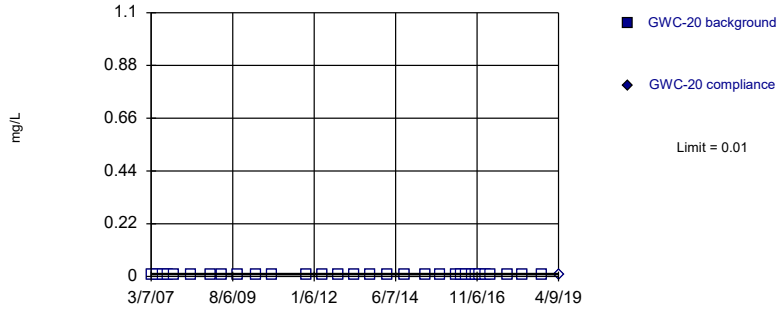
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

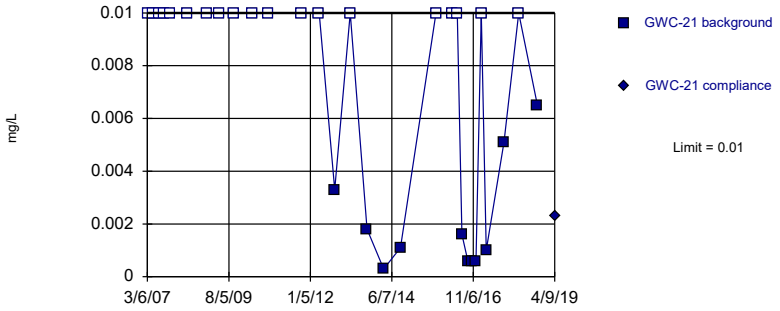
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 63.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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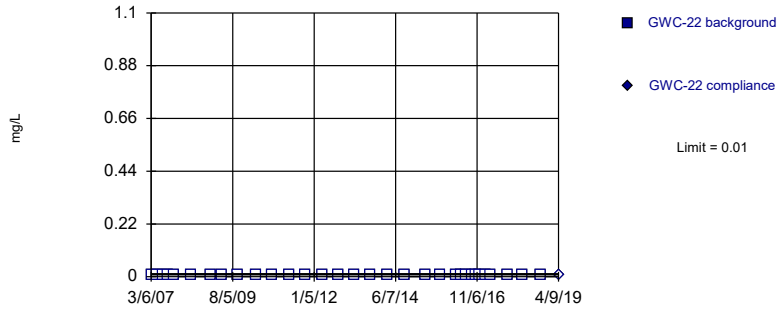
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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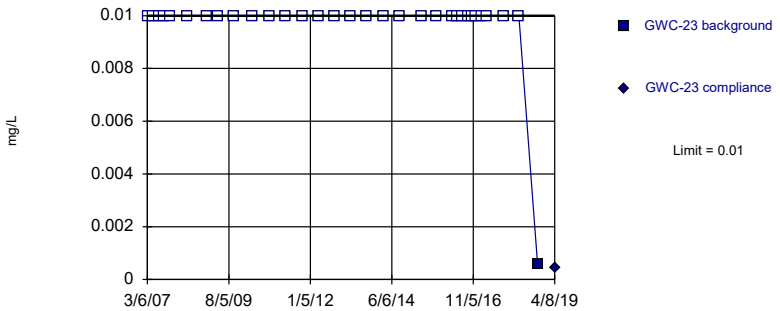
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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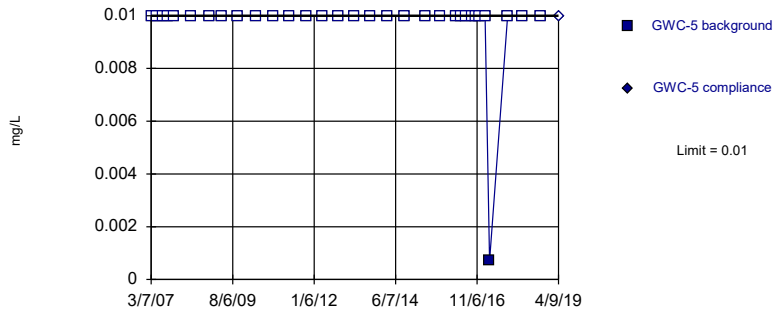
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

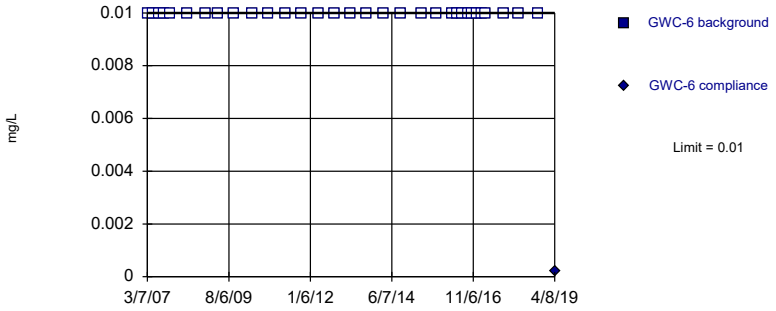
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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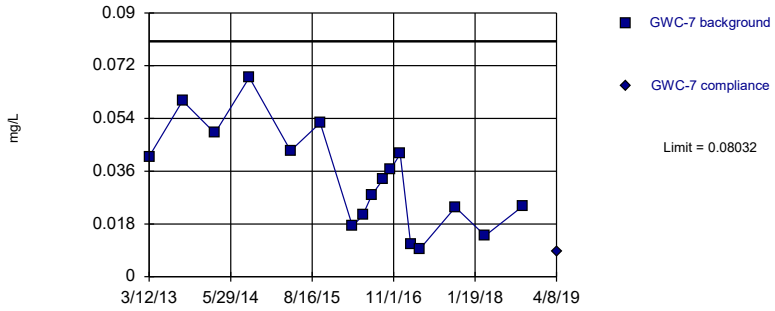
Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03376, Std. Dev.=0.01735, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9626, critical = 0.851. Kappa = 2.684 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

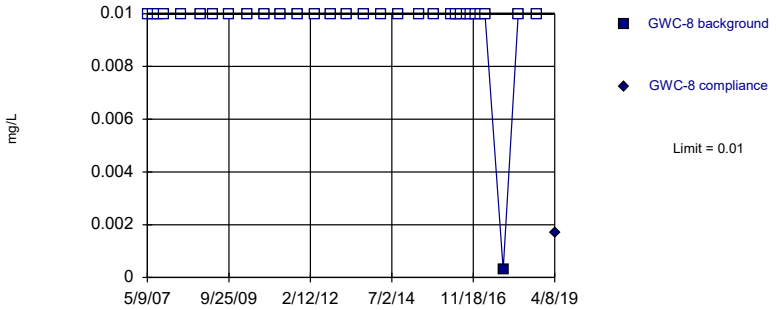
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

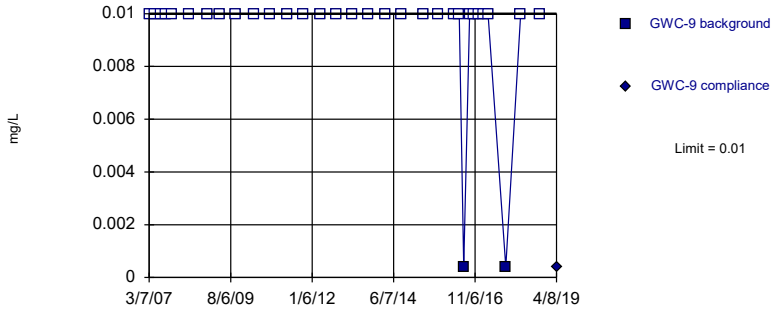
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 8/16/2019 8:37 AM

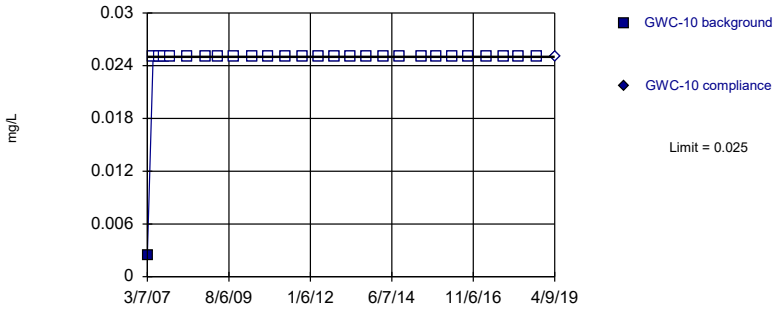
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

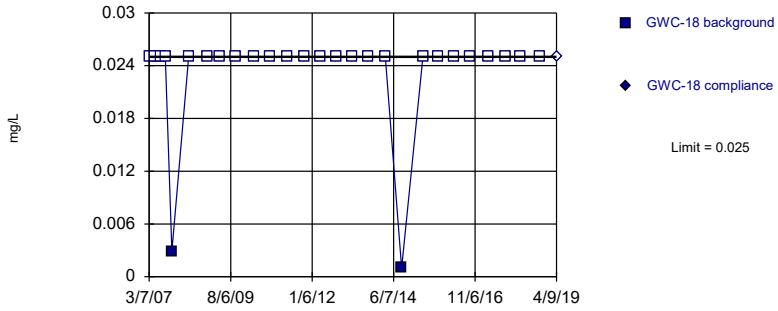
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 92.59% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

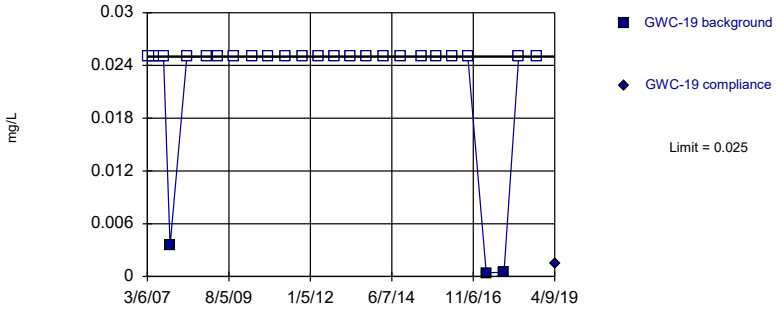
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

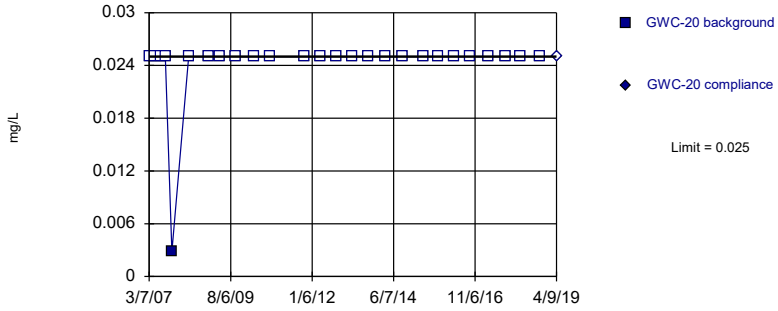
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 96.15% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

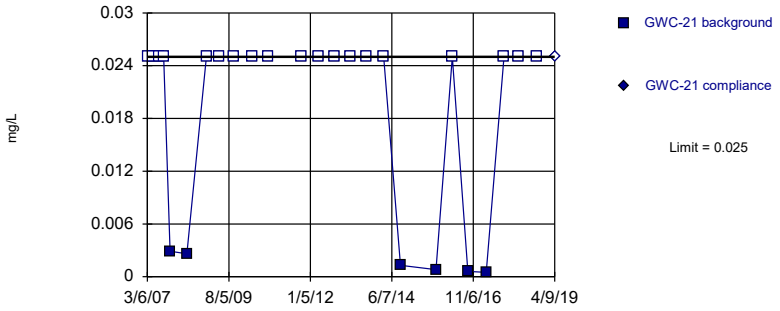
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 76% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

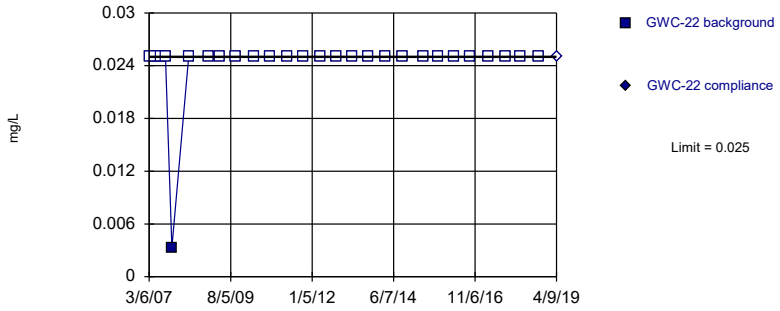
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

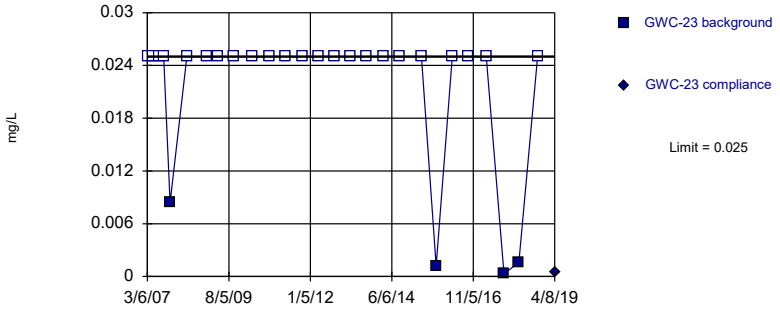
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 85.19% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

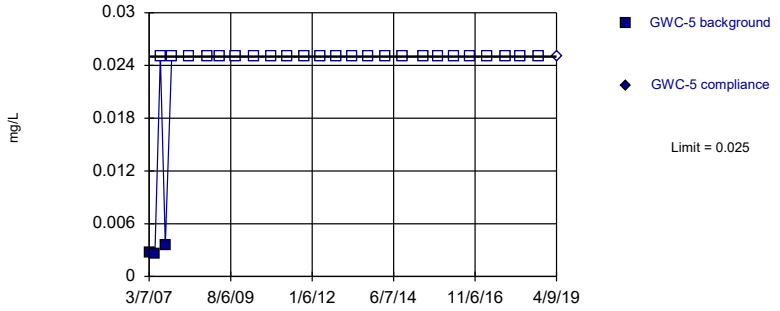
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

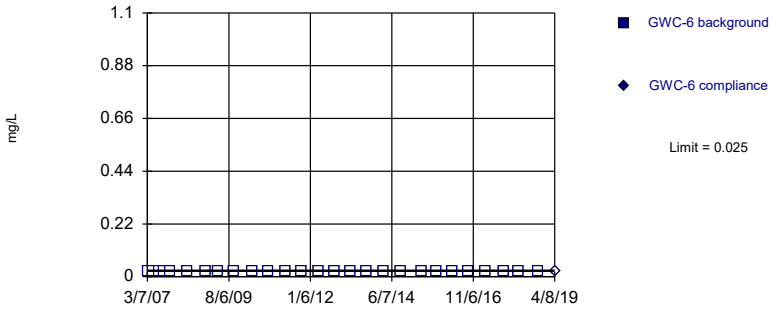
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

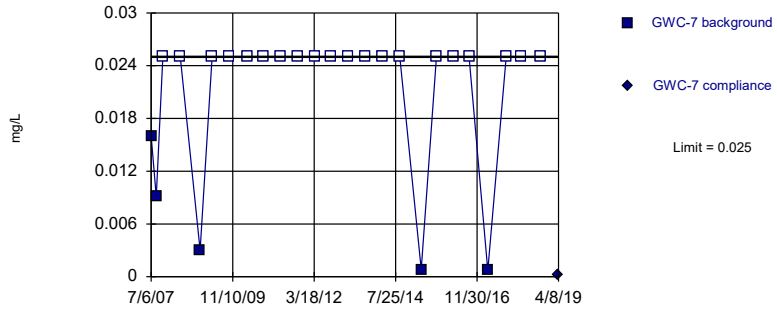
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 80% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

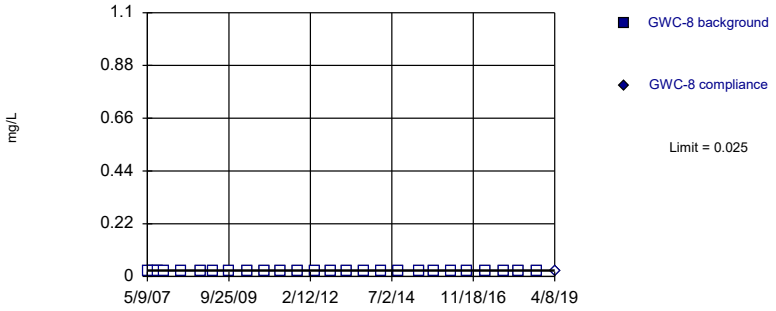
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

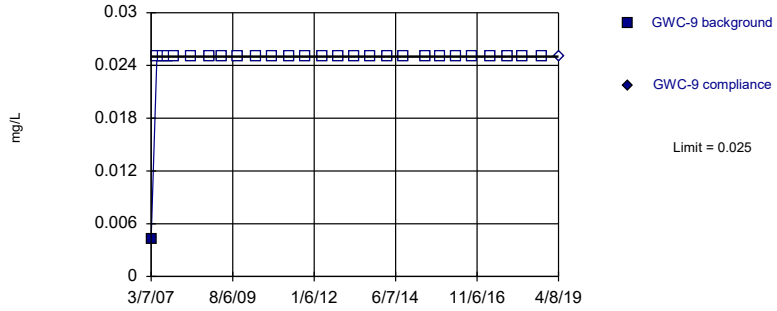
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 8/16/2019 8:37 AM

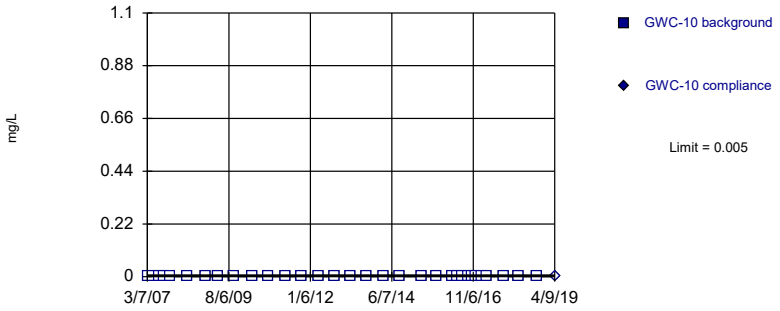
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

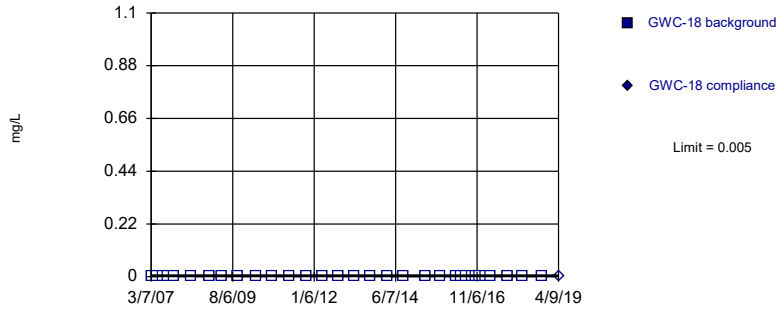
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

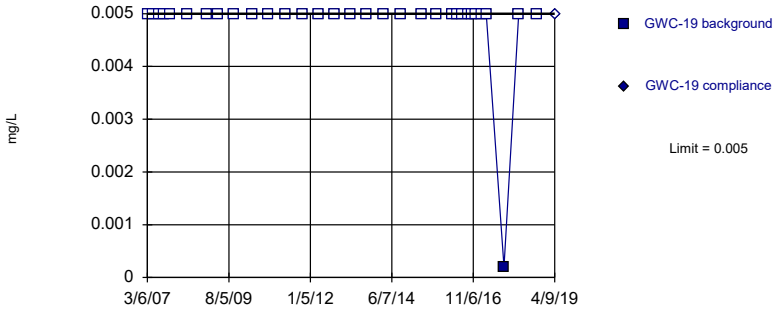
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

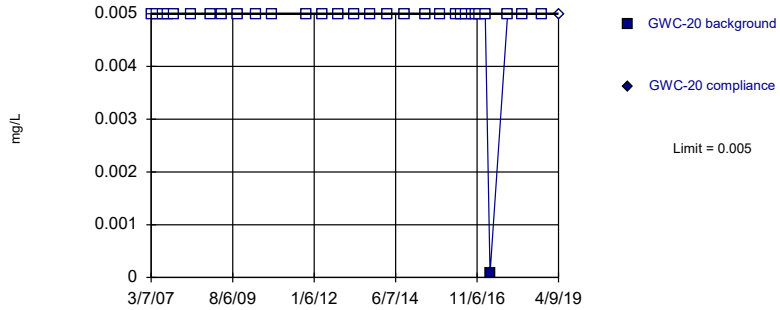
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

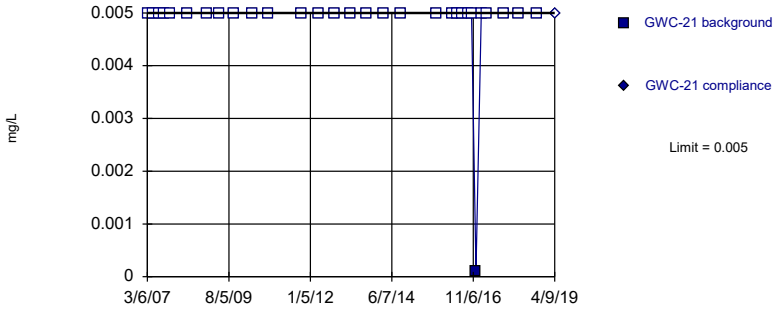
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

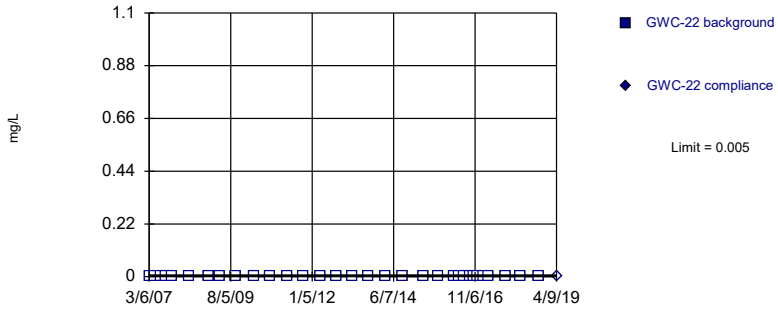
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

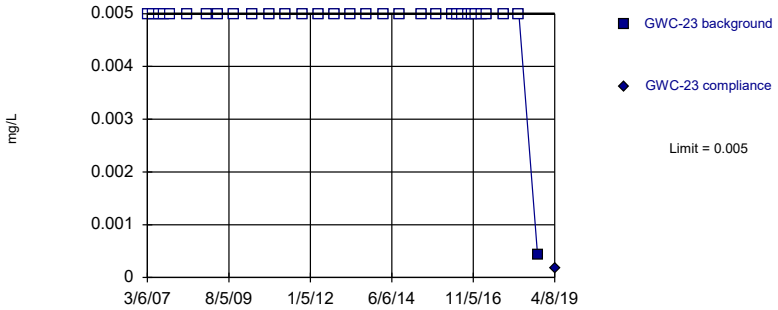
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

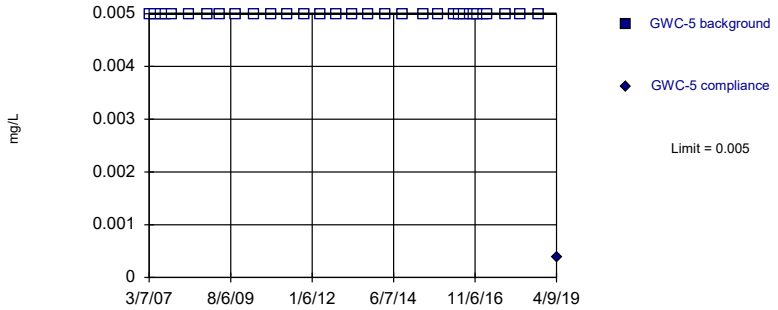
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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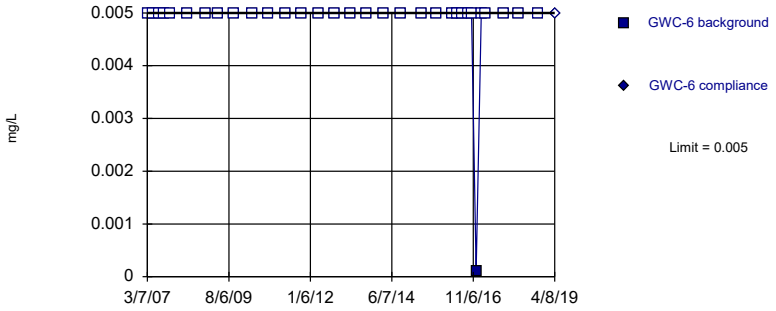
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

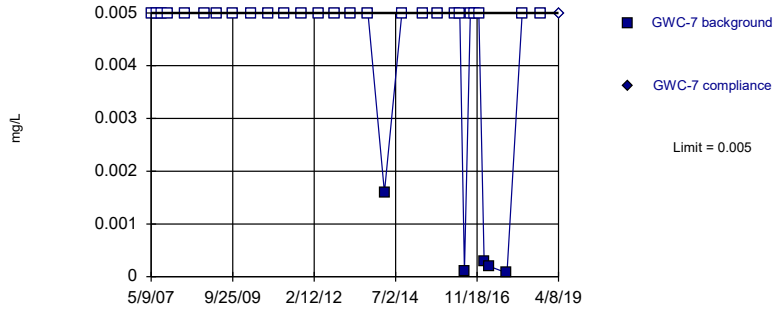
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 83.87% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

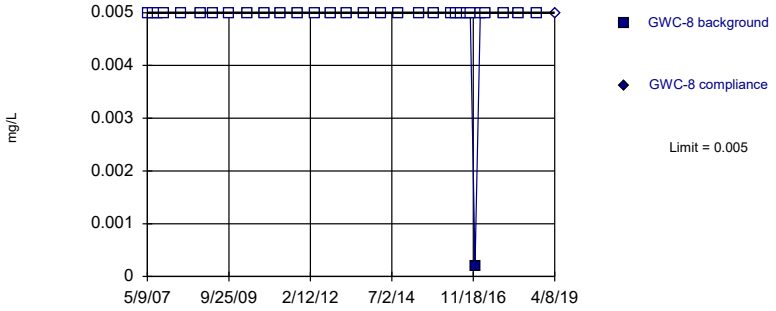
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 8/16/2019 8:37 AM

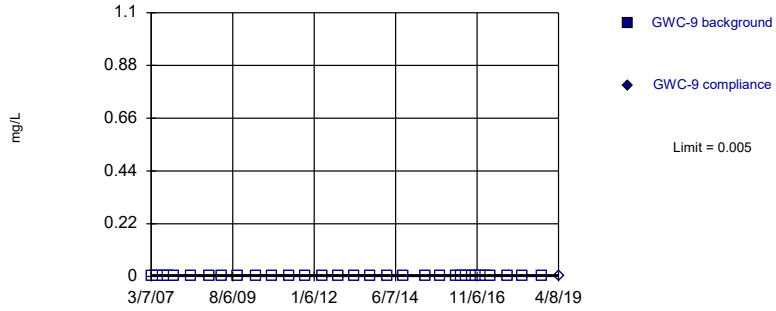
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

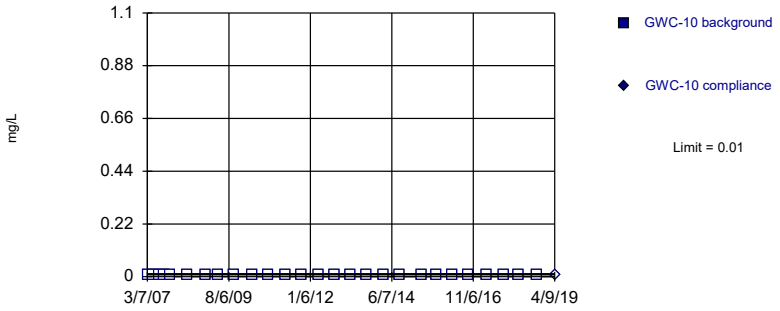
Constituent: Lead Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

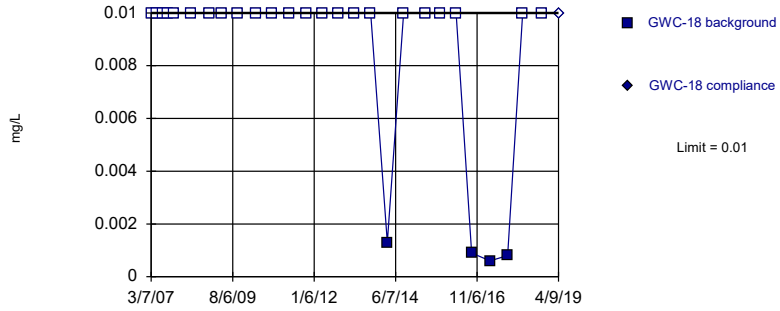
Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 85.19% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

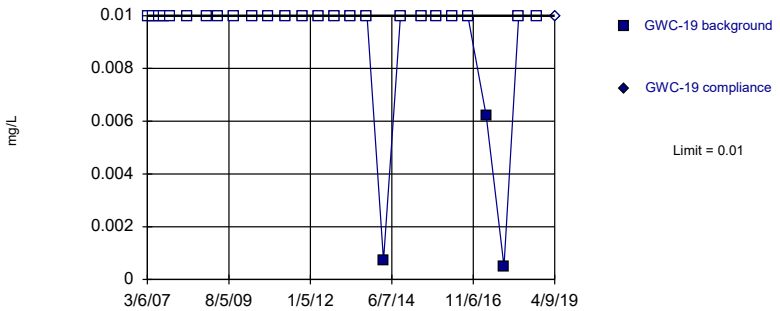
Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

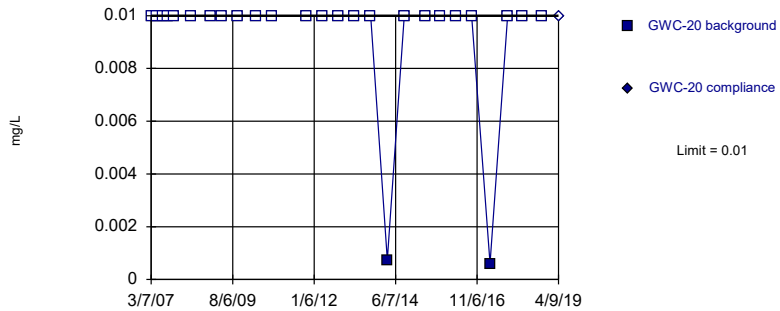
Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

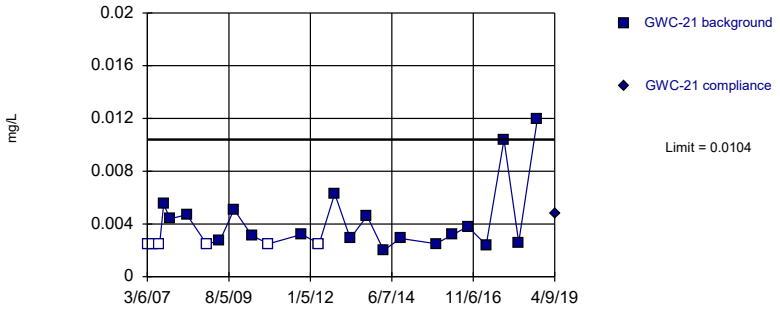
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.156, Std. Dev.=0.02523, n=25, 24% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8912, critical = 0.888. Kappa = 2.47 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

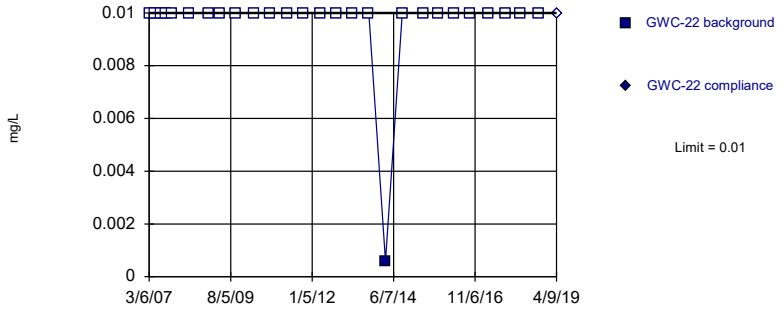
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

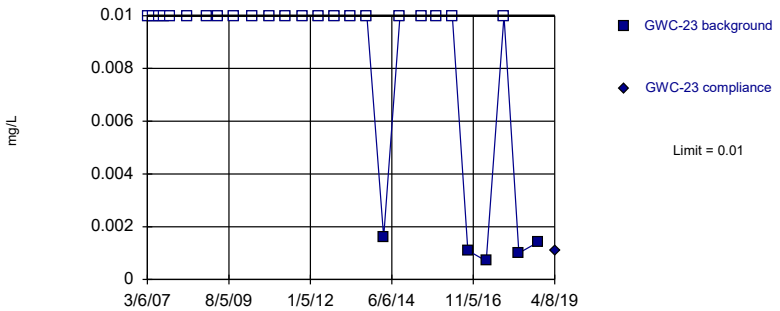
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 81.48% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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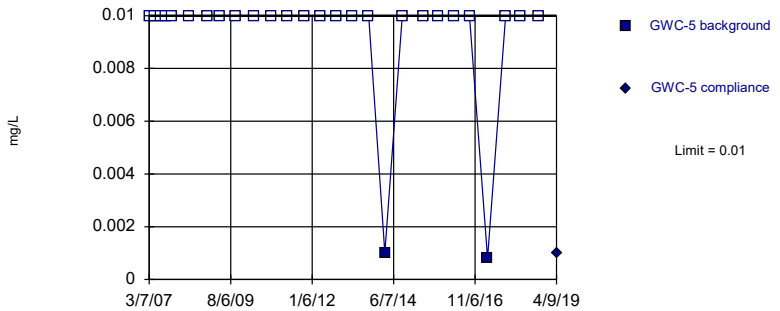
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 92.59% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

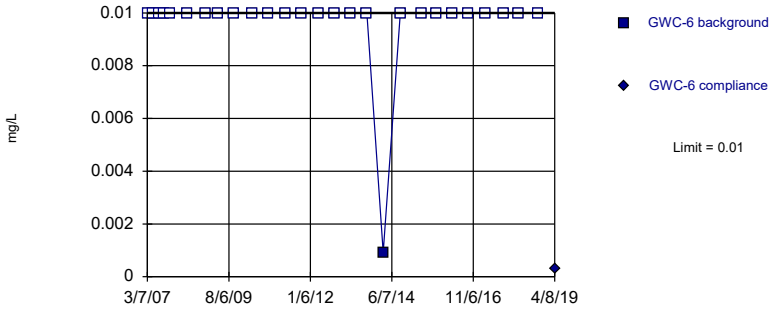
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

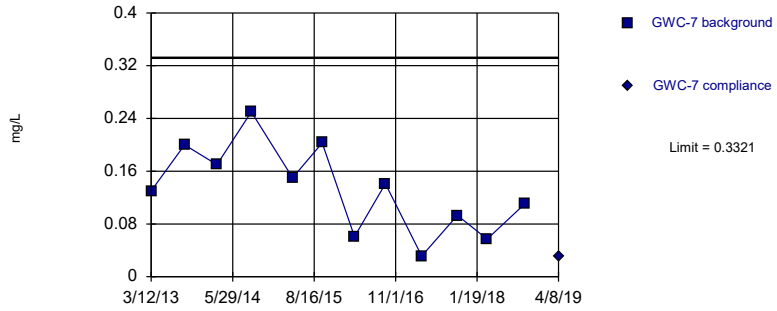
Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.133, Std. Dev.=0.06625, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9771, critical = 0.805. Kappa = 3.005 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

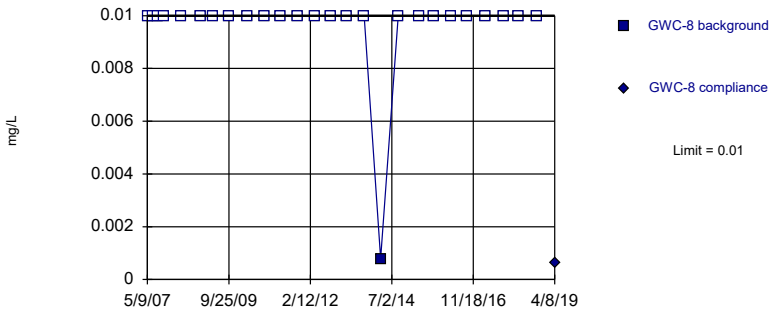
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 96.15% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

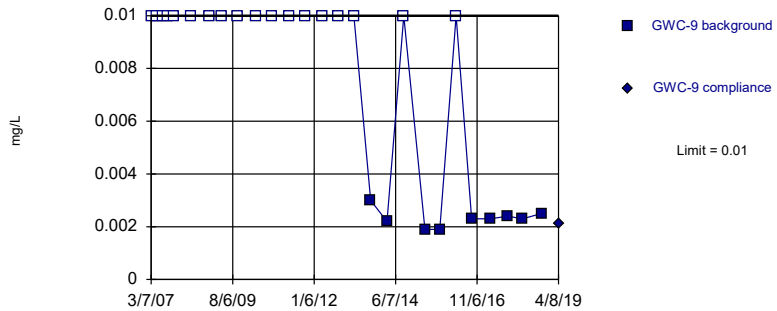
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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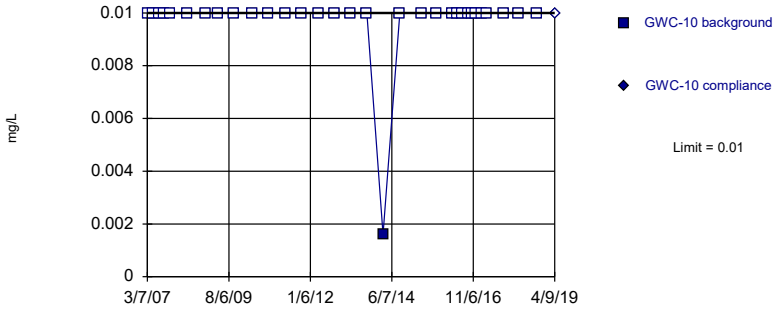
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

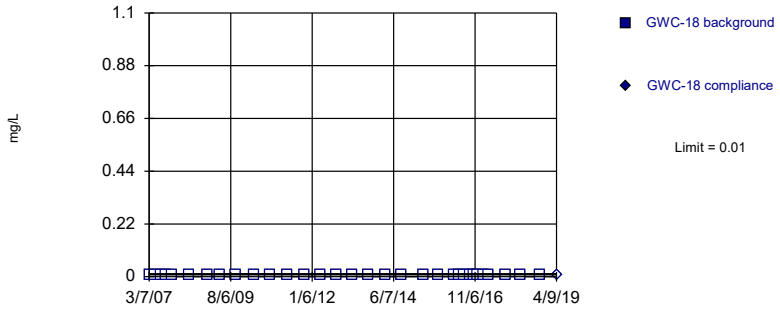
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG .
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

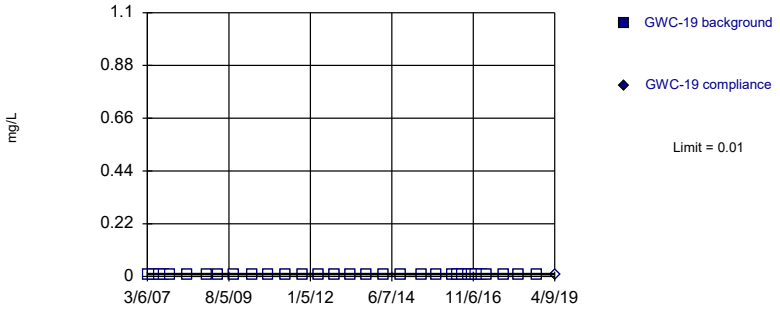
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

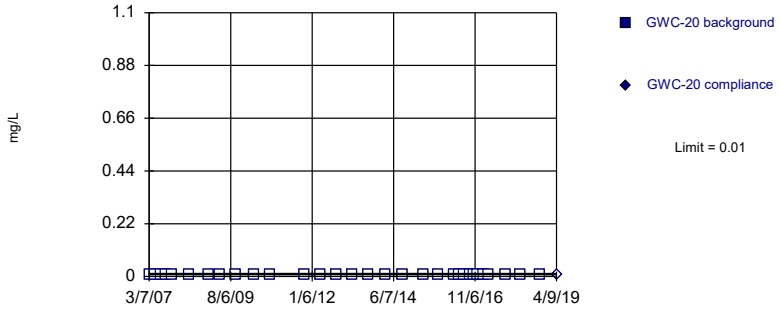
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

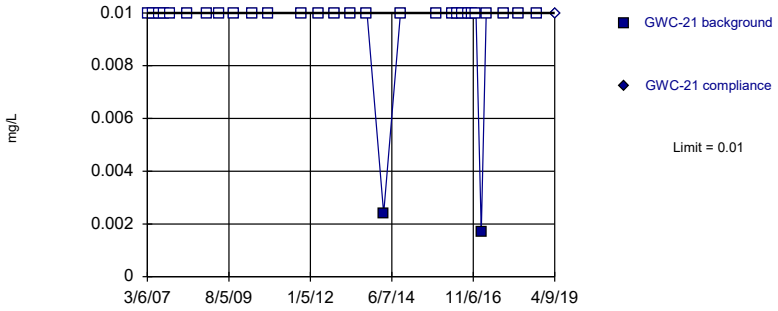
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 93.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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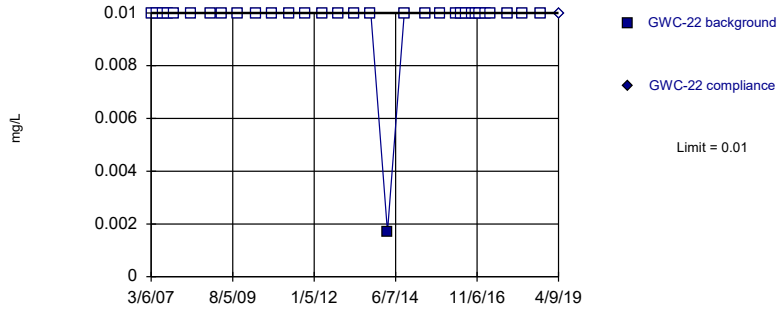
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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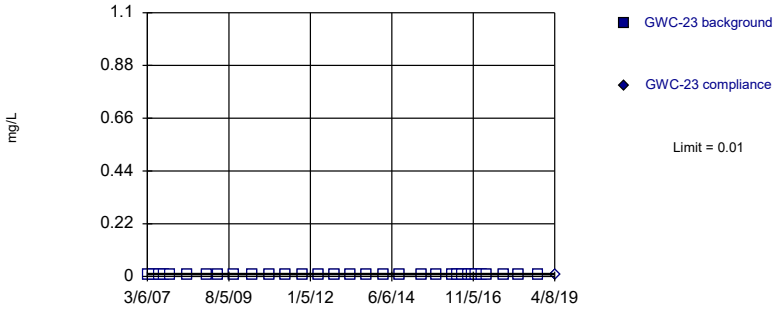
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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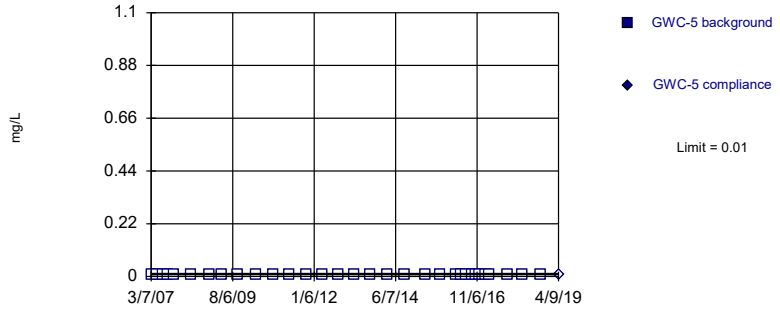
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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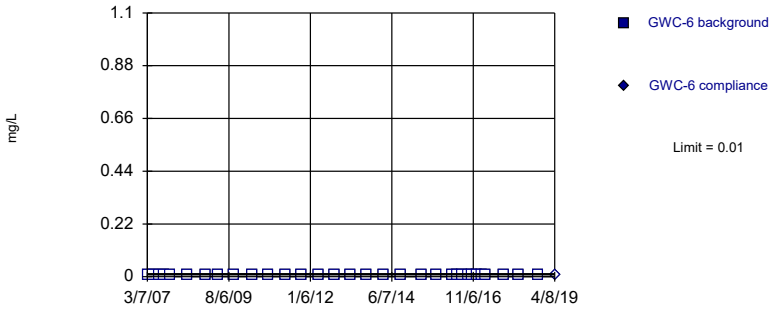
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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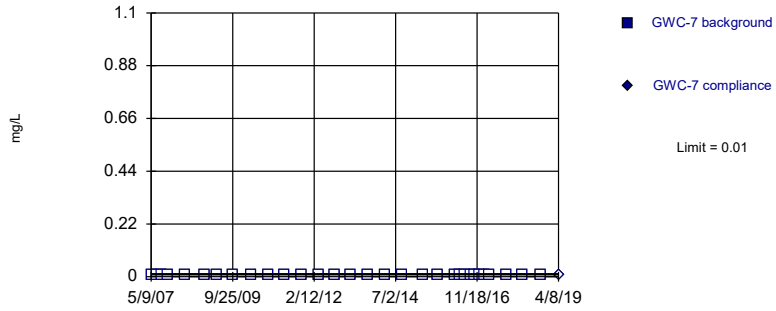
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

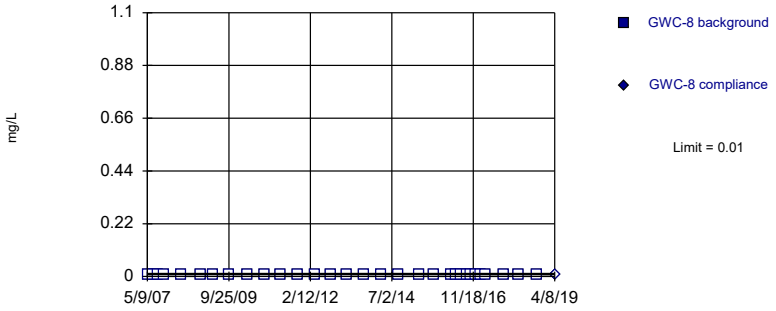
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

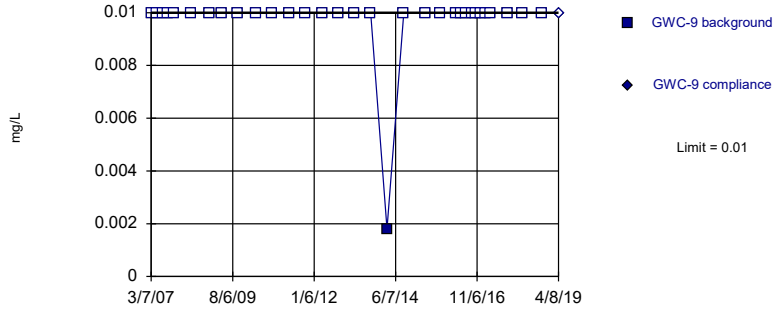
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 8/16/2019 8:37 AM

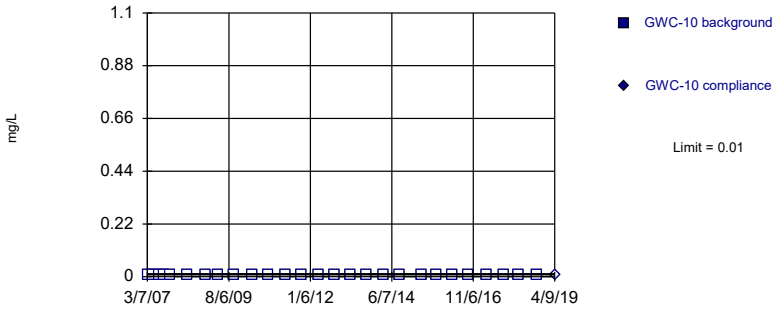
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

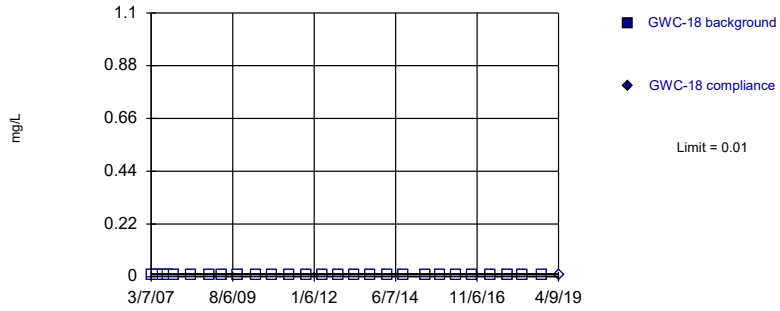
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

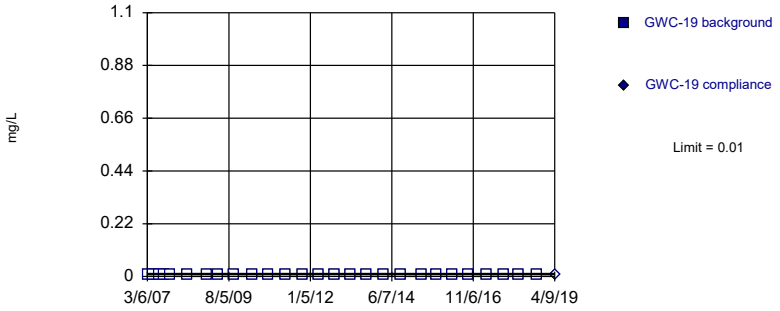
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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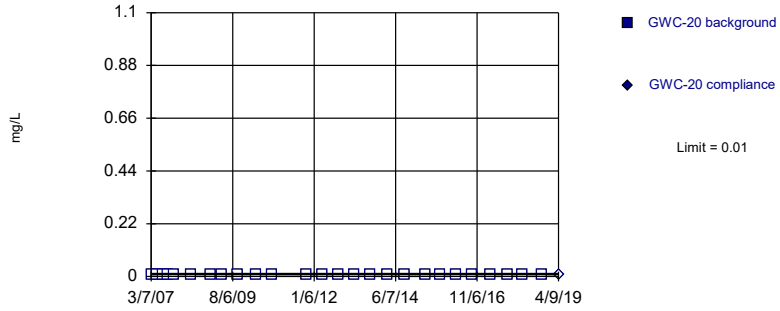
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

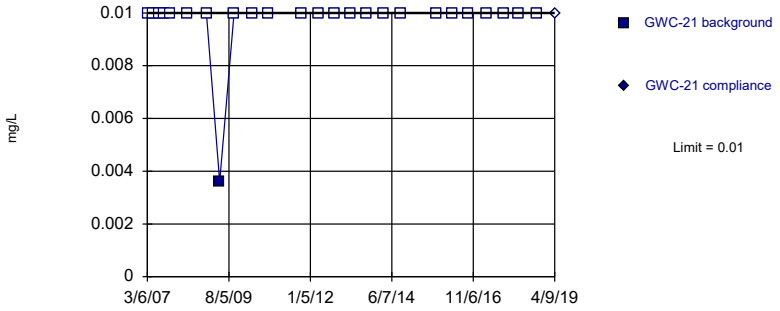
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 96% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

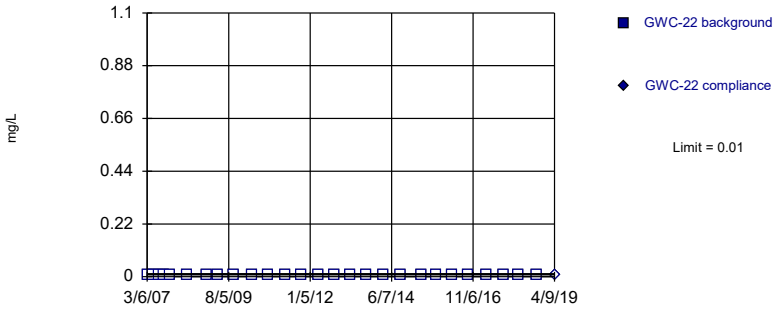
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

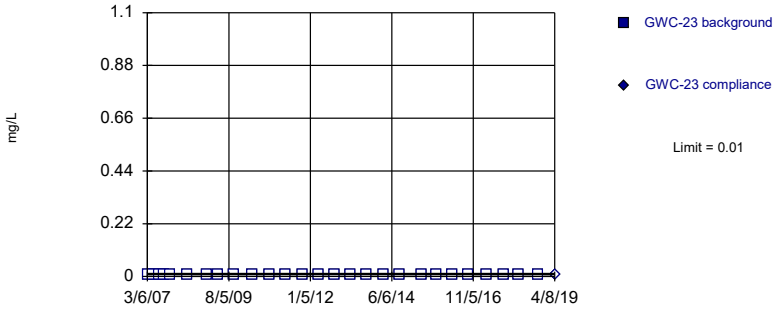
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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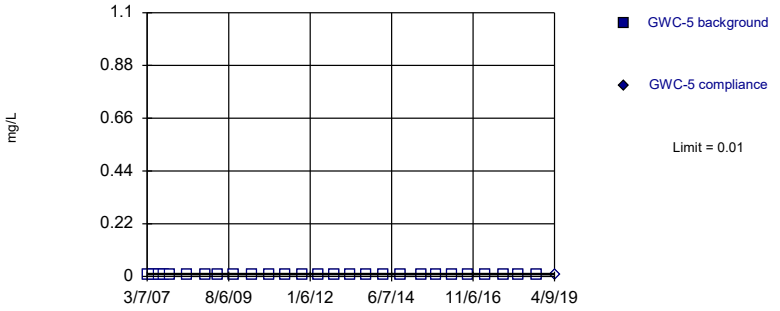
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:37 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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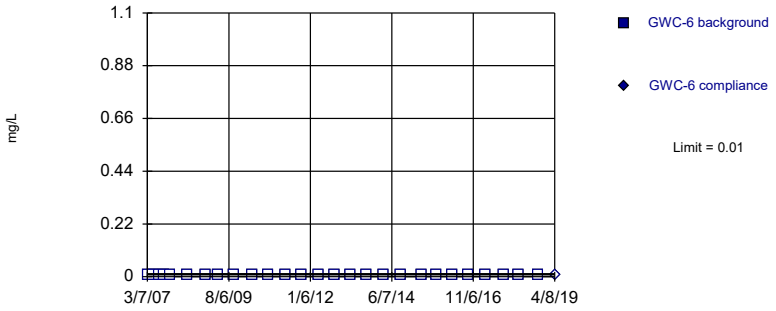
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:38 AM

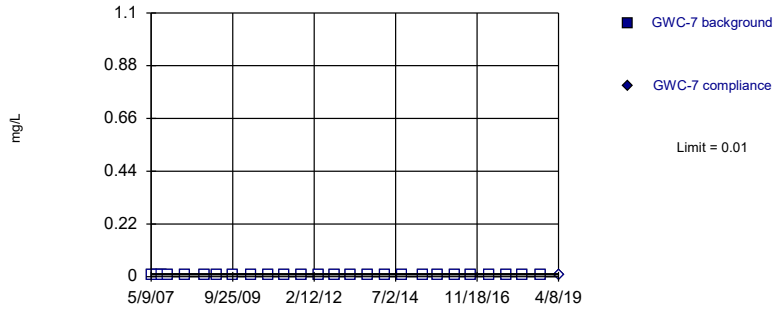
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Silver Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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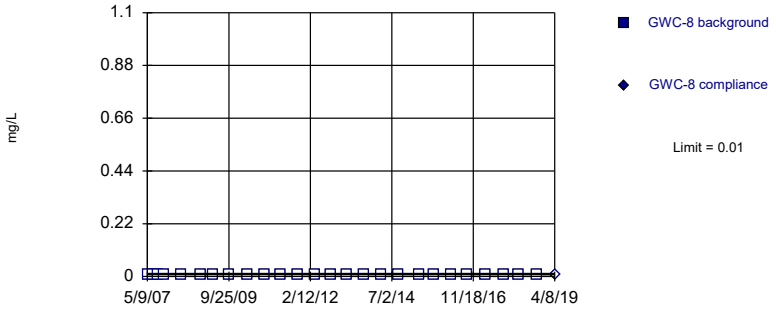
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

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Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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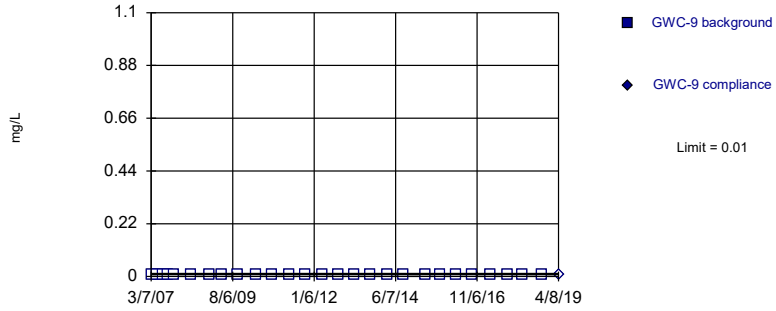
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

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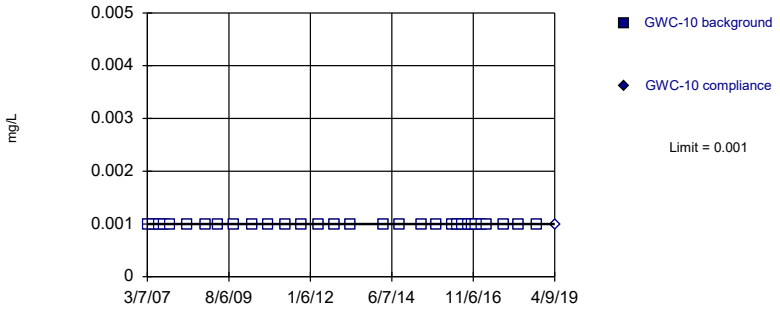
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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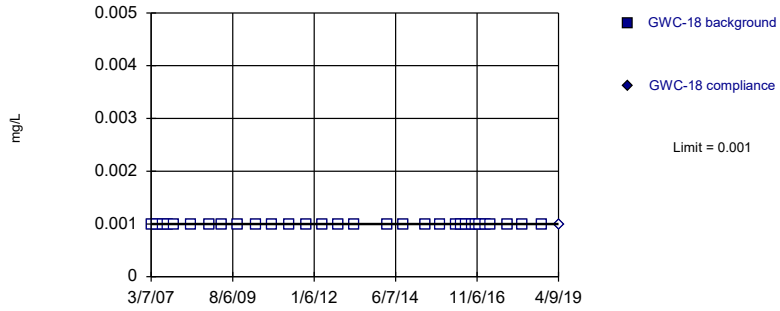
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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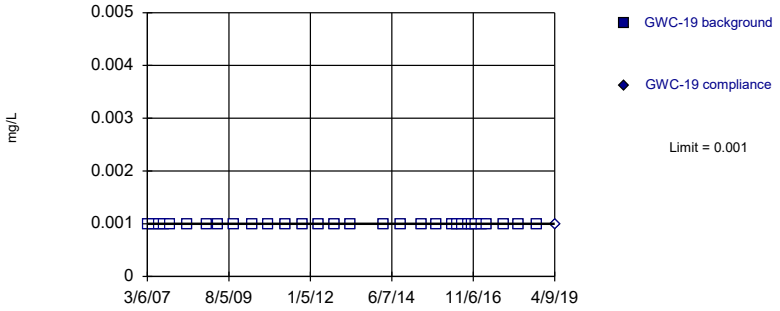
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

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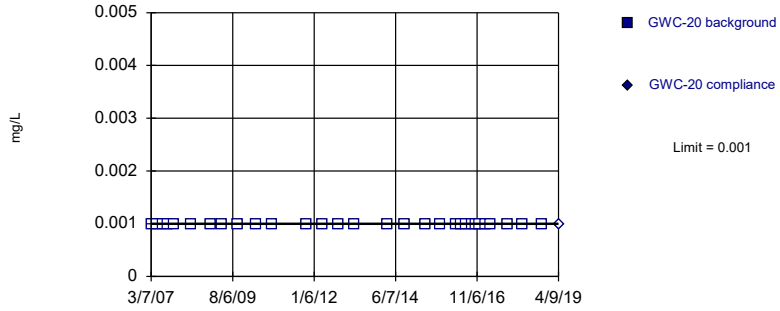
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

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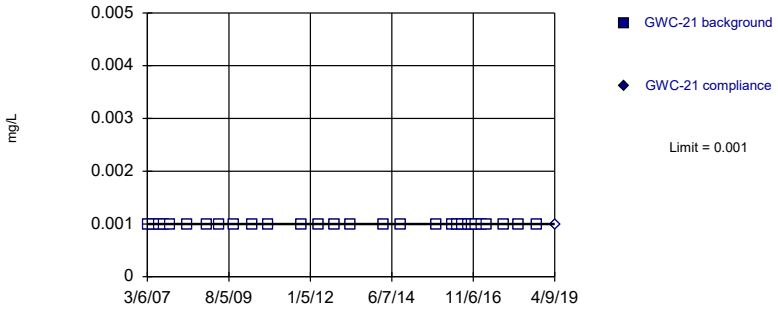
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 29) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00434. Individual comparison alpha = 0.002172 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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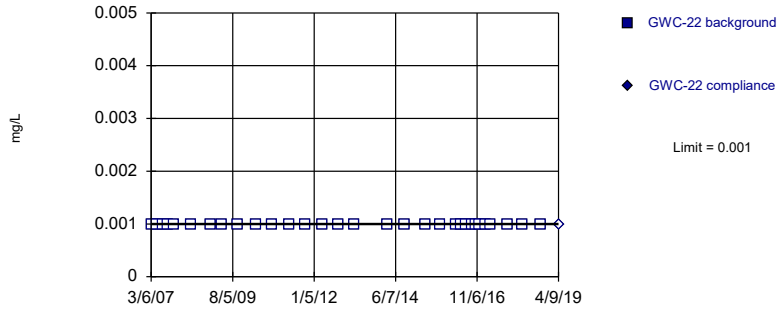
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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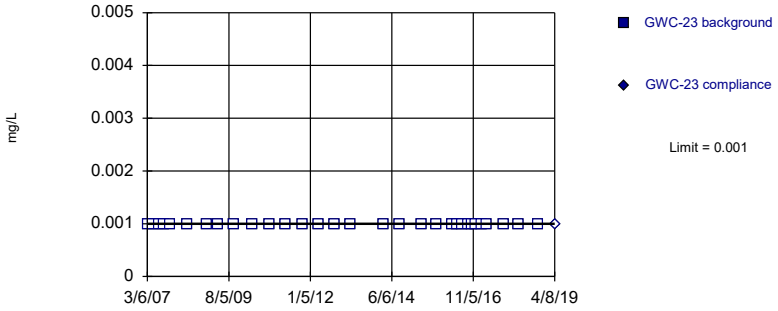
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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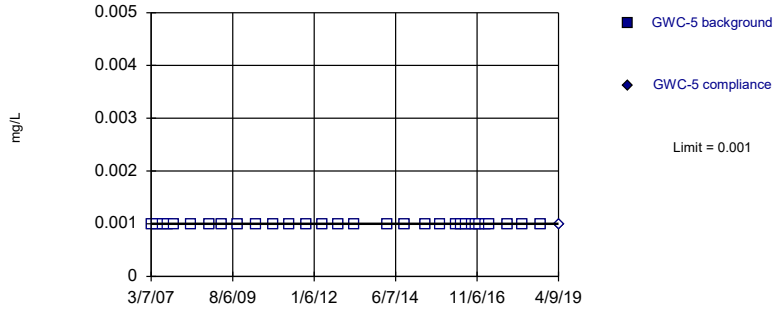
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

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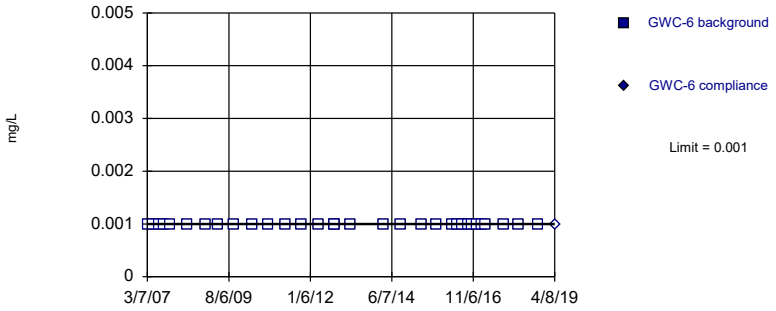
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

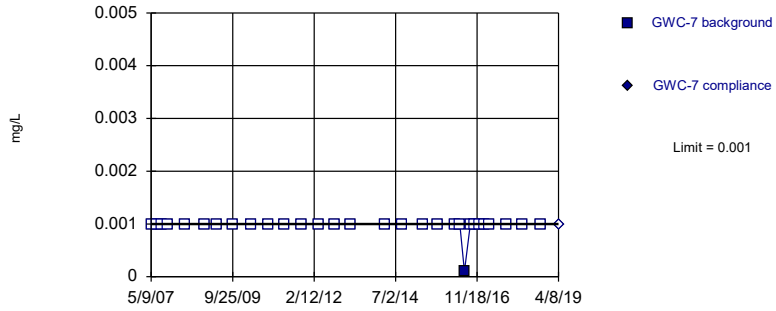
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

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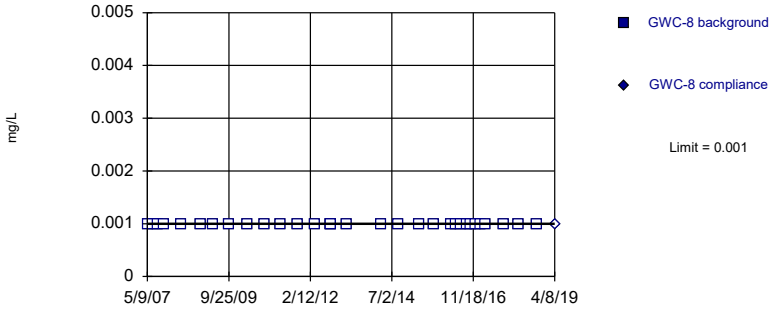
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

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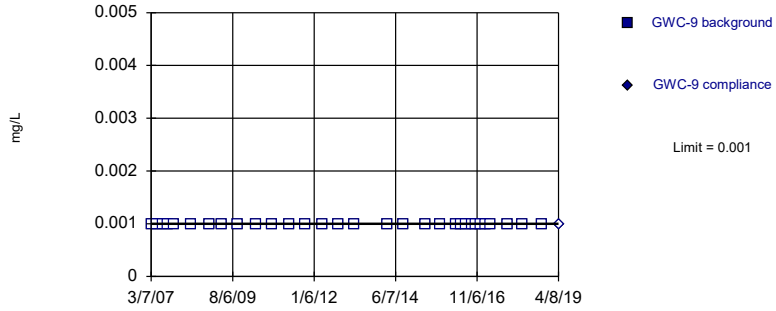
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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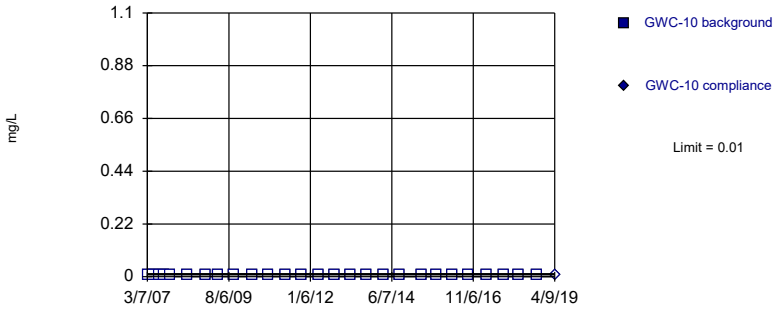
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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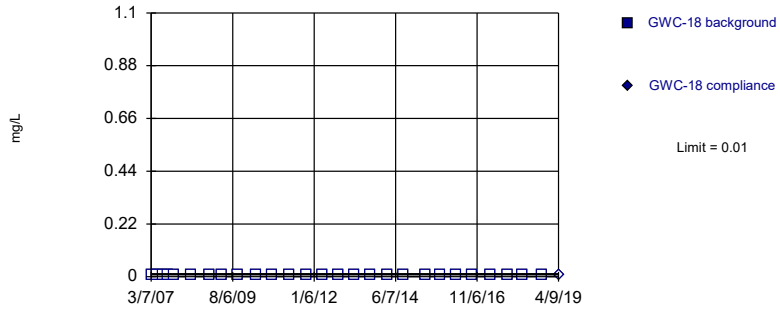
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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Within Limit

Prediction Limit

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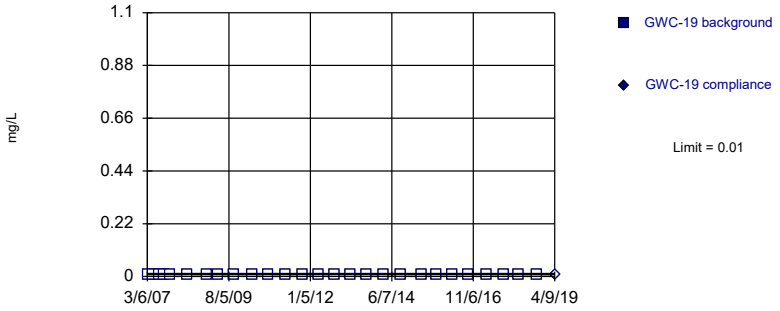

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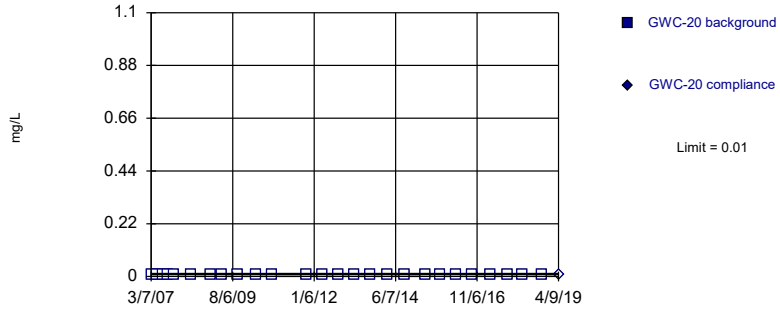

Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

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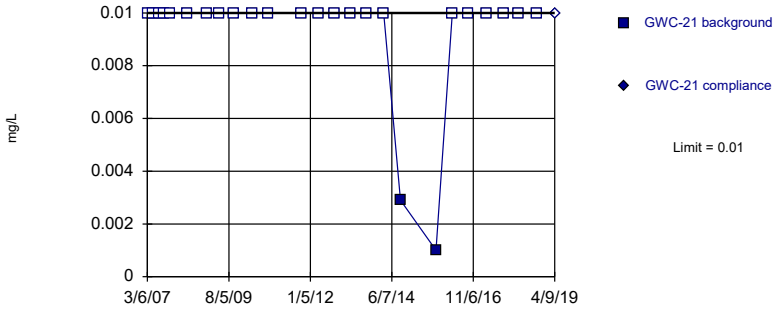
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 92% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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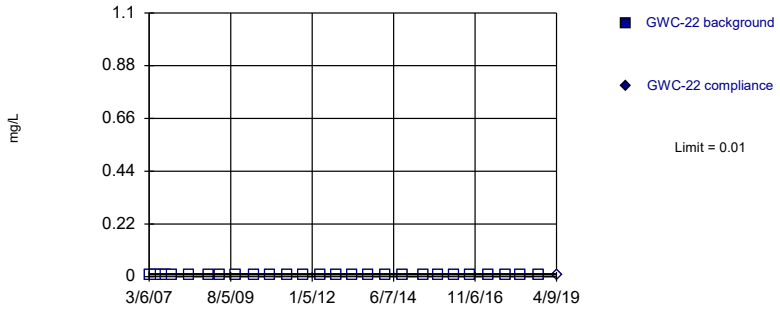
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



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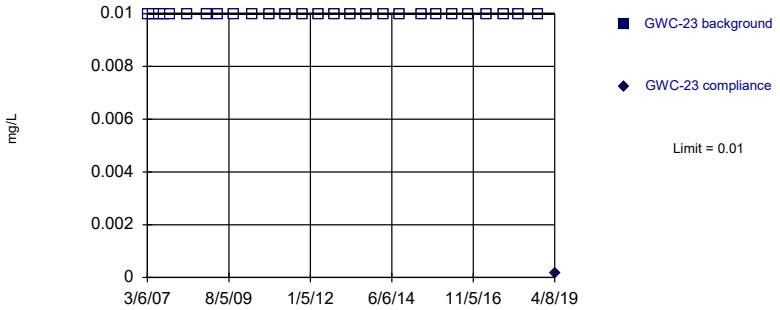
Within Limit

Prediction Limit

Intrawell Non-parametric



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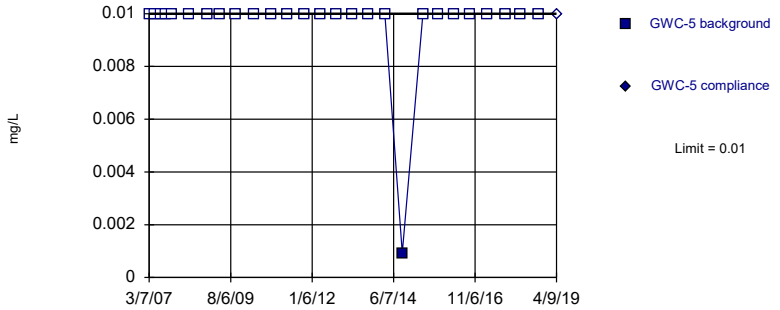
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

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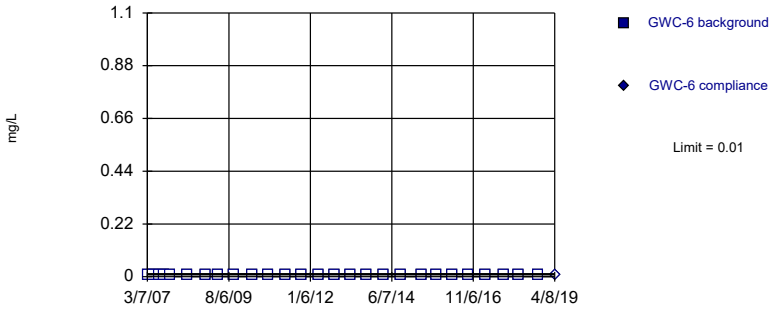
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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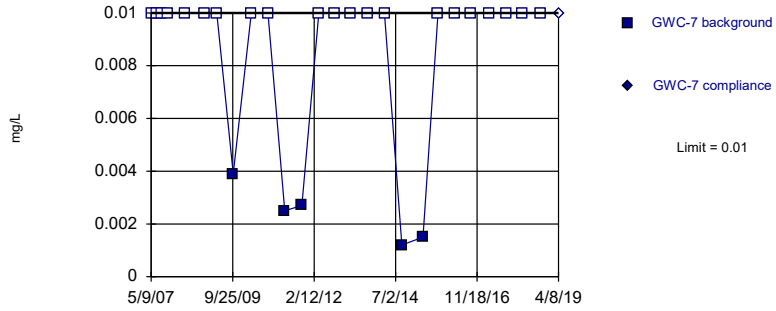
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 80.77% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

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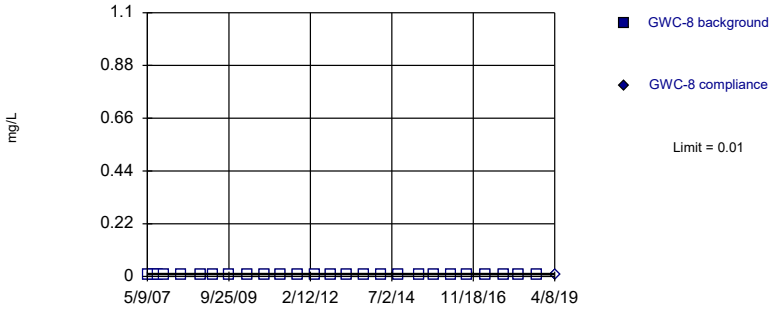
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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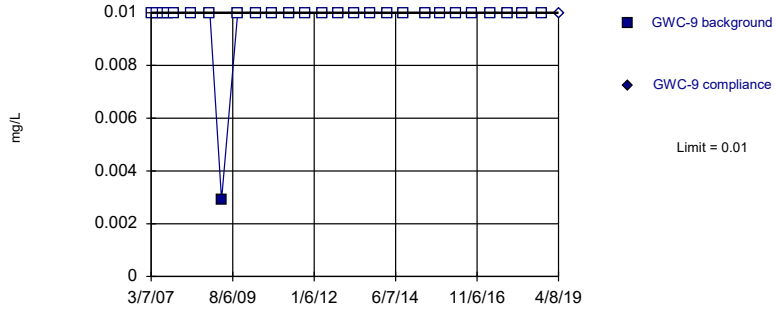
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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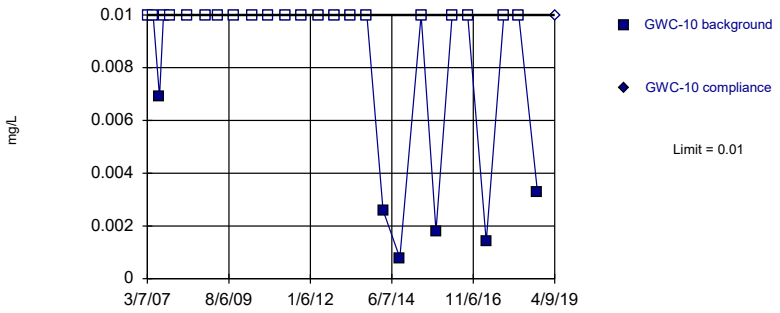
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

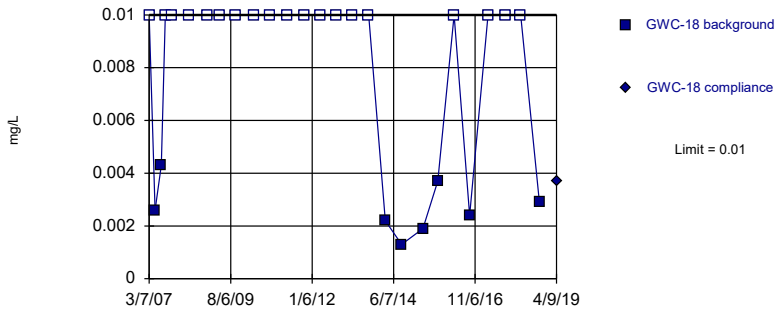
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 70.37% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

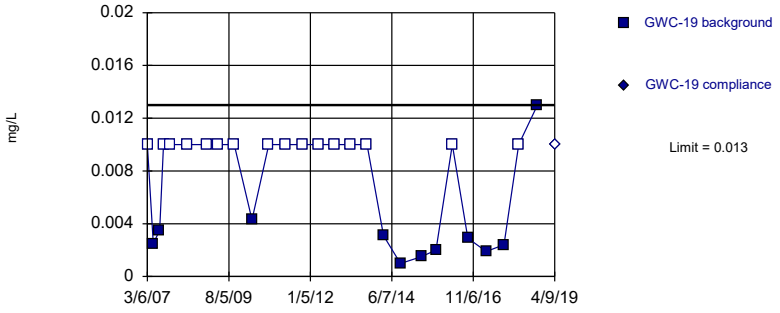
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 59.26% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

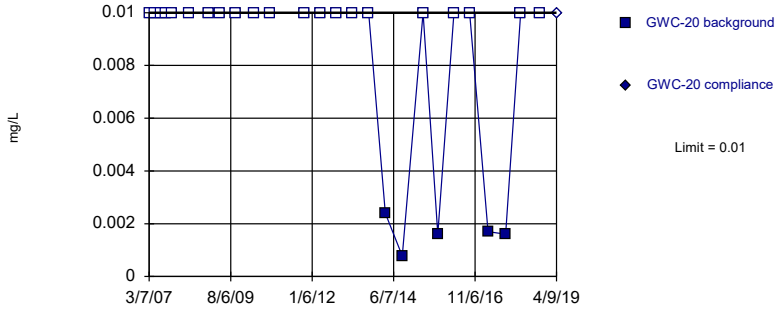
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 80.77% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

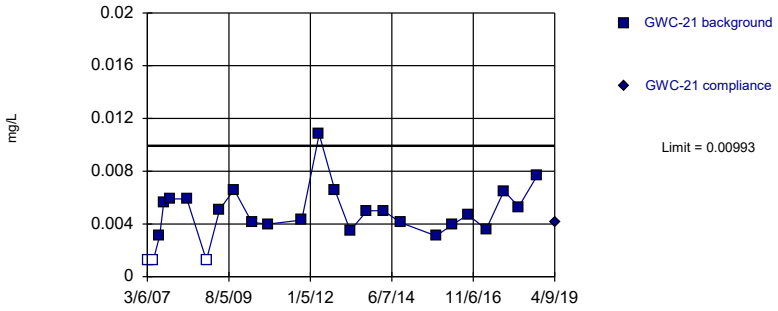
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.004727, Std. Dev.=0.002106, n=25, 12% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9426, critical = 0.888. Kappa = 2.47 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

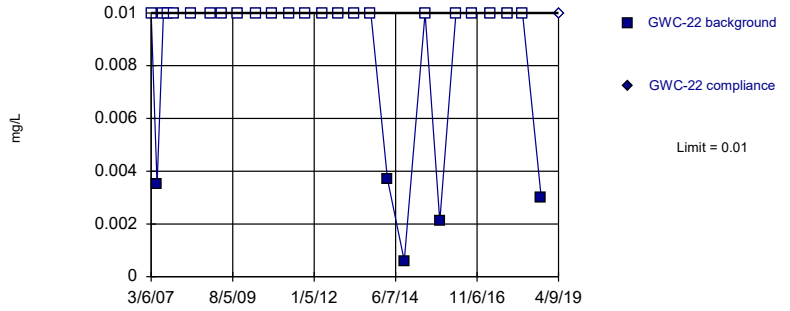
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 81.48% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

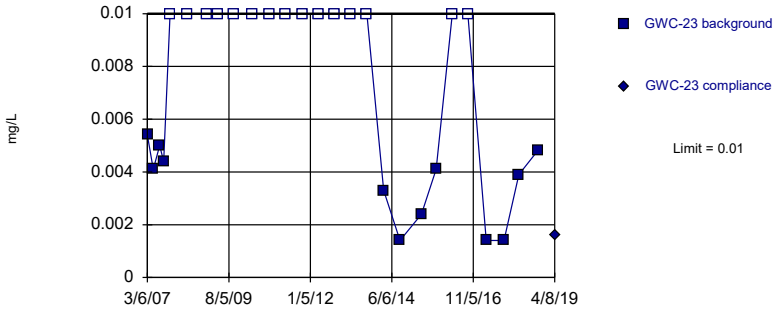
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 55.56% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

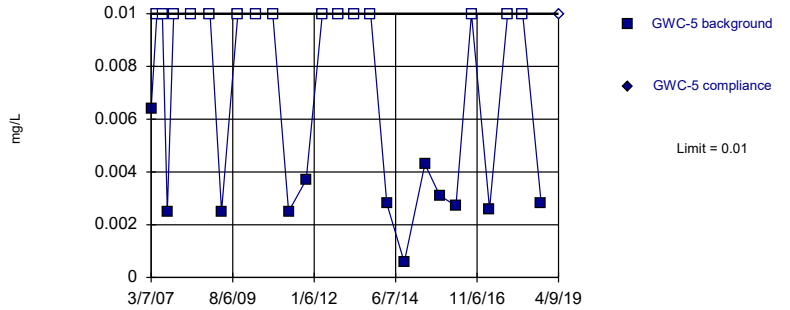
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 55.56% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

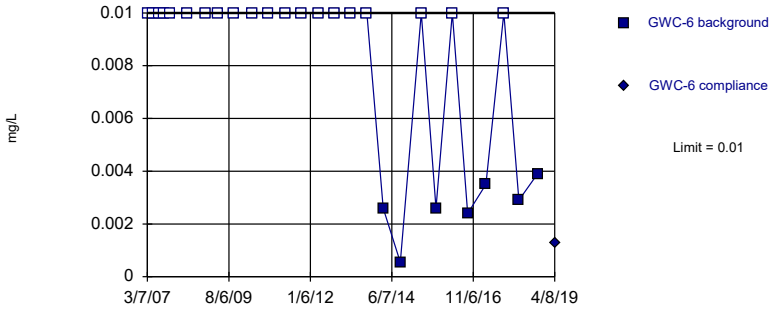
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 74.07% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

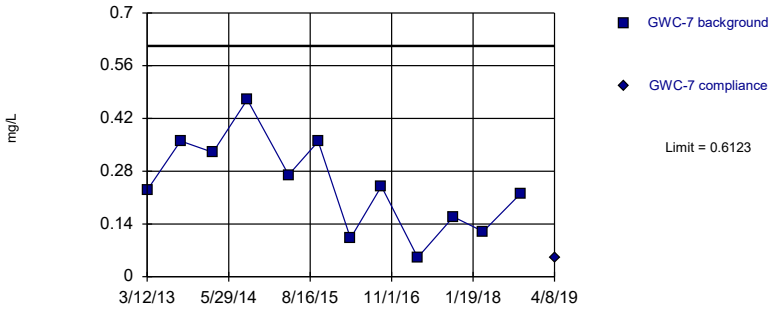
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2426, Std. Dev.=0.123, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9762, critical = 0.805. Kappa = 3.005 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

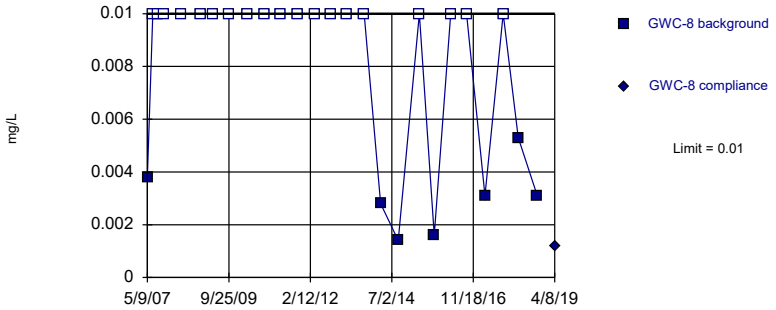
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 73.08% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

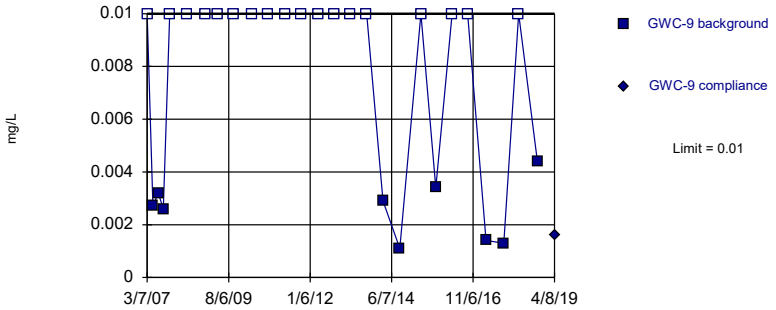
Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 8/16/2019 8:38 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Trend Test - Significant Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:51 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Barium (mg/L)	**GWA-2 (bg)**	**0.004745**	**298**	**167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Barium (mg/L)	**GWA-3 (bg)**	**-0.004787**	**-286**	**-167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Barium (mg/L)	**GWA-4 (bg)**	**-0.004904**	**-227**	**-167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**

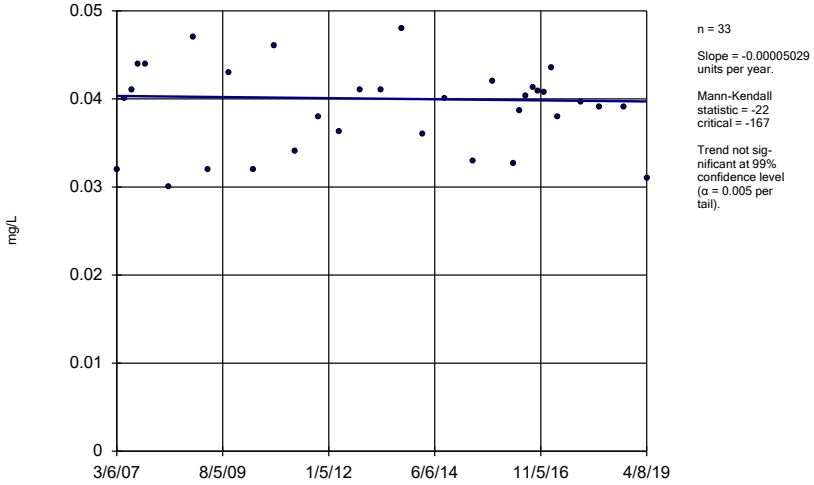
Trend Test - All Results

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill Printed 8/16/2019, 8:52 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Barium (mg/L)	GWA-1 (bg)	-0.00005029	-22	-167	No	33	0	n/a	n/a	0.01	NP
Barium (mg/L)	GWA-11 (bg)	-0.00009779	-47	-167	No	33	0	n/a	n/a	0.01	NP
Barium (mg/L)	**GWA-2 (bg)**	**0.004745**	**298**	**167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Barium (mg/L)	**GWA-3 (bg)**	**-0.004787**	**-286**	**-167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Barium (mg/L)	**GWA-4 (bg)**	**-0.004904**	**-227**	**-167**	**Yes**	**33**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Barium (mg/L)	GWC-8	0	-11	-167	No	33	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

GWA-1 (bg)



n = 33

Slope = -0.00005029 units per year.

Mann-Kendall statistic = -22
critical = -167

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 8/16/2019 8:50 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

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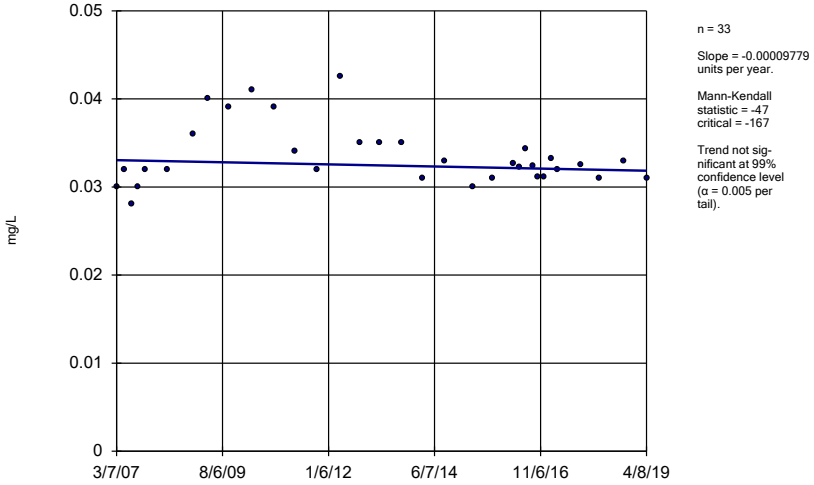
Sen's Slope Estimator

GWA-11 (bg)



n = 33

Slope = -0.00009779 units per year.

Mann-Kendall statistic = -47
critical = -167

Trend not significant at 99% confidence level (α = 0.005 per tail).

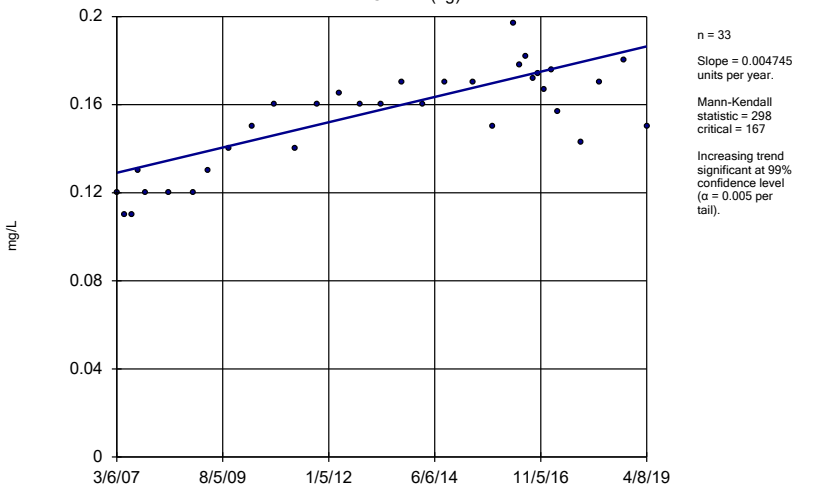
Constituent: Barium Analysis Run 8/16/2019 8:50 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Sen's Slope Estimator

GWA-2 (bg)



n = 33

Slope = 0.004745 units per year.

Mann-Kendall statistic = 298
critical = 167

Increasing trend significant at 99% confidence level (α = 0.005 per tail).

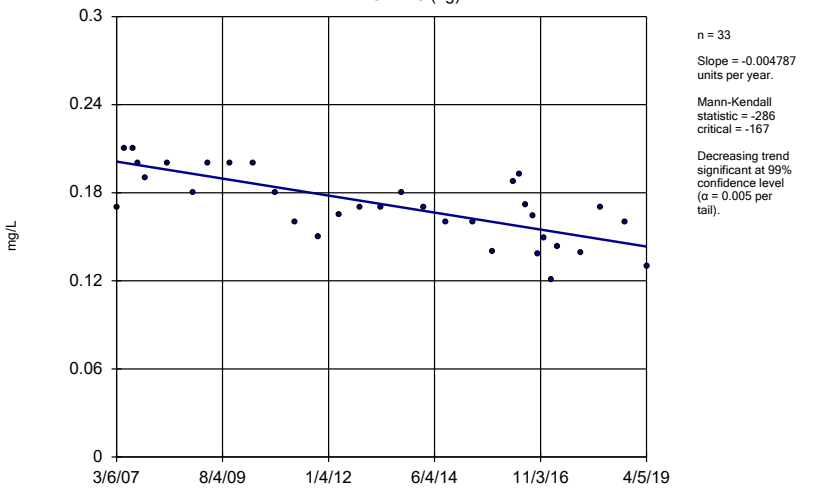
Constituent: Barium Analysis Run 8/16/2019 8:50 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Sen's Slope Estimator

GWA-3 (bg)



n = 33

Slope = -0.004787 units per year.

Mann-Kendall statistic = -286
critical = -167

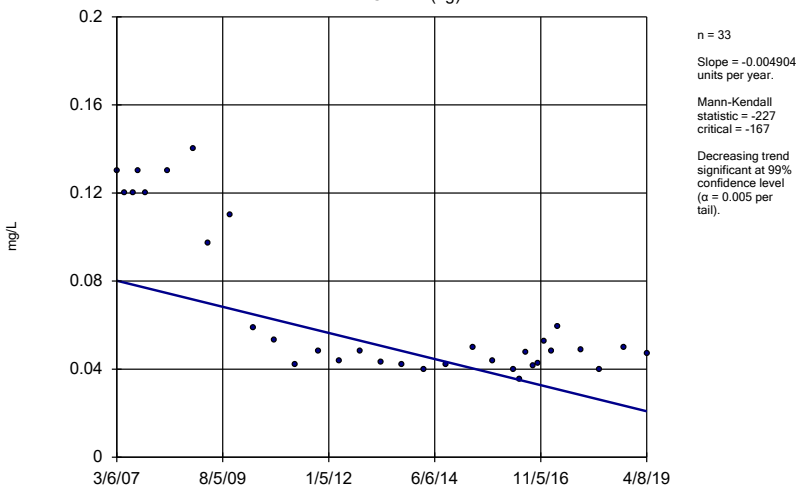
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 8/16/2019 8:50 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sen's Slope Estimator

GWA-4 (bg)



n = 33

Slope = -0.004904 units per year.

Mann-Kendall statistic = -227
critical = -167

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

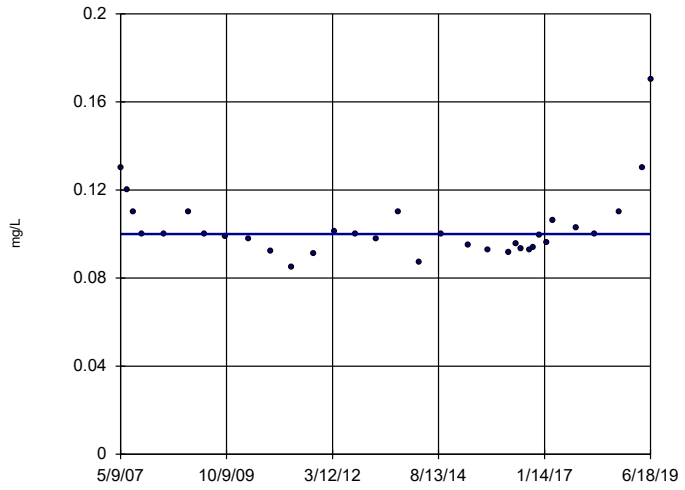
Constituent: Barium Analysis Run 8/16/2019 8:51 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

Sanitas™ v.9.6.05 Software licensed to Geosyntec Consultants. UG

Sen's Slope Estimator

GWC-8



n = 33

Slope = 0 units per year.

Mann-Kendall statistic = -11
critical = -167

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Barium Analysis Run 8/16/2019 8:51 AM

Plant Hammond Client: Georgia Power Company Data: Huffaker Road Landfill

September-October 2019 event (D02)

Appendix III Parameters
Statistical Analysis Package
(CCR and SW Program)
D02

Outlier Summary (App. III) - Huffaker Rd. Landfill

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 12/26/2019, 3:28 PM

	GWC-8 Calcium (mg/L)	GWC-20 Chloride (mg/L)
10/5/2017		5.5 (o)
10/4/2018	264 (o)	

Welch's t-test/Mann-Whitney (App. III) - Significant Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/24/2019, 11:03 PM

Constituent	Well	Calc.	0.1	0.05	0.025	0.01	Alpha	Sig.	Method
Calcium (mg/L)	**GWC-10**	**2.517**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Chloride (mg/L) (1)	**GWC-8**	**2.85**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
pH (s.u.)	**GWC-20**	**-3.105**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
pH (s.u.)	**GWC-22**	**-2.807**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Sulfate (mg/L) (1)	**GWC-20**	**3.26**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Total Dissolved Solids (mg/L) (1)	**GWC-6**	**2.649**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Total Dissolved Solids (mg/L) (1)	**GWC-8**	**3.037**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**

Note:
(1) Well/constituent pair addressed with an Alternate Source Demonstration.

Welch's t-test/Mann-Whitney (App. III) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/24/2019, 11:03 PM

Constituent	Well	Calc.	0.1	0.05	0.025	0.01	Alpha	Sig.	Method
Boron (mg/L)	GWA-1 (bg)	-0.4268	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWA-11 (bg)	-0.9341	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWA-2 (bg)	-1.953	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWA-3 (bg)	-0.08492	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWA-4 (bg)	-1.444	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-10	1.106	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-18	-0.4276	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-19	-2.827	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-20	-2.212	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-21	-1.444	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-22	-0.7643	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-23	0.7643	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-5	-0.4246	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-6	0.07319	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-7	-2.463	No	No	No	No	0.01	No	Mann-W
Boron (mg/L)	GWC-8	2.297	Yes	Yes	Yes	No	0.01	No	Mann-W
Boron (mg/L)	GWC-9	-1.872	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWA-1 (bg)	-0.8537	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWA-11 (bg)	-0.08492	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWA-2 (bg)	-0.7643	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWA-3 (bg)	0.4246	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWA-4 (bg)	-1.953	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	**GWC-10**	**2.517**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Calcium (mg/L)	GWC-18	1.537	Yes	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-19	-0.1704	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-20	1.444	Yes	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-21	-0.4246	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-22	0.515	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-23	1.957	Yes	Yes	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-5	-0.08492	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-6	2.123	Yes	Yes	Yes	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-7	0.2548	No	No	No	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-8	2.001	Yes	Yes	Yes	No	0.01	No	Mann-W
Calcium (mg/L)	GWC-9	1.444	Yes	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWA-1 (bg)	0.6084	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWA-11 (bg)	0.2584	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWA-2 (bg)	0.2575	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWA-3 (bg)	-1.361	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWA-4 (bg)	-1.531	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-10	2.079	Yes	Yes	Yes	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-18	1.147	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-19	-0.9596	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-20	1.191	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-21	1.173	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-22	1.483	Yes	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-23	-1.48	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-5	1.449	Yes	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-6	0.8839	No	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	GWC-7	1.459	Yes	No	No	No	0.01	No	Mann-W
Chloride (mg/L)	**GWC-8**	**2.85**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**

Welch's t-test/Mann-Whitney (App. III) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/24/2019, 11:03 PM

Constituent	Well	Calc.	0.1	0.05	0.025	0.01	Alpha	Sig.	Method
Chloride (mg/L)	GWC-9	0.3439	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWA-1 (bg)	0.2548	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWA-11 (bg)	1.112	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWA-2 (bg)	0.2552	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWA-3 (bg)	1.106	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWA-4 (bg)	0.2557	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-10	0.6806	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-18	-0.4253	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-19	-0.5965	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-20	0.08492	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-21	1.278	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-22	0.4276	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-23	-0.08522	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-5	0.7656	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-6	0.2552	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-7	-1.449	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-8	0.8844	No	No	No	No	0.01	No	Mann-W
Fluoride (mg/L)	GWC-9	0.2552	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWA-1 (bg)	-1.701	Yes	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWA-11 (bg)	-1.191	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWA-2 (bg)	-1.704	Yes	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWA-3 (bg)	-0.3403	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWA-4 (bg)	0.3403	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-10	-1.783	Yes	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-18	-0.9358	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-19	-0.5944	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	**GWC-20**	**-3.105**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
pH (s.u.)	GWC-21	-1.274	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	**GWC-22**	**-2.807**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
pH (s.u.)	GWC-23	-1.704	Yes	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-5	-1.106	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-6	-0.6806	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-7	0.08492	No	No	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-8	-2.012	Yes	Yes	No	No	0.01	No	Mann-W
pH (s.u.)	GWC-9	-0.8507	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWA-1 (bg)	1.459	Yes	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWA-11 (bg)	1.916	Yes	Yes	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWA-2 (bg)	0.5122	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWA-3 (bg)	0.5955	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWA-4 (bg)	-0.3403	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-10	2.285	Yes	Yes	Yes	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-18	0.6806	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-19	-1.191	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	**GWC-20**	**3.26**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Sulfate (mg/L)	GWC-21	-0.1704	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-22	-0.3409	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-23	1.106	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-5	0.08492	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-6	1.654	Yes	Yes	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-7	0.4261	No	No	No	No	0.01	No	Mann-W

Welch's t-test/Mann-Whitney (App. III) - All Results

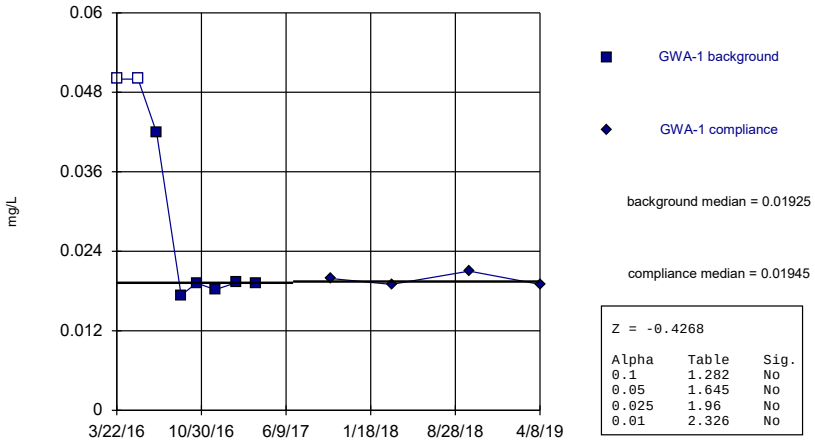
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/24/2019, 11:03 PM

Constituent	Well	Calc.	0.1	0.05	0.025	0.01	Alpha	Sig.	Method
Sulfate (mg/L)	GWC-8	-0.2548	No	No	No	No	0.01	No	Mann-W
Sulfate (mg/L)	GWC-9	1.253	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWA-1 (bg)	-0.08507	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWA-11 (bg)	0	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWA-2 (bg)	-1.191	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWA-3 (bg)	0.4246	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWA-4 (bg)	-2.293	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-10	1.444	Yes	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-18	1.104	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-19	-0.6818	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-20	1.276	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-21	-0.08492	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-22	0.2552	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-23	0.4246	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	GWC-5	-0.4253	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	**GWC-6**	**2.649**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Total Dissolved Solids (mg/L)	GWC-7	1.104	No	No	No	No	0.01	No	Mann-W
Total Dissolved Solids (mg/L)	**GWC-8**	**3.037**	**Yes**	**Yes**	**Yes**	**Yes**	**0.01**	**Yes**	**Mann-W**
Total Dissolved Solids (mg/L)	GWC-9	0.7697	No	No	No	No	0.01	No	Mann-W

Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 0.01925

compliance median = 0.01945

Z = -0.4268

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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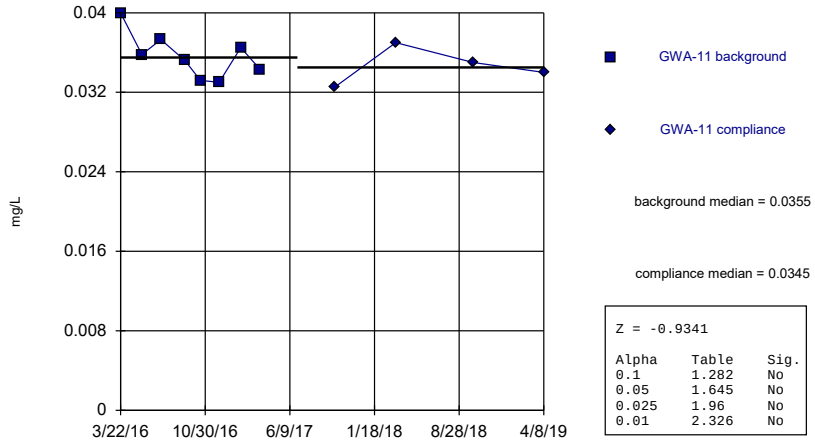
Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 0.0355

compliance median = 0.0345

Z = -0.9341

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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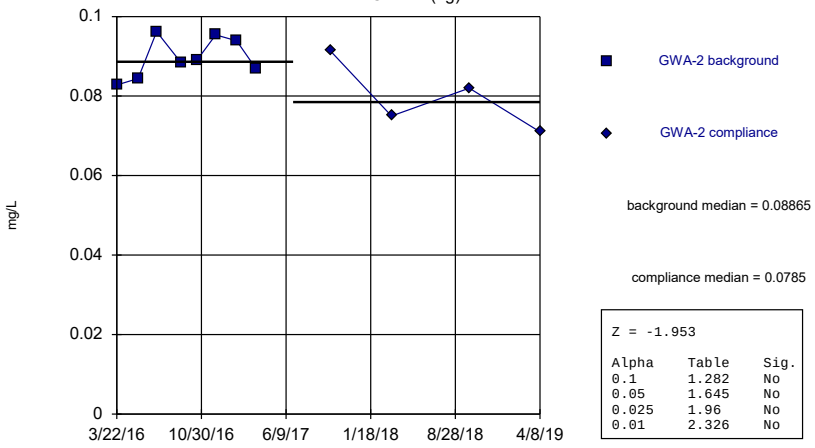
Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 0.08865

compliance median = 0.0785

Z = -1.953

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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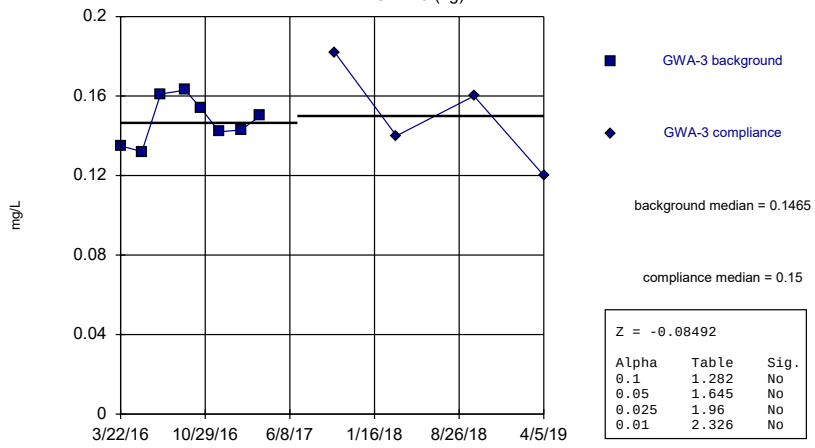
Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



background median = 0.1465

compliance median = 0.15

Z = -0.08492

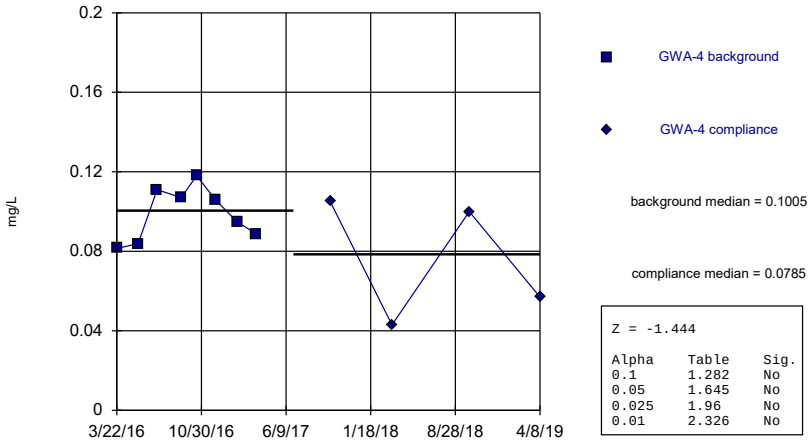
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



background median = 0.1005

compliance median = 0.0785

Z = -1.444

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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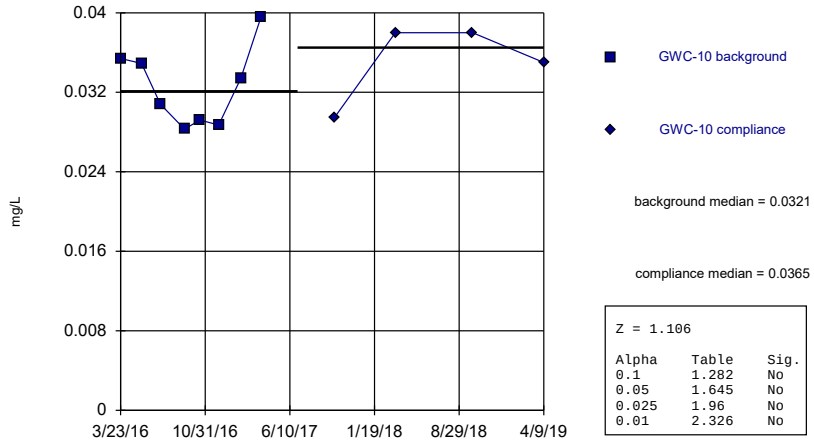
Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



background median = 0.0321

compliance median = 0.0365

Z = 1.106

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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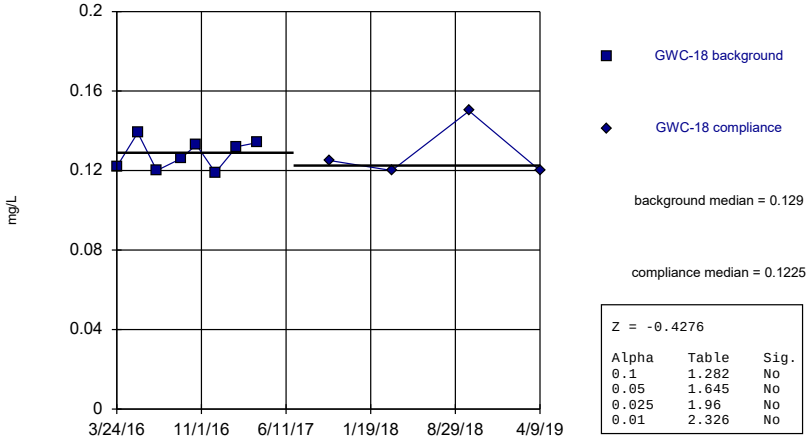
Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



background median = 0.129

compliance median = 0.1225

Z = -0.4276

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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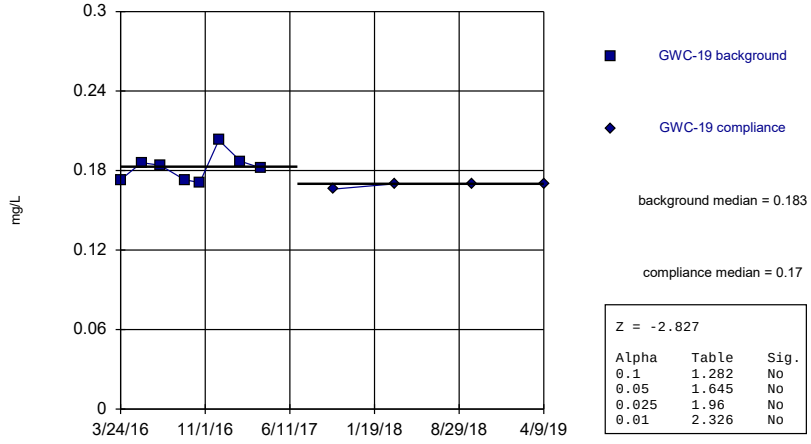
Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



background median = 0.183

compliance median = 0.17

Z = -2.827

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

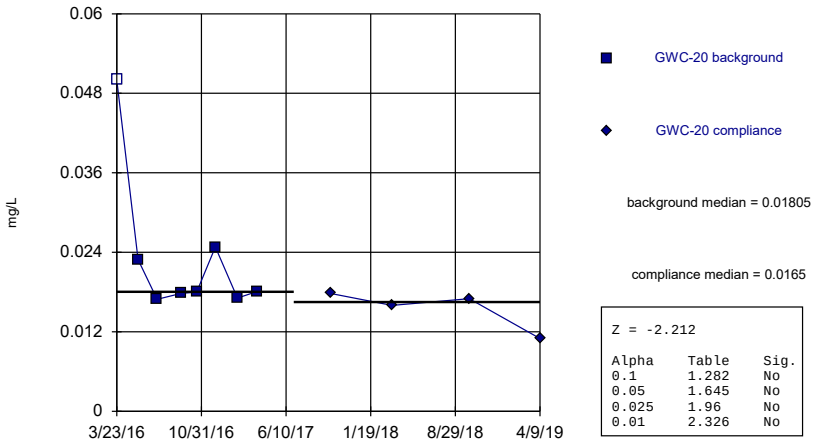
Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



background median = 0.01805

compliance median = 0.0165

Z = -2.212

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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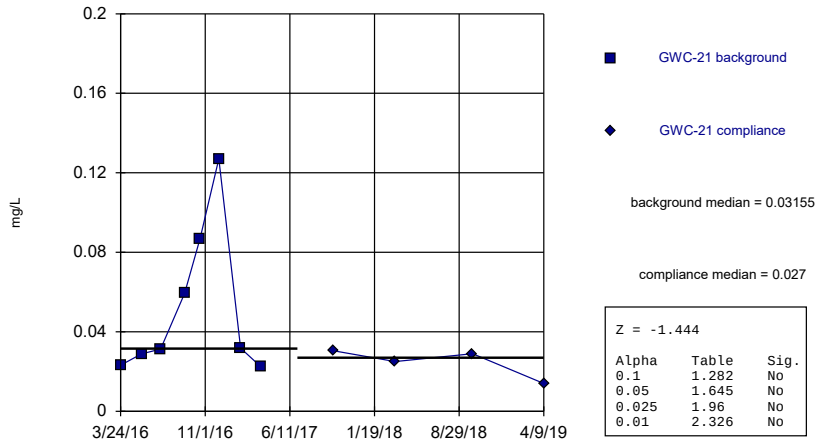
Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



background median = 0.03155

compliance median = 0.027

Z = -1.444

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

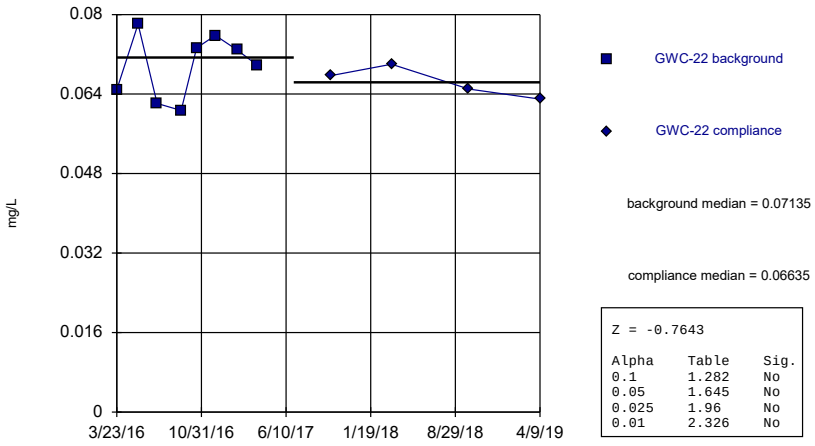
Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-22



background median = 0.07135

compliance median = 0.06635

Z = -0.7643

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

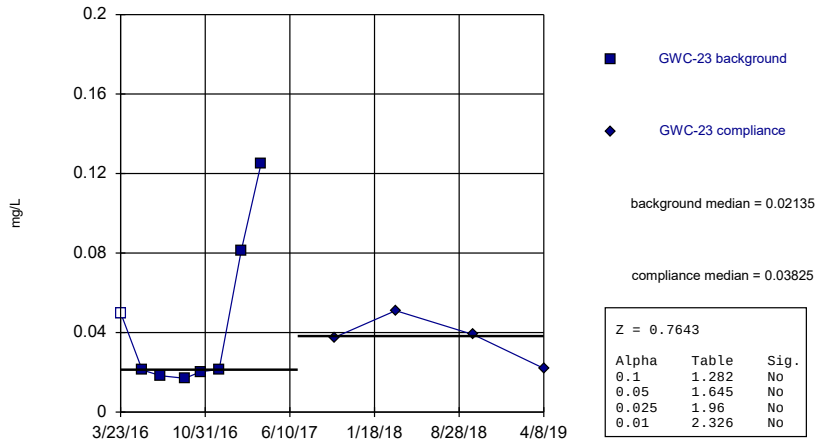
Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



background median = 0.02135

compliance median = 0.03825

Z = 0.7643

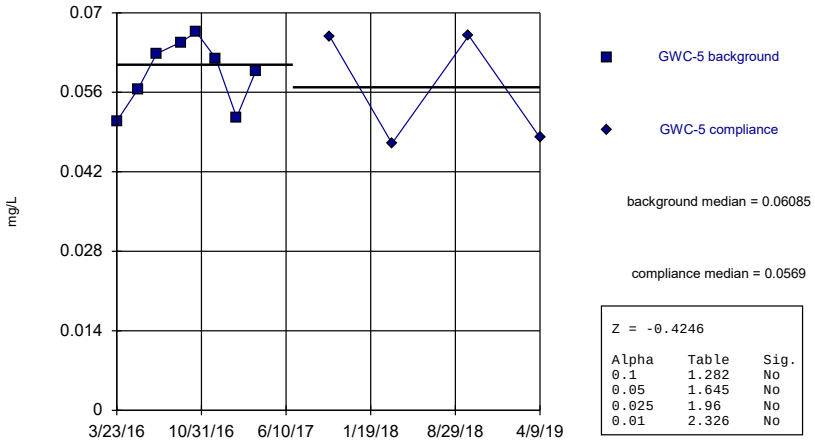
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



background median = 0.06085

compliance median = 0.0569

Z = -0.4246

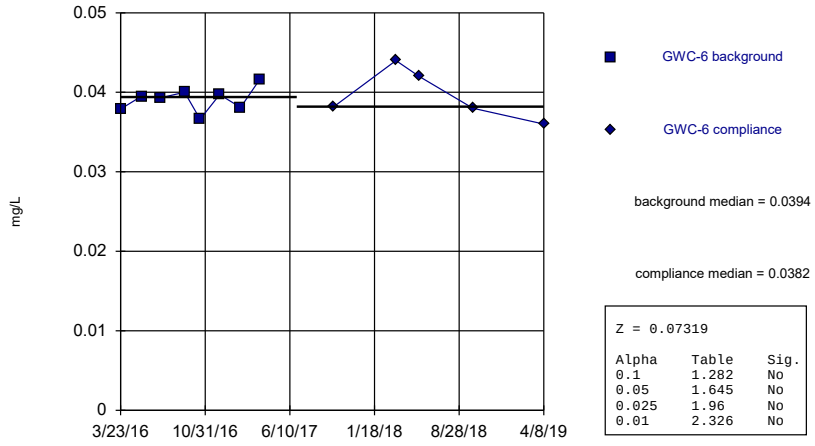
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



background median = 0.0394

compliance median = 0.0382

Z = 0.07319

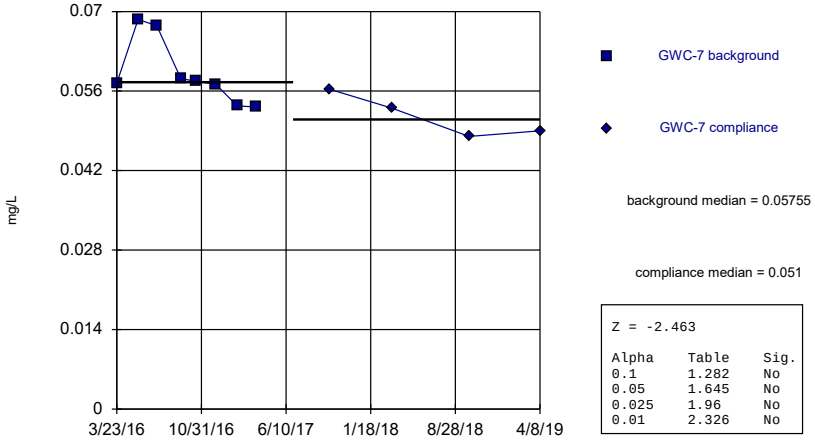
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



background median = 0.05755

compliance median = 0.051

Z = -2.463

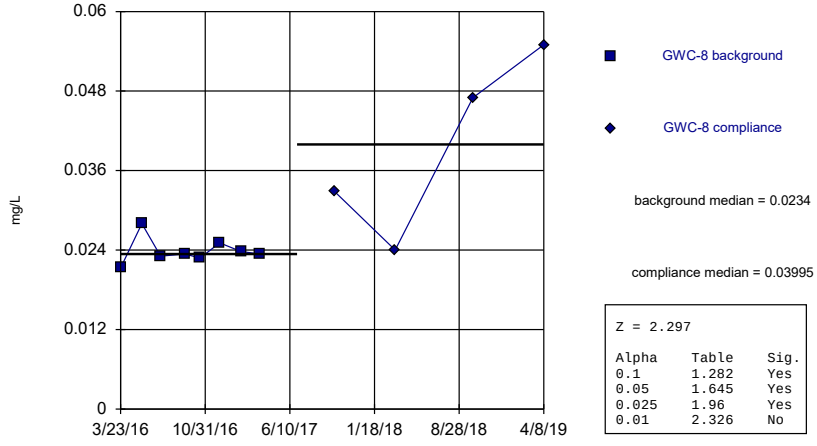
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 0.0234

compliance median = 0.03995

Z = 2.297

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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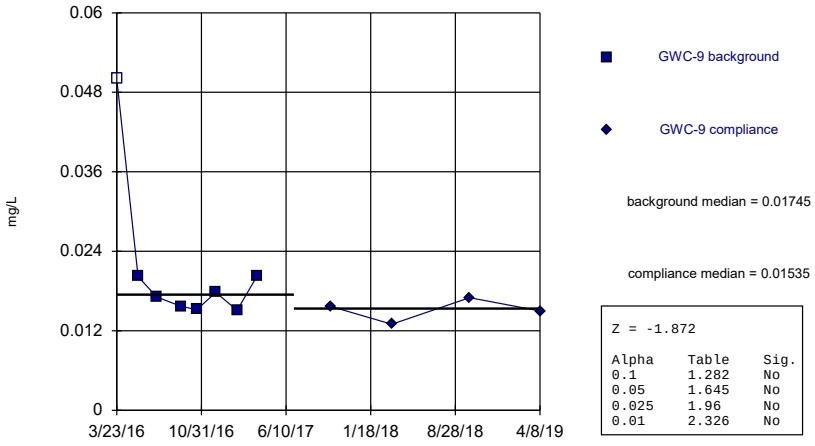
Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 0.01745

compliance median = 0.01535

Z = -1.872

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Boron Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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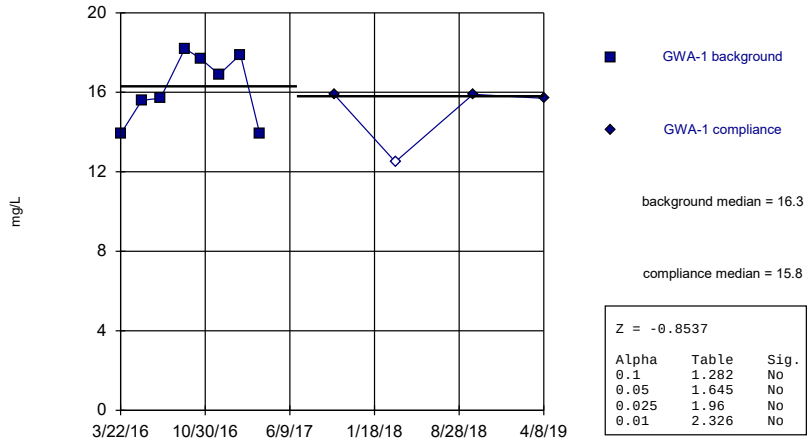
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 16.3

compliance median = 15.8

Z = -0.8537

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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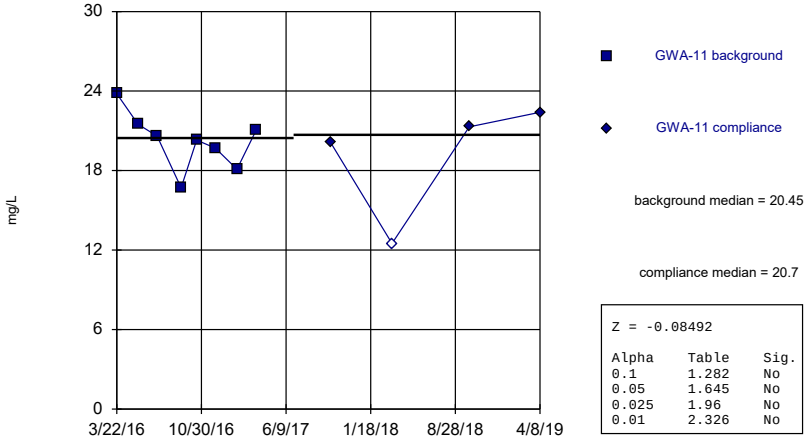
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 20.45

compliance median = 20.7

Z = -0.08492

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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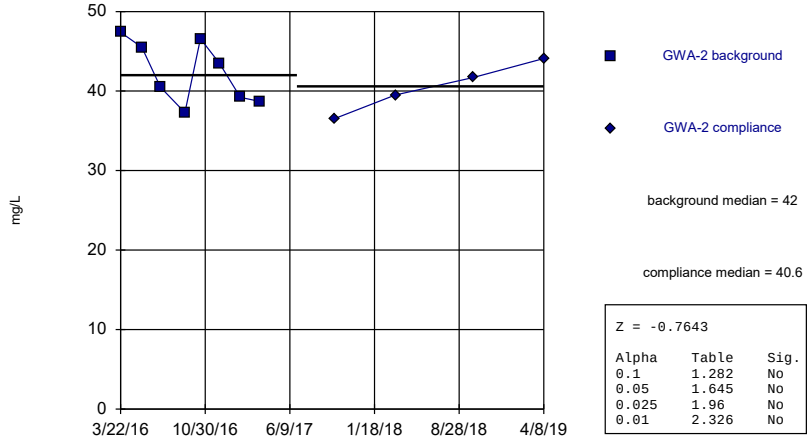
Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 42

compliance median = 40.6

Z = -0.7643

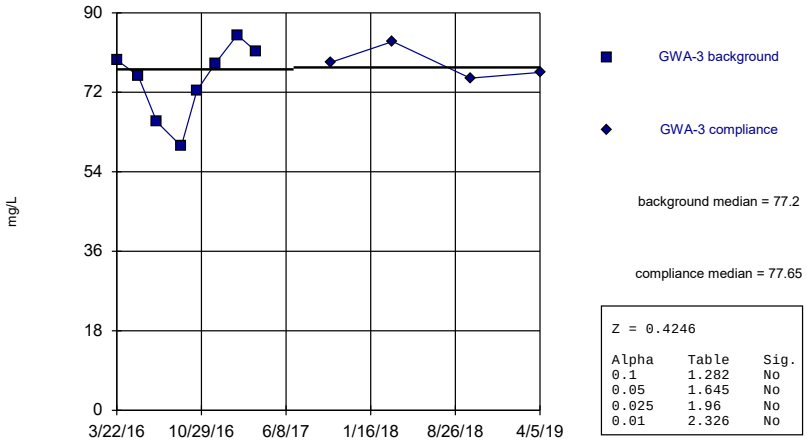
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



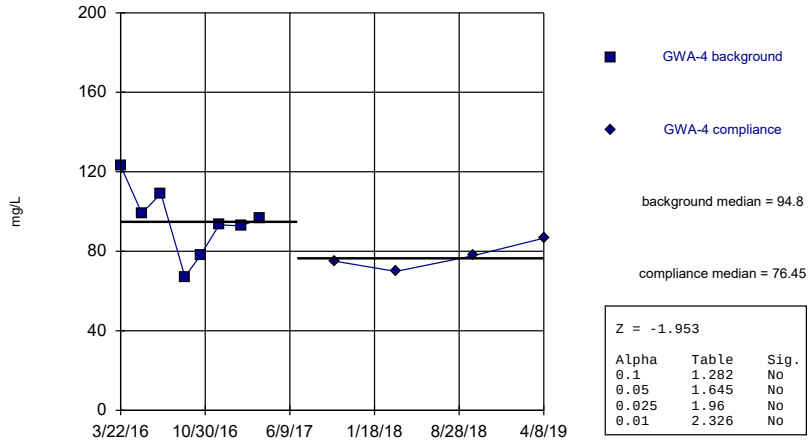
Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



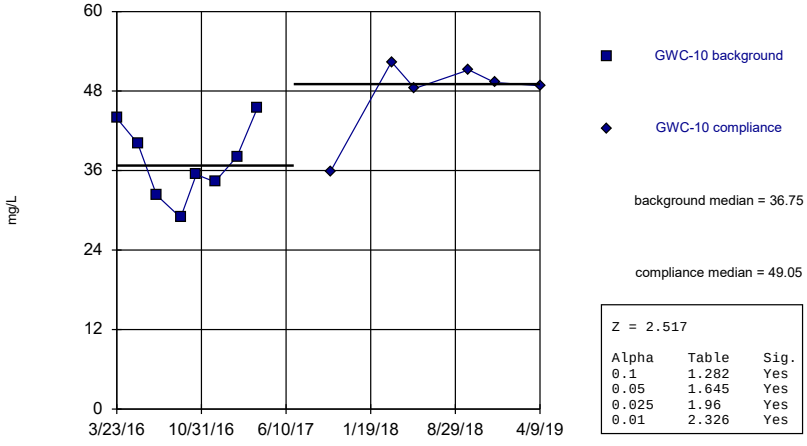
Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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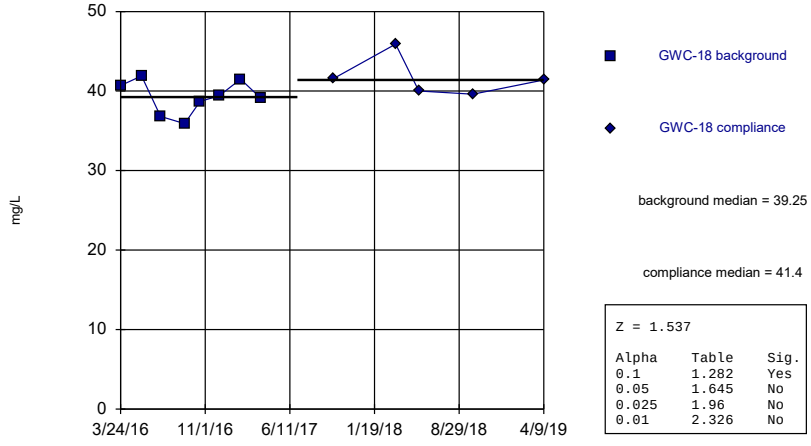
Mann-Whitney (Wilcoxon Rank Sum)

GWC-18

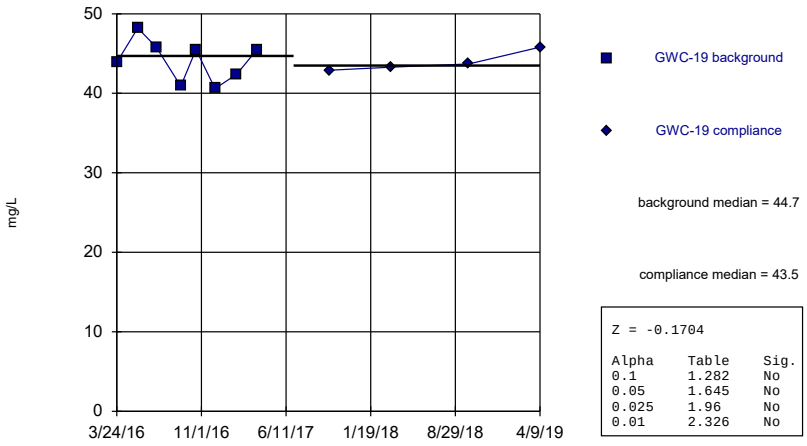


Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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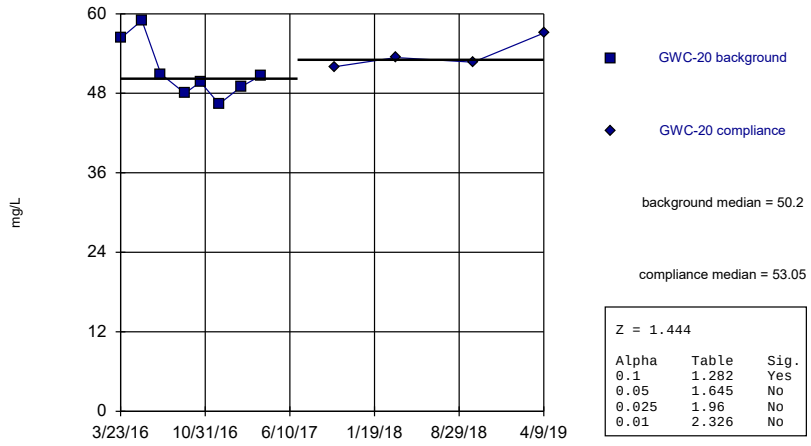
Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



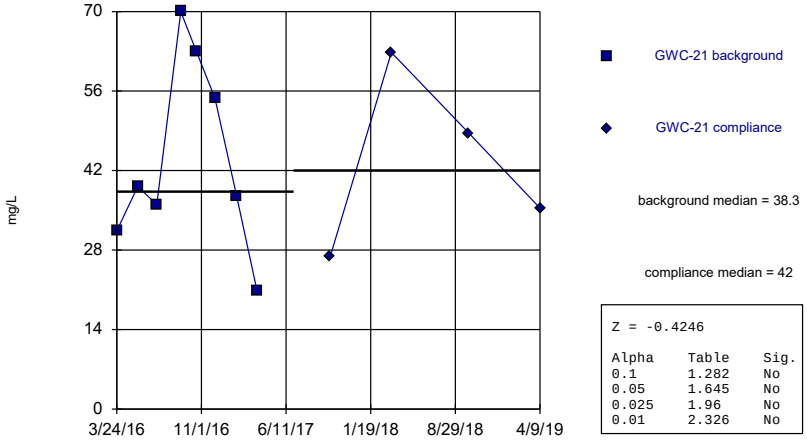
Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



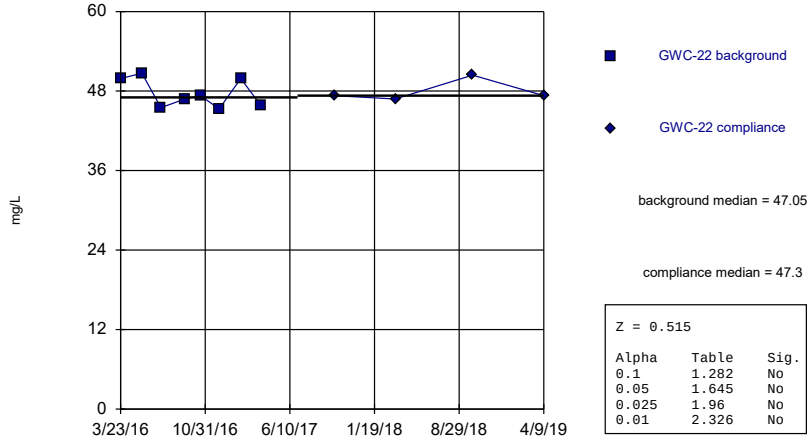
Constituent: Calcium Analysis Run 11/24/2019 10:37 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-22

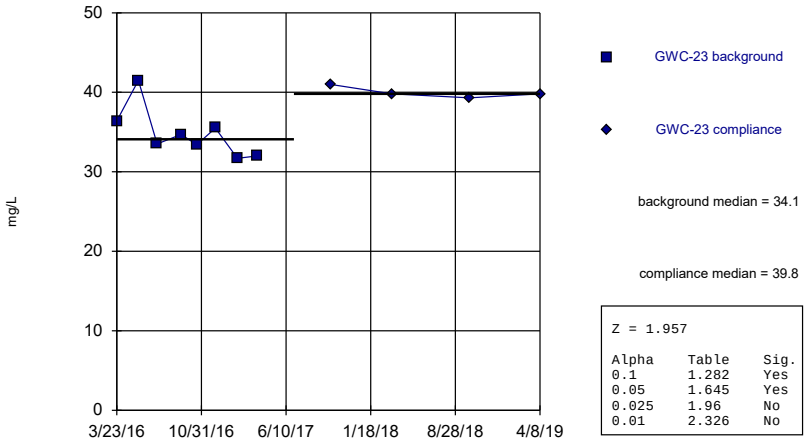


Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



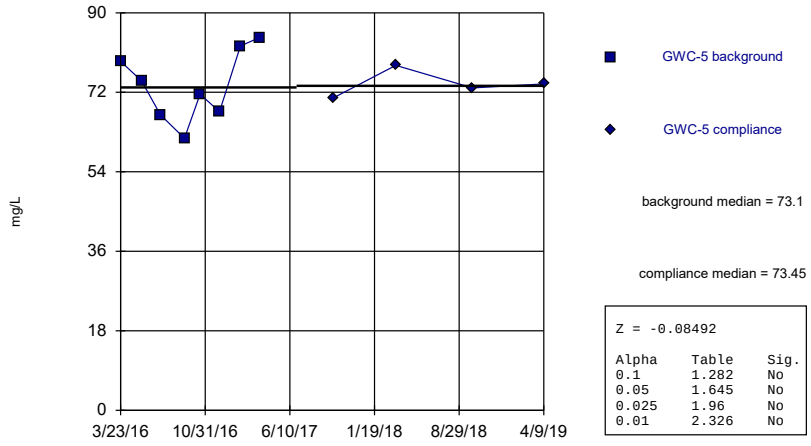
Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



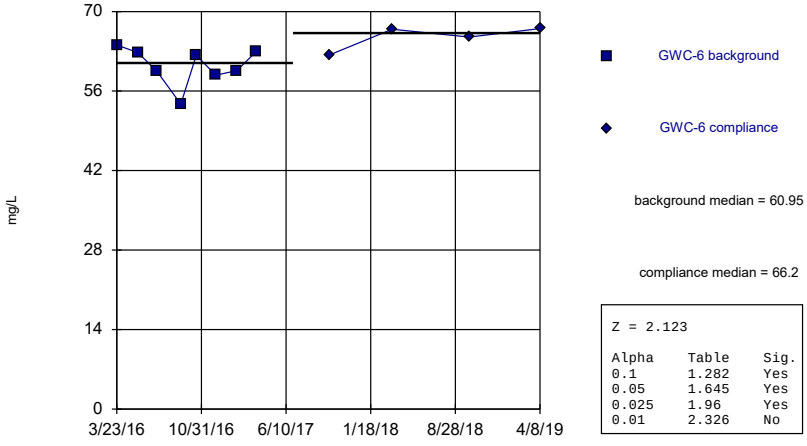
Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



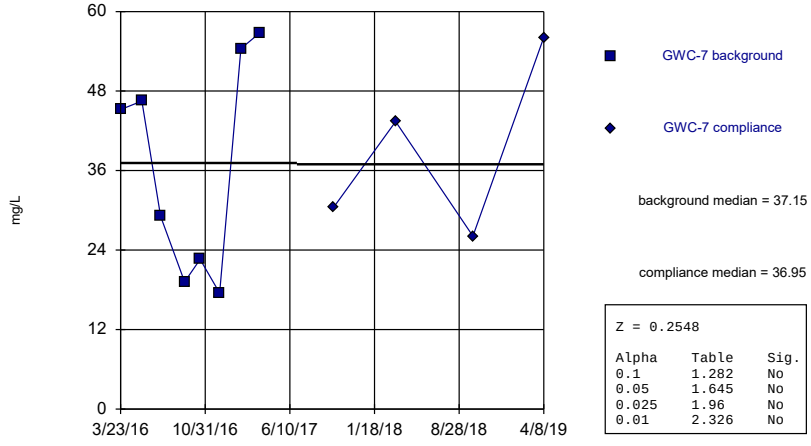
Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7

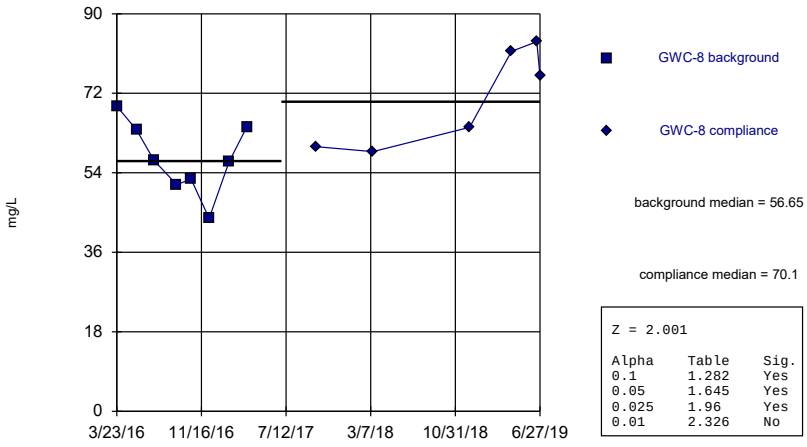


Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 56.65

compliance median = 70.1

Z = 2.001

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	No

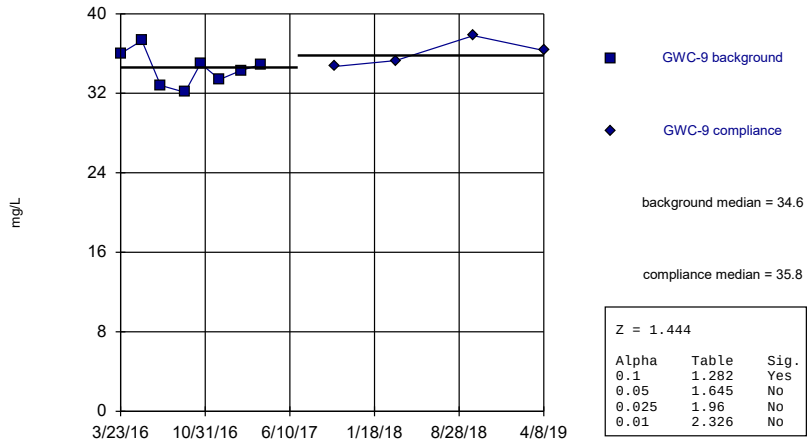
Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 34.6

compliance median = 35.8

Z = 1.444

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

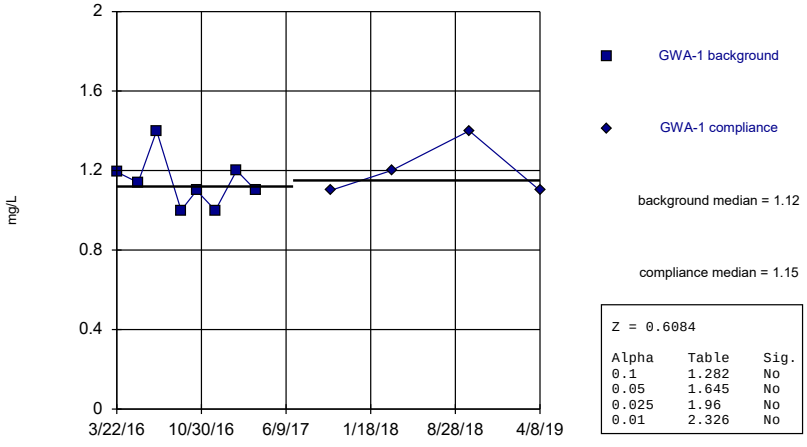
Constituent: Calcium Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 1.12

compliance median = 1.15

Z = 0.6084

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

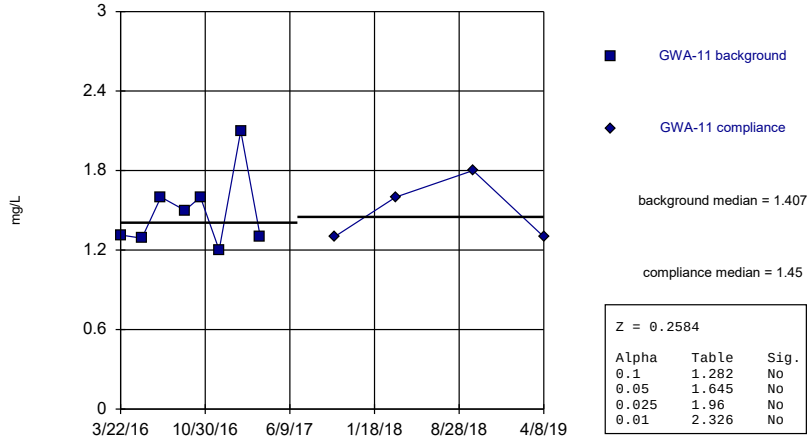
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 1.407

compliance median = 1.45

Z = 0.2584

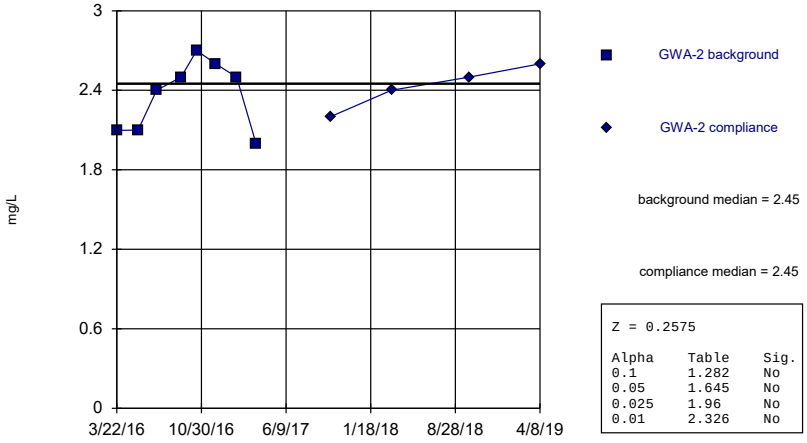
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 2.45

compliance median = 2.45

Z = 0.2575

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

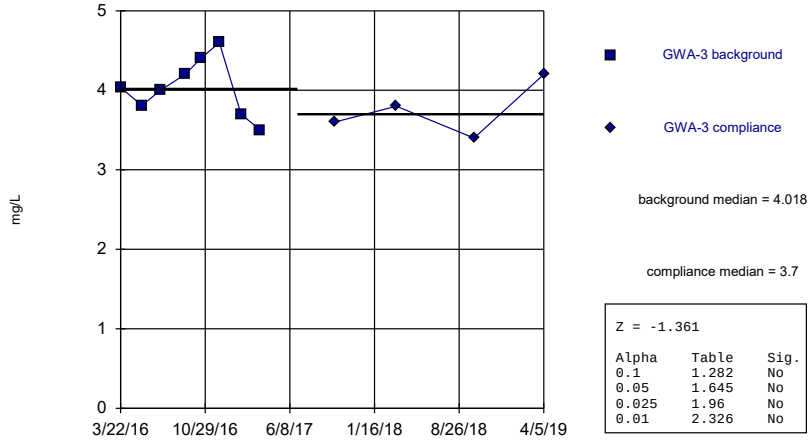
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



background median = 4.018

compliance median = 3.7

Z = -1.361

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

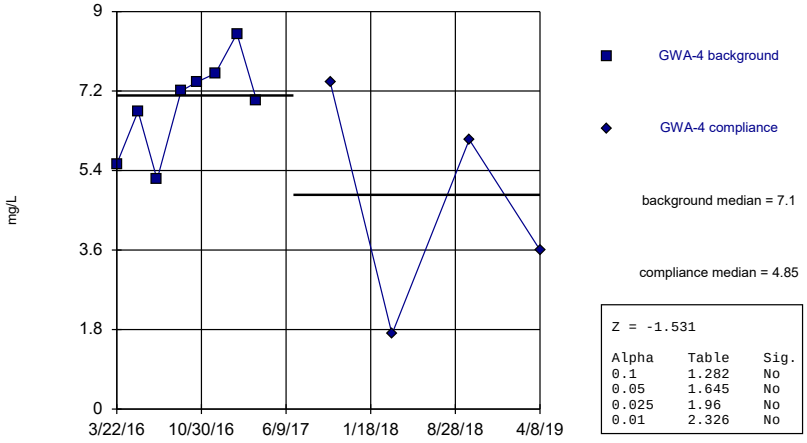
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



background median = 7.1

compliance median = 4.85

Z = -1.531

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

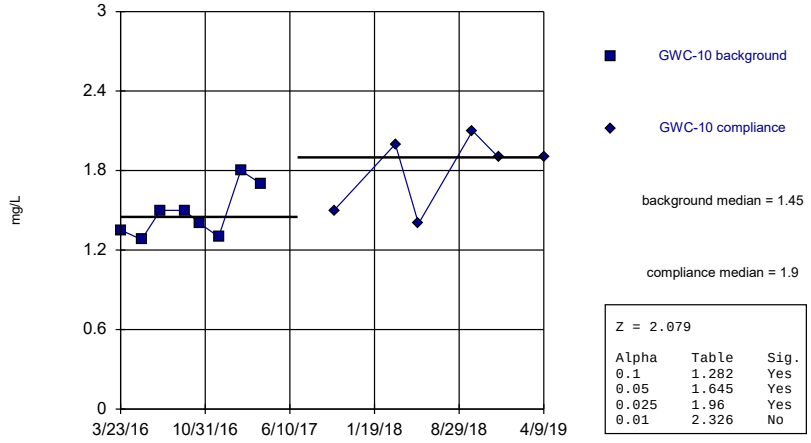
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



background median = 1.45

compliance median = 1.9

Z = 2.079

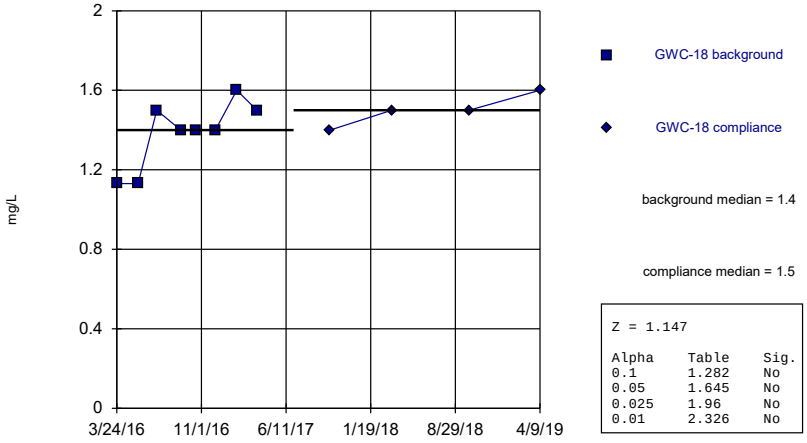
Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	No

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



Z = 1.147

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

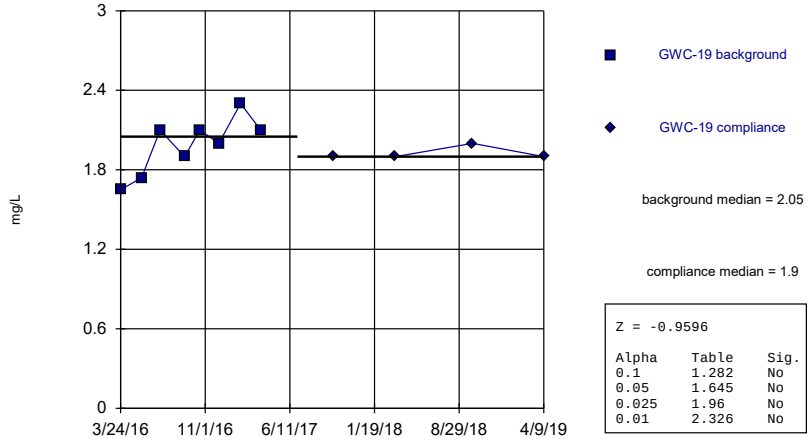
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



Z = -0.9596

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

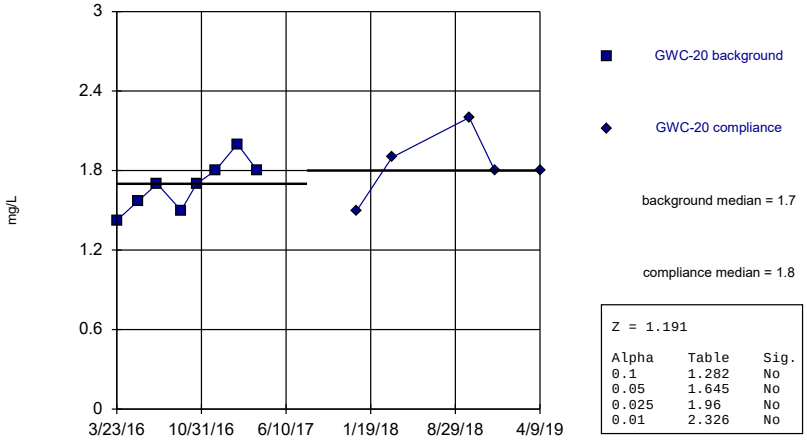
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



Z = 1.191

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

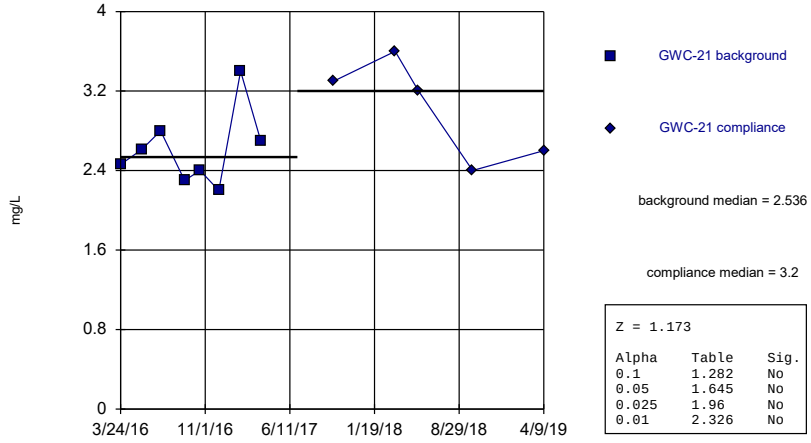
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



Z = 1.173

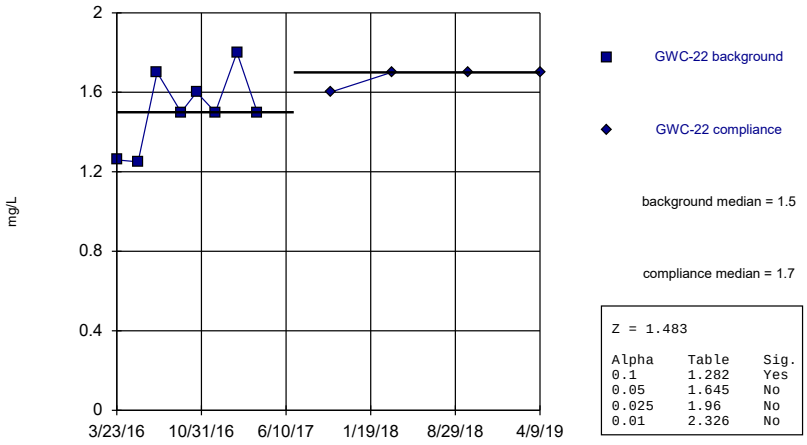
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-22



Z = 1.483

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

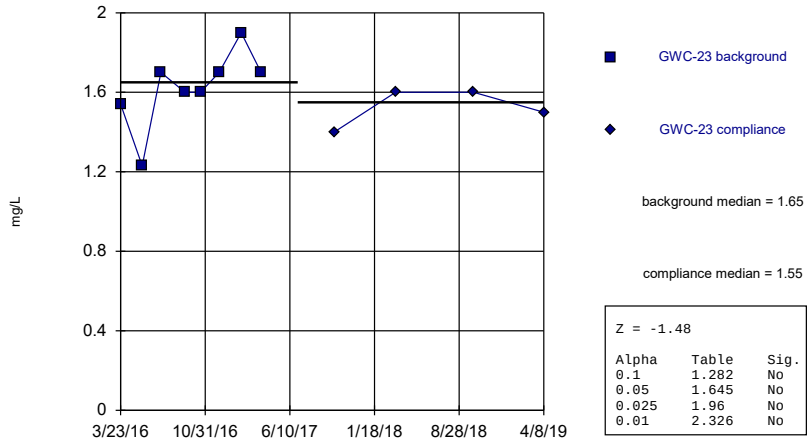
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



Z = -1.48

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

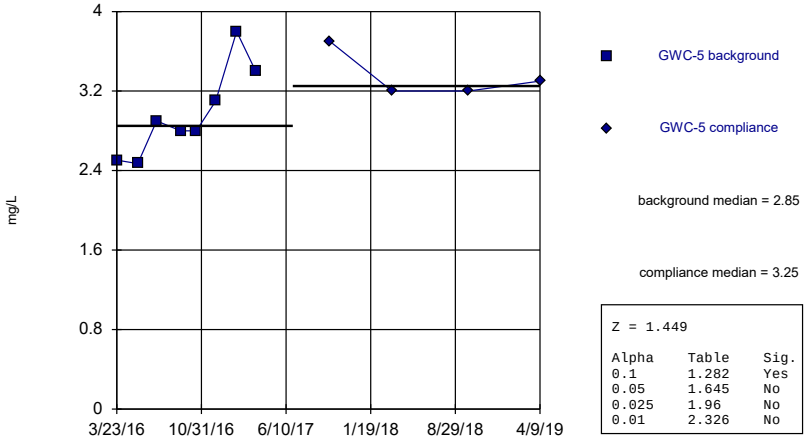
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



Z = 1.449

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

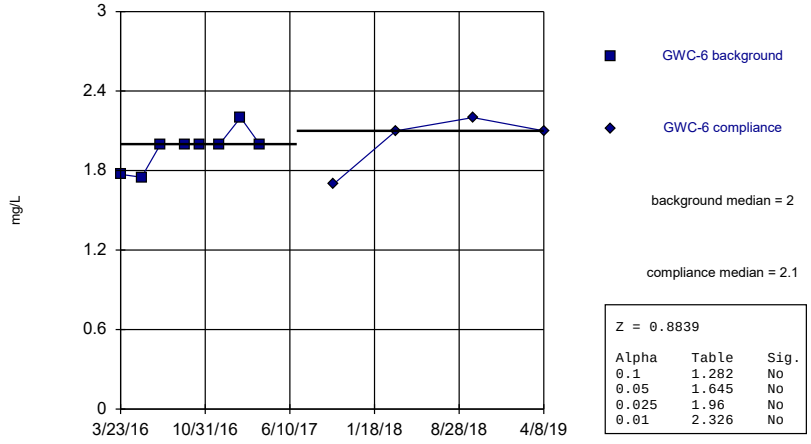
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



Z = 0.8839

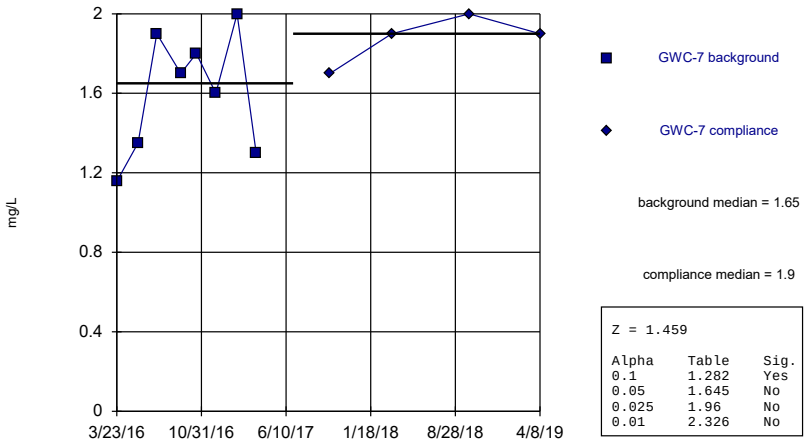
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



Z = 1.459

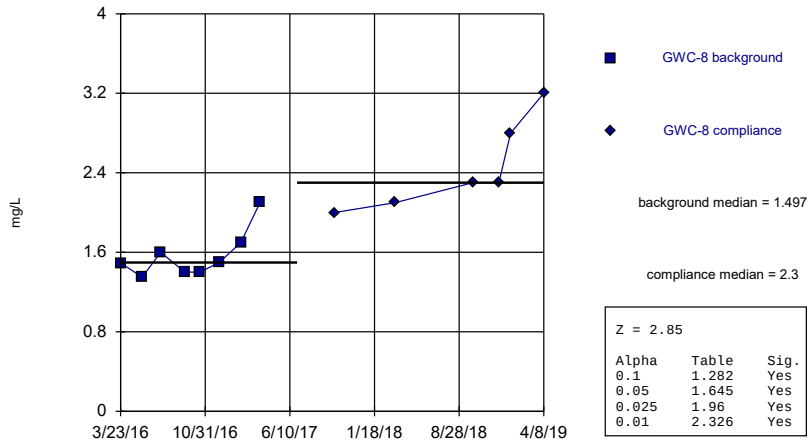
Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



Z = 2.85

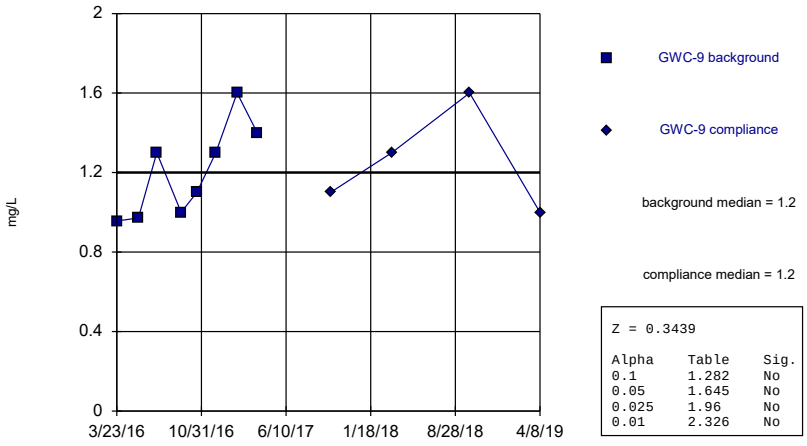
Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	Yes

Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



Z = 0.3439

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

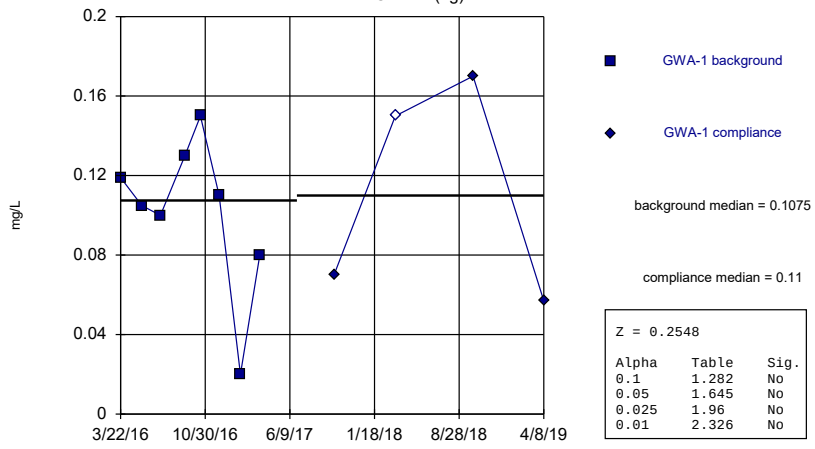
Constituent: Chloride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



Z = 0.2548

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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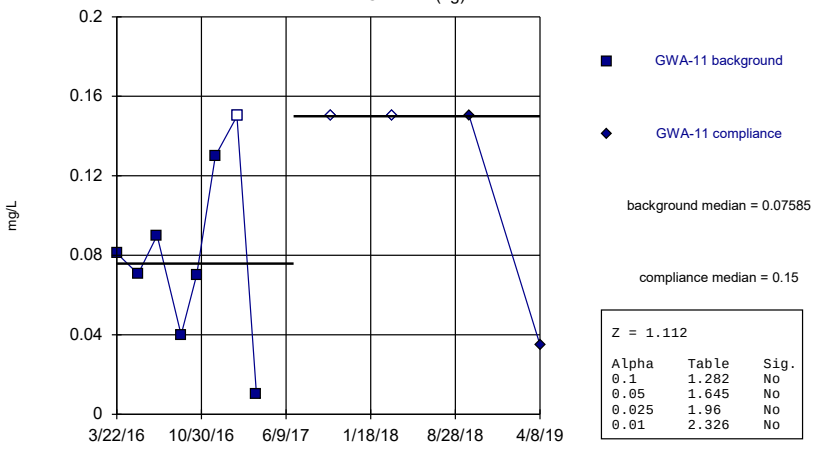
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 0.07585

compliance median = 0.15

Z = 1.112

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

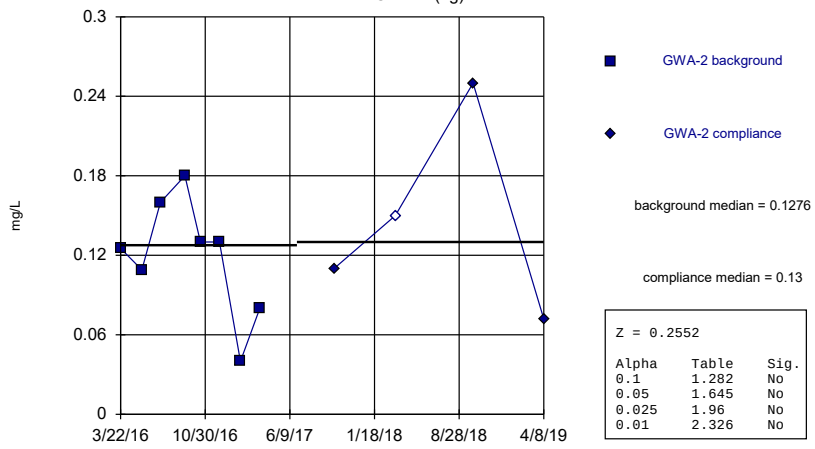
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 0.1276

compliance median = 0.13

Z = 0.2552

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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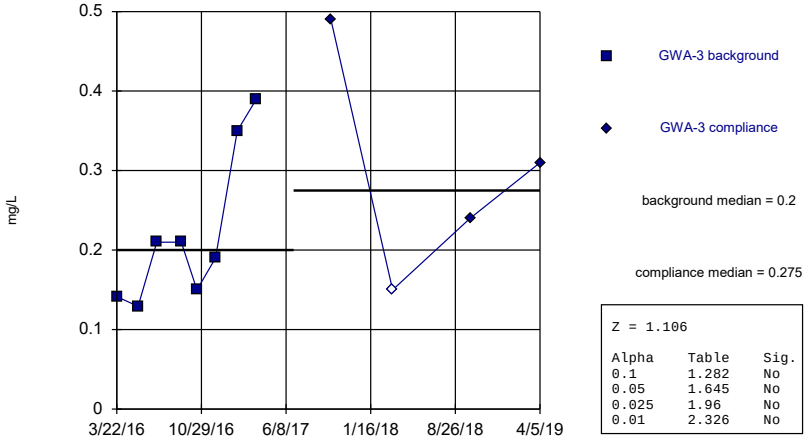
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



background median = 0.2

compliance median = 0.275

Z = 1.106

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

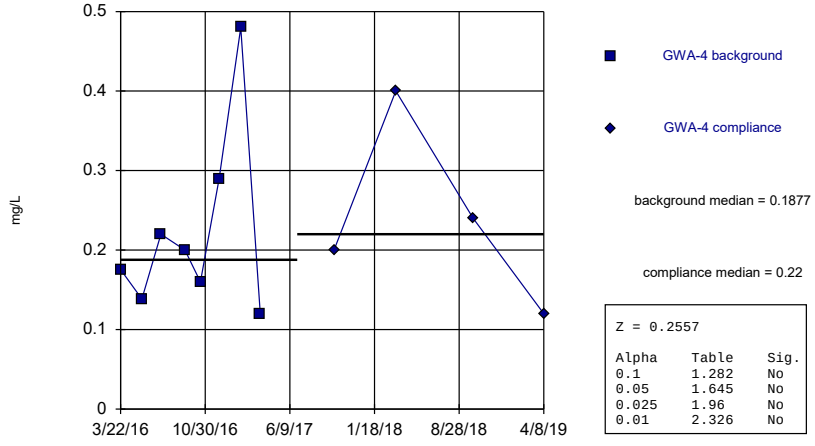
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



background median = 0.1877

compliance median = 0.22

Z = 0.2557

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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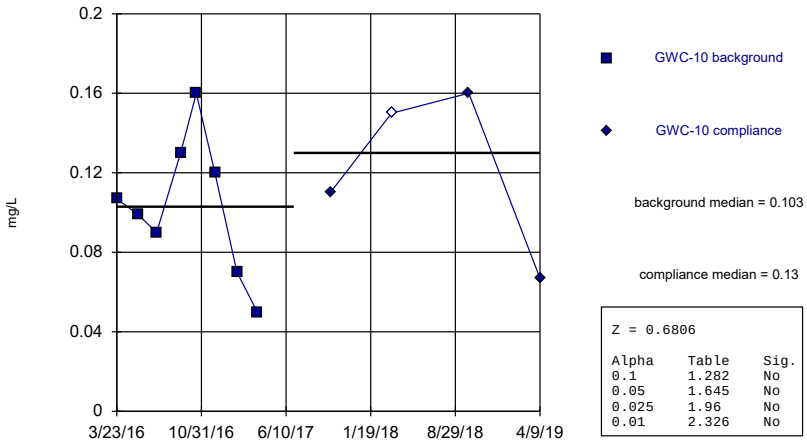
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



background median = 0.103

compliance median = 0.13

Z = 0.6806

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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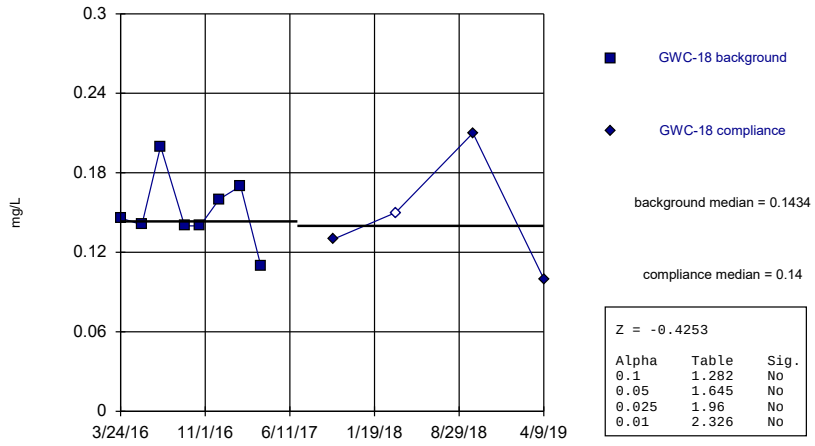
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



background median = 0.1434

compliance median = 0.14

Z = -0.4253

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

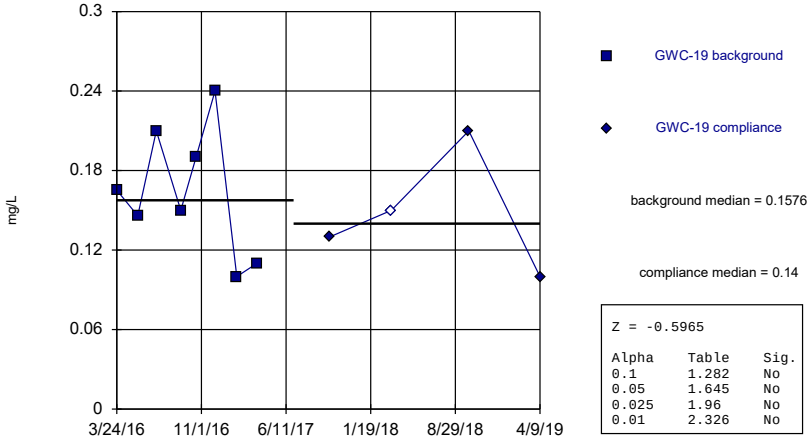
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



background median = 0.1576

compliance median = 0.14

Z = -0.5965

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

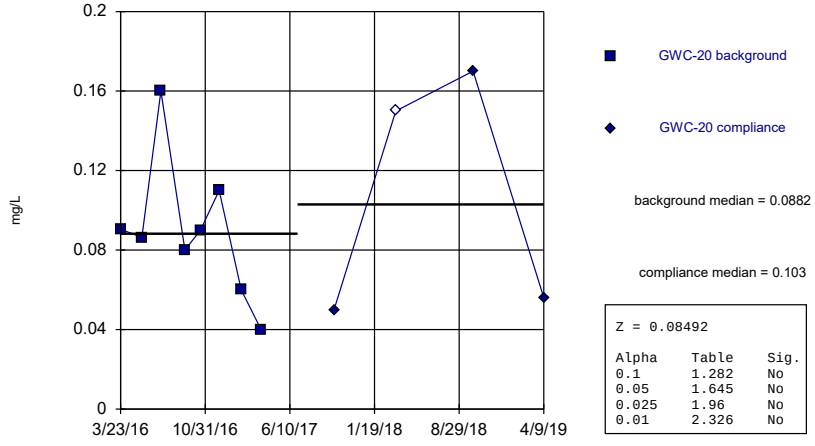
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



background median = 0.0882

compliance median = 0.103

Z = 0.08492

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

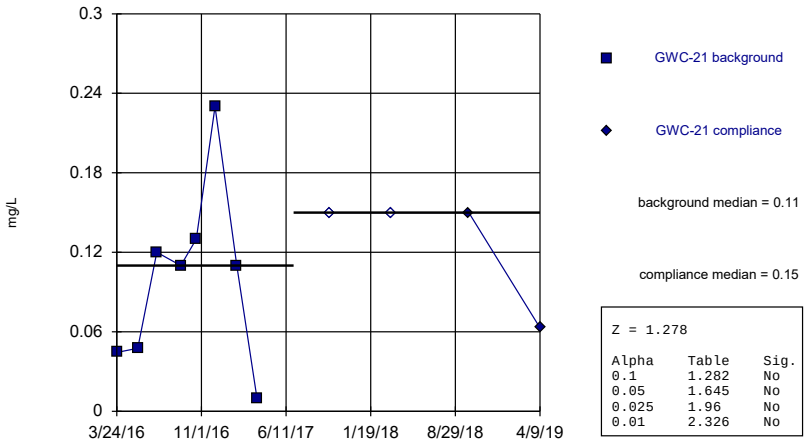
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



Z = 1.278

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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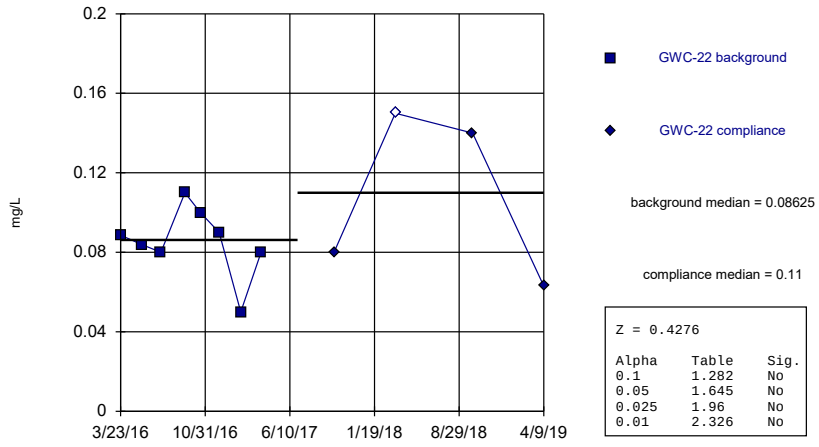
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-22



Z = 0.4276

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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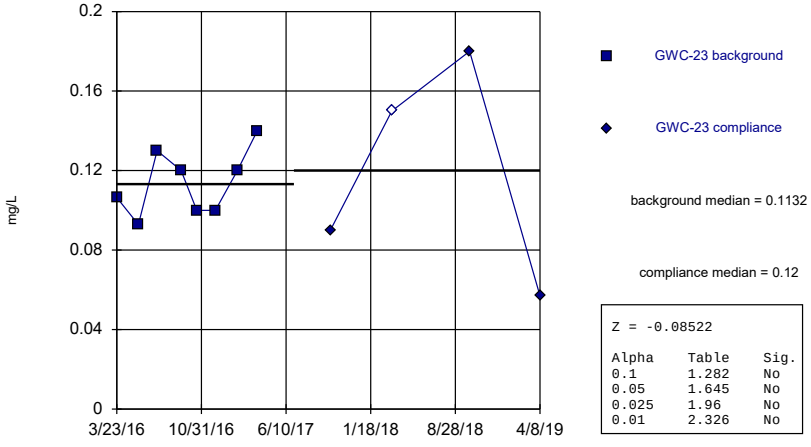
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



Z = -0.08522

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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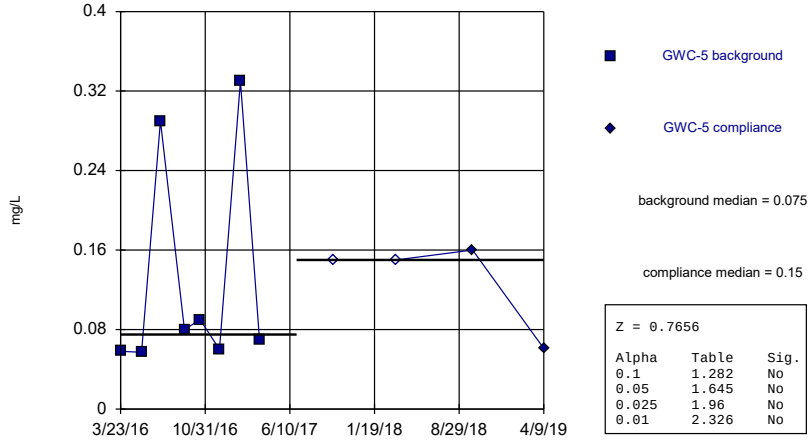
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



Z = 0.7656

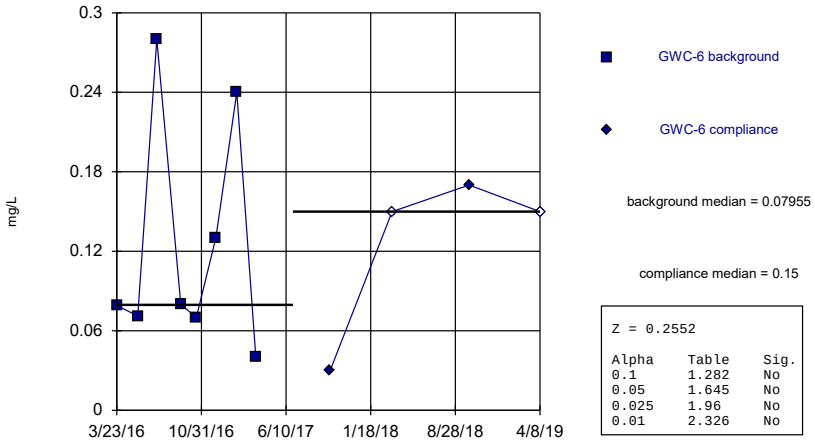
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



background median = 0.07955

compliance median = 0.15

Z = 0.2552

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

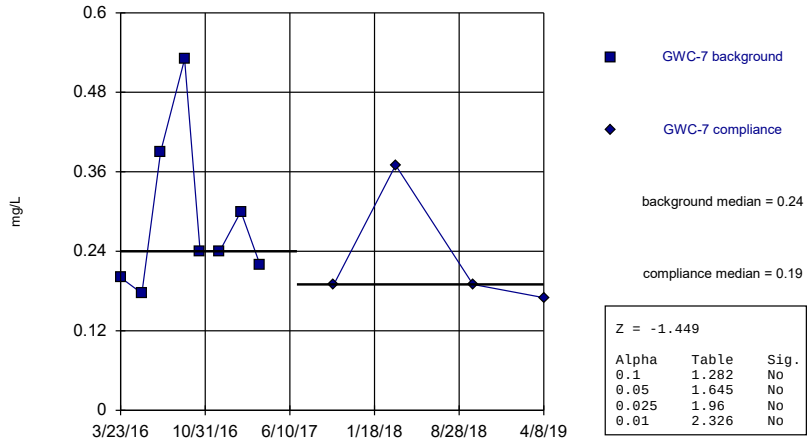
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



background median = 0.24

compliance median = 0.19

Z = -1.449

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

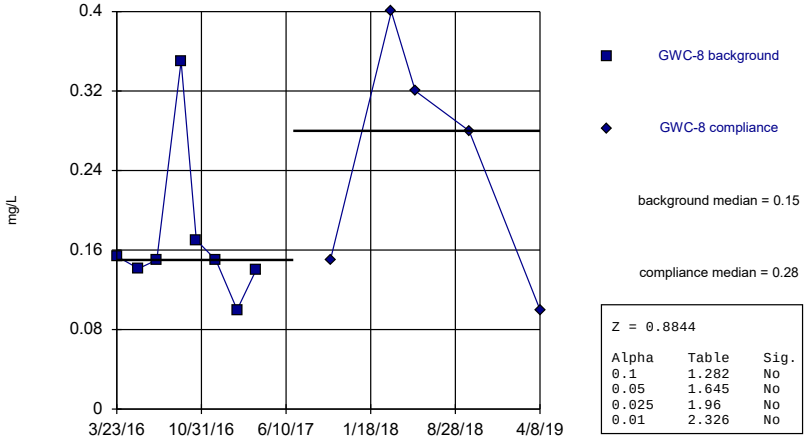
Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 0.15

compliance median = 0.28

Z = 0.8844

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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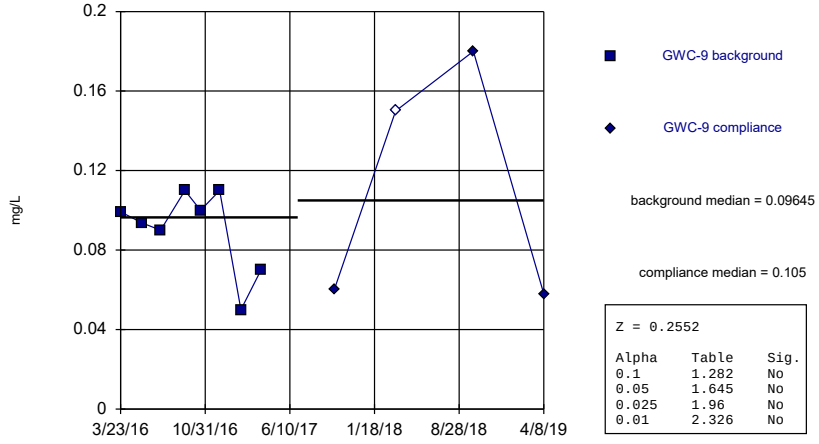
Hollow symbols indicate censored values.

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 0.09645

compliance median = 0.105

Z = 0.2552

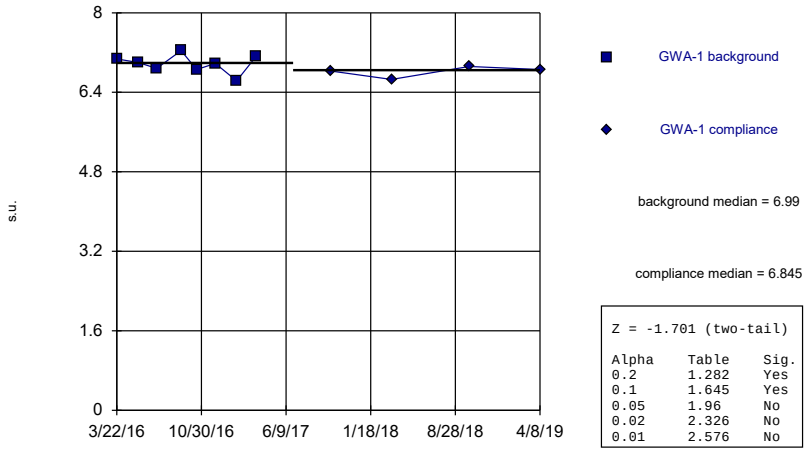
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Fluoride Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 6.99

compliance median = 6.845

Z = -1.701 (two-tail)

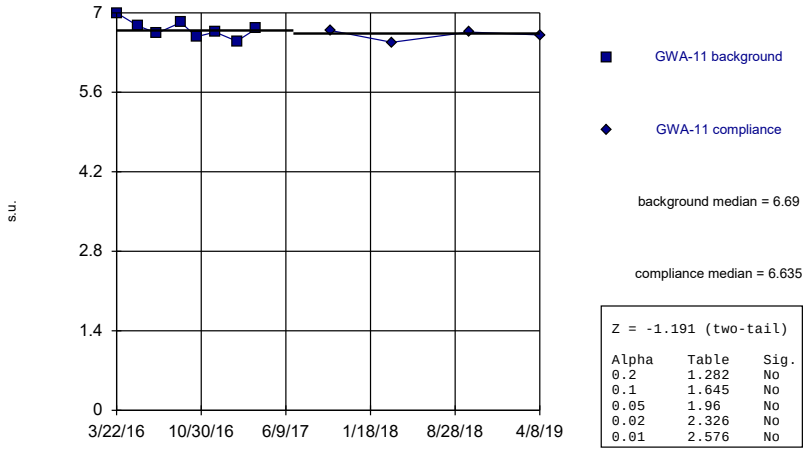
Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 6.69

compliance median = 6.635

Z = -1.191 (two-tail)

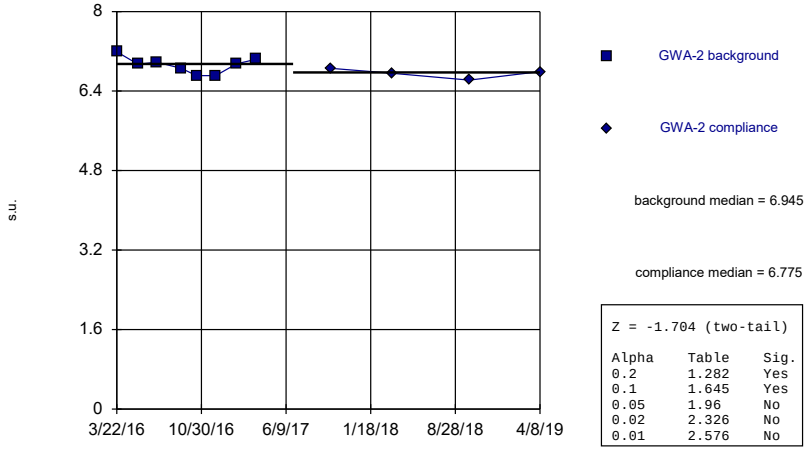
Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 6.945

compliance median = 6.775

Z = -1.704 (two-tail)

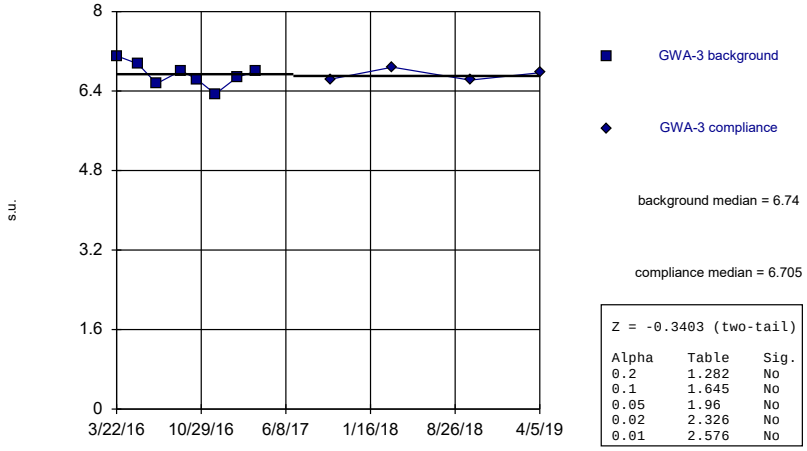
Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



background median = 6.74

compliance median = 6.705

Z = -0.3403 (two-tail)

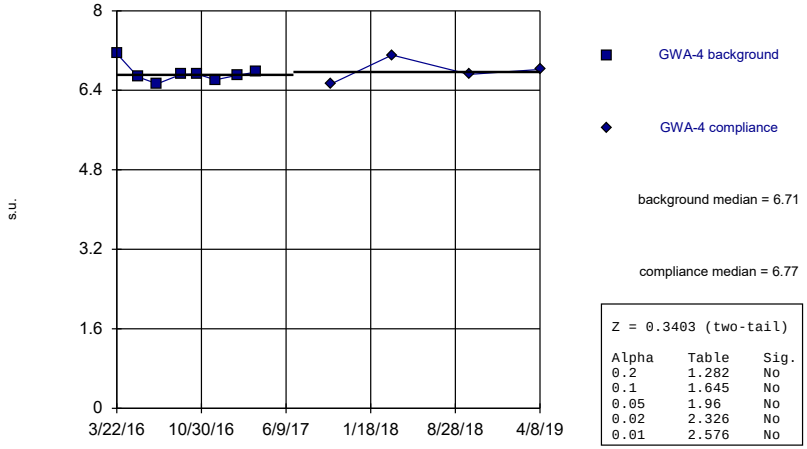
Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



background median = 6.71

compliance median = 6.77

Z = 0.3403 (two-tail)

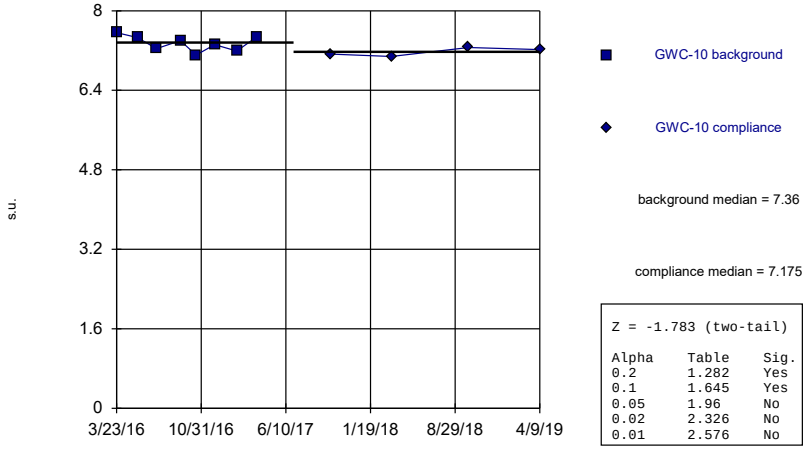
Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



background median = 7.36

compliance median = 7.175

Z = -1.783 (two-tail)

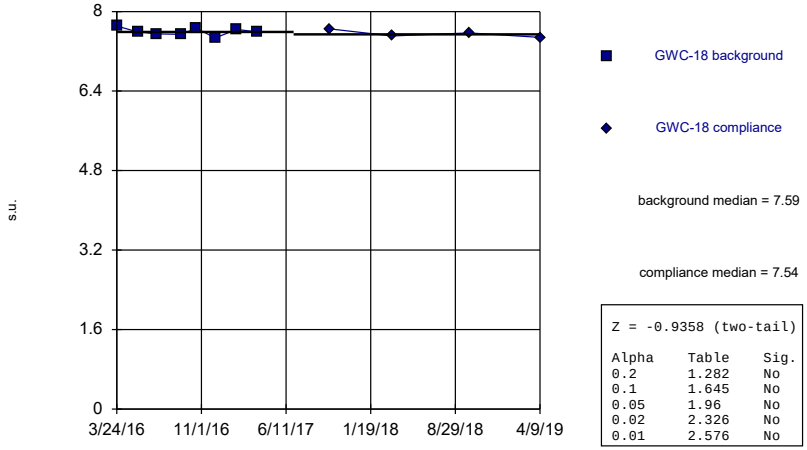
Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



background median = 7.59

compliance median = 7.54

Z = -0.9358 (two-tail)

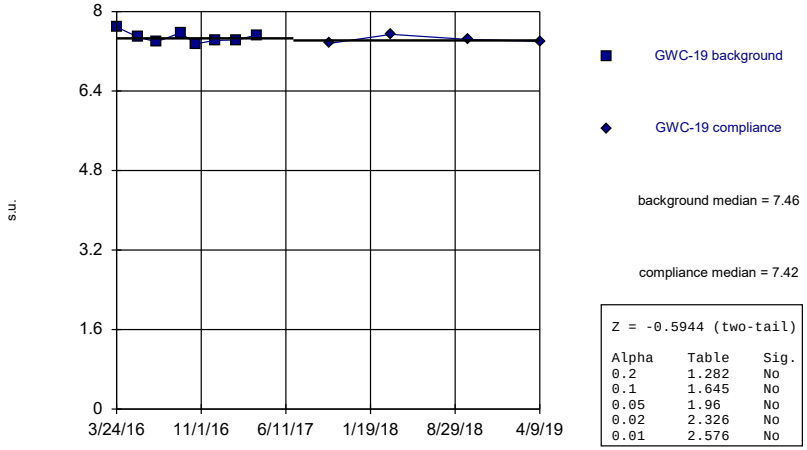
Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



background median = 7.46

compliance median = 7.42

Z = -0.5944 (two-tail)

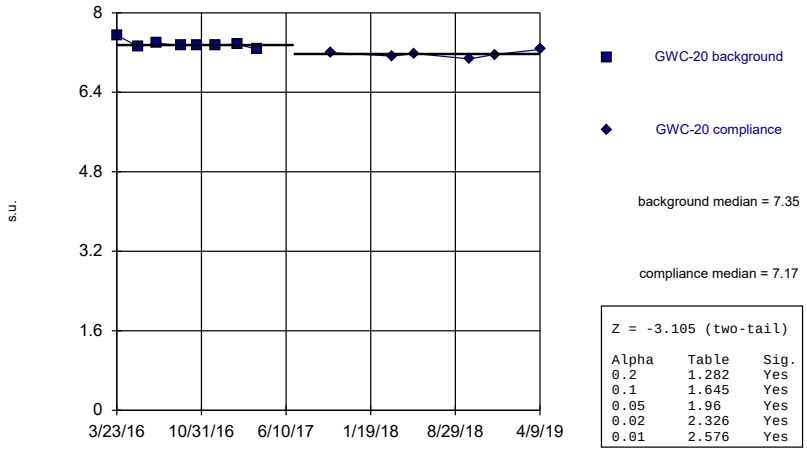
Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



background median = 7.35

compliance median = 7.17

Z = -3.105 (two-tail)

Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	Yes
0.02	2.326	Yes
0.01	2.576	Yes

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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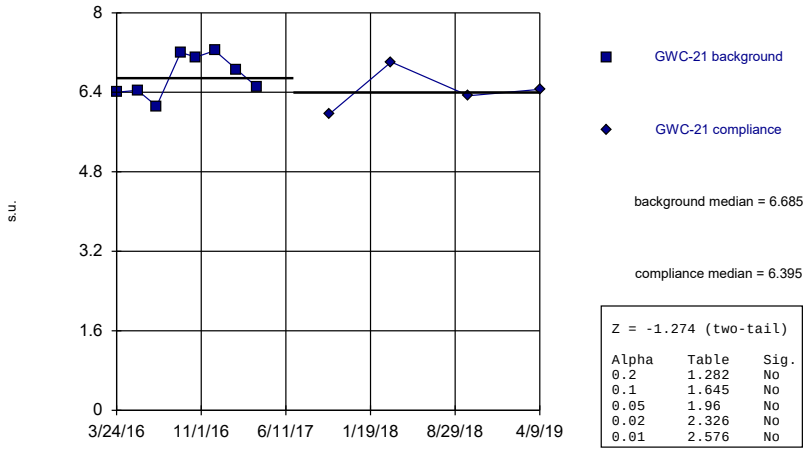
Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



background median = 6.685

compliance median = 6.395

Z = -1.274 (two-tail)

Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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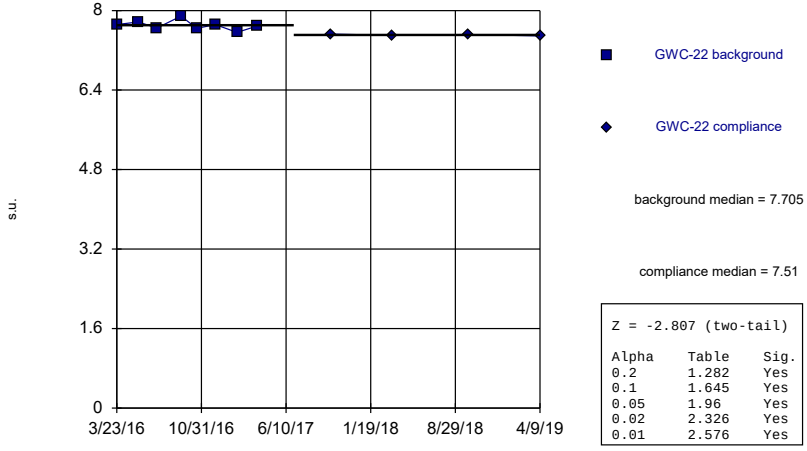
Mann-Whitney (Wilcoxon Rank Sum)

GWC-22



background median = 7.705

compliance median = 7.51

Z = -2.807 (two-tail)

Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	Yes
0.02	2.326	Yes
0.01	2.576	Yes

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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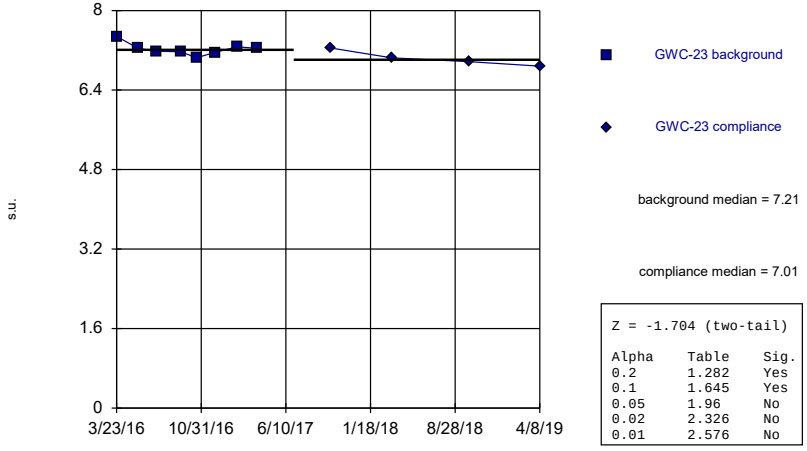
Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



background median = 7.21

compliance median = 7.01

Z = -1.704 (two-tail)

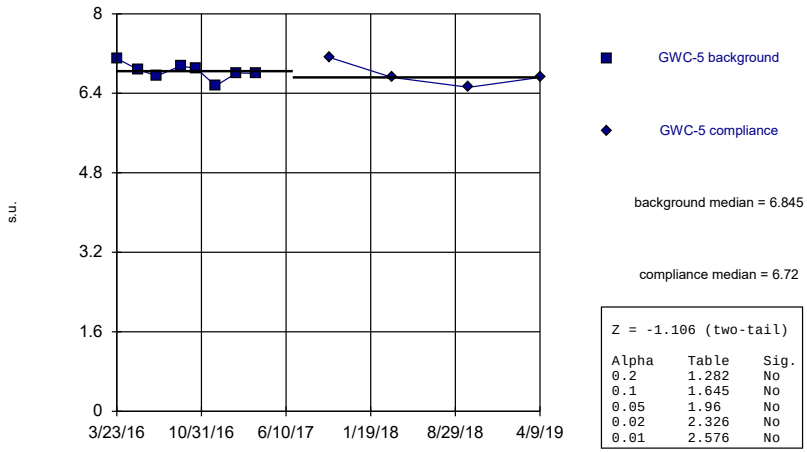
Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



background median = 6.845

compliance median = 6.72

Z = -1.106 (two-tail)

Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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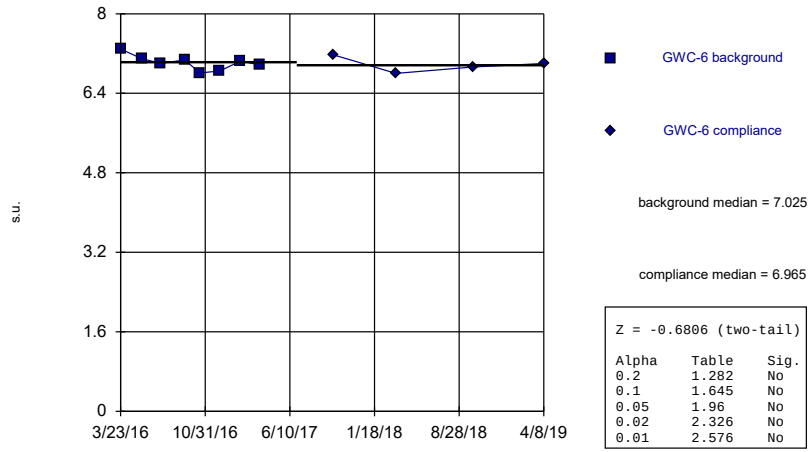
Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



background median = 7.025

compliance median = 6.965

Z = -0.6806 (two-tail)

Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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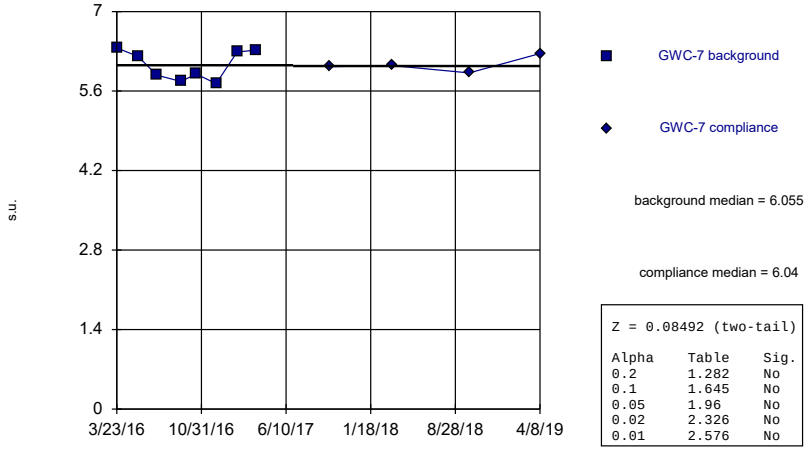
Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



background median = 6.055

compliance median = 6.04

Z = 0.08492 (two-tail)

Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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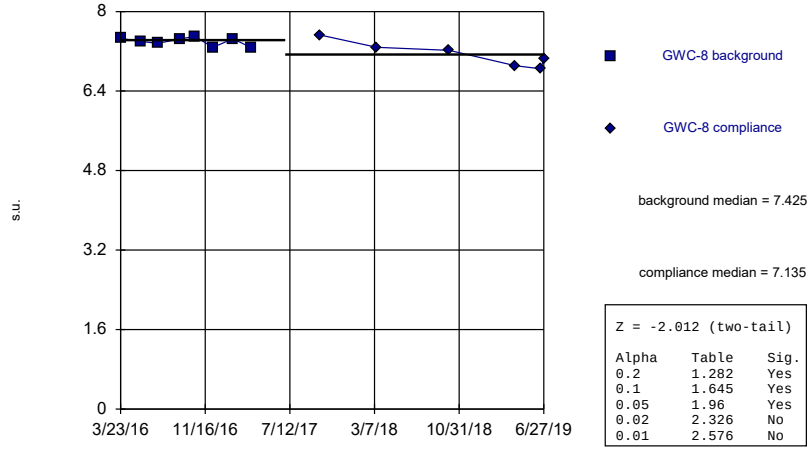
Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 7.425

compliance median = 7.135

Z = -2.012 (two-tail)

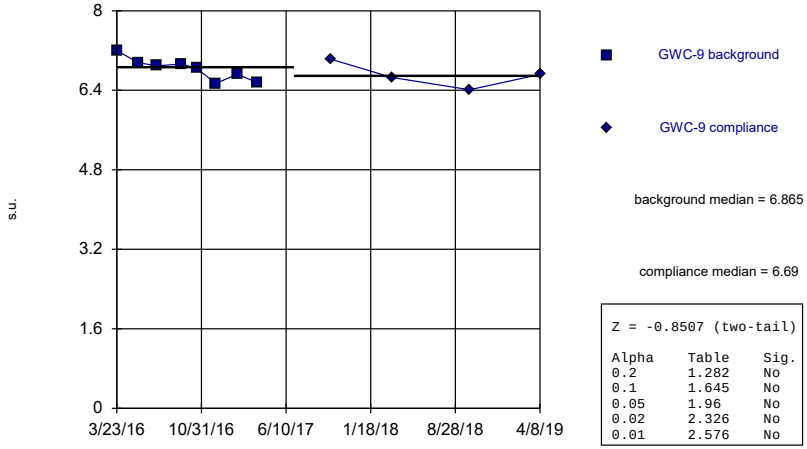
Alpha	Table	Sig.
0.2	1.282	Yes
0.1	1.645	Yes
0.05	1.96	Yes
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 6.865

compliance median = 6.69

Z = -0.8507 (two-tail)

Alpha	Table	Sig.
0.2	1.282	No
0.1	1.645	No
0.05	1.96	No
0.02	2.326	No
0.01	2.576	No

Constituent: pH Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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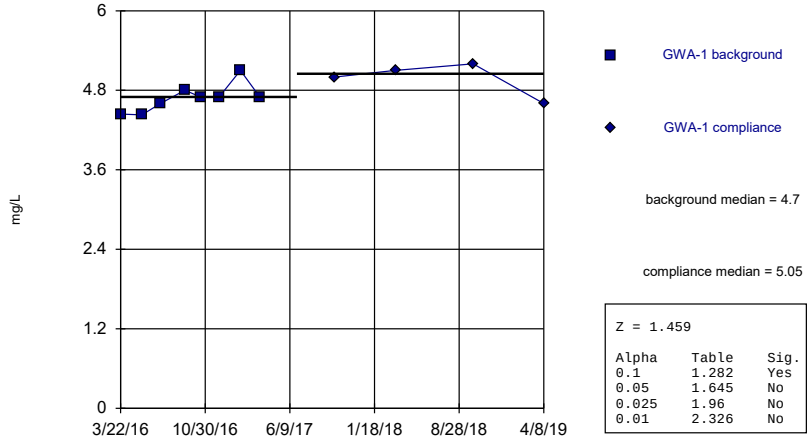
Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 4.7

compliance median = 5.05

Z = 1.459

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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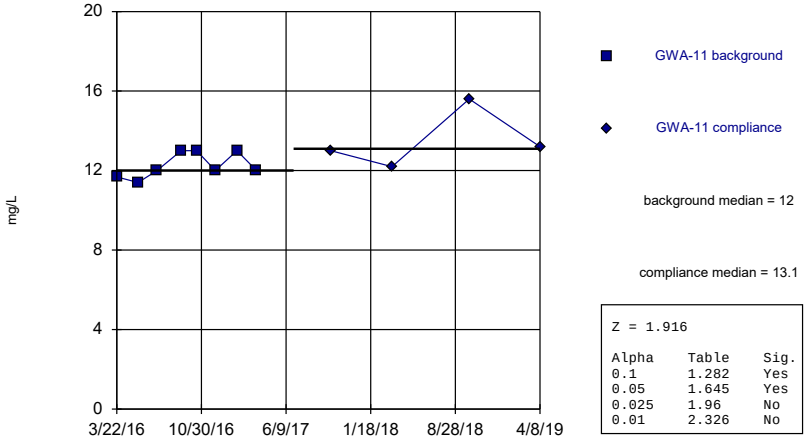
Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 12

compliance median = 13.1

Z = 1.916

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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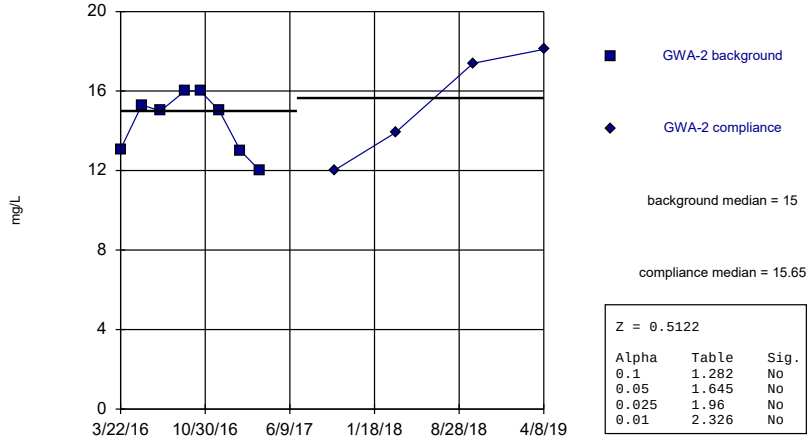
Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 15

compliance median = 15.65

Z = 0.5122

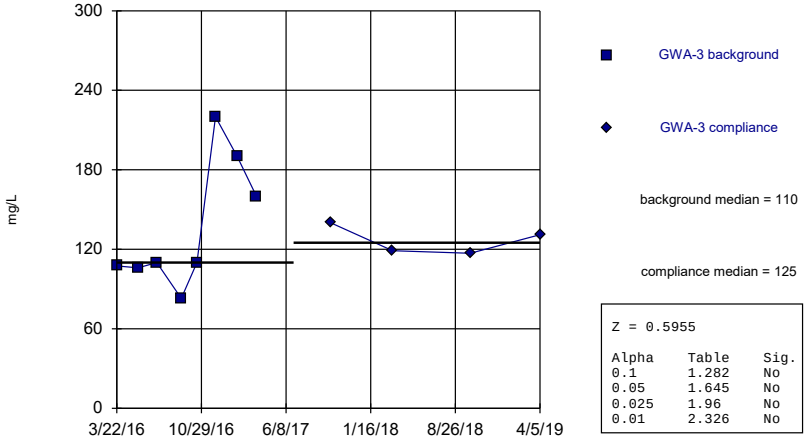
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



Z = 0.5955

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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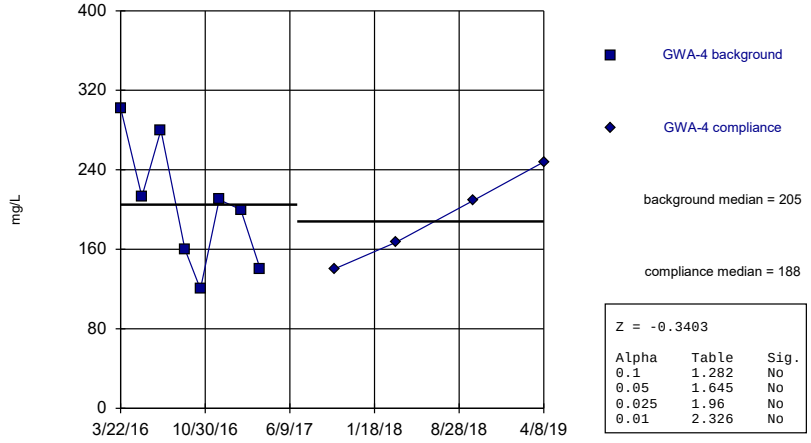
Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



Z = -0.3403

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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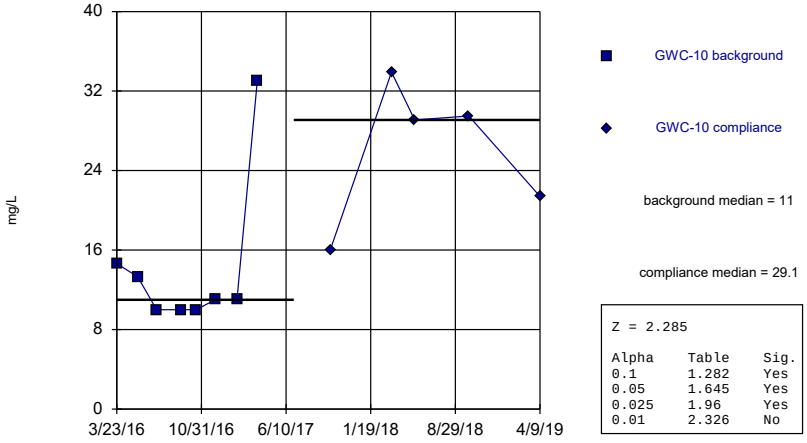
Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



Z = 2.285

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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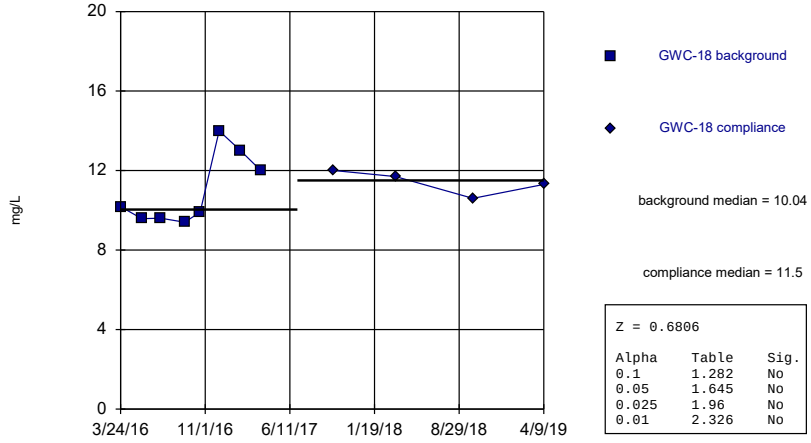
Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



Z = 0.6806

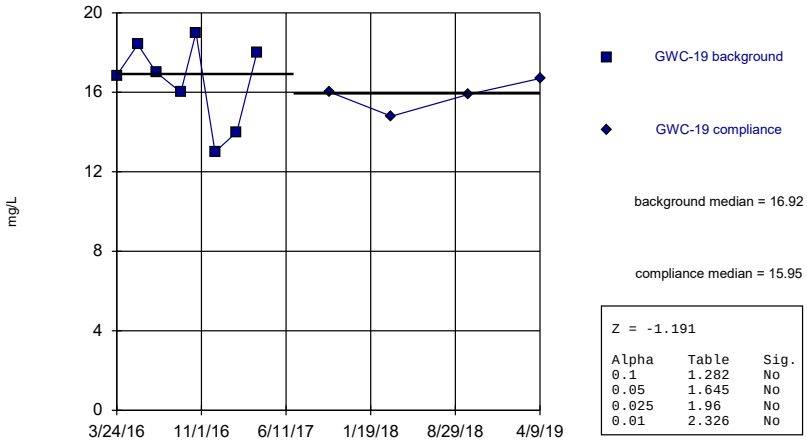
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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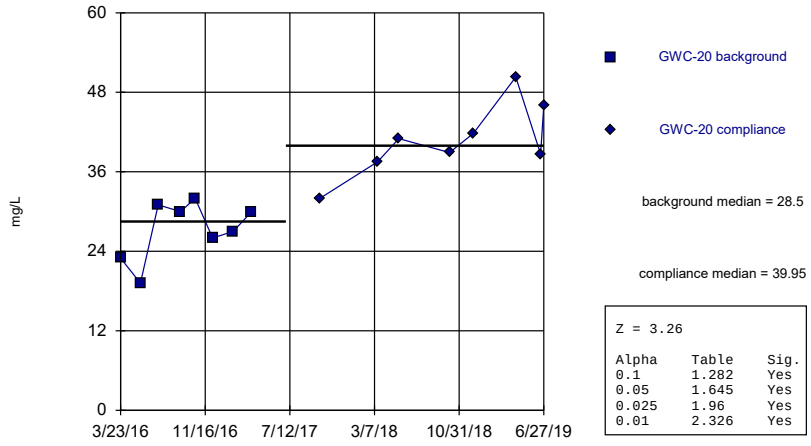
Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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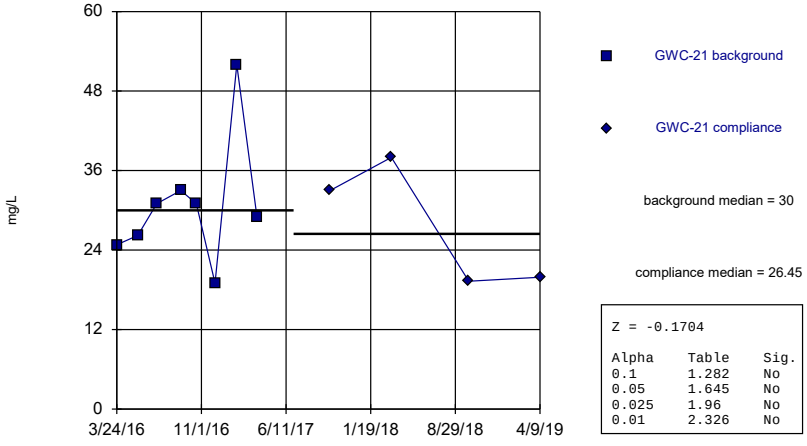
Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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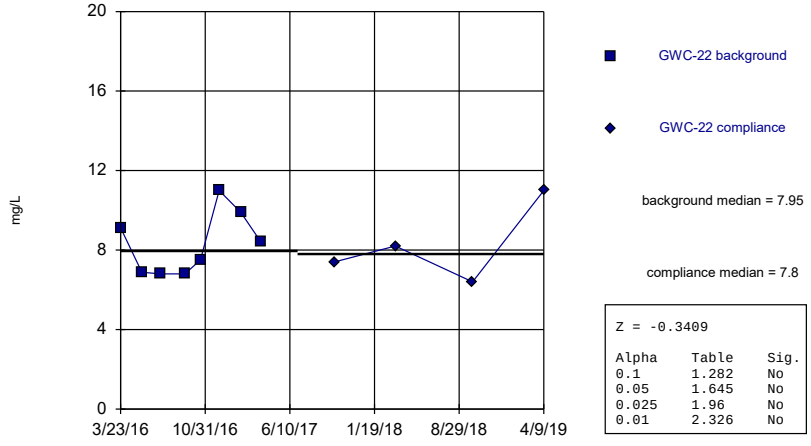
Mann-Whitney (Wilcoxon Rank Sum)

GWC-22

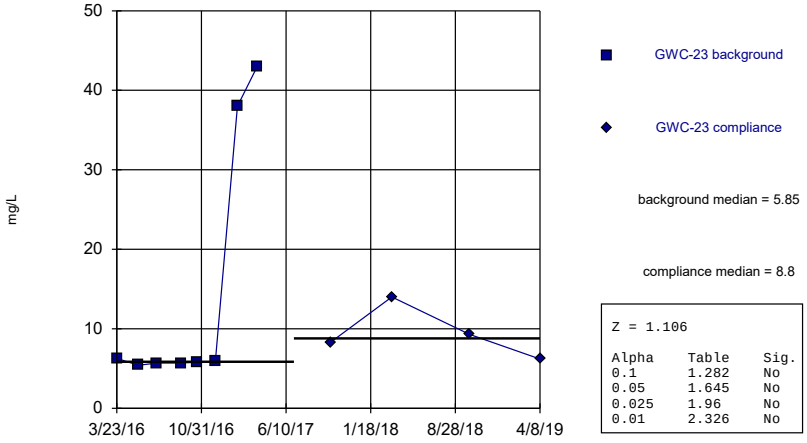


Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



background median = 5.85

compliance median = 8.8

Z = 1.106

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

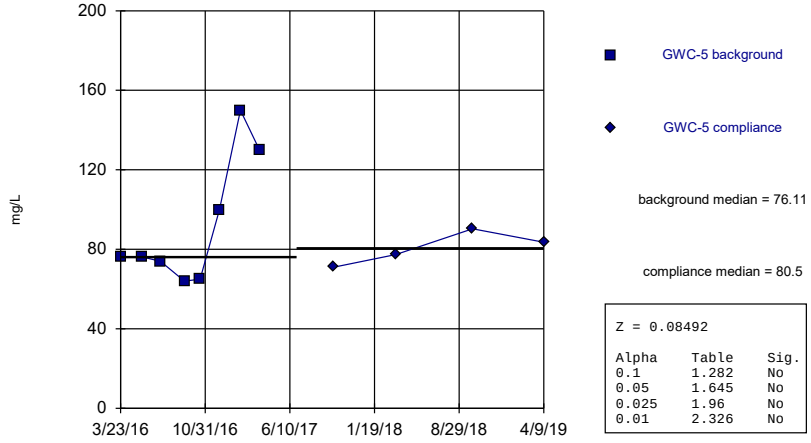
Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



background median = 76.11

compliance median = 80.5

Z = 0.08492

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

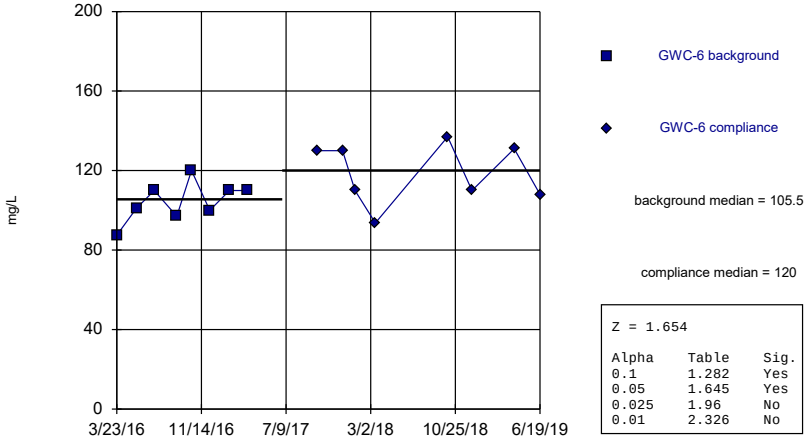
Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



background median = 105.5

compliance median = 120

Z = 1.654

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	No
0.01	2.326	No

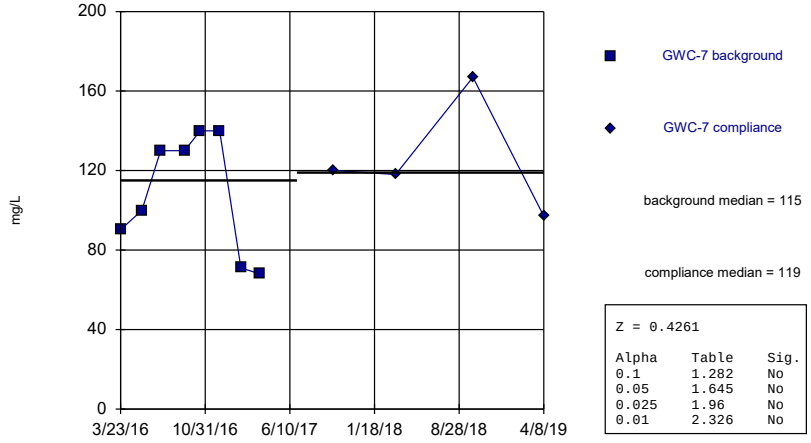
Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



background median = 115

compliance median = 119

Z = 0.4261

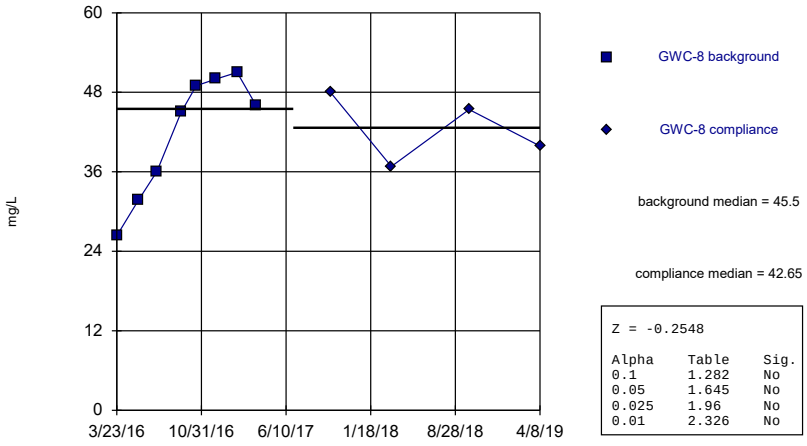
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 45.5

compliance median = 42.65

Z = -0.2548

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

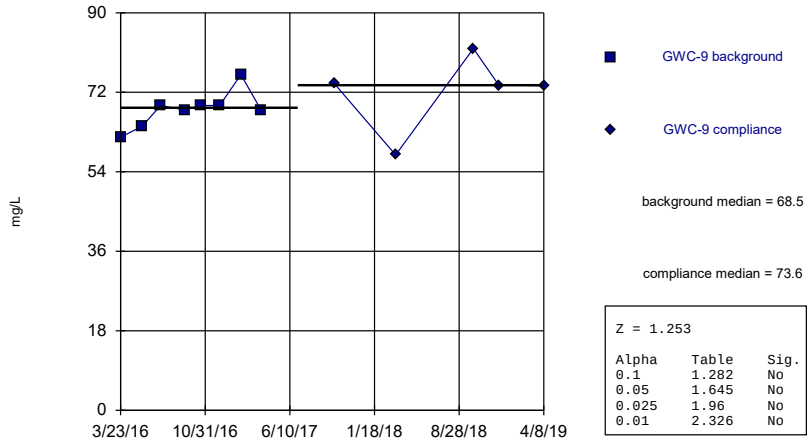
Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 68.5

compliance median = 73.6

Z = 1.253

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

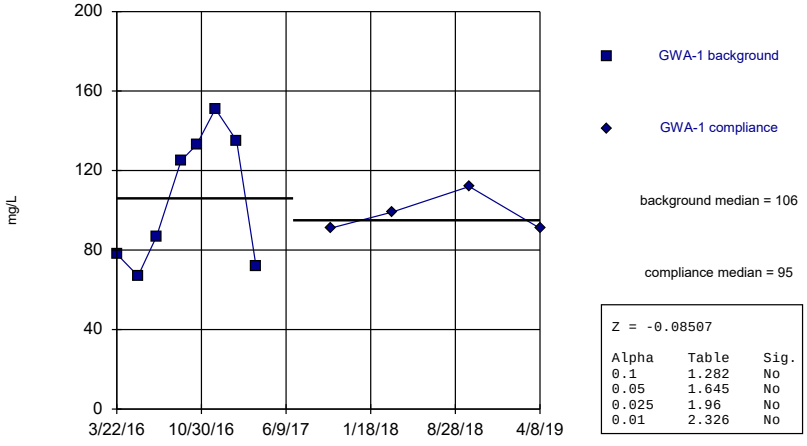
Constituent: Sulfate Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-1 (bg)



background median = 106

compliance median = 95

Z = -0.08507

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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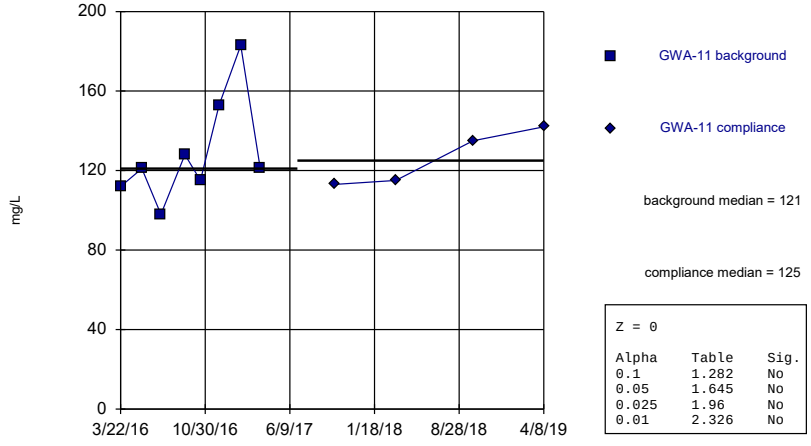
Mann-Whitney (Wilcoxon Rank Sum)

GWA-11 (bg)



background median = 121

compliance median = 125

Z = 0

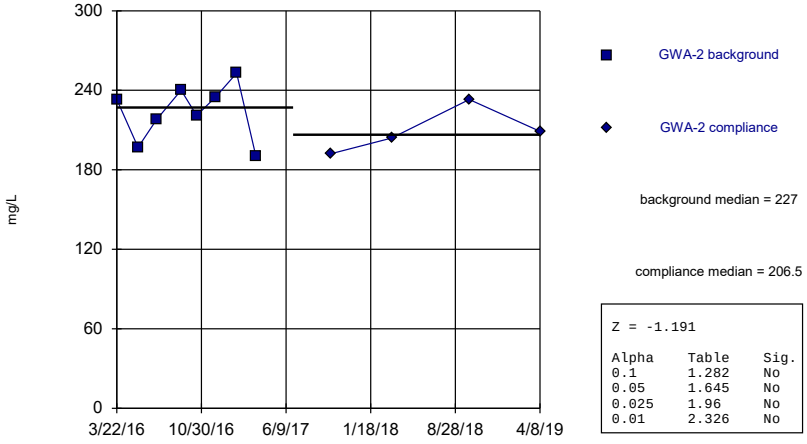
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWA-2 (bg)



background median = 227

compliance median = 206.5

Z = -1.191

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

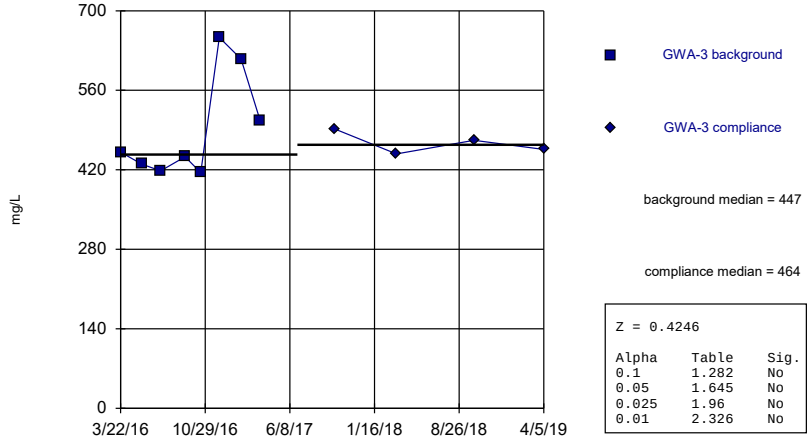
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWA-3 (bg)



background median = 447

compliance median = 464

Z = 0.4246

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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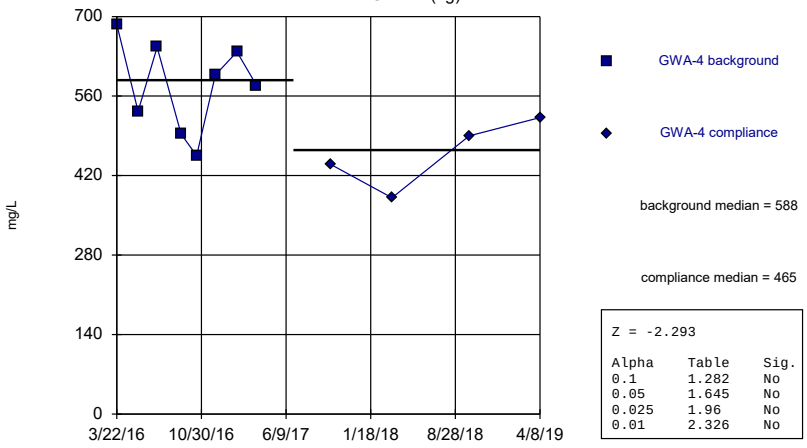
Mann-Whitney (Wilcoxon Rank Sum)

GWA-4 (bg)



background median = 588

compliance median = 465

Z = -2.293

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

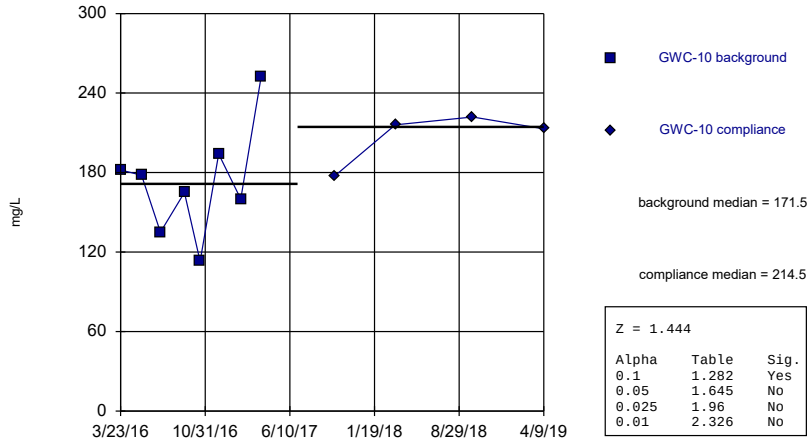
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-10



background median = 171.5

compliance median = 214.5

Z = 1.444

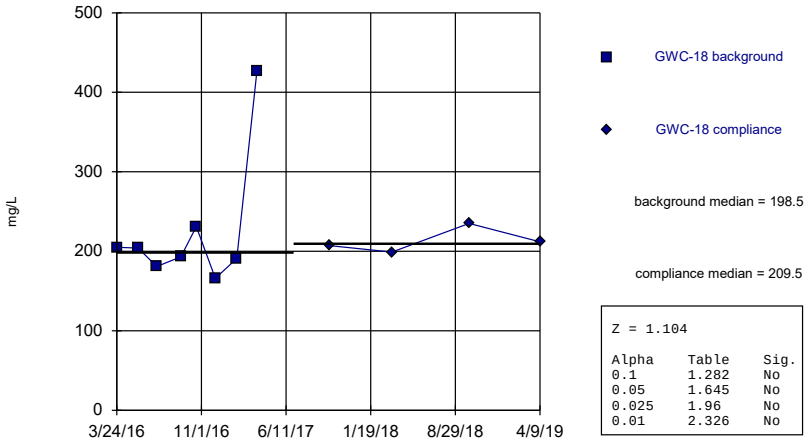
Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-18



Z = 1.104

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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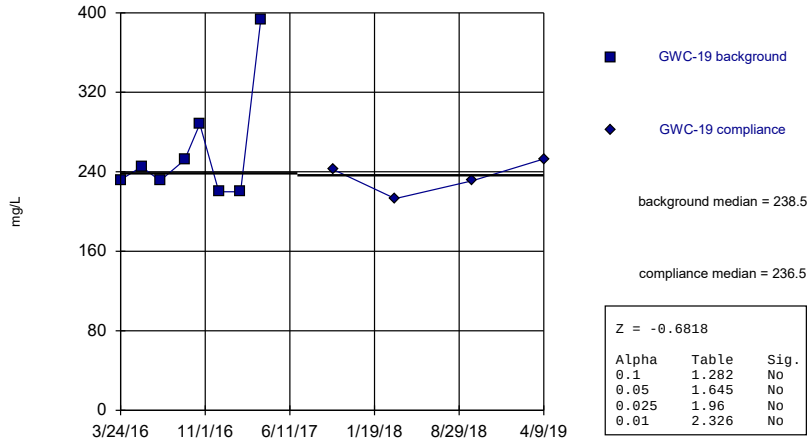
Mann-Whitney (Wilcoxon Rank Sum)

GWC-19



Z = -0.6818

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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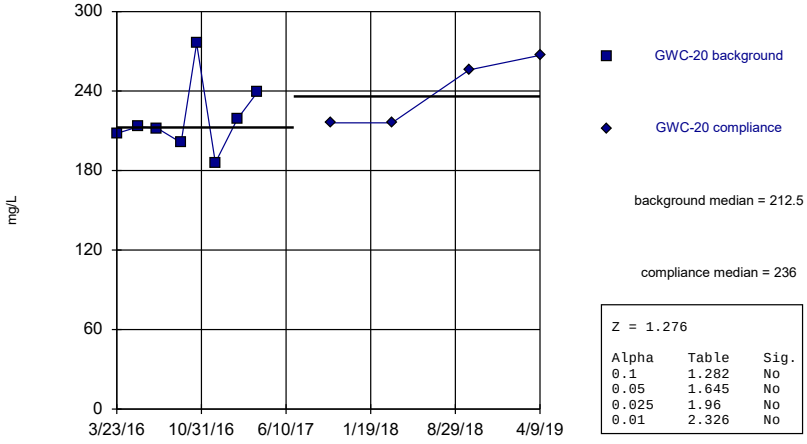
Mann-Whitney (Wilcoxon Rank Sum)

GWC-20



Z = 1.276

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

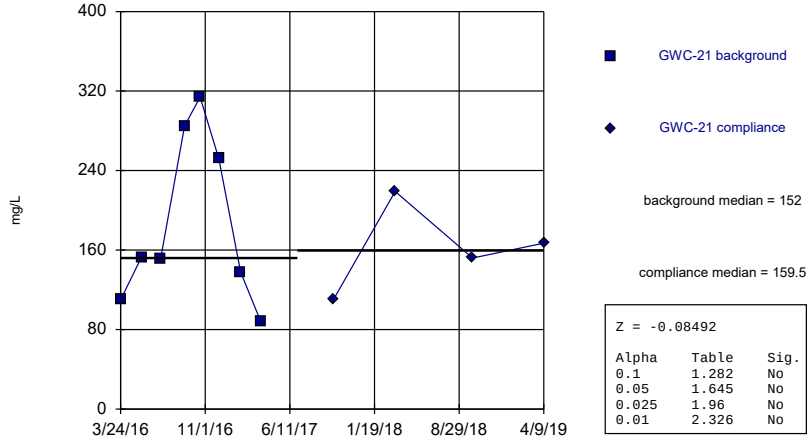
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-21



Z = -0.08492

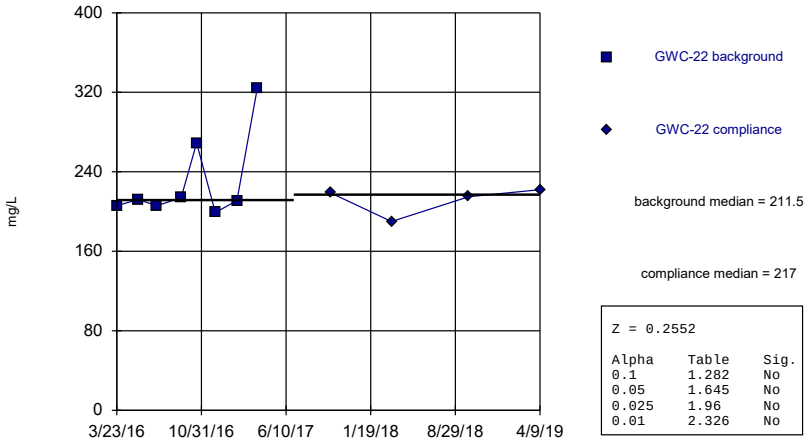
Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-22



background median = 211.5

compliance median = 217

Z = 0.2552

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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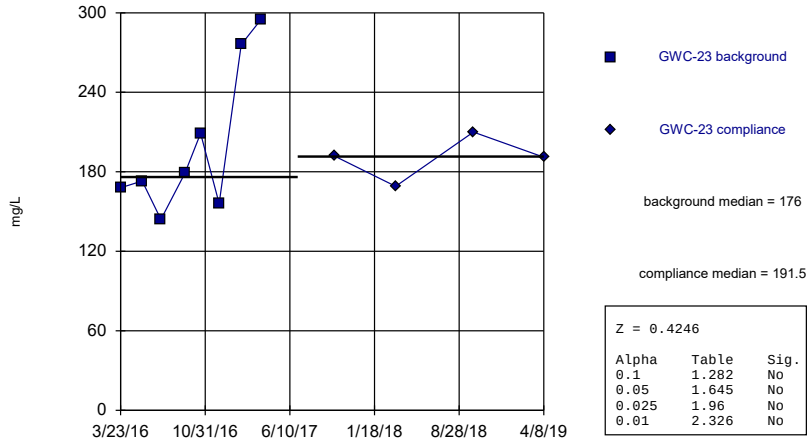
Mann-Whitney (Wilcoxon Rank Sum)

GWC-23



background median = 176

compliance median = 191.5

Z = 0.4246

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

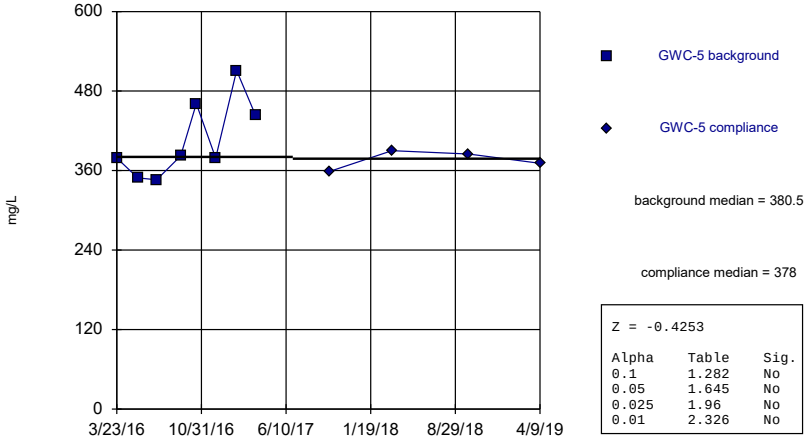
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:38 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-5



background median = 380.5

compliance median = 378

Z = -0.4253

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

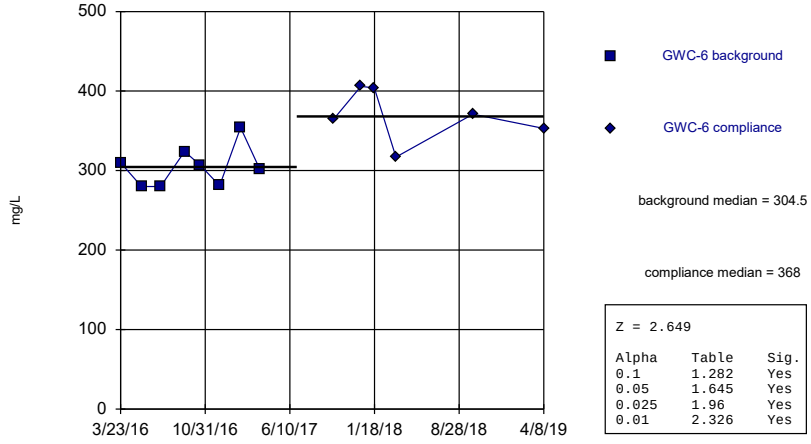
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:39 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-6



background median = 304.5

compliance median = 368

Z = 2.649

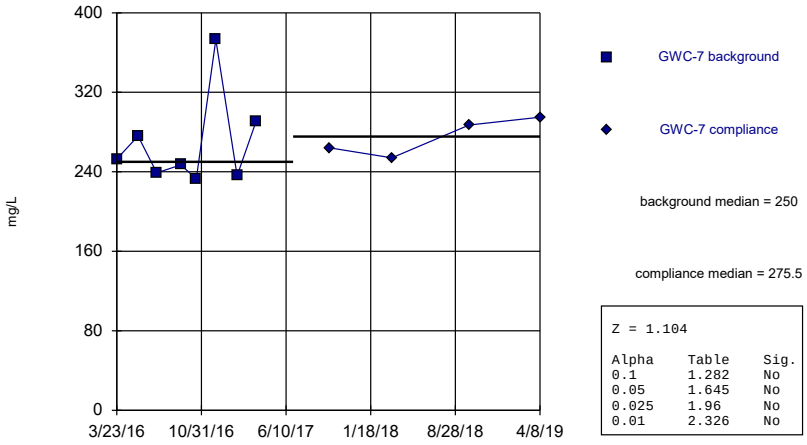
Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	Yes

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:39 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Mann-Whitney (Wilcoxon Rank Sum)

GWC-7



background median = 250

compliance median = 275.5

Z = 1.104

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

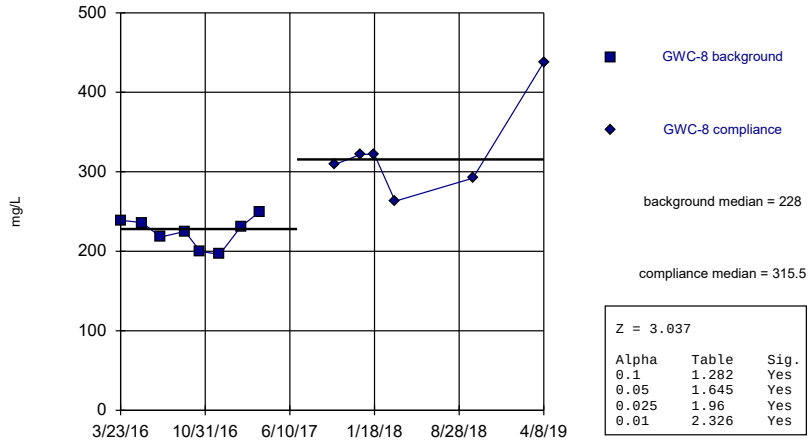
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:39 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-8



background median = 228

compliance median = 315.5

Z = 3.037

Alpha	Table	Sig.
0.1	1.282	Yes
0.05	1.645	Yes
0.025	1.96	Yes
0.01	2.326	Yes

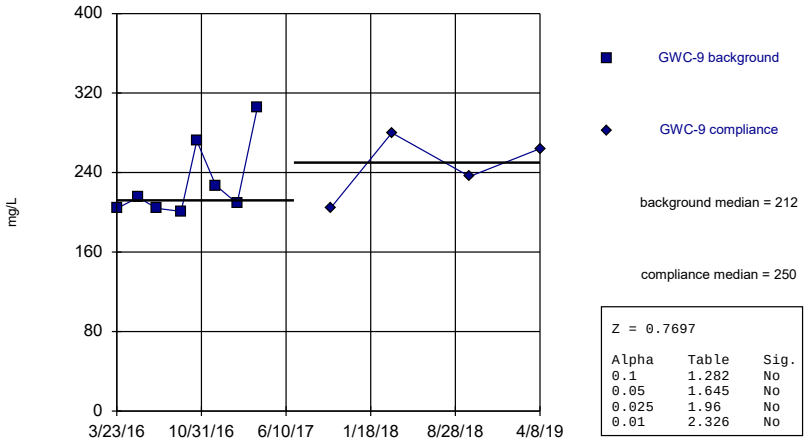
Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:39 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Mann-Whitney (Wilcoxon Rank Sum)

GWC-9



background median = 212

compliance median = 250

Z = 0.7697

Alpha	Table	Sig.
0.1	1.282	No
0.05	1.645	No
0.025	1.96	No
0.01	2.326	No

Constituent: Total Dissolved Solids Analysis Run 11/24/2019 10:39 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Prediction Limit (App. III) - Significant Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 1/24/2020, 10:05 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method

Prediction Limit (App. III) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 1/24/2020, 10:05 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	GWC-10	0.04104	n/a	10/1/2019	0.031	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-18	0.1465	n/a	10/1/2019	0.14	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-19	0.1982	n/a	10/1/2019	0.17	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-20	0.05	n/a	10/1/2019	0.019	No	12	8.333	n/a	0.002173	NP Intra (normality) 1 of 3
Boron (mg/L)	GWC-21	0.1072	n/a	10/1/2019	0.059	No	12	0	x^(1/3)	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-22	0.07933	n/a	10/1/2019	0.066	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-23	0.1058	n/a	10/1/2019	0.024	No	12	8.333	sqrt(x)	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-5	0.07251	n/a	10/1/2019	0.071	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-6	0.04345	n/a	10/1/2019	0.042	No	13	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-7	0.06857	n/a	10/1/2019	0.05	No	12	0	No	0.0006269	Param Intra 1 of 3
Boron (mg/L)	GWC-8	0.055	n/a	10/1/2019	0.046	No	12	0	n/a	0.002173	NP Intra (normality) 1 of 3
Boron (mg/L)	GWC-9	0.05	n/a	10/1/2019	0.018	No	12	8.333	n/a	0.002173	NP Intra (normality) 1 of 3
Calcium (mg/L)	GWC-10	55.76	n/a	10/1/2019	36.8	No	14	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-18	44.85	n/a	10/1/2019	38.7	No	13	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-19	48.26	n/a	10/1/2019	42.3	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-20	59.36	n/a	10/1/2019	59.1	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-21	73.75	n/a	11/26/2019	45.8	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-22	51.48	n/a	10/1/2019	46.9	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-23	43.36	n/a	10/1/2019	39.1	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-5	86.28	n/a	10/1/2019	70.6	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-6	69.34	n/a	10/1/2019	64.2	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-7	65.29	n/a	10/1/2019	28.5	No	12	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-8	83.84	n/a	10/1/2019	64	No	14	0	No	0.0006269	Param Intra 1 of 3
Calcium (mg/L)	GWC-9	38.25	n/a	10/1/2019	37.2	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-10	2.121	n/a	10/1/2019	1.5	No	14	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-18	1.714	n/a	10/1/2019	0.94	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-19	2.298	n/a	10/1/2019	1.3	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-20	2.15	n/a	10/1/2019	1.1	No	13	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-21	3.621	n/a	10/1/2019	2	No	13	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-22	1.9	n/a	10/1/2019	1.4	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-23	1.908	n/a	10/1/2019	1.1	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-5	3.903	n/a	10/1/2019	2.2	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-6	2.3	n/a	10/1/2019	1.6	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-7	2.235	n/a	10/1/2019	1.2	No	12	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-8	2.972	n/a	10/1/2019	1.8	No	14	0	No	0.0006269	Param Intra 1 of 3
Chloride (mg/L)	GWC-9	1.662	n/a	10/1/2019	0.91	No	12	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-10	0.1789	n/a	10/1/2019	0.07	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-18	0.211	n/a	10/1/2019	0.11	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-19	0.246	n/a	10/1/2019	0.11	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-20	0.1788	n/a	10/1/2019	0.069	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-21	0.2144	n/a	10/1/2019	0.094	No	12	16.67	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-22	0.1479	n/a	10/1/2019	0.079	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-23	0.1766	n/a	10/1/2019	0.079	No	12	8.333	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-5	0.3045	n/a	10/1/2019	0.064	No	12	16.67	sqrt(x)	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-6	0.2727	n/a	10/1/2019	0.063	No	12	16.67	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-7	0.4776	n/a	10/1/2019	0.16	No	12	0	No	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-8	0.4002	n/a	10/1/2019	0.13	No	13	0	sqrt(x)	0.0006269	Param Intra 1 of 3
Fluoride (mg/L)	GWC-9	0.17	n/a	10/1/2019	0.078	No	12	8.333	No	0.0006269	Param Intra 1 of 3
pH (s.u.)	GWC-10	7.586	6.989	10/1/2019	7.07	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-18	7.722	7.438	10/1/2019	7.65	No	12	0	No	0.0003135	Param Intra 1 of 3

Prediction Limit (App. III) - All Results

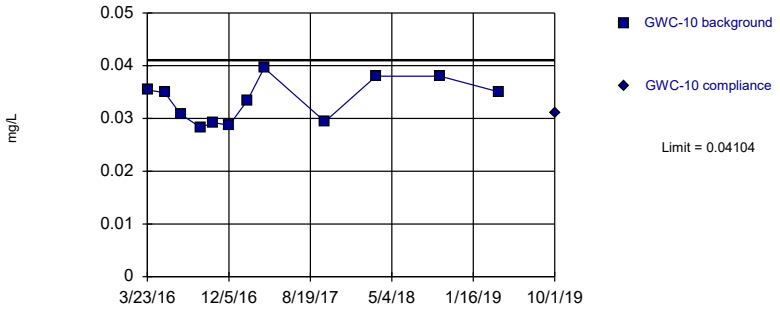
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 1/24/2020, 10:05 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
pH (s.u.)	GWC-19	7.658	7.277	10/1/2019	7.31	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-20	7.51	7.052	10/1/2019	7.16	No	14	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-21	7.457	5.818	10/1/2019	6.9	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-22	7.876	7.404	11/6/2019	7.66	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-23	7.462	6.861	10/1/2019	7	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-5	7.174	6.463	10/1/2019	6.81	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-6	7.281	6.726	10/1/2019	6.97	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-7	6.483	5.637	10/1/2019	6.09	No	12	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-8	7.678	6.897	10/1/2019	7.11	No	14	0	No	0.0003135	Param Intra 1 of 3
pH (s.u.)	GWC-9	7.222	6.354	10/1/2019	6.77	No	12	0	No	0.0003135	Param Intra 1 of 3
Sulfate (mg/L)	GWC-10	36.22	n/a	10/1/2019	13.4	No	13	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-18	13.92	n/a	10/1/2019	8.9	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-19	19.66	n/a	10/1/2019	14.7	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-20	48.76	n/a	11/6/2019	47.3	No	16	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-21	47.33	n/a	10/1/2019	46.3	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-22	11.39	n/a	10/1/2019	1.9	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-23	43	n/a	10/1/2019	5.8	No	12	0	n/a	0.002173	NP Intra (normality) 1 of 3
Sulfate (mg/L)	GWC-5	139.4	n/a	10/1/2019	68.1	No	12	0	sqrt(x)	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-6	136.8	n/a	10/1/2019	71.7	No	16	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-7	170.9	n/a	10/1/2019	120	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-8	57.11	n/a	10/1/2019	47.1	No	12	0	No	0.0006269	Param Intra 1 of 3
Sulfate (mg/L)	GWC-9	81.41	n/a	10/1/2019	72.2	No	13	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-10	257.6	n/a	10/1/2019	186	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-18	427	n/a	10/1/2019	196	No	12	0	n/a	0.002173	NP Intra (normality) 1 of 3
Total Dissolved Solids (mg/L)	GWC-19	393	n/a	10/1/2019	229	No	12	0	n/a	0.002173	NP Intra (normality) 1 of 3
Total Dissolved Solids (mg/L)	GWC-20	278.3	n/a	10/1/2019	271	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-21	316.5	n/a	11/26/2019	236	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-22	324	n/a	10/1/2019	220	No	12	0	n/a	0.002173	NP Intra (normality) 1 of 3
Total Dissolved Solids (mg/L)	GWC-23	284.2	n/a	10/1/2019	203	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-5	491	n/a	10/1/2019	380	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-6	411.4	n/a	10/1/2019	348	No	14	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-7	344.5	n/a	10/1/2019	277	No	12	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-8	385.2	n/a	10/1/2019	305	No	14	0	No	0.0006269	Param Intra 1 of 3
Total Dissolved Solids (mg/L)	GWC-9	303.7	n/a	10/1/2019	237	No	12	0	No	0.0006269	Param Intra 1 of 3

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03339, Std. Dev.=0.004023, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9099, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

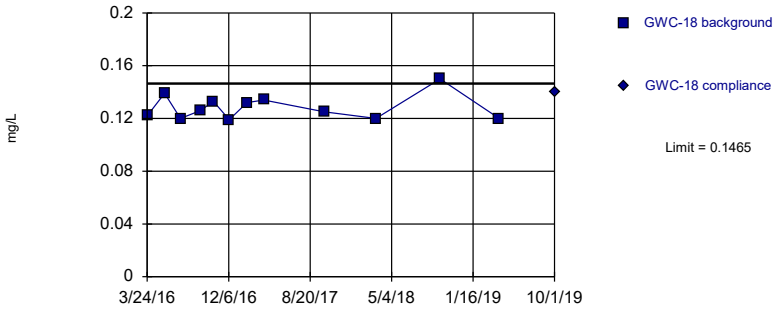
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1283, Std. Dev.=0.009547, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8732, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

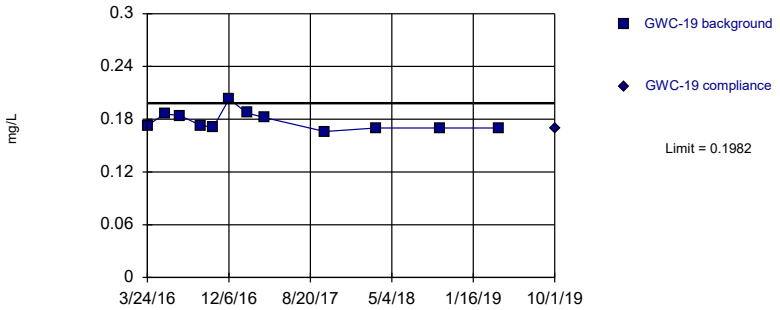
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1779, Std. Dev.=0.01069, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8612, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 1/24/2020 9:57 AM

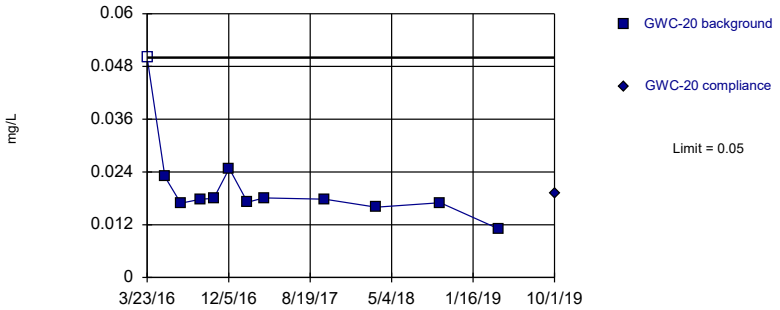
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. 8.333% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

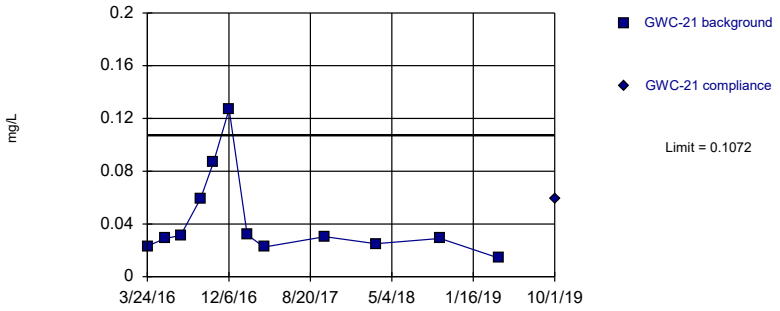
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation): Mean=0.3329, Std. Dev.=0.07476, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8314, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

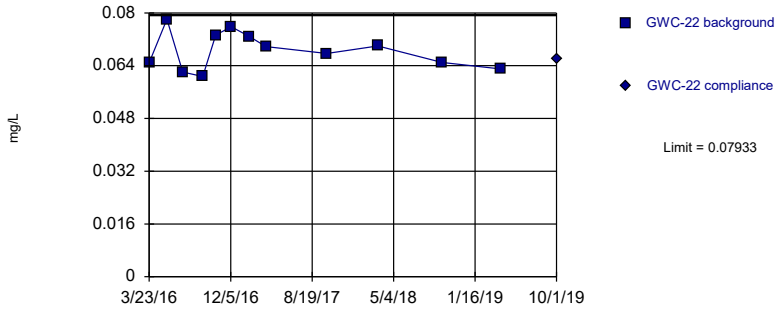
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.06861, Std. Dev.=0.005637, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9573, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Boron Analysis Run 1/24/2020 9:57 AM

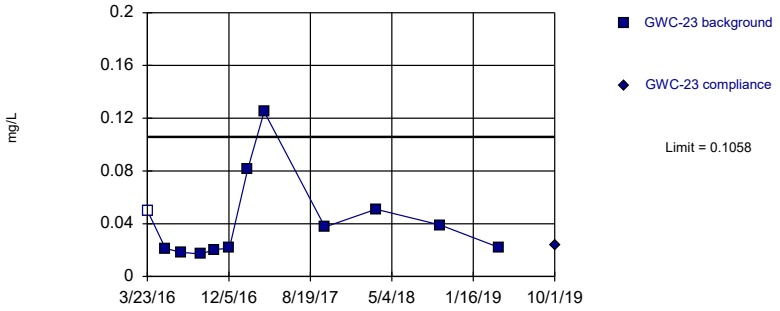
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.194, Std. Dev.=0.06906, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8403, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

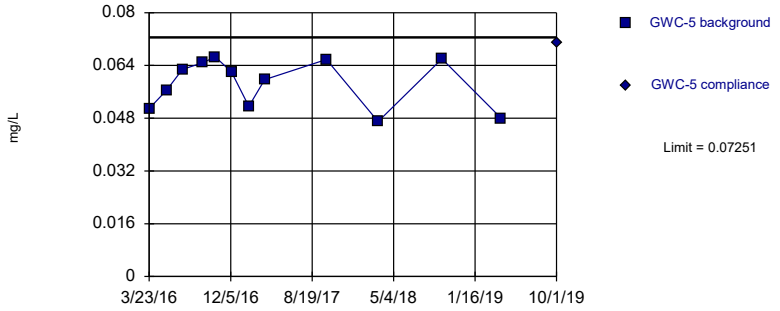
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.05848, Std. Dev.=0.007379, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.88, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

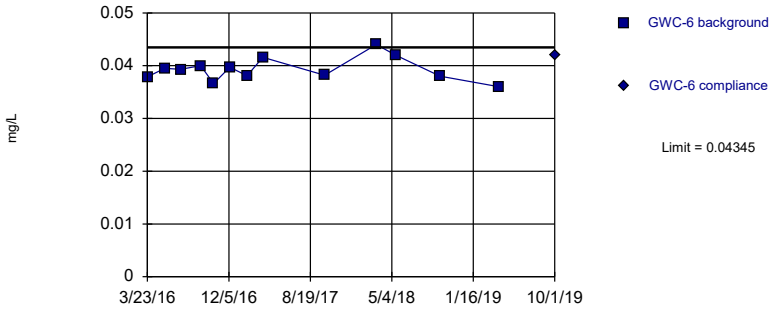
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.0393, Std. Dev.=0.002233, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9557, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

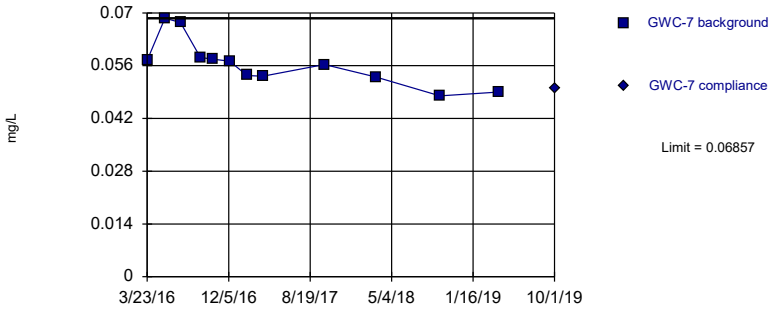
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.05663, Std. Dev.=0.006282, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8994, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

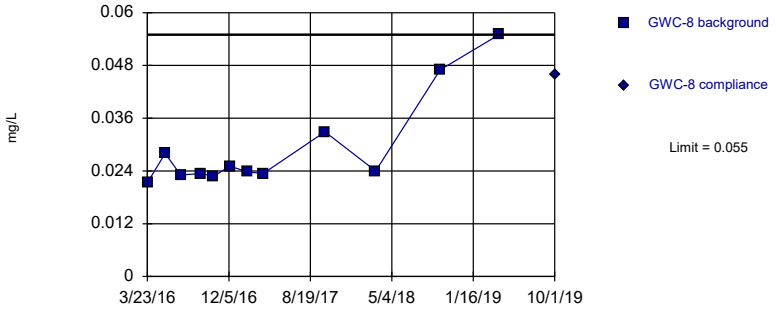
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: Boron Analysis Run 1/24/2020 9:57 AM

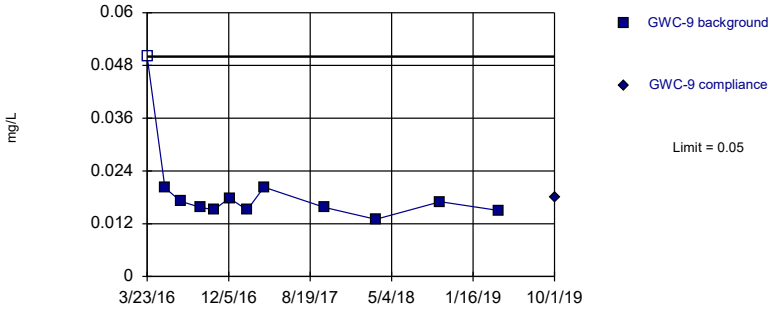
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. 8.333% NDs. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

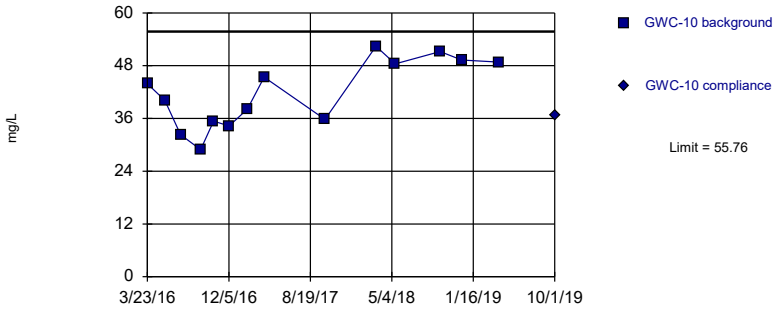
Constituent: Boron Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=41.74, Std. Dev.=7.713, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9357, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

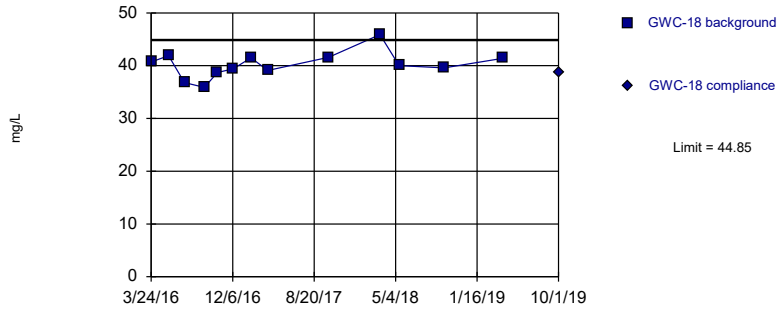
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=40.19, Std. Dev.=2.504, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9471, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

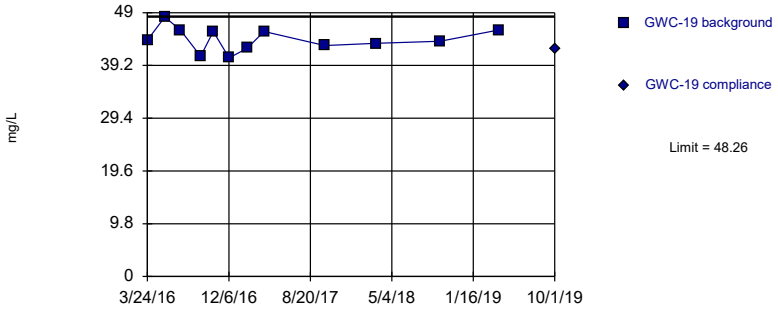
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=44.04, Std. Dev.=2.218, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9602, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

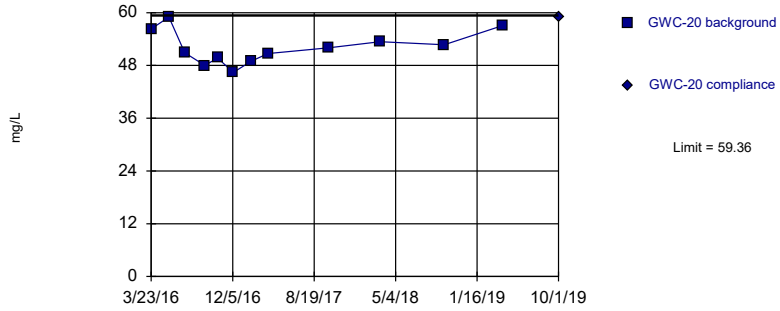
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=52.1, Std. Dev.=3.818, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9652, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

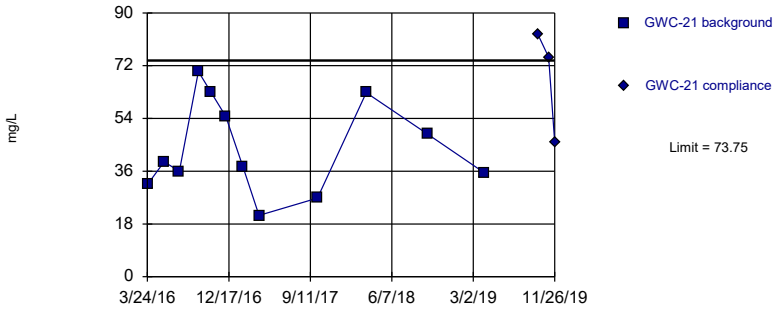
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=43.85, Std. Dev.=15.72, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9405, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

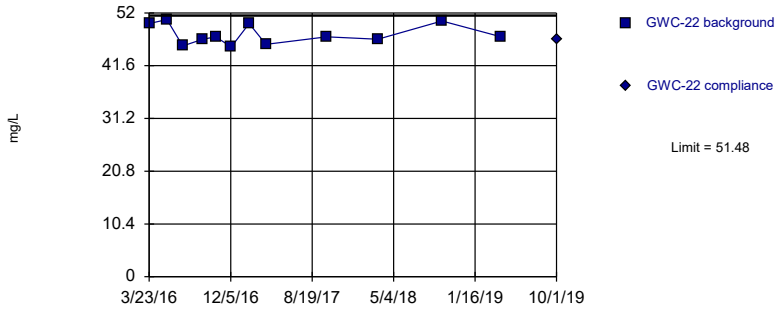
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=47.75, Std. Dev.=1.96, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8766, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

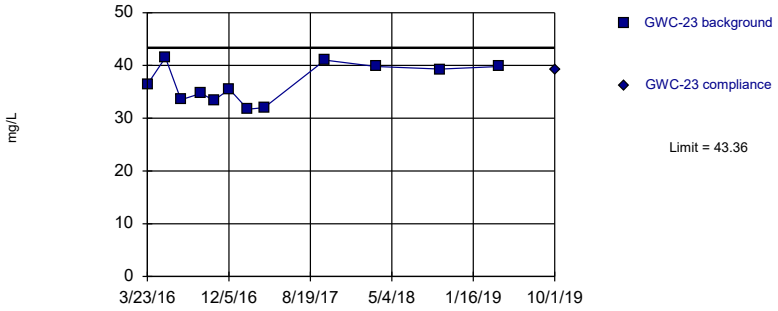
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=36.55, Std. Dev.=3.58, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9074, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

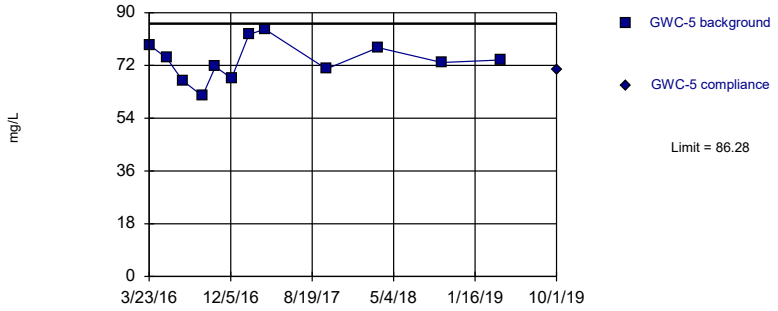
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=73.67, Std. Dev.=6.629, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9838, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

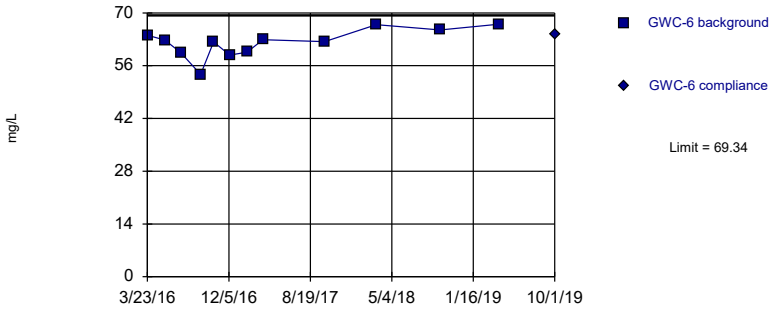
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=62.13, Std. Dev.=3.794, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9346, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

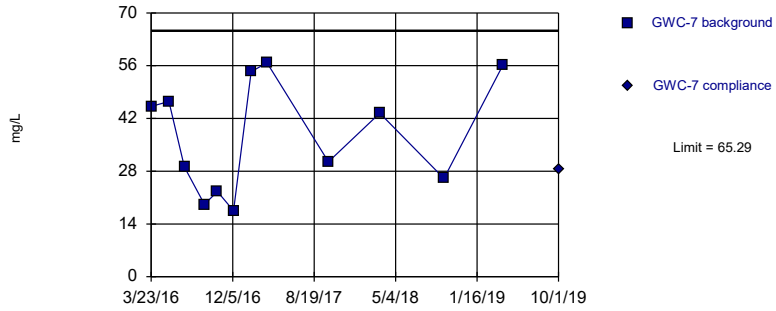
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=37.28, Std. Dev.=14.72, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9012, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

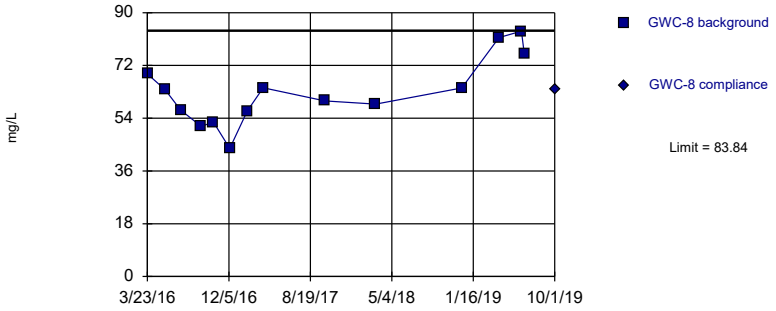
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=63.01, Std. Dev.=11.45, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9607, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

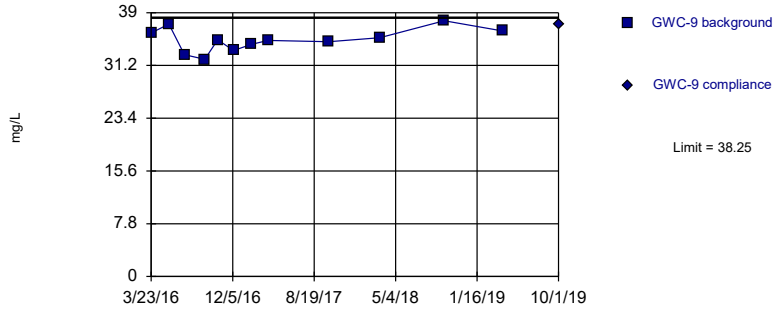
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=34.99, Std. Dev.=1.714, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9795, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

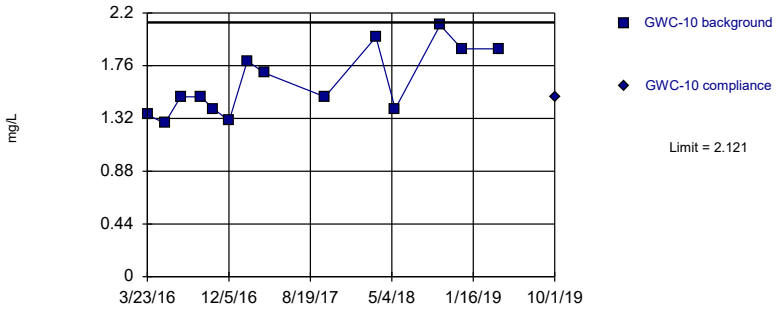
Constituent: Calcium Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.616, Std. Dev.=0.2775, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

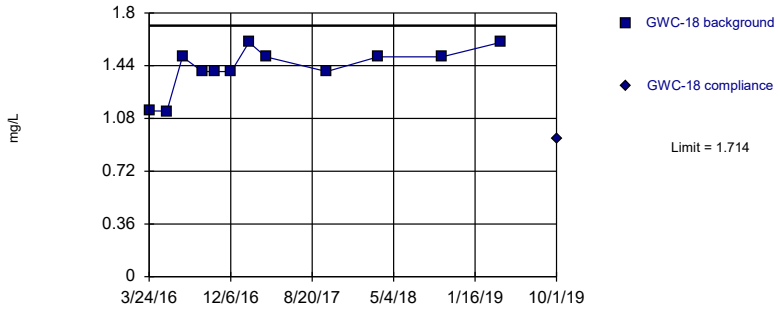
Constituent: Chloride Analysis Run 1/24/2020 9:57 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.422, Std. Dev.=0.1536, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8326, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

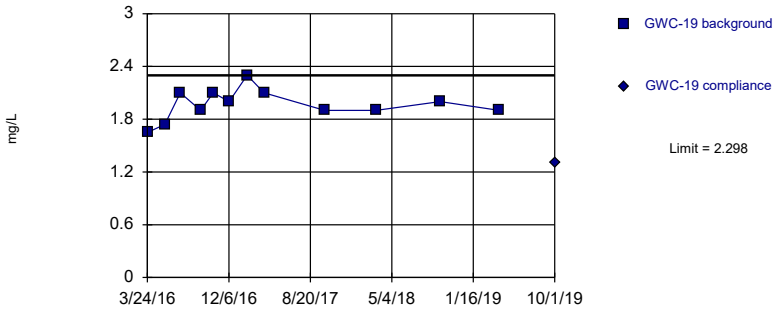
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.966, Std. Dev.=0.1748, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9548, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

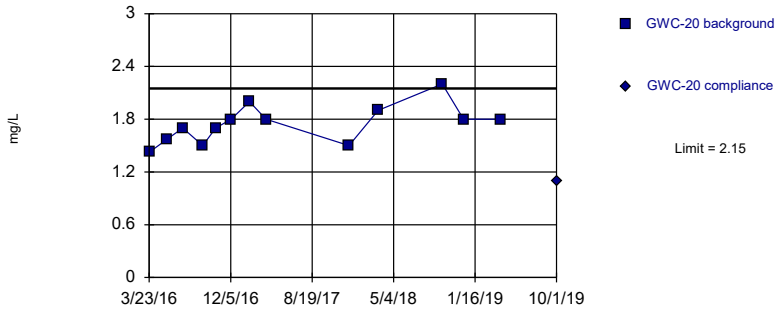
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.746, Std. Dev.=0.2172, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9526, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

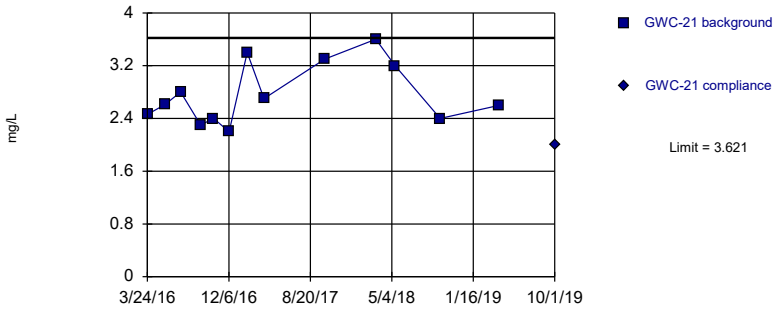
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=2.767, Std. Dev.=0.4589, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9051, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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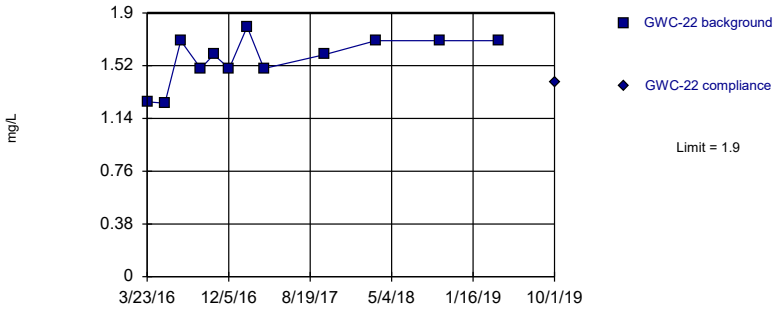
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.567, Std. Dev.=0.1747, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8837, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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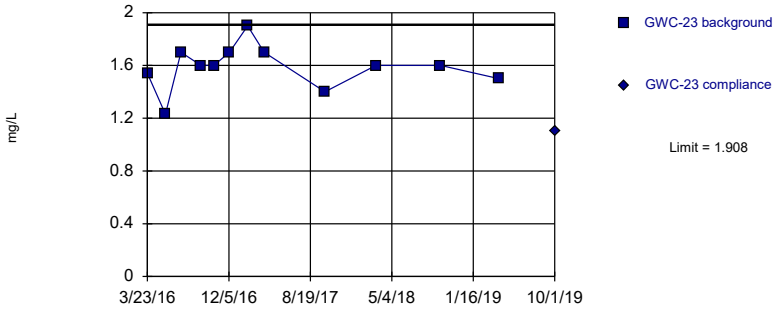
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.589, Std. Dev.=0.1676, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9393, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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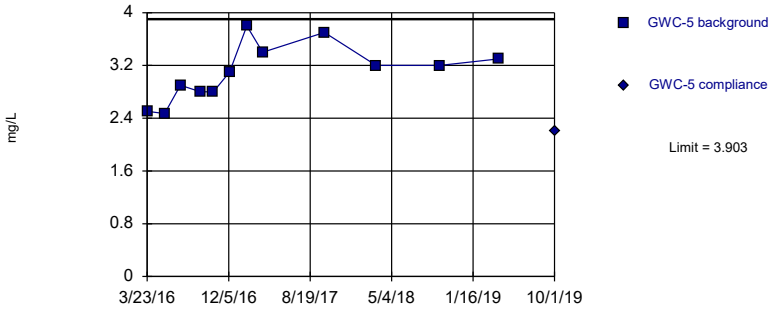
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=3.098, Std. Dev.=0.4233, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9611, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

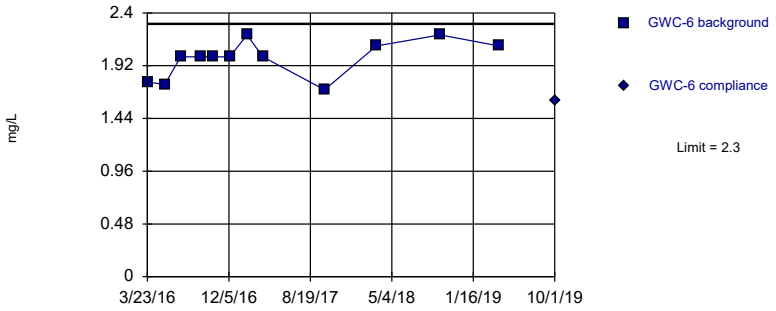
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.985, Std. Dev.=0.1658, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8823, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

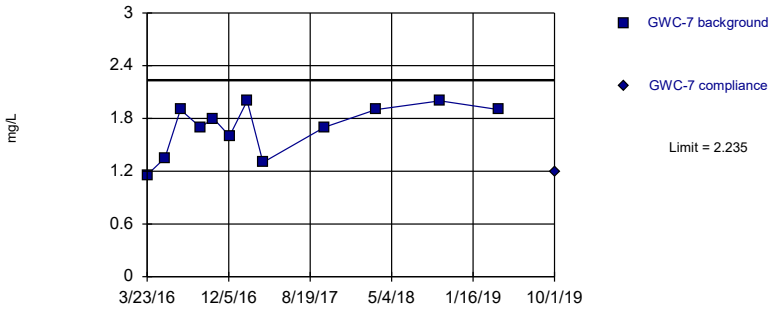
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.692, Std. Dev.=0.2855, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8882, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

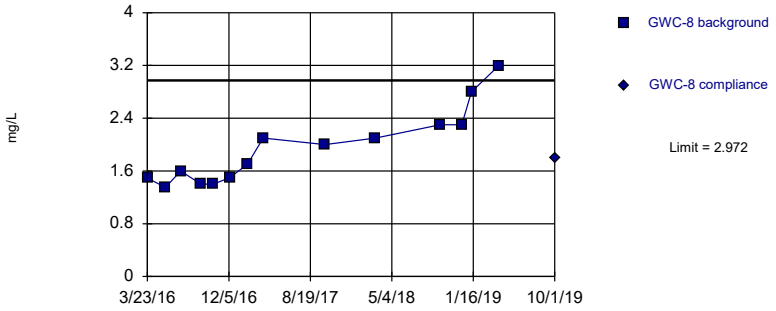
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.946, Std. Dev.=0.5642, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8914, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

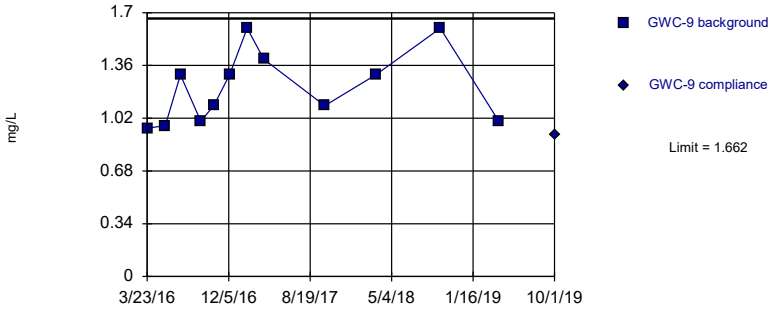
Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=1.219, Std. Dev.=0.233, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8859, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Chloride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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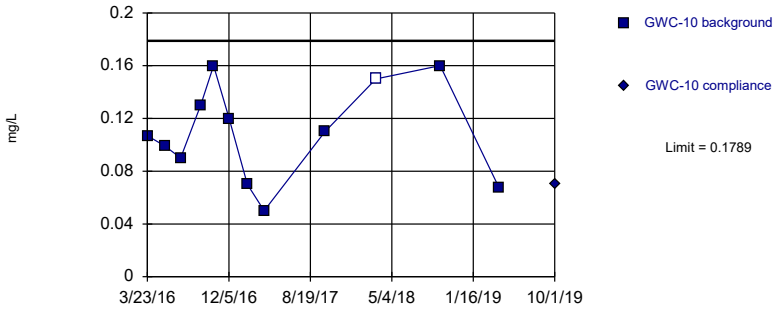
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1094, Std. Dev.=0.03652, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9536, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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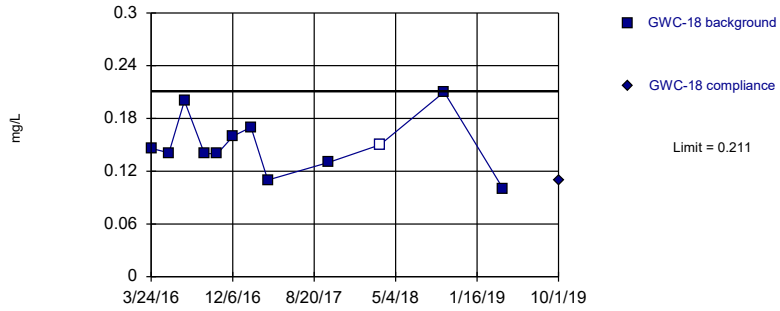
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1497, Std. Dev.=0.03219, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9448, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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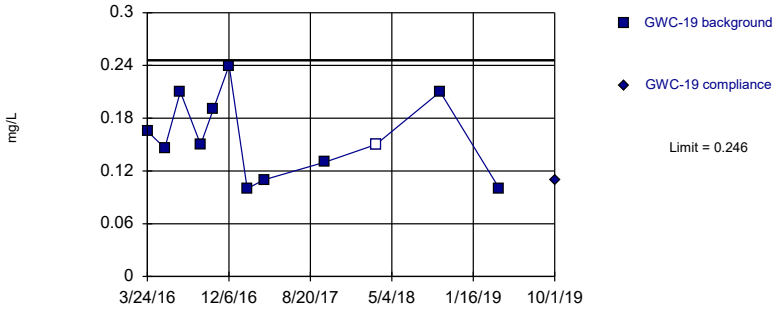
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1584, Std. Dev.=0.04602, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9401, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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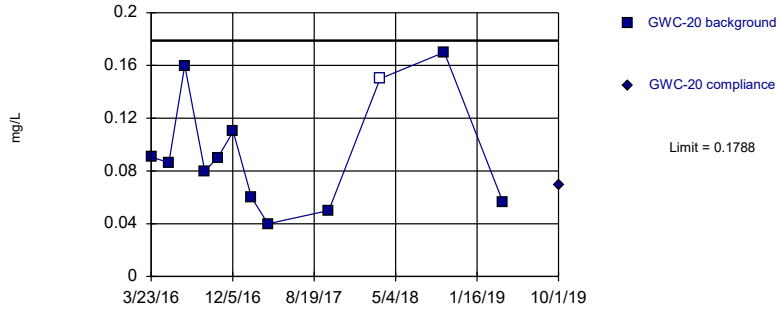
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.09524, Std. Dev.=0.04394, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9073, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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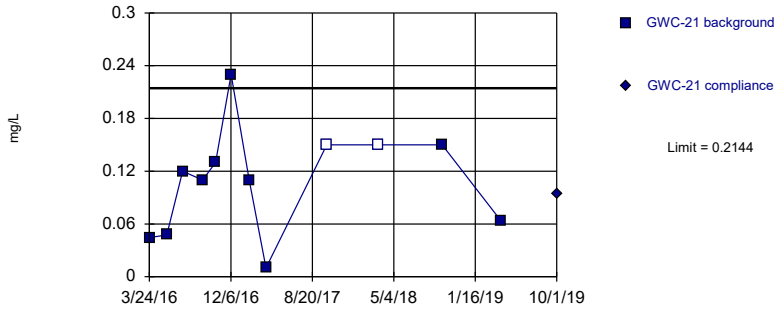
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.09464, Std. Dev.=0.06295, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9534, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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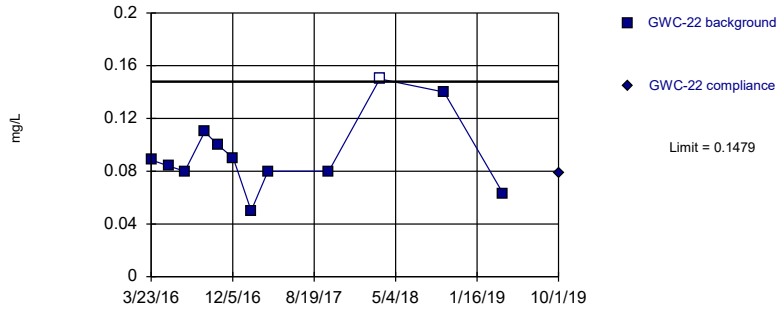
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.09296, Std. Dev.=0.02886, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9163, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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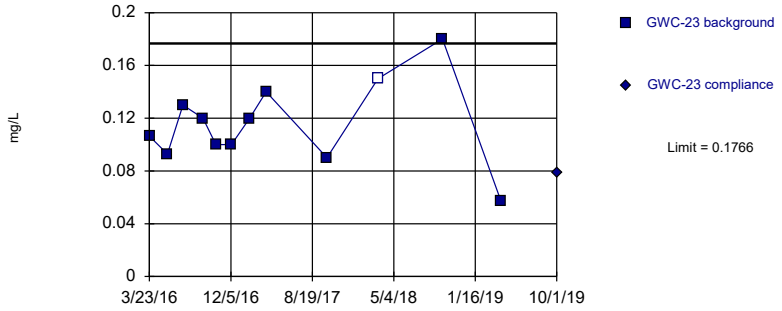
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1155, Std. Dev.=0.03213, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9783, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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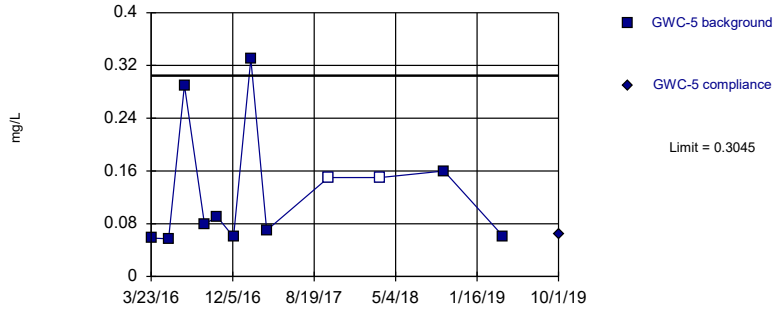
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.3288, Std. Dev.=0.1172, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8275, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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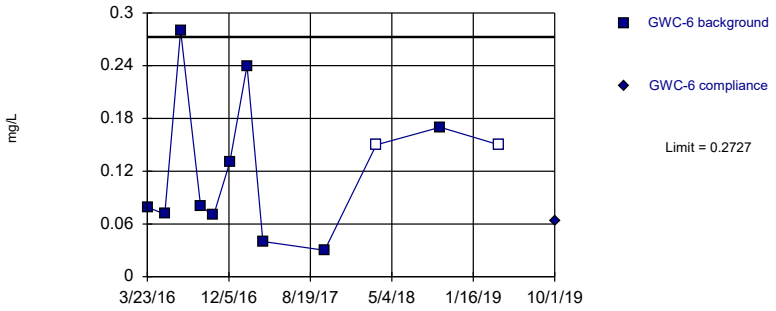
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.119, Std. Dev.=0.08077, n=12, 16.67% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9156, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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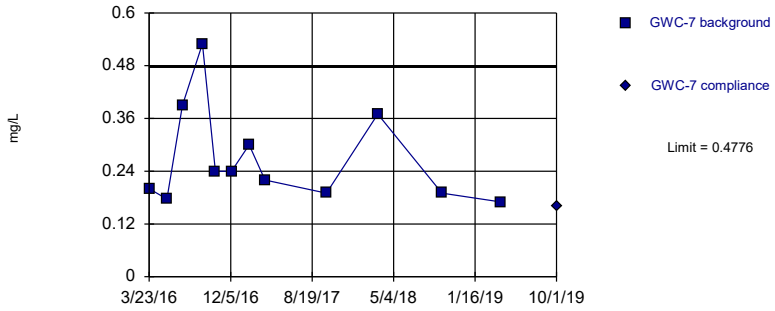
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2681, Std. Dev.=0.1102, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8255, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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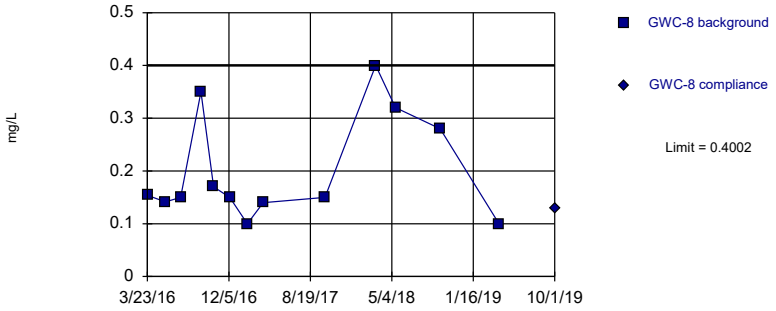
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.436, Std. Dev.=0.1057, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8442, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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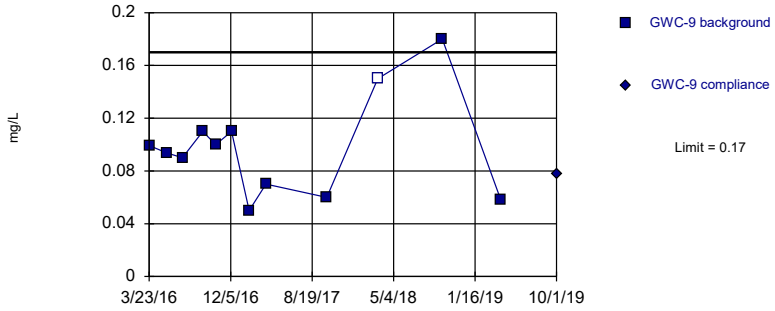
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.09758, Std. Dev.=0.03806, n=12, 8.333% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9179, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

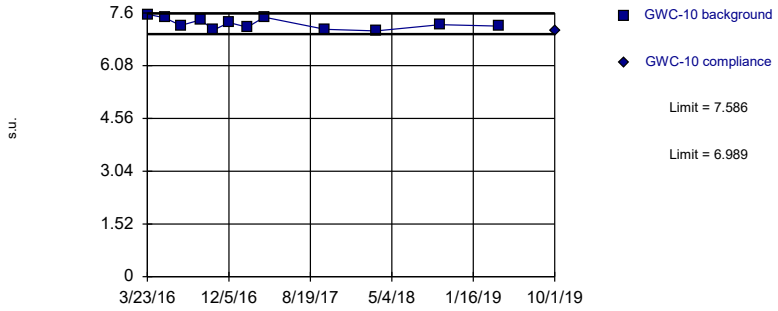
Constituent: Fluoride Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.288, Std. Dev.=0.157, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9455, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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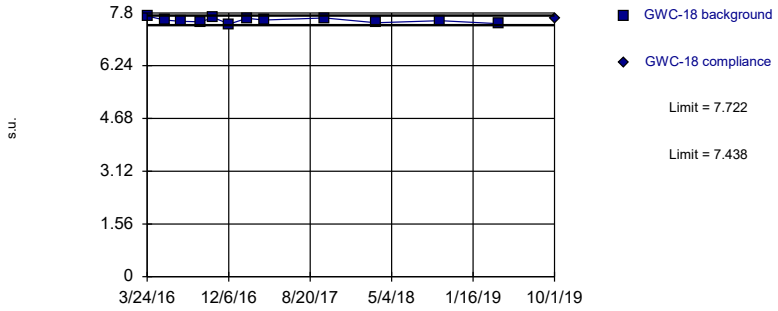
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.58, Std. Dev.=0.07483, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9686, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

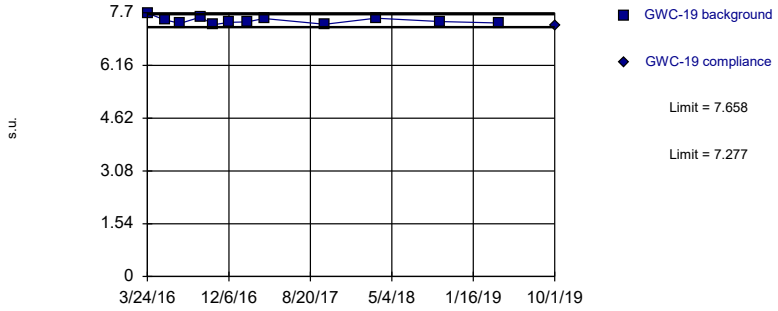
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.468, Std. Dev.=0.1, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9223, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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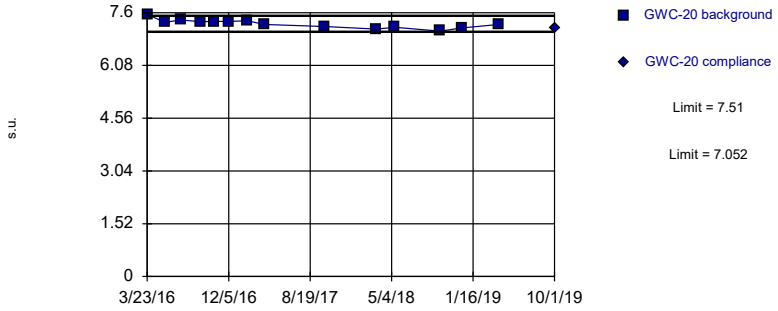
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.281, Std. Dev.=0.126, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9663, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

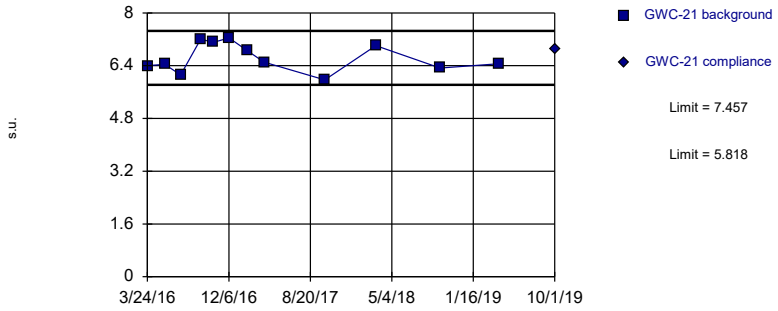
Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.638, Std. Dev.=0.4309, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9252, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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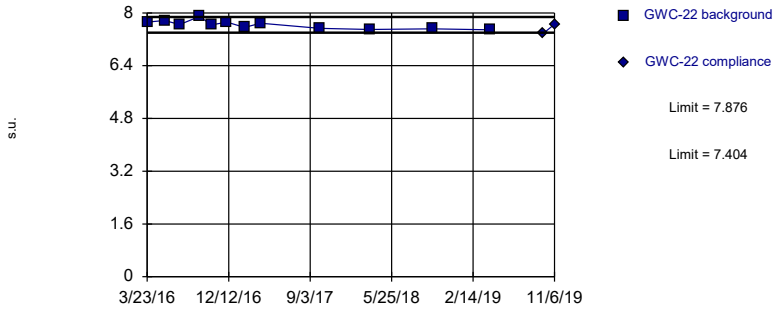
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.64, Std. Dev.=0.1242, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9335, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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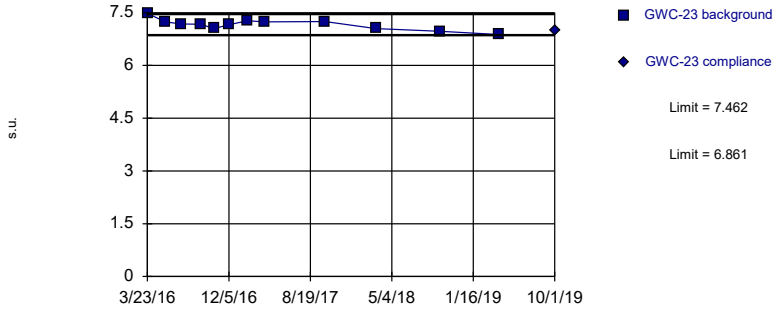
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.162, Std. Dev.=0.158, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9585, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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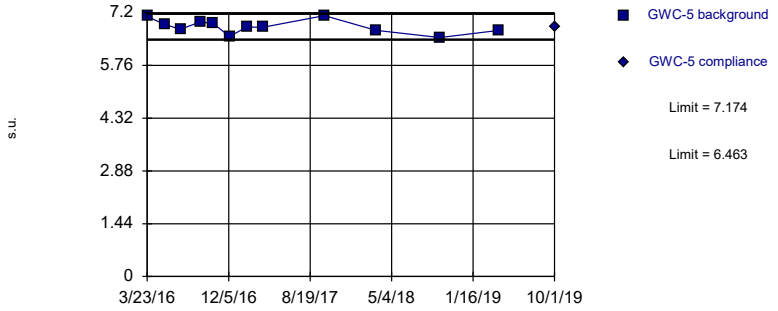
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.818, Std. Dev.=0.1867, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.958, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

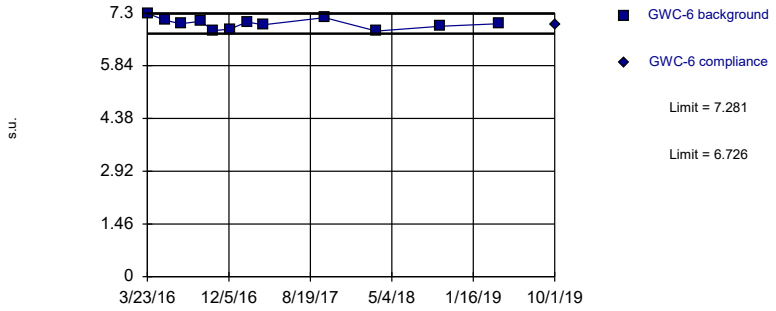
Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.003, Std. Dev.=0.1461, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9665, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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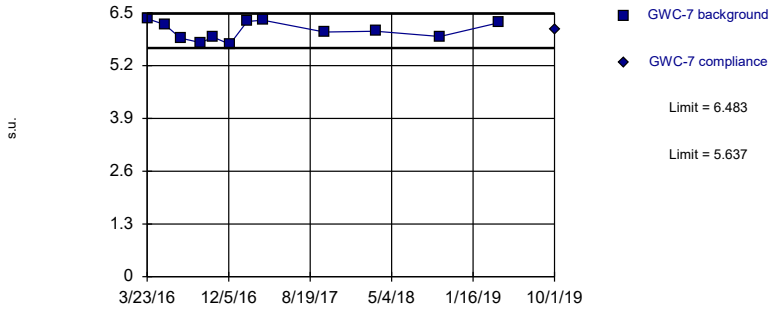
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.06, Std. Dev.=0.2225, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9216, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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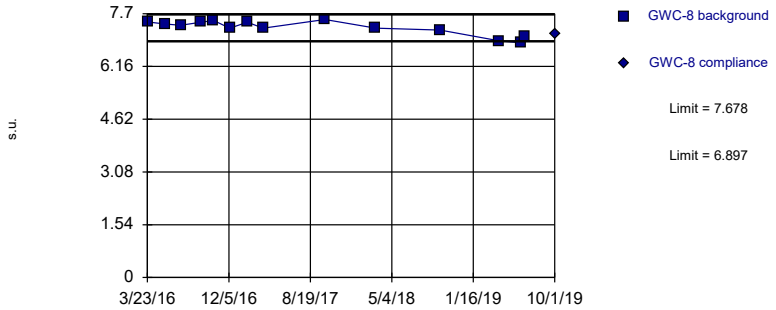
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=7.287, Std. Dev.=0.2147, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8813, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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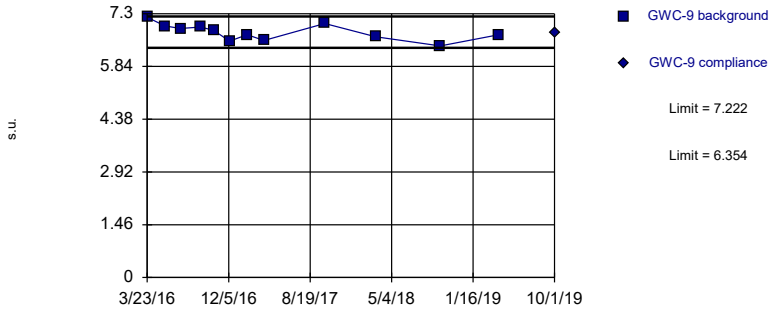
Within Limits

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=6.788, Std. Dev.=0.2283, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9852, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

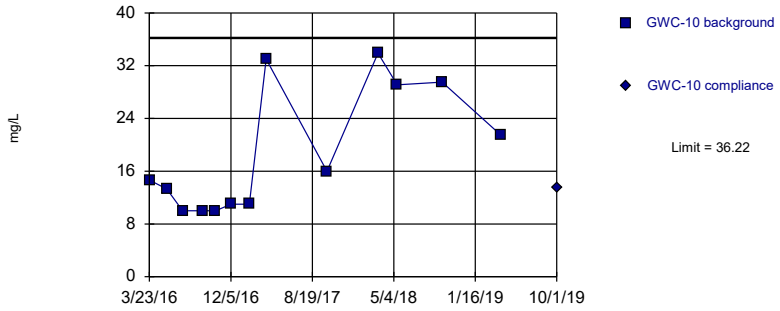
Constituent: pH Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=18.68, Std. Dev.=9.426, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8184, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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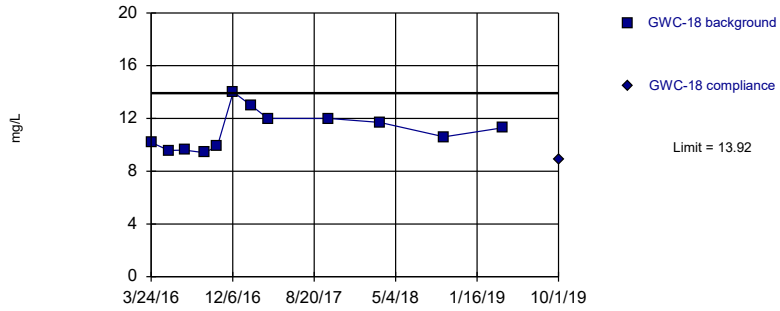
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=11.11, Std. Dev.=1.478, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9247, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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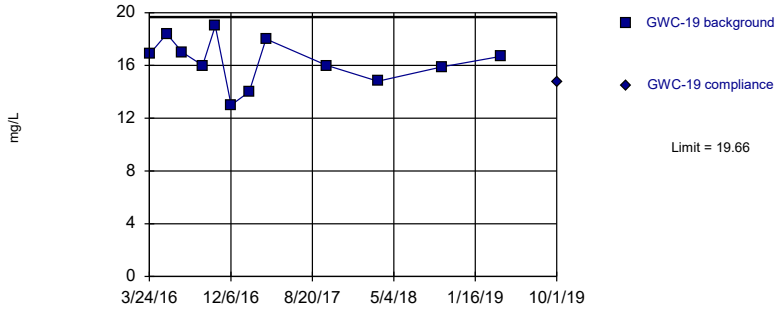
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=16.3, Std. Dev.=1.766, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9713, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

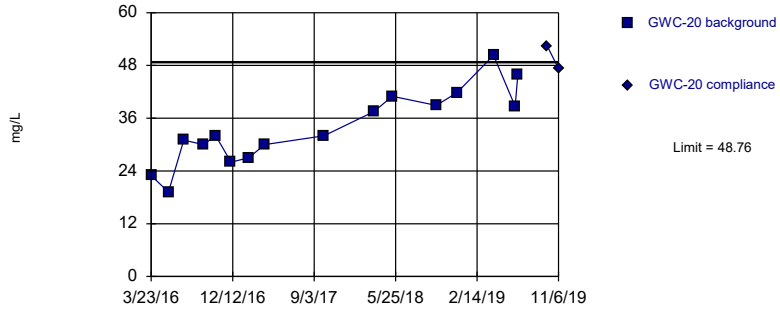
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=34.02, Std. Dev.=8.488, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9803, critical = 0.844. Kappa = 1.736 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

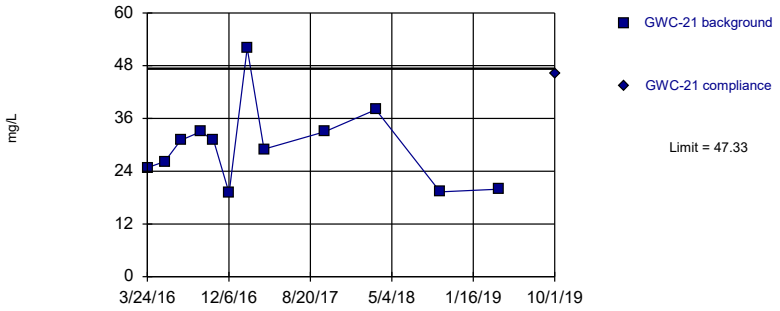
Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=29.68, Std. Dev.=9.277, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8983, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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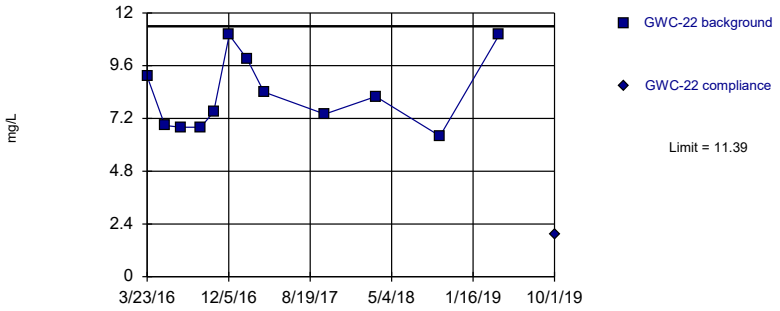
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=8.283, Std. Dev.=1.635, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8884, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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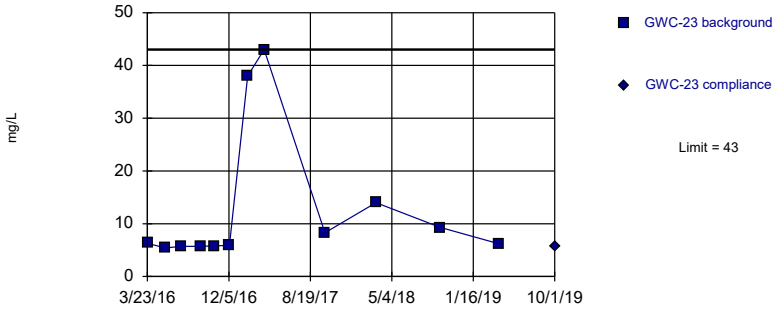
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

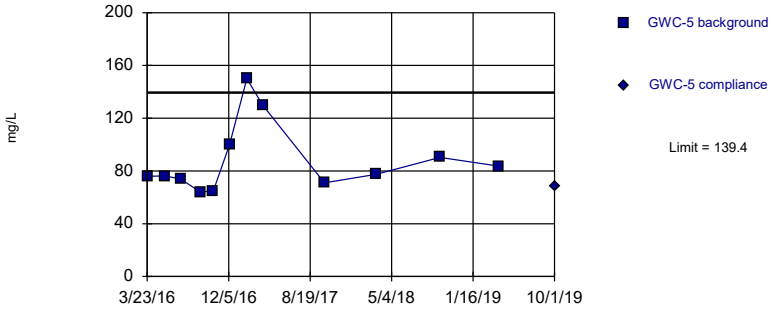
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=9.303, Std. Dev.=1.316, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8354, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

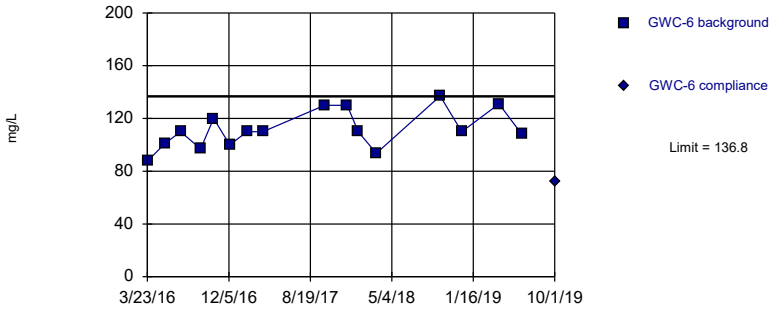
Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=111.6, Std. Dev.=14.51, n=16. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9372, critical = 0.844. Kappa = 1.736 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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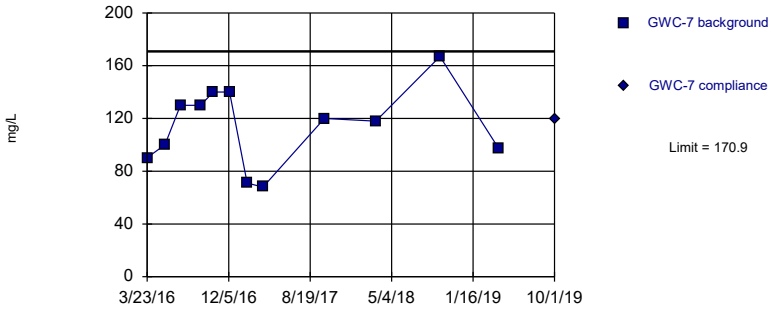
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=114.3, Std. Dev.=29.75, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9639, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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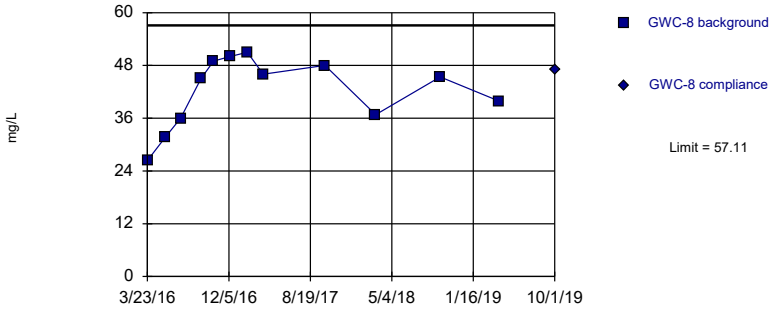
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=42.1, Std. Dev.=7.892, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9112, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

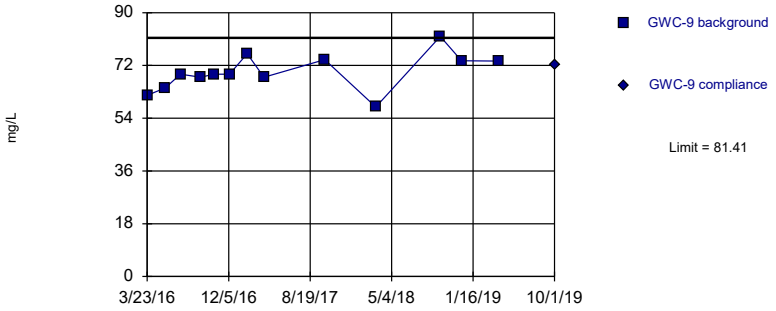
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=69.69, Std. Dev.=6.302, n=13. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9723, critical = 0.814. Kappa = 1.861 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

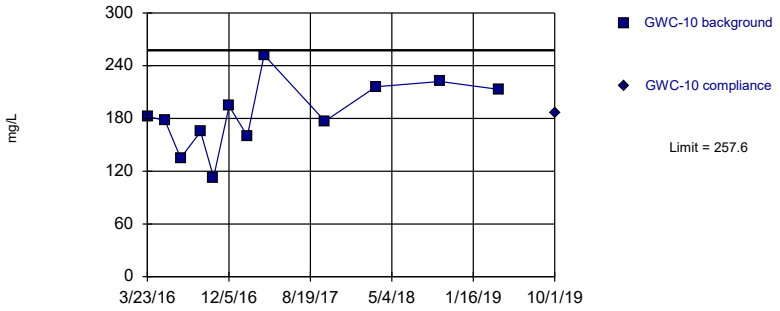
Constituent: Sulfate Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=183.9, Std. Dev.=38.73, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9848, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

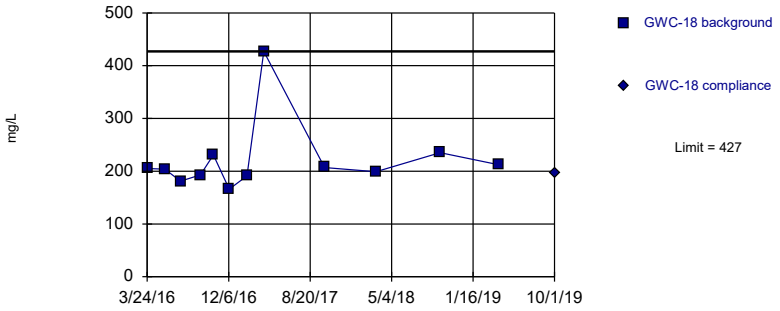
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

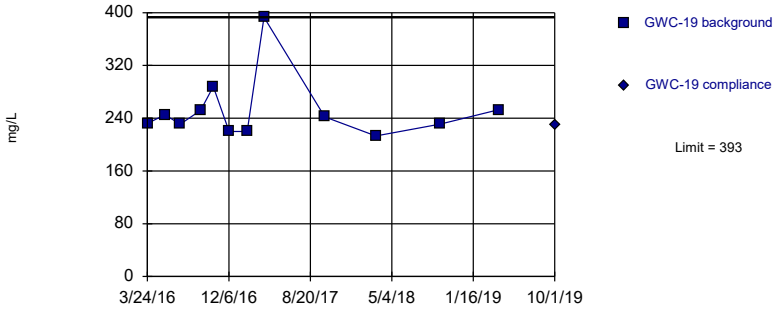
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

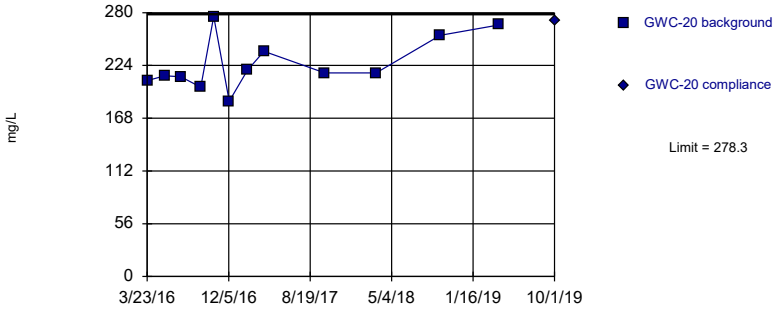
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=225.8, Std. Dev.=27.65, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9064, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

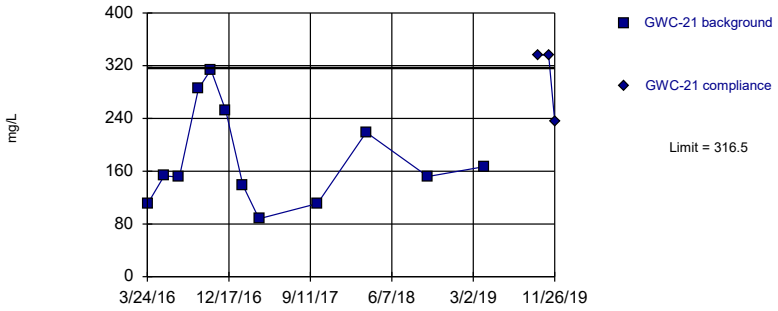
Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=178.3, Std. Dev.=72.65, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.906, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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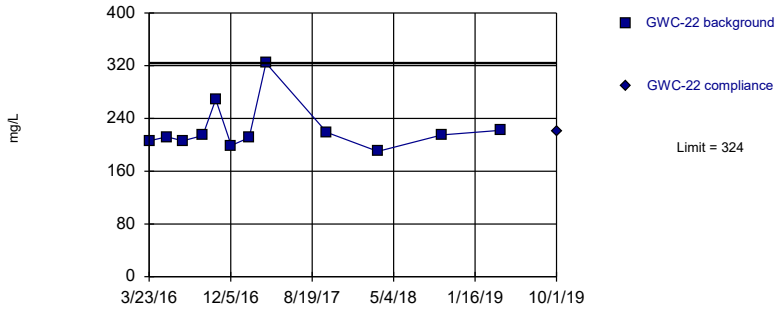
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 12 background values. Well-constituent pair annual alpha = 0.004342. Individual comparison alpha = 0.002173 (1 of 3).

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

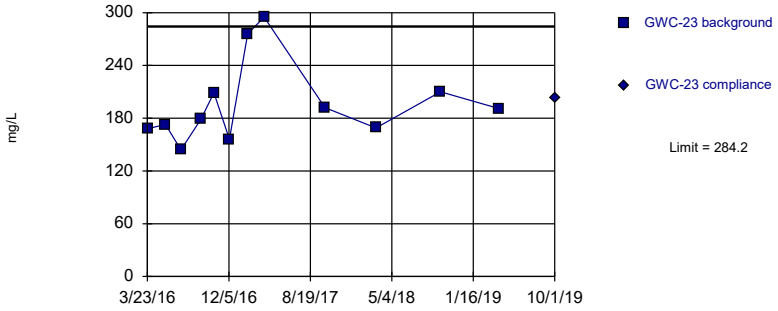
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=196.8, Std. Dev.=45.96, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8544, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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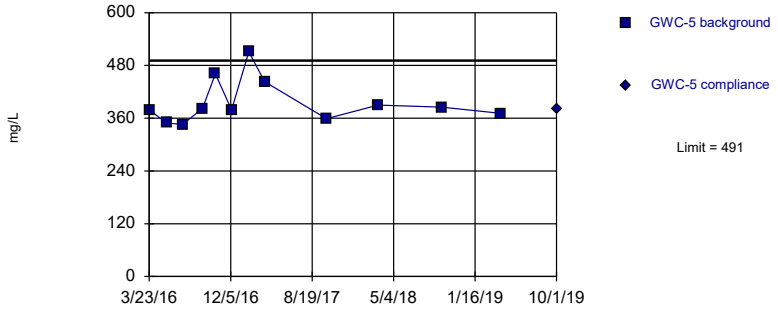
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=396.3, Std. Dev.=49.81, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8349, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

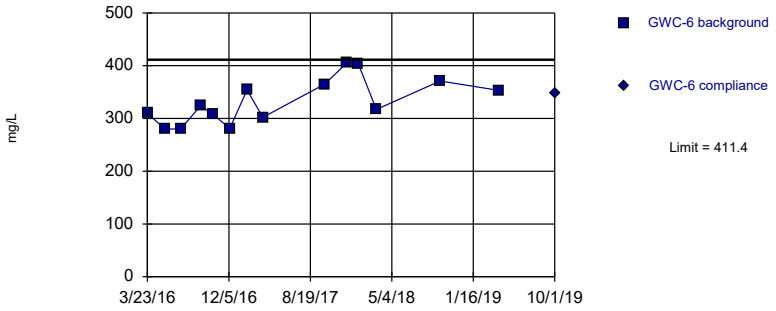
Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=332.4, Std. Dev.=43.41, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9174, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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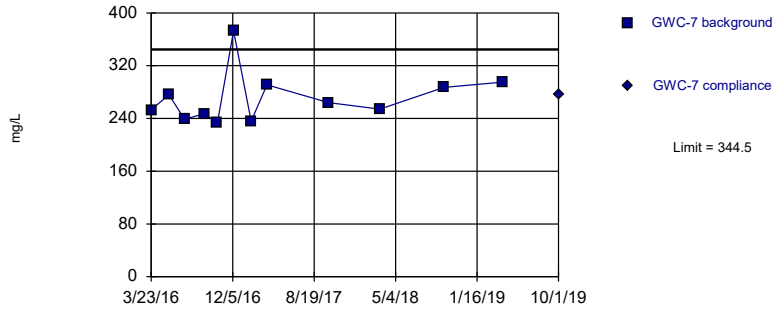
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=270.7, Std. Dev.=38.84, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8285, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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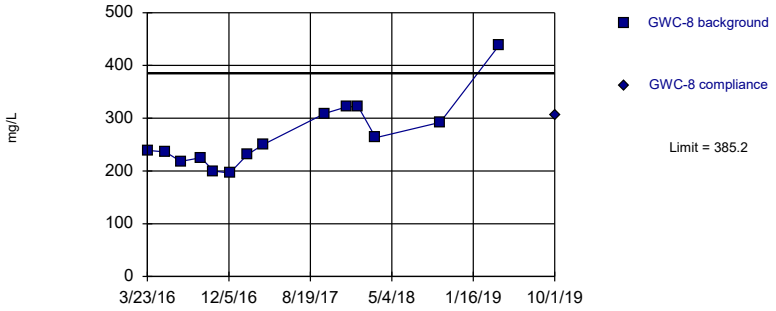
Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=267.2, Std. Dev.=64.88, n=14. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.869, critical = 0.825. Kappa = 1.819 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

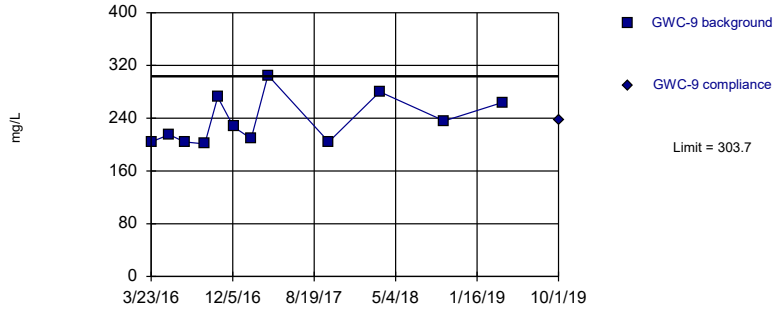
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=235.1, Std. Dev.=36.07, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8536, critical = 0.805. Kappa = 1.902 (c=7, w=12, 1 of 3, event alpha = 0.05132). Report alpha = 0.0006269.

Constituent: Total Dissolved Solids Analysis Run 1/24/2020 9:58 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

D&O Parameters Statistical Analysis Package (SW Program) D02

Outlier Summary (D&O) - Huffaker Rd. Landfill

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 1/23/2020, 10:37 AM

	GWC-8 Antimony (mg/L)	GWC-7 Arsenic (mg/L)	GWC-7 Beryllium (mg/L)	GWC-7 Cadmium (mg/L)	GWC-7 Chromium (mg/L)	GWC-7 Cobalt (mg/L)	GWC-7 Copper (mg/L)	GWC-7 Nickel (mg/L)	GWC-7 Zinc (mg/L)
5/9/2007		0.038 (o)	0.28 (o)	0.023 (o)	0.11 (o)	6.5 (o)	0.44 (o)	18 (o)	45 (o)
7/6/2007						2.1 (o)		5.9 (o)	16 (o)
8/28/2007						1.4 (o)			11 (o)
11/6/2007	0.0064 (o)					1.1 (o)			

Date Ranges

Date: 11/26/2019 2:33 PM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Barium (mg/L)
- GWA-2 background:4/13/2010-10/4/2018
- GWC-19 background:4/13/2010-10/4/2018
- GWC-22 background:4/13/2010-10/4/2018
- GWC-6 background:3/23/2016-10/4/2018
- GWC-7 background:4/3/2012-10/4/2018
- GWC-9 background:10/4/2011-10/5/2018

Cobalt (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Nickel (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Zinc (mg/L)
- GWC-7 background:3/12/2013-10/4/2018

Prediction Limit (D&O) - Significant Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:02 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Arsenic (mg/L)	**GWC-7**	**0.0088**	**n/a**	**10/1/2019**	**0.01**	**Yes**	**30**	**46.67**	**n/a**	**0.002008**	**NP Intra (normality) 1 of 2**
Barium (mg/L)	**GWC-20**	**0.1358**	**n/a**	**10/1/2019**	**0.14**	**Yes**	**31**	**0**	**x^3**	**0.0002926**	**Param Intra 1 of 2**

Note:
(1) The Barium UPL and the October result values at GWC-20 are equal with two significant digits; therefore, barium is not considered an SSI.

Prediction Limit (D&O) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:02 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Antimony (mg/L)	GWC-10	0.003	n/a	10/1/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-18	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-19	0.003	n/a	10/1/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-20	0.003	n/a	10/1/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-21	0.003	n/a	10/1/2019	0.003ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-22	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-23	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-5	0.003	n/a	10/1/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-6	0.003	n/a	10/1/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-7	0.003	n/a	10/1/2019	0.003ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-8	0.003	n/a	10/1/2019	0.003ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Antimony (mg/L)	GWC-9	0.003	n/a	10/1/2019	0.003ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-10	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-18	0.005	n/a	10/1/2019	0.005ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-19	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-20	0.005	n/a	10/1/2019	0.005ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-21	0.005	n/a	10/1/2019	0.005ND	No	30	86.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-22	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-23	0.005	n/a	10/1/2019	0.00082	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-5	0.005	n/a	10/1/2019	0.005ND	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-6	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	**GWC-7**	**0.0088**	**n/a**	**10/1/2019**	**0.01**	**Yes**	**30**	**46.67**	**n/a**	**0.002008**	**NP Intra (normality) 1 of 2**
Arsenic (mg/L)	GWC-8	0.005	n/a	10/1/2019	0.0028	No	31	87.1	n/a	0.001905	NP Intra (NDs) 1 of 2
Arsenic (mg/L)	GWC-9	0.005	n/a	10/1/2019	0.00071	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Barium (mg/L)	GWC-10	0.1912	n/a	10/1/2019	0.12	No	33	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-18	0.08974	n/a	10/1/2019	0.082	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-19	0.1697	n/a	10/1/2019	0.15	No	23	0	x^4	0.0002926	Param Intra 1 of 2
Barium (mg/L)	**GWC-20**	**0.1358**	**n/a**	**10/1/2019**	**0.14**	**Yes**	**31**	**0**	**x^3**	**0.0002926**	**Param Intra 1 of 2**
Barium (mg/L)	GWC-21	0.2404	n/a	10/1/2019	0.18	No	30	0	ln(x)	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-22	0.121	n/a	10/1/2019	0.1	No	23	0	n/a	0.003415	NP Intra (normality) 1 of 2
Barium (mg/L)	GWC-23	0.08464	n/a	10/1/2019	0.082	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-5	0.1274	n/a	10/1/2019	0.09	No	32	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-6	0.1978	n/a	10/1/2019	0.18	No	11	0	No	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-7	0.4063	n/a	10/1/2019	0.085	No	19	0	sqrt(x)	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-8	0.1227	n/a	10/1/2019	0.12	No	31	0	sqrt(x)	0.0002926	Param Intra 1 of 2
Barium (mg/L)	GWC-9	0.07338	n/a	10/1/2019	0.071	No	20	0	No	0.0002926	Param Intra 1 of 2
Beryllium (mg/L)	GWC-10	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-18	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-19	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-20	0.003	n/a	10/1/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-21	0.003	n/a	10/1/2019	0.003ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-22	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-23	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-5	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-6	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-7	0.137	n/a	10/1/2019	0.0001	No	30	23.33	ln(x)	0.0002926	Param Intra 1 of 2
Beryllium (mg/L)	GWC-8	0.003	n/a	10/1/2019	0.003ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Beryllium (mg/L)	GWC-9	0.003	n/a	10/1/2019	0.003ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-10	0.001	n/a	10/1/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-18	0.001	n/a	10/1/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2

Prediction Limit (D&O) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:02 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Cadmium (mg/L)	GWC-19	0.001	n/a	10/1/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-20	0.001	n/a	10/1/2019	0.001ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-21	0.001	n/a	10/1/2019	0.001ND	No	30	93.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-22	0.001	n/a	10/1/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-23	0.001	n/a	10/1/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-5	0.0015	n/a	10/1/2019	0.001ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-6	0.001	n/a	10/1/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-7	0.0081	n/a	10/1/2019	0.001ND	No	30	80	n/a	0.002008	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-8	0.001	n/a	10/1/2019	0.001ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cadmium (mg/L)	GWC-9	0.001	n/a	10/1/2019	0.001ND	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	32	90.63	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.00086	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	31	90.32	n/a	0.001905	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-21	0.01	n/a	10/1/2019	0.01ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.01ND	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.0051	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.0012	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-7	0.01	n/a	10/1/2019	0.01ND	No	30	83.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.0005	No	31	90.32	n/a	0.001905	NP Intra (NDs) 1 of 2
Chromium (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.01ND	No	32	90.63	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-21	0.01	n/a	10/1/2019	0.00046	No	30	63.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.00033	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-7	0.08032	n/a	10/1/2019	0.017	No	17	0	No	0.0002926	Param Intra 1 of 2
Cobalt (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.00081	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Cobalt (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.00041	No	32	93.75	n/a	0.001803	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-10	0.025	n/a	10/1/2019	0.025ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-18	0.025	n/a	10/1/2019	0.00037	No	27	92.59	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-19	0.025	n/a	10/1/2019	0.00019	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-20	0.025	n/a	10/1/2019	0.00023	No	26	96.15	n/a	0.002667	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-21	0.025	n/a	10/1/2019	0.00084	No	25	76	n/a	0.002832	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-22	0.025	n/a	10/1/2019	0.00031	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-23	0.025	n/a	10/1/2019	0.00083	No	27	85.19	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-5	0.025	n/a	10/1/2019	0.00031	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-6	0.025	n/a	10/1/2019	0.00023	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-7	0.025	n/a	10/1/2019	0.00034	No	25	80	n/a	0.002832	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-8	0.025	n/a	10/1/2019	0.00036	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Copper (mg/L)	GWC-9	0.025	n/a	10/1/2019	0.025ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-10	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-18	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-19	0.005	n/a	10/1/2019	0.005ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-20	0.005	n/a	10/1/2019	0.005ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2

Prediction Limit (D&O) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:02 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Lead (mg/L)	GWC-21	0.005	n/a	10/1/2019	0.000075	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-22	0.005	n/a	10/1/2019	0.00012	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-23	0.005	n/a	10/1/2019	0.00022	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-5	0.005	n/a	10/1/2019	0.000065	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-6	0.005	n/a	10/1/2019	0.005ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-7	0.005	n/a	10/1/2019	0.00005	No	31	83.87	n/a	0.001905	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-8	0.005	n/a	10/1/2019	0.005ND	No	31	96.77	n/a	0.001905	NP Intra (NDs) 1 of 2
Lead (mg/L)	GWC-9	0.005	n/a	10/1/2019	0.005ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.0015	No	27	85.19	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	27	88.89	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	26	92.31	n/a	0.002667	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-21	0.0104	n/a	10/1/2019	0.0031	No	25	24	x^(1/3)	0.0002926	Param Intra 1 of 2
Nickel (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.0035	No	27	81.48	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.00088	No	27	92.59	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.00042	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-7	0.3321	n/a	10/1/2019	0.07	No	12	0	No	0.0002926	Param Intra 1 of 2
Nickel (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.00063	No	26	96.15	n/a	0.002667	NP Intra (NDs) 1 of 2
Nickel (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.0022	No	27	66.67	n/a	0.002502	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-21	0.01	n/a	10/1/2019	0.01ND	No	30	93.33	n/a	0.002008	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.0014	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.01ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-7	0.01	n/a	10/1/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.01ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Selenium (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.01ND	No	32	96.88	n/a	0.001803	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-21	0.01	n/a	10/1/2019	0.01ND	No	25	96	n/a	0.002832	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-7	0.01	n/a	10/1/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Silver (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-10	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-18	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-19	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-20	0.001	n/a	10/1/2019	0.001ND	No	30	100	n/a	0.002008	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-21	0.001	n/a	10/1/2019	0.001ND	No	29	100	n/a	0.002172	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-22	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2

Prediction Limit (D&O) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:02 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Thallium (mg/L)	GWC-23	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-5	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-6	0.001	n/a	10/1/2019	0.001ND	No	32	100	n/a	0.001803	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-7	0.001	n/a	10/1/2019	0.001ND	No	30	96.67	n/a	0.002008	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-8	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Thallium (mg/L)	GWC-9	0.001	n/a	10/1/2019	0.001ND	No	31	100	n/a	0.001905	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-19	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-21	0.01	n/a	10/1/2019	0.01ND	No	25	92	n/a	0.002832	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.01ND	No	27	100	n/a	0.002502	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-7	0.01	n/a	10/1/2019	0.01ND	No	26	80.77	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.01ND	No	26	100	n/a	0.002667	NP Intra (NDs) 1 of 2
Vanadium (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.01ND	No	27	96.3	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-10	0.01	n/a	10/1/2019	0.0049	No	27	77.78	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-18	0.01	n/a	10/1/2019	0.006	No	27	70.37	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-19	0.013	n/a	10/1/2019	0.0049	No	27	59.26	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-20	0.01	n/a	10/1/2019	0.0063	No	26	80.77	n/a	0.002667	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-21	0.009513	n/a	10/1/2019	0.0078	No	25	12	No	0.0002926	Param Intra 1 of 2
Zinc (mg/L)	GWC-22	0.01	n/a	10/1/2019	0.0054	No	27	81.48	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-23	0.01	n/a	10/1/2019	0.0057	No	27	55.56	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-5	0.01	n/a	10/1/2019	0.0053	No	27	55.56	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-6	0.01	n/a	10/1/2019	0.0056	No	27	74.07	n/a	0.002502	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-7	0.6123	n/a	10/1/2019	0.12	No	12	0	No	0.0002926	Param Intra 1 of 2
Zinc (mg/L)	GWC-8	0.01	n/a	10/1/2019	0.0055	No	26	73.08	n/a	0.002667	NP Intra (NDs) 1 of 2
Zinc (mg/L)	GWC-9	0.01	n/a	10/1/2019	0.0052	No	27	66.67	n/a	0.002502	NP Intra (NDs) 1 of 2

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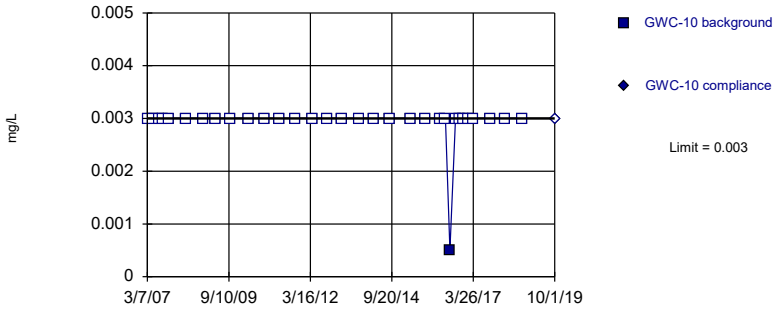
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

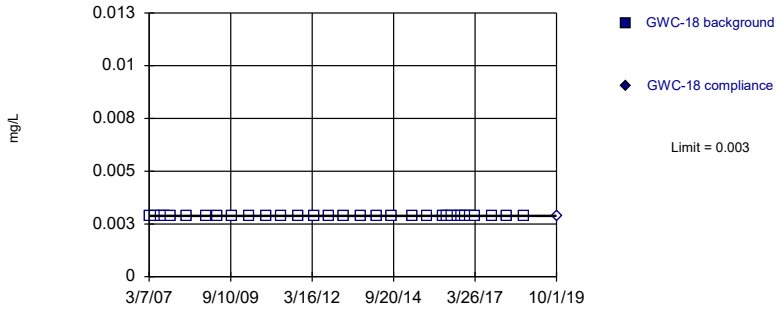
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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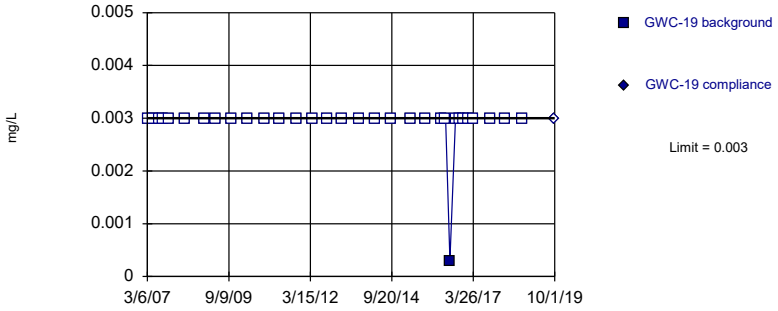
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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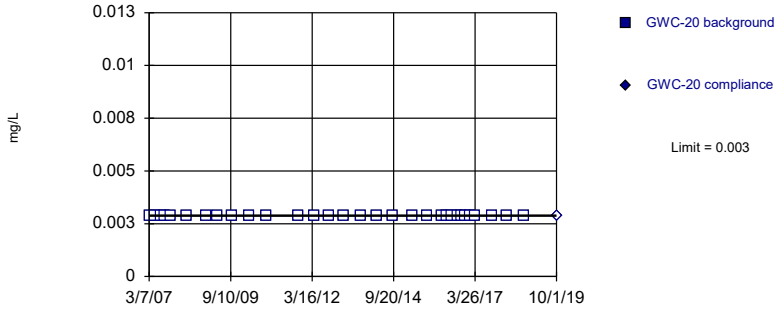
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

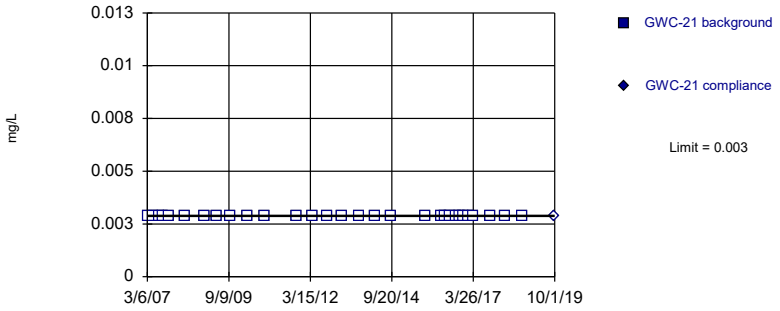
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

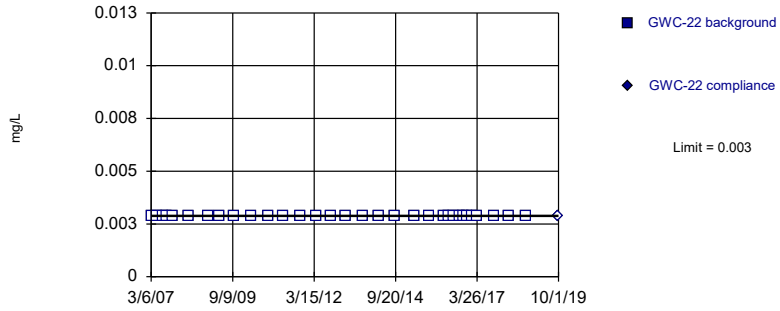
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

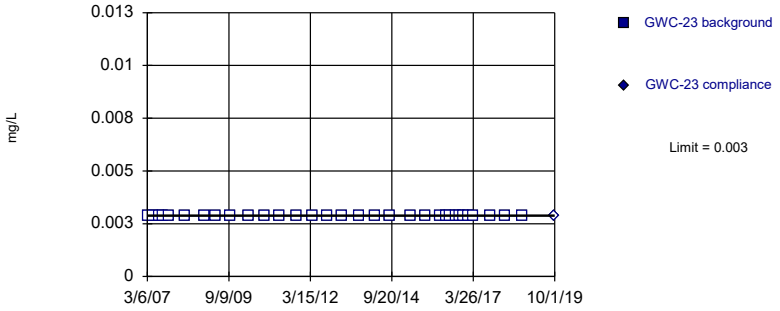
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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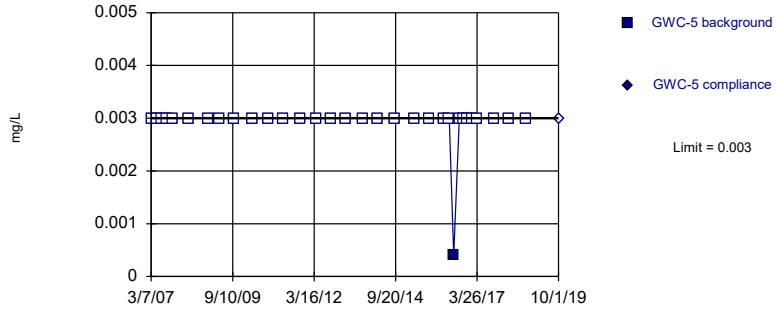
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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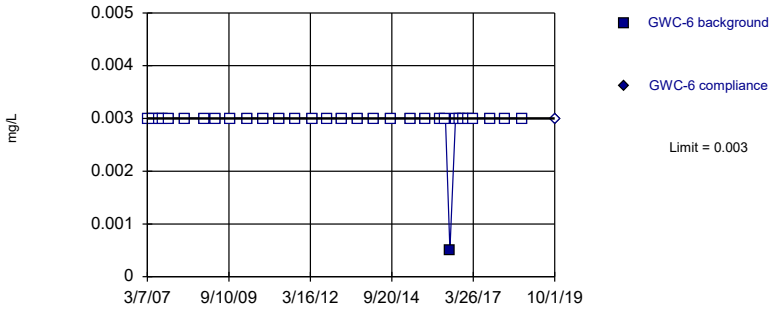
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

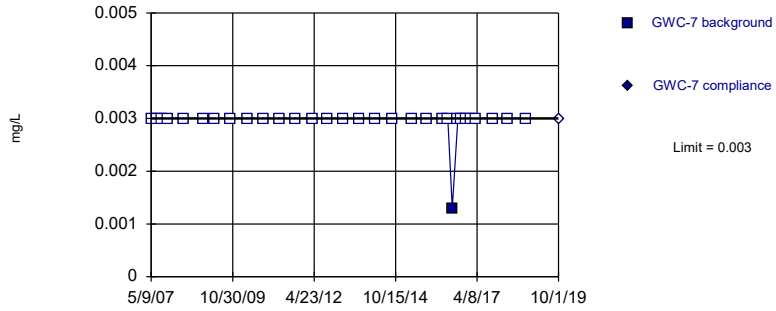
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

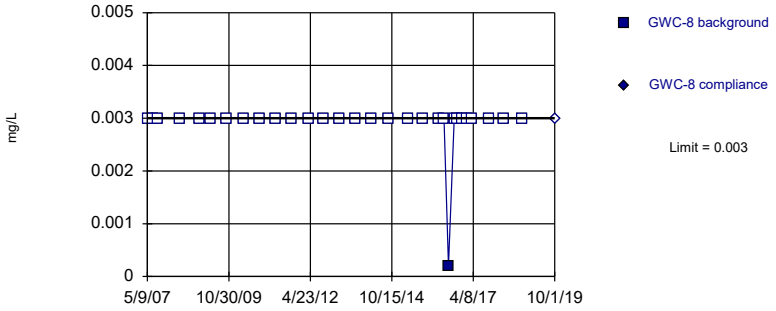
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

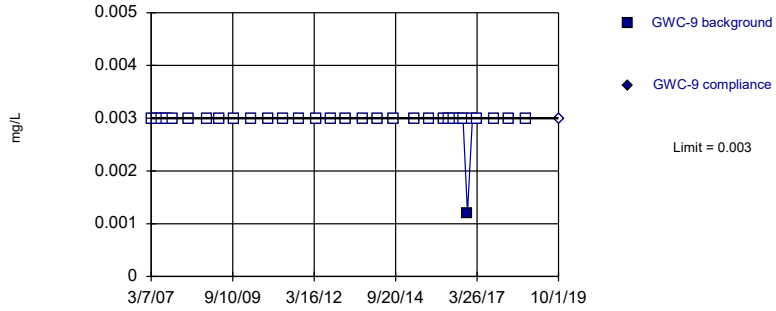
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Antimony Analysis Run 11/26/2019 9:59 AM

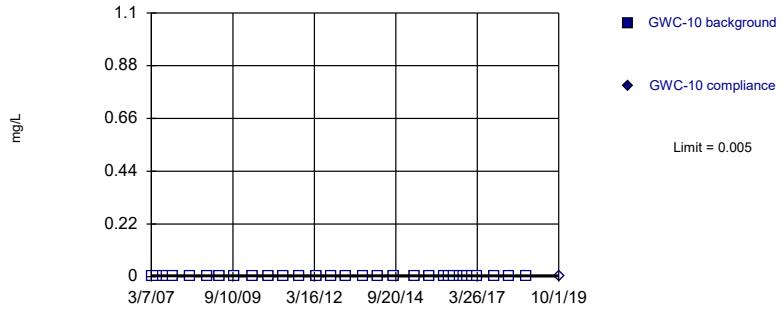
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

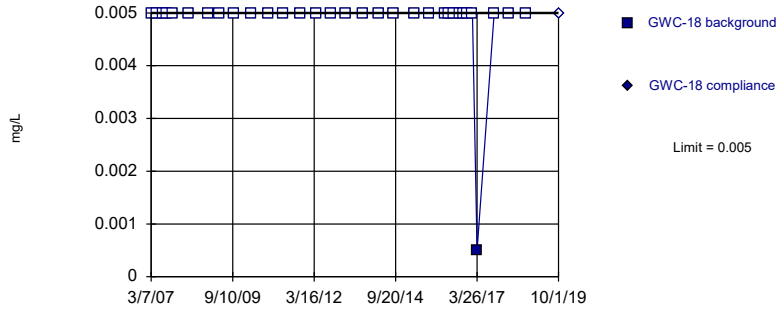
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

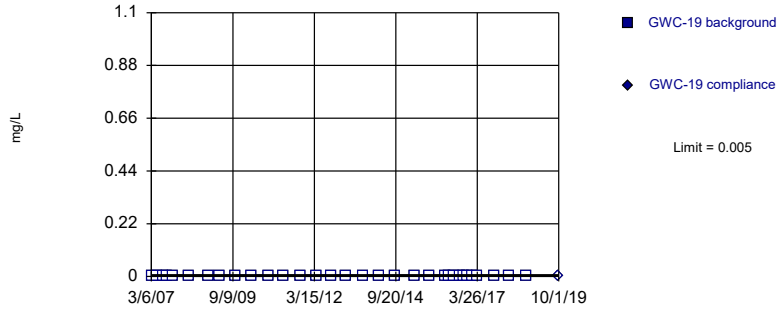
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

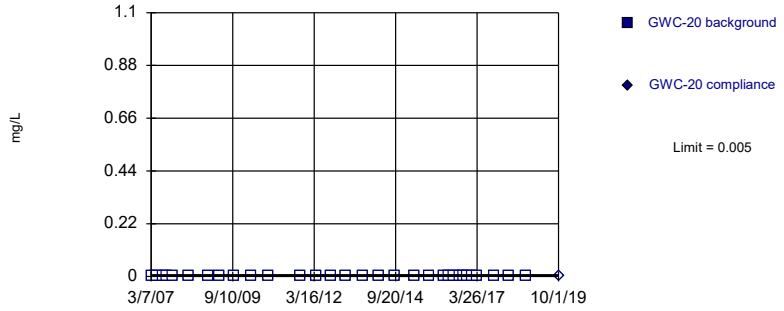
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

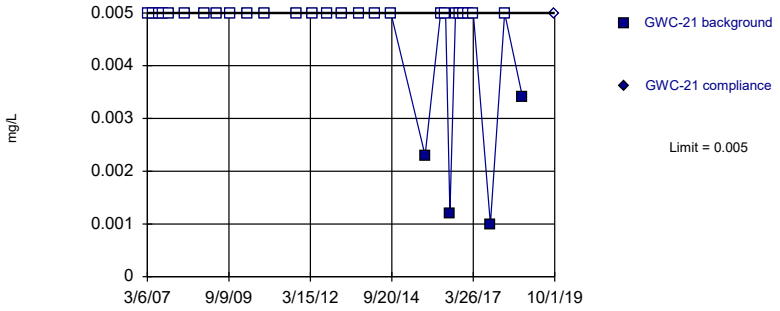
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 86.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

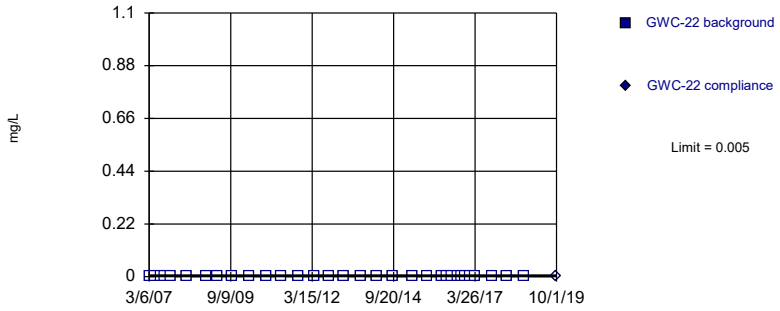
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

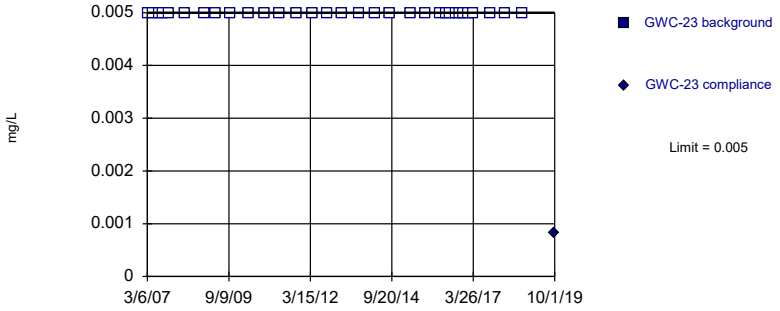
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

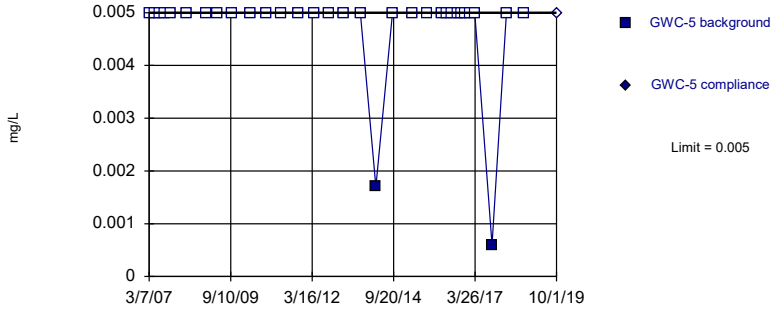
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

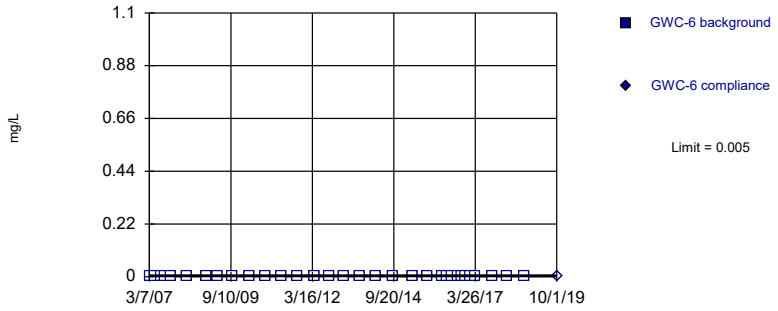
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

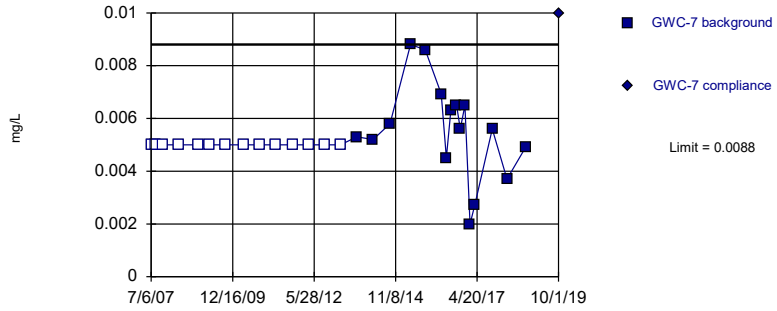
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Exceeds Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 30 background values. 46.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

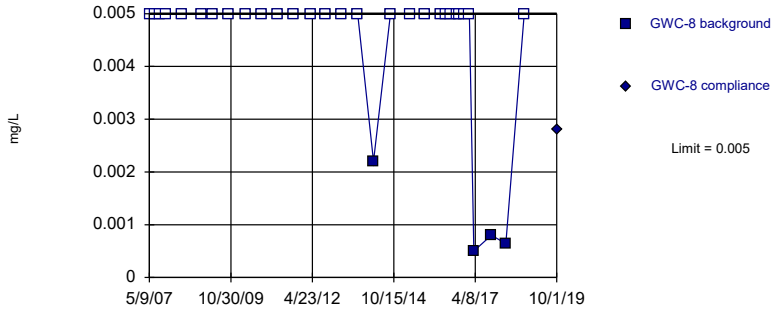
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 87.1% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

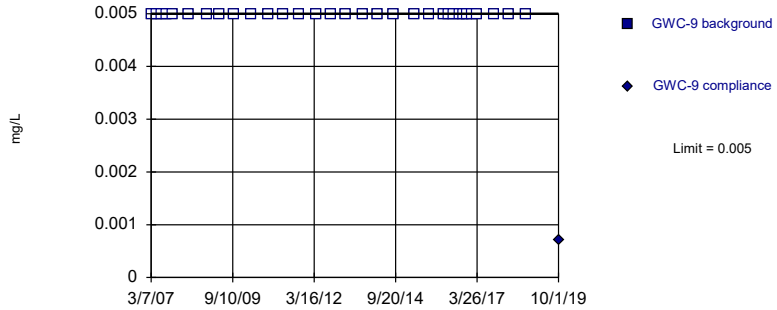
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

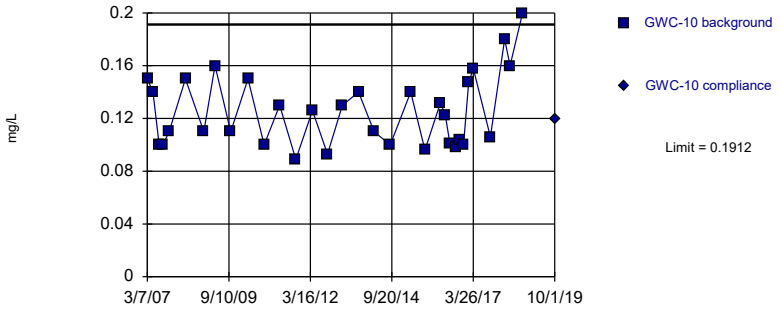
Constituent: Arsenic Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1255, Std. Dev.=0.02772, n=33. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9126, critical = 0.906. Kappa = 2.37 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

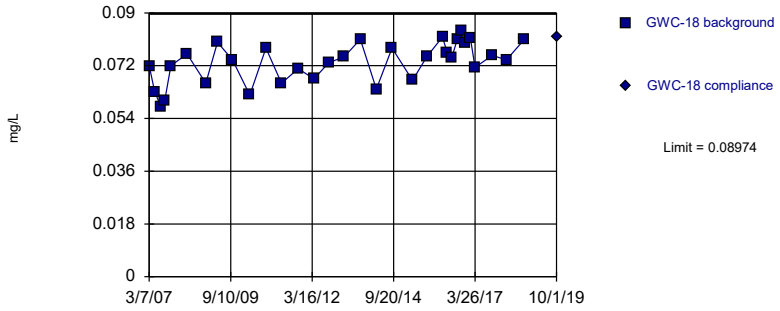
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.07311, Std. Dev.=0.006987, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.946, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

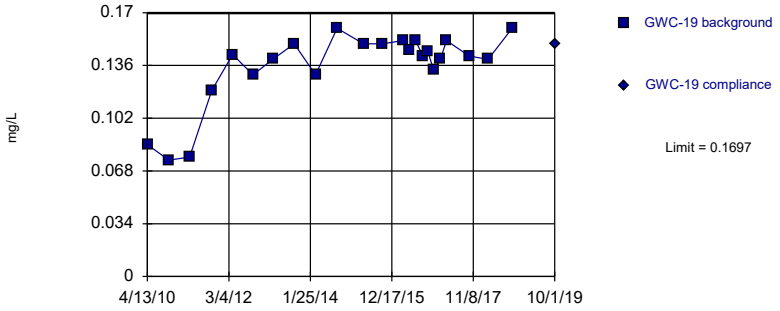
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on x^4 transformation): Mean=0.0003879, Std. Dev.=0.000176, n=23. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9161, critical = 0.881. Kappa = 2.512 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

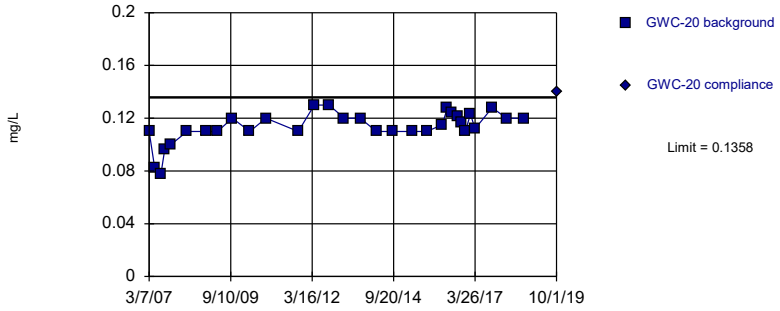
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Exceeds Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube transformation): Mean=0.001502, Std. Dev.=0.0004195, n=31. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9239, critical = 0.902. Kappa = 2.39 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

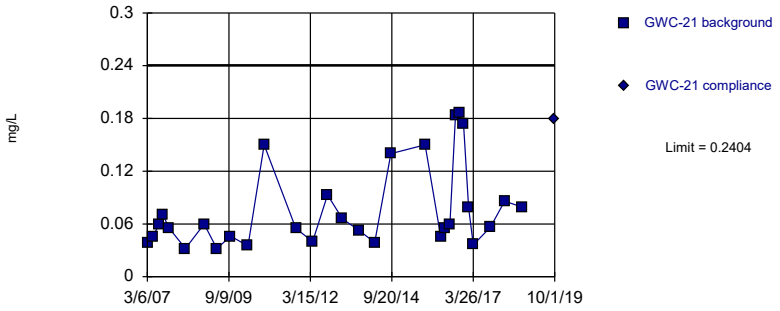
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation): Mean=-2.722, Std. Dev.=0.5402, n=30. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9034, critical = 0.9. Kappa = 2.4 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

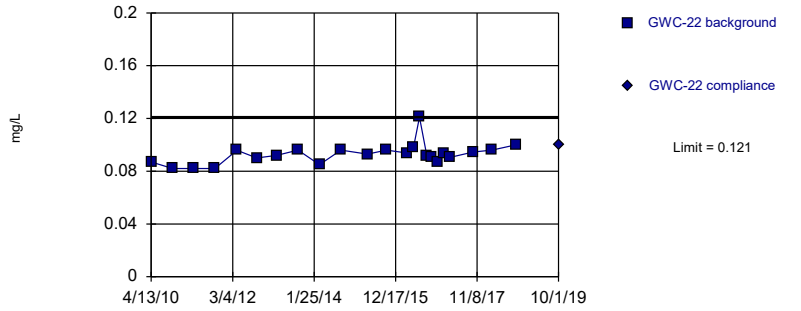
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 23 background values. Well-constituent pair annual alpha = 0.006819. Individual comparison alpha = 0.003415 (1 of 2).

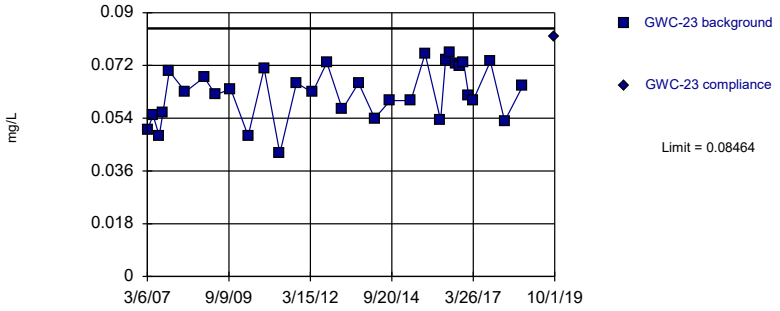
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.06272, Std. Dev.=0.009212, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9573, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

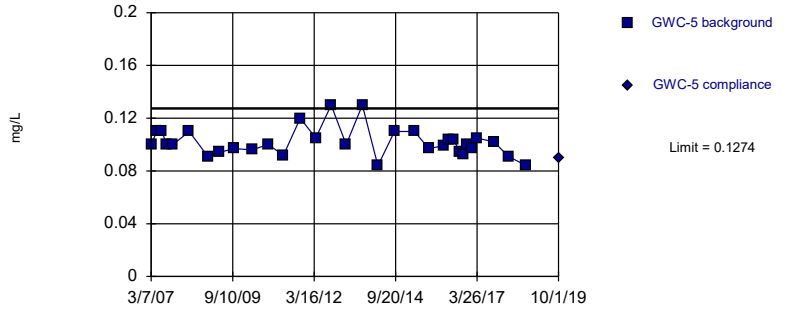
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1019, Std. Dev.=0.01074, n=32. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9137, critical = 0.904. Kappa = 2.38 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

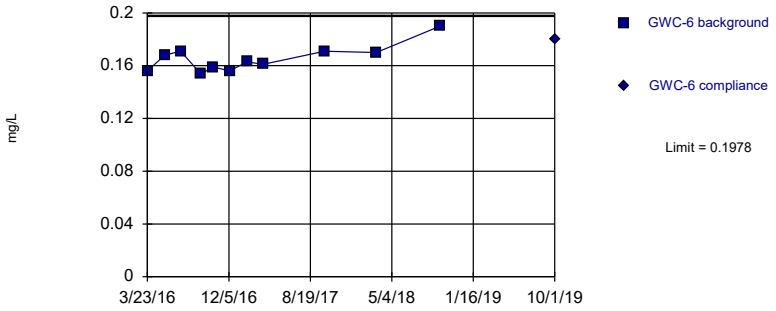
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.1654, Std. Dev.=0.01034, n=11. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8754, critical = 0.792. Kappa = 3.135 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

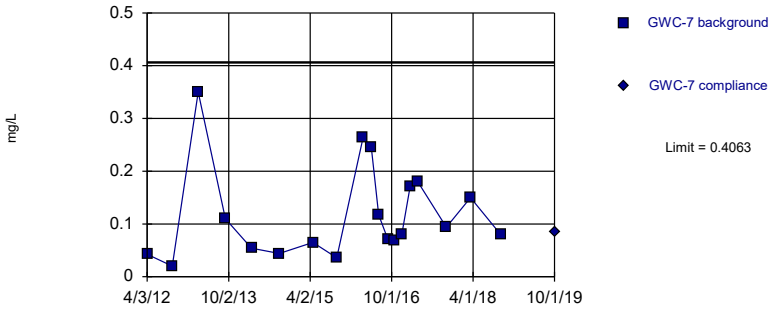
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.3226, Std. Dev.=0.1206, n=19. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9476, critical = 0.863. Kappa = 2.611 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

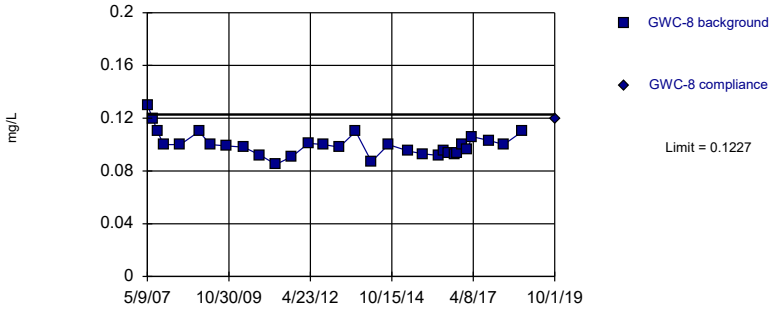
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on square root transformation): Mean=0.316, Std. Dev.=0.01439, n=31. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9173, critical = 0.902. Kappa = 2.39 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

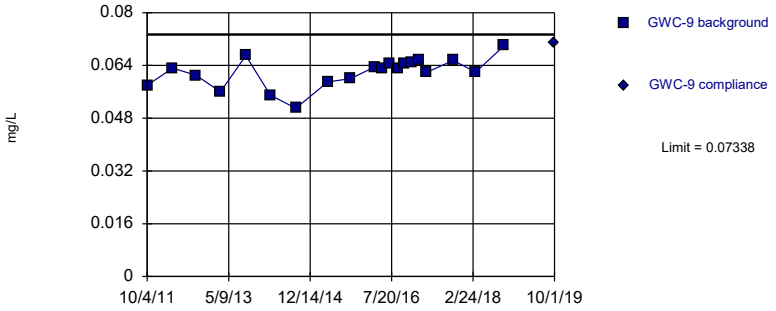
Constituent: Barium Analysis Run 11/26/2019 9:59 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.06193, Std. Dev.=0.00445, n=20. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9577, critical = 0.868. Kappa = 2.575 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Barium Analysis Run 11/26/2019 9:59 AM

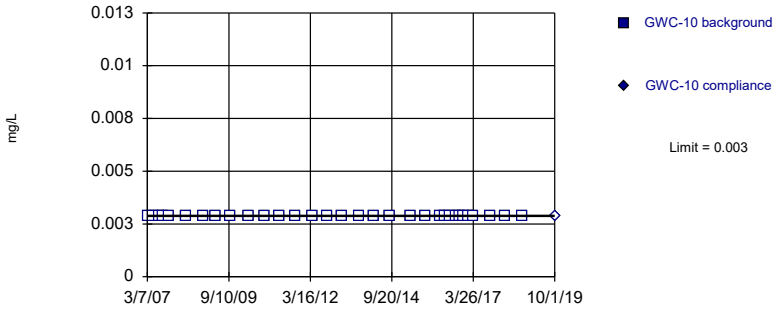
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 9:59 AM

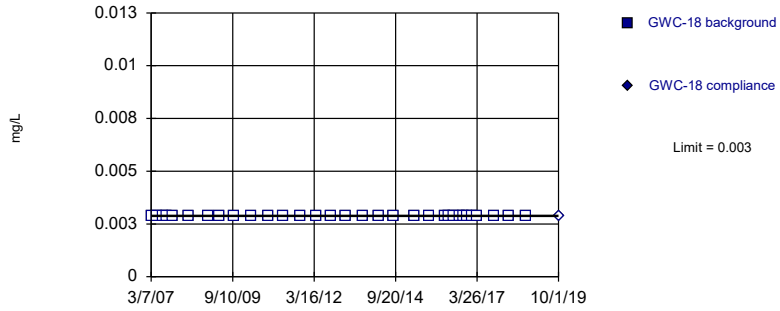
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 9:59 AM

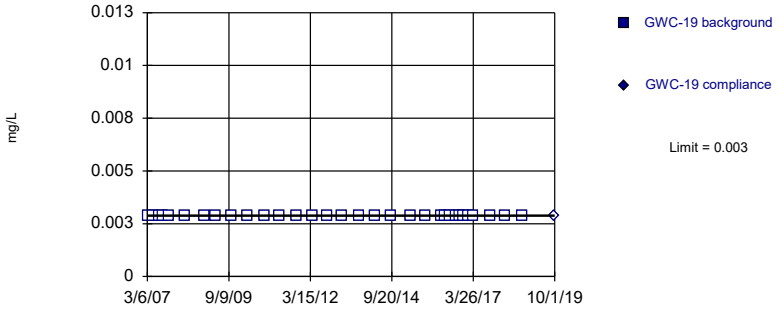
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 9:59 AM

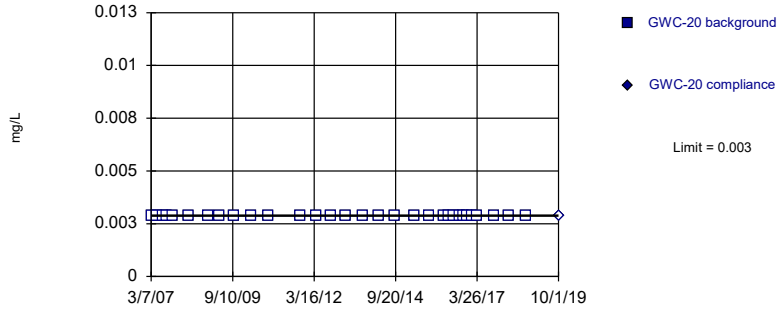
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 9:59 AM

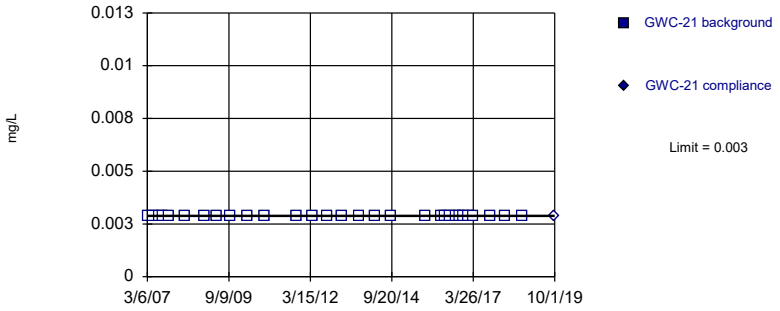
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

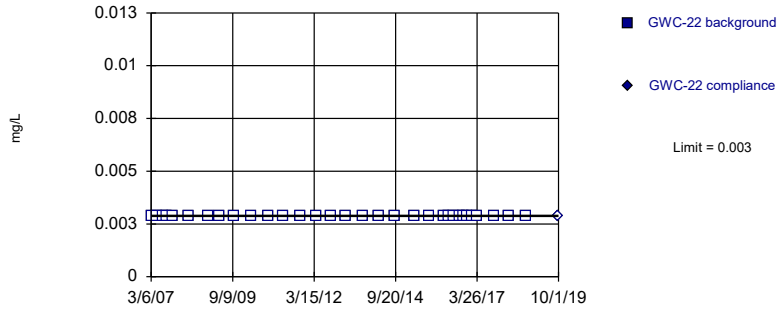
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

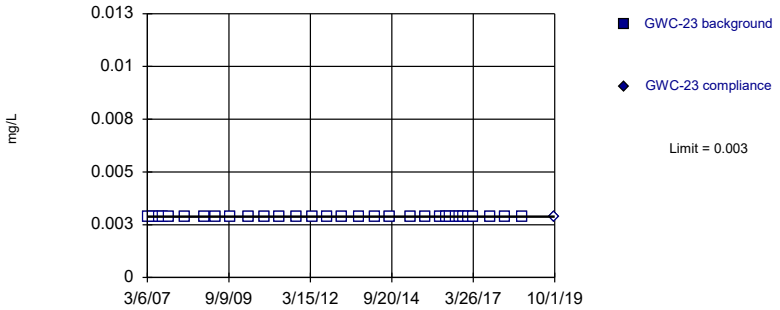
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

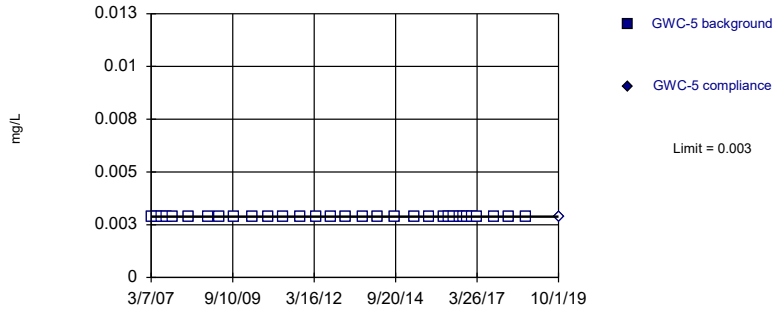
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

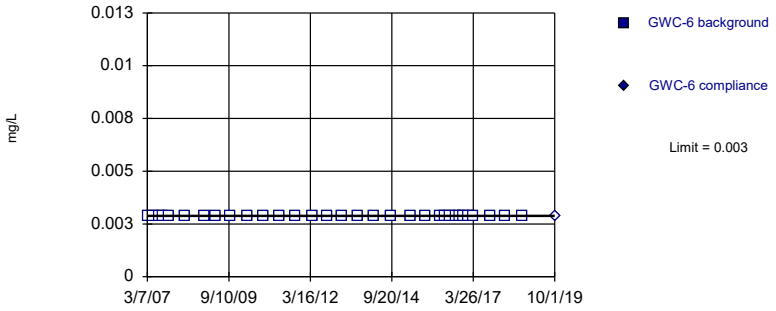
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

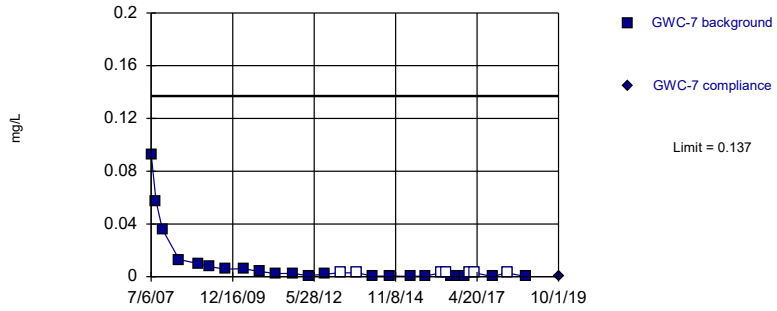
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-6.771, Std. Dev.=1.993, n=30, 23.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9446, critical = 0.9. Kappa = 2.4 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

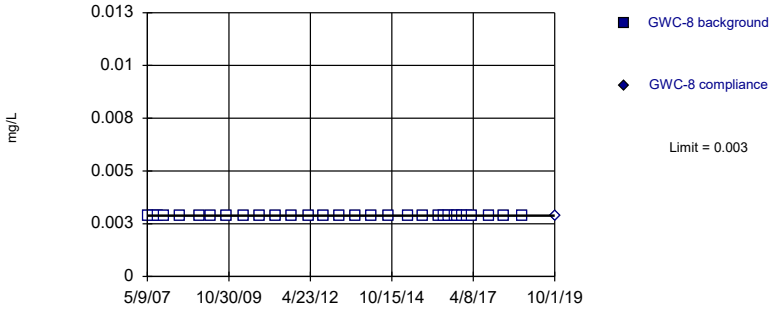
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

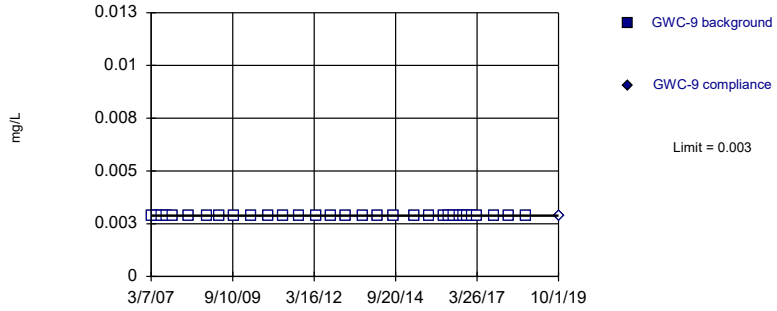
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Beryllium Analysis Run 11/26/2019 10:00 AM

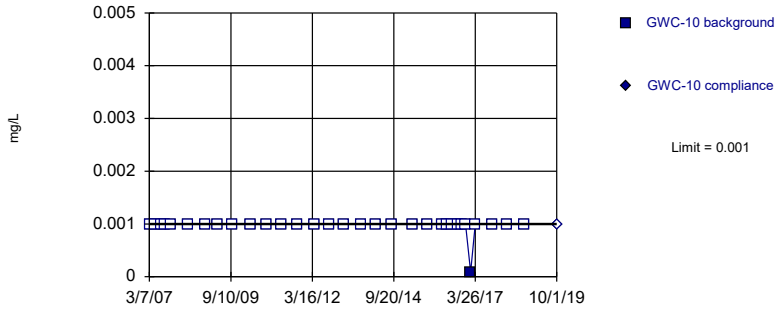
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

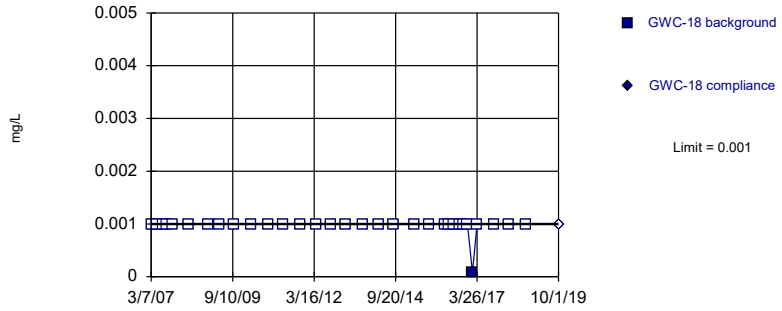
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

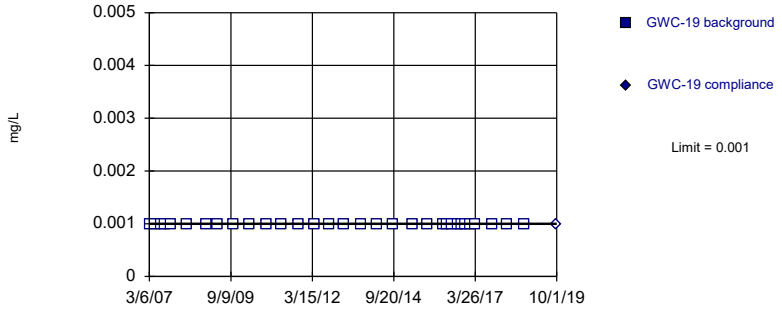
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

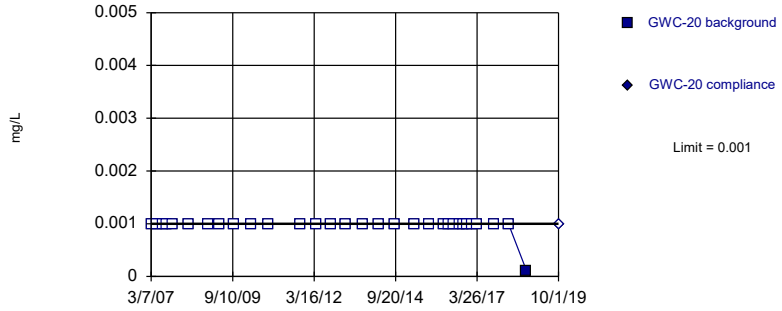
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

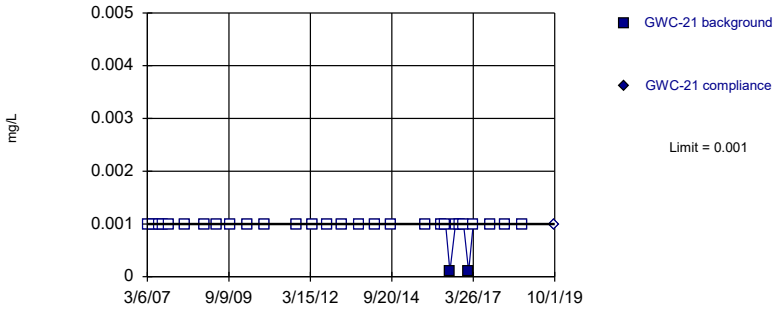
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 93.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

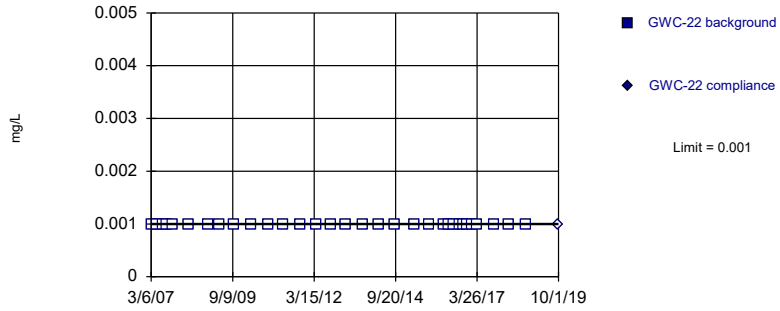
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

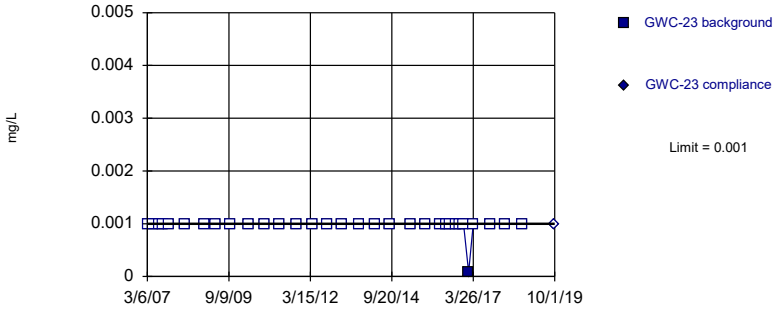
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

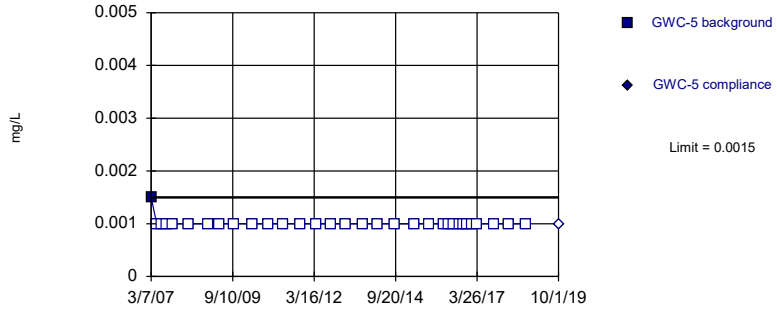
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

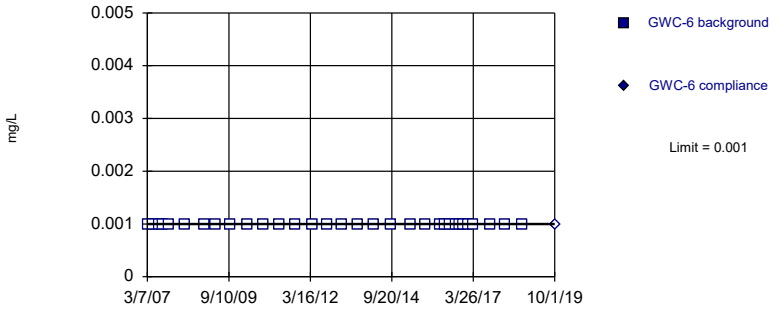
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

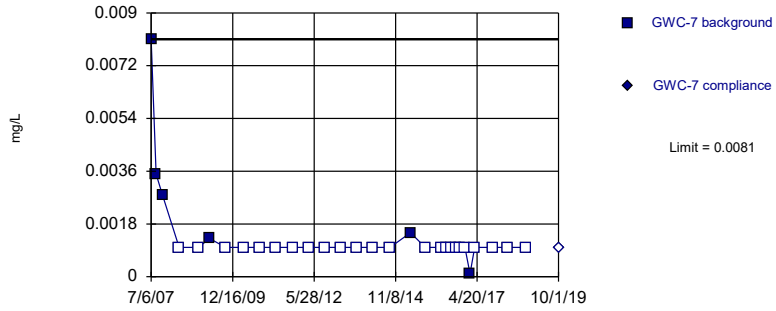
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 80% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

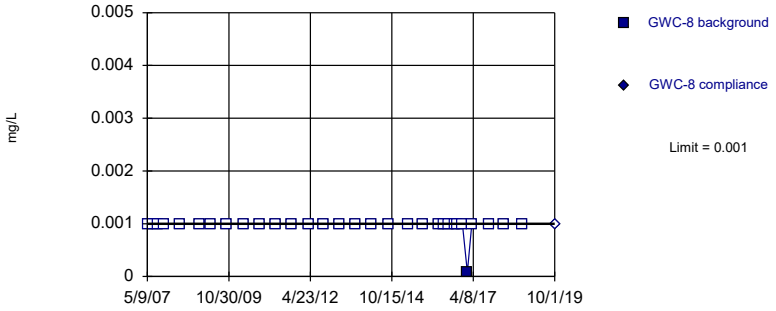
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

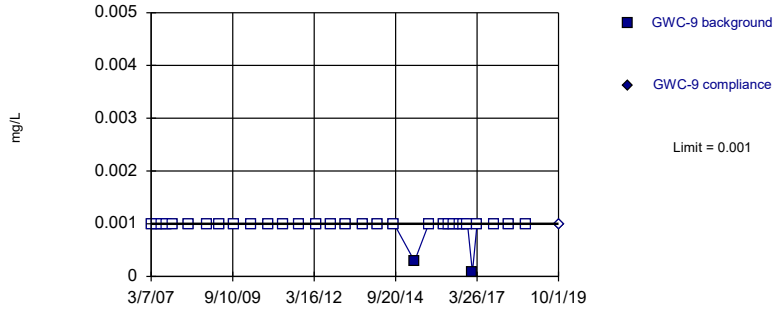
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cadmium Analysis Run 11/26/2019 10:00 AM

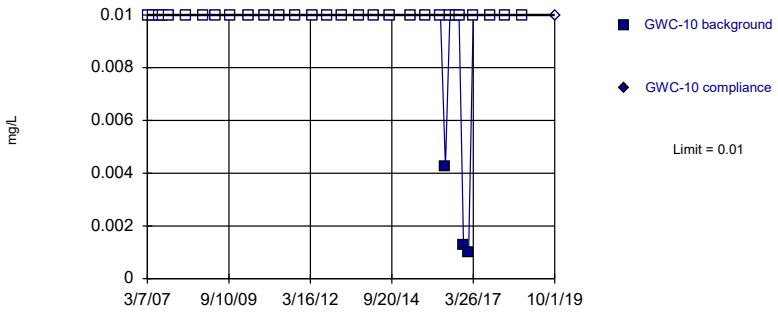
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 90.63% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

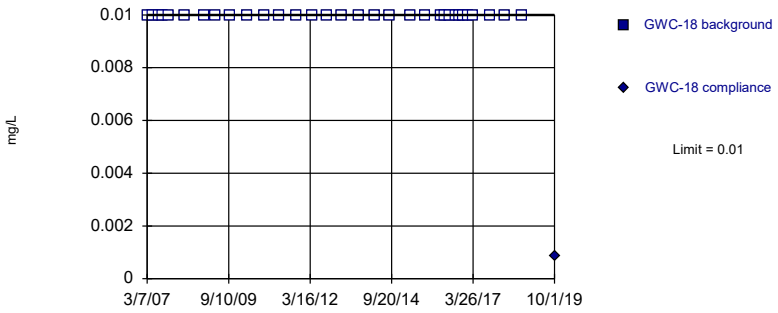
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

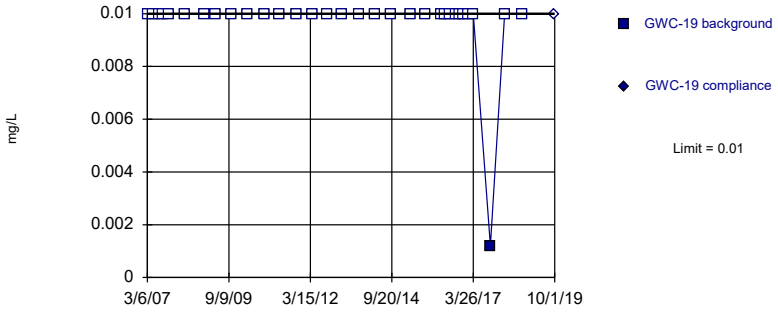
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

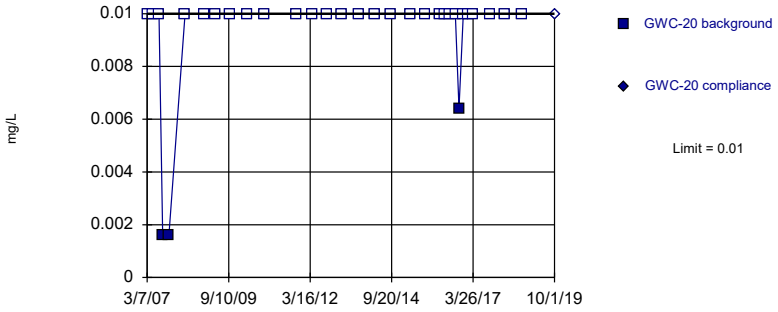
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 90.32% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

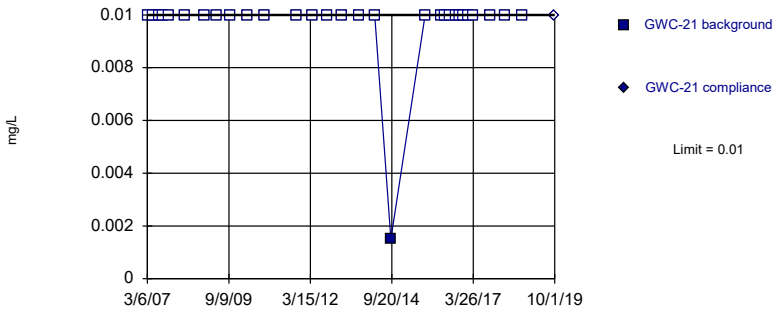
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

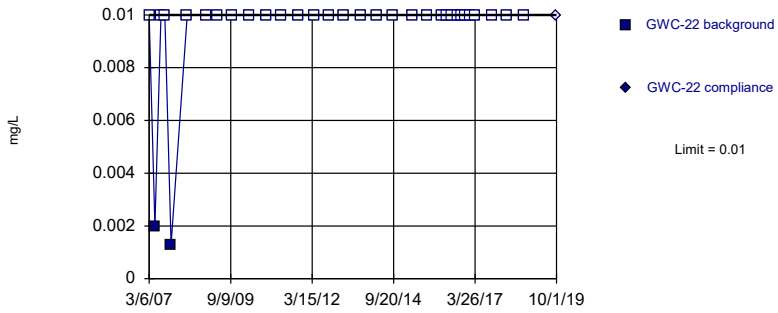
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

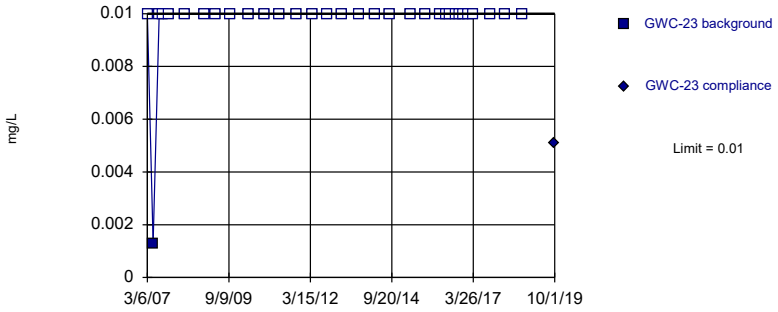
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

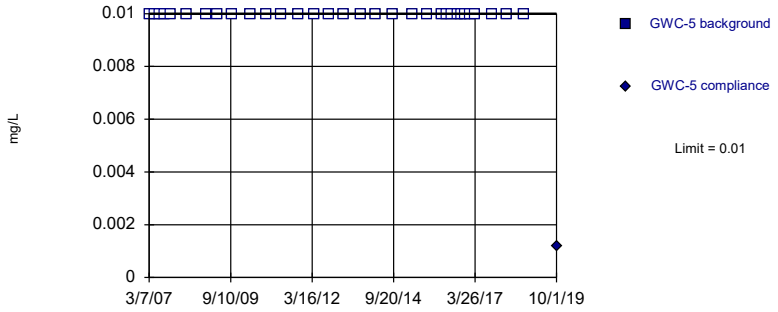
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

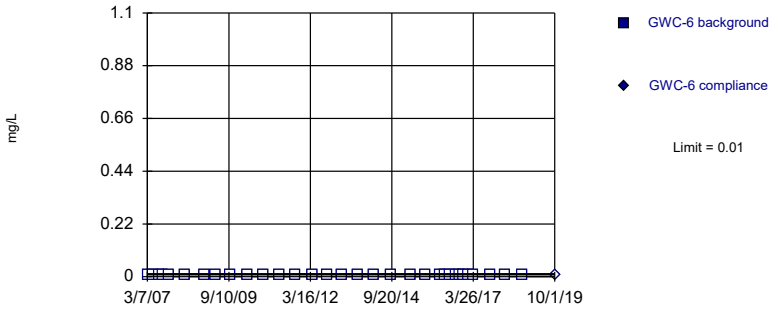
Constituent: Chromium Analysis Run 11/26/2019 10:00 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



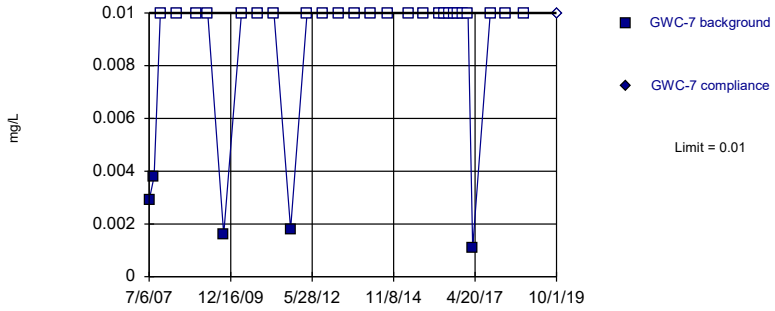
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



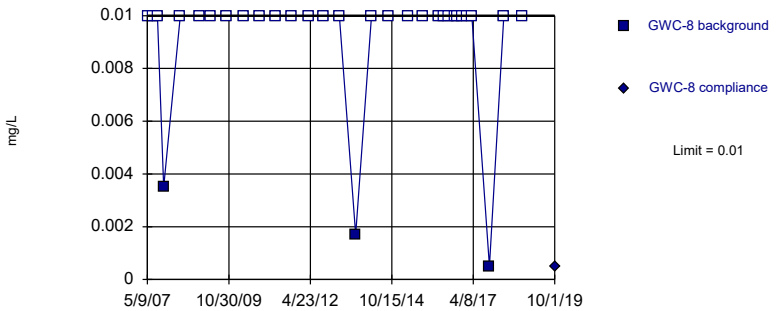
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 83.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



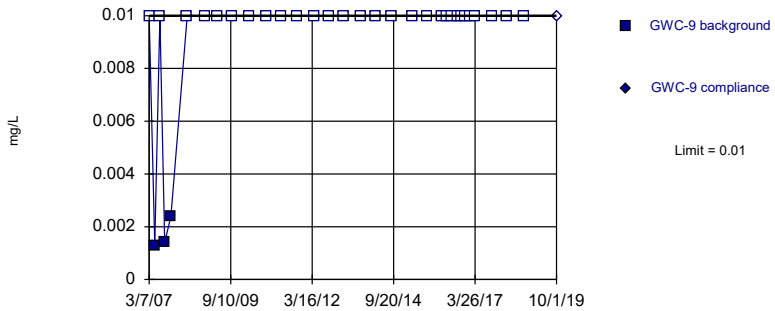
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 90.32% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Chromium Analysis Run 11/26/2019 10:00 AM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 90.63% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

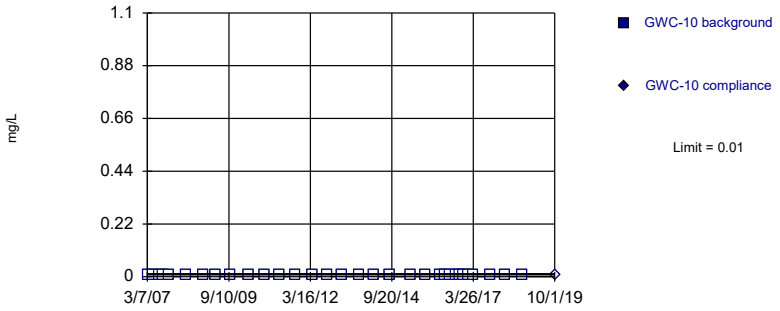
Constituent: Chromium Analysis Run 11/26/2019 10:00 AM
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

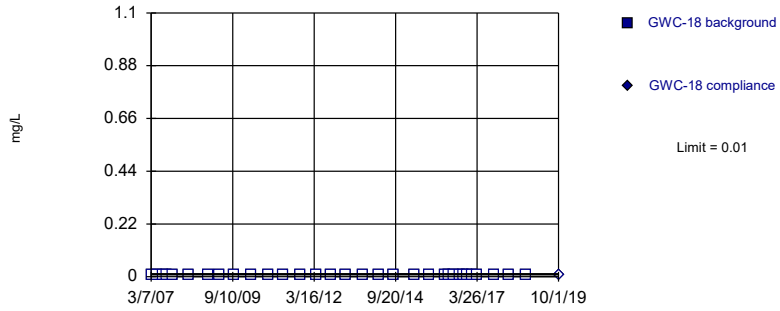
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

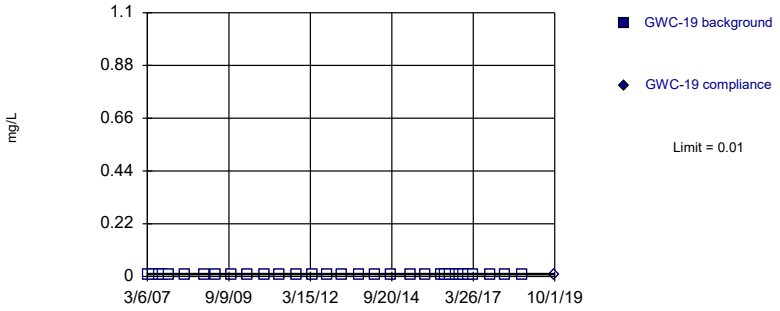
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

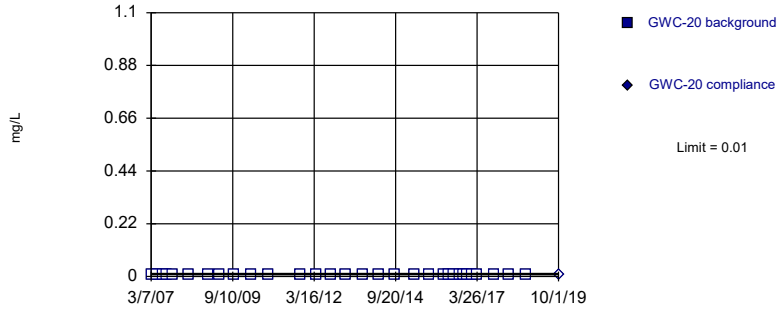
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

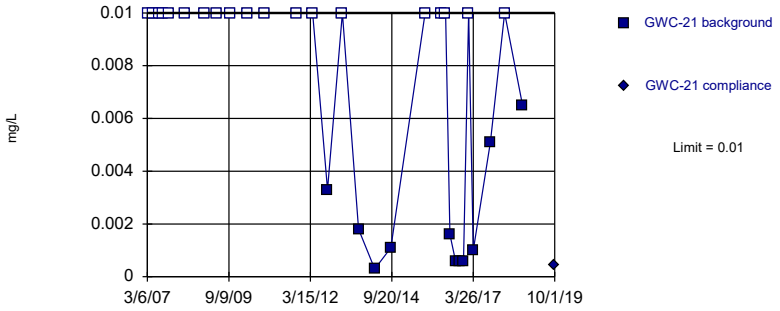
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 63.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

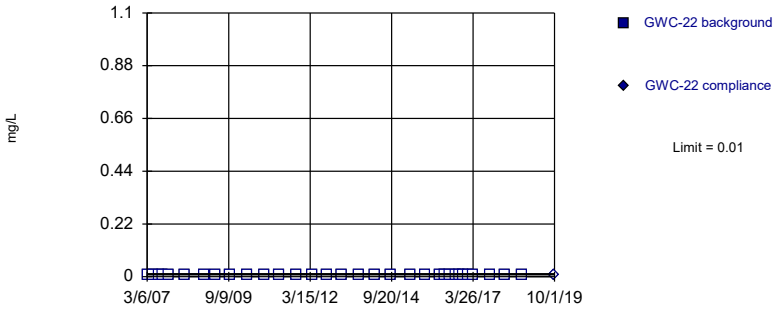
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

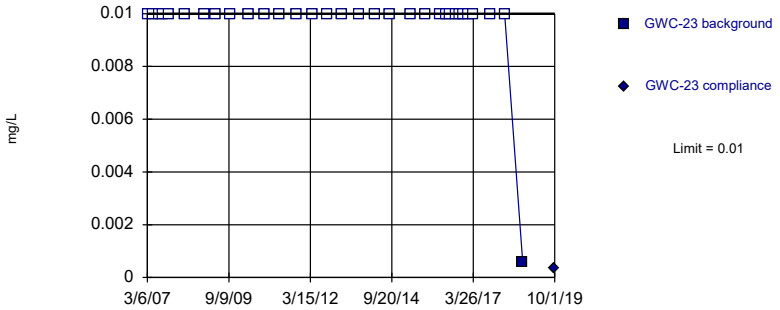
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

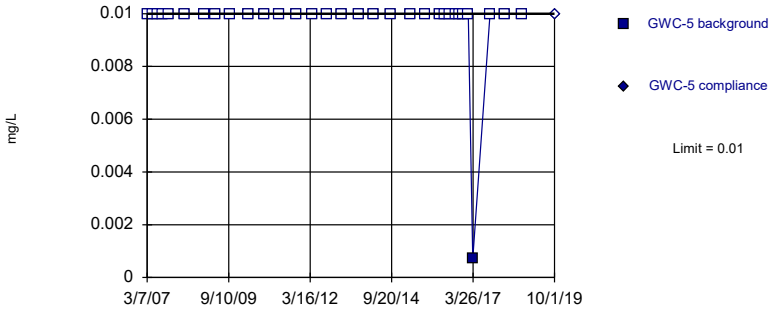
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

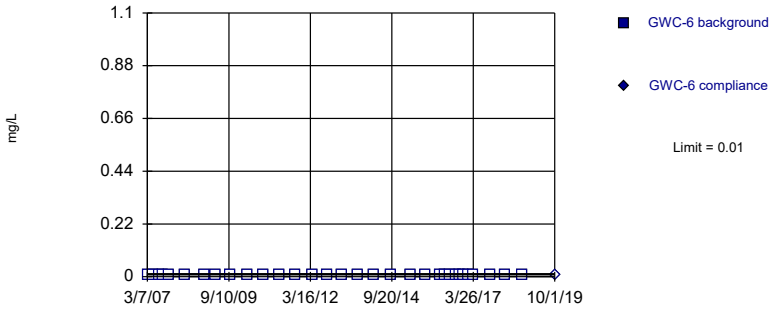
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

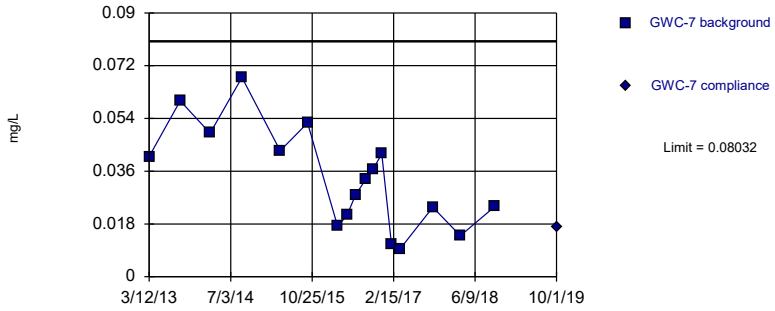
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.03376, Std. Dev.=0.01735, n=17. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9626, critical = 0.851. Kappa = 2.684 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

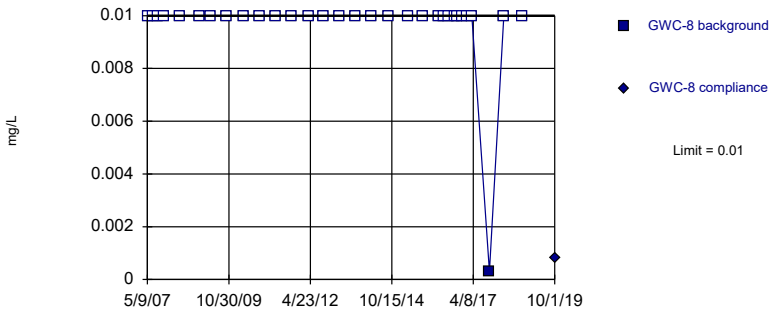
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

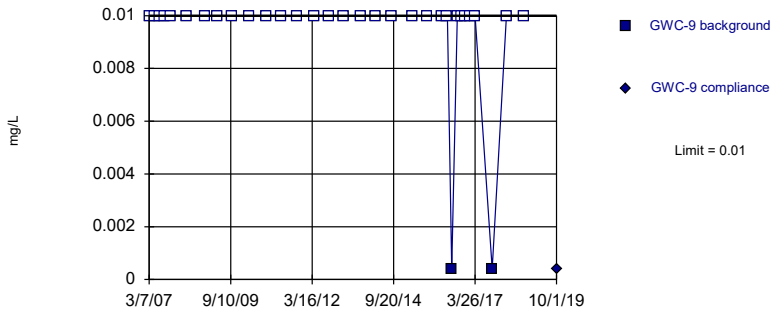
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 93.75% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Cobalt Analysis Run 11/26/2019 10:00 AM

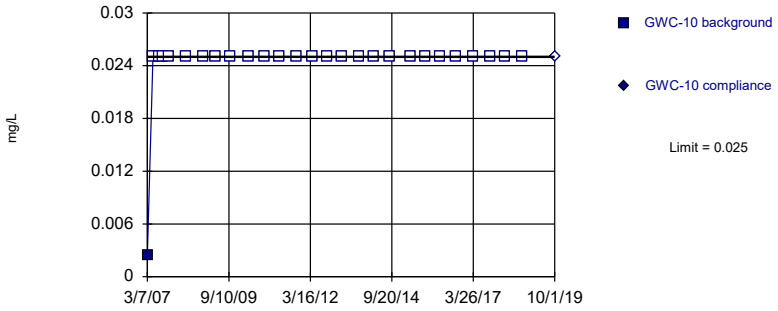
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

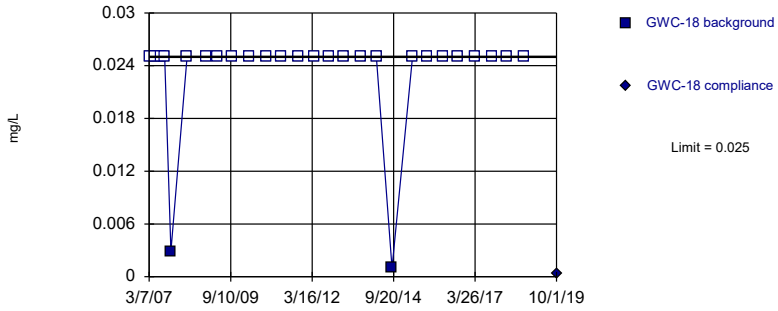
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 92.59% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

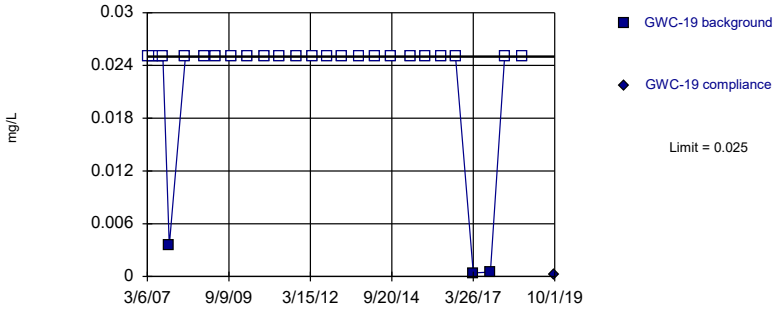
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

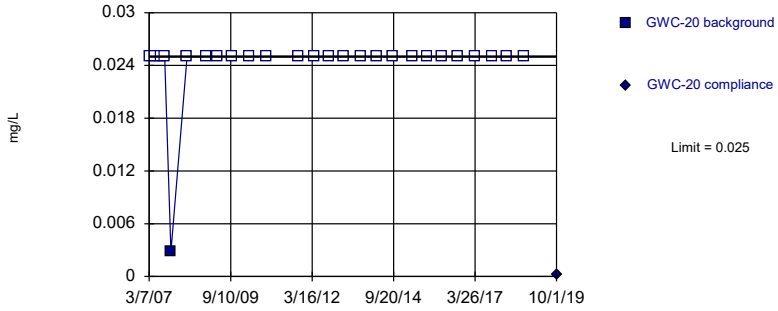
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 96.15% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

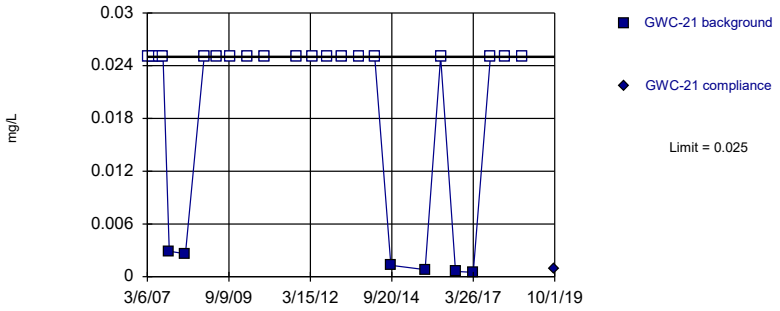
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 76% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

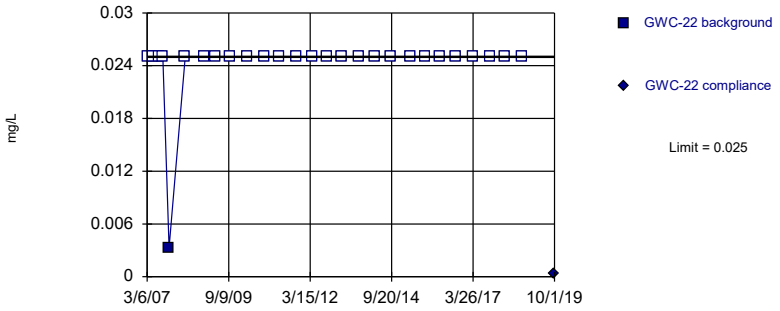
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

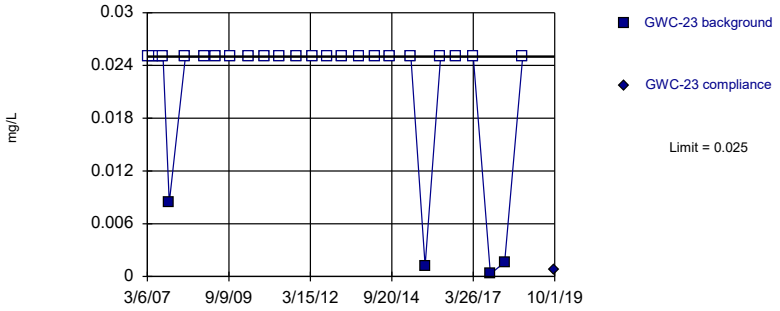
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 85.19% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

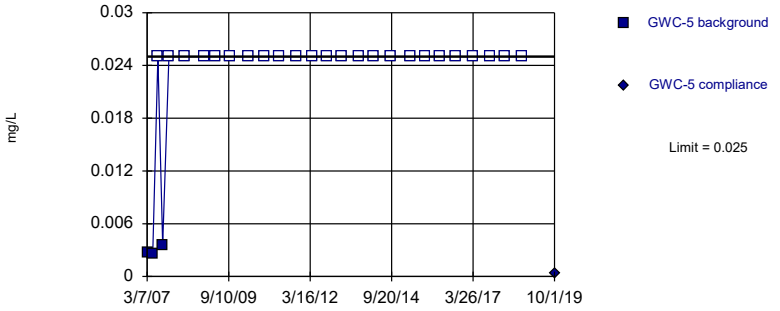
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

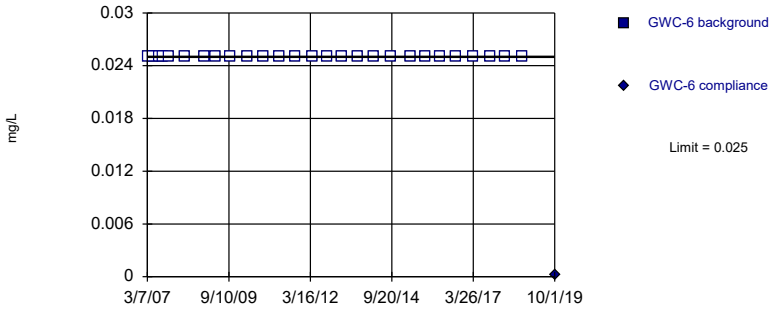
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

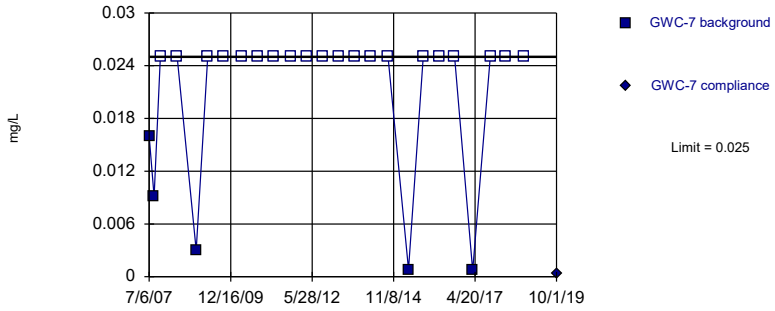
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 80% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

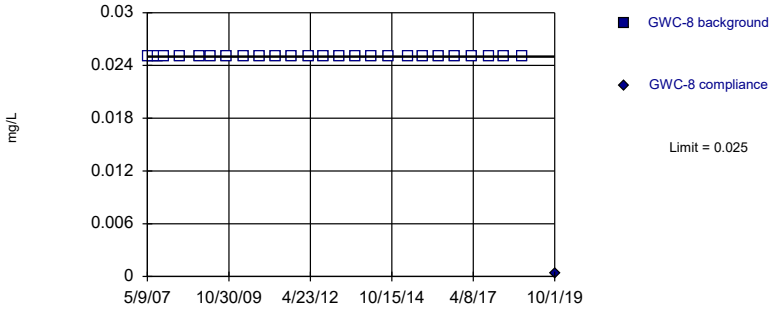
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

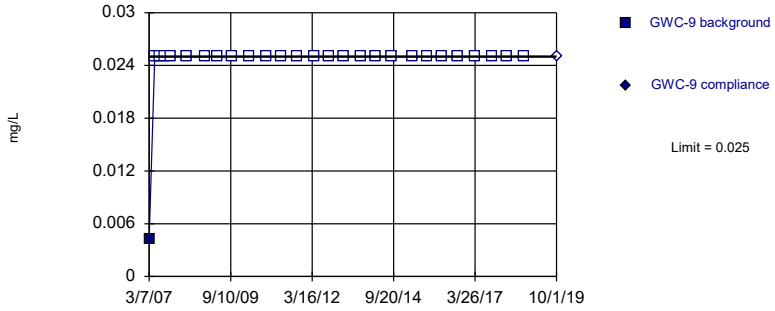
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Copper Analysis Run 11/26/2019 10:00 AM

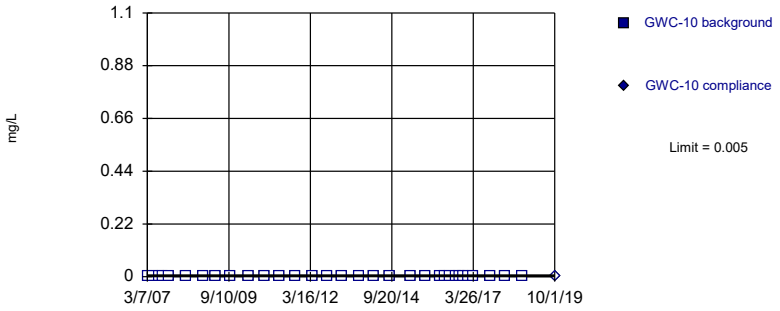
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

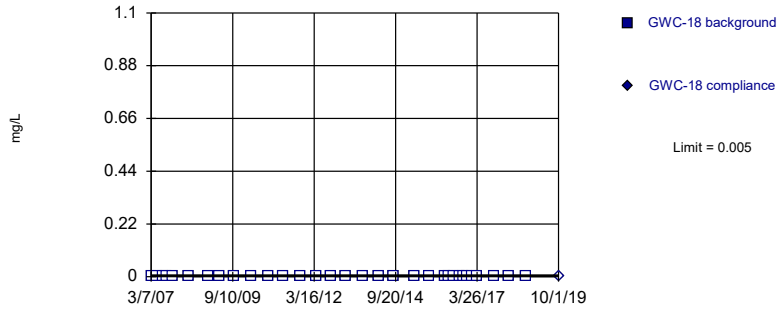
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

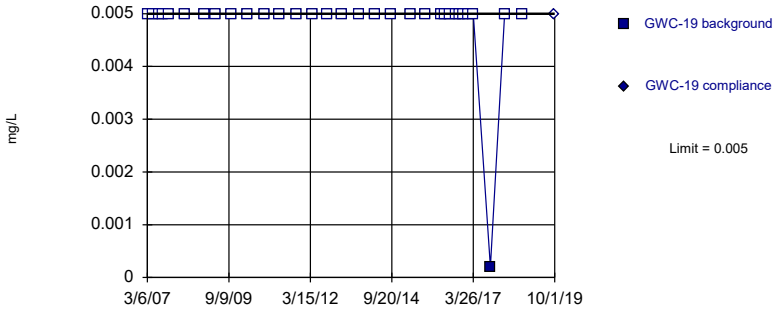
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

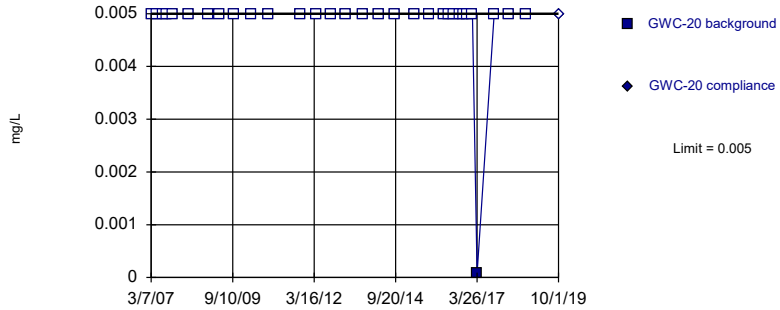
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

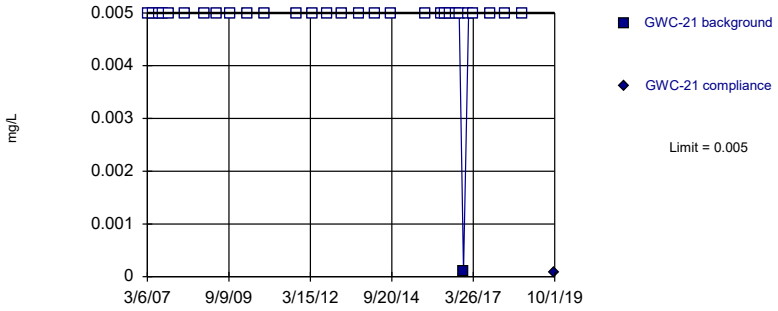
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

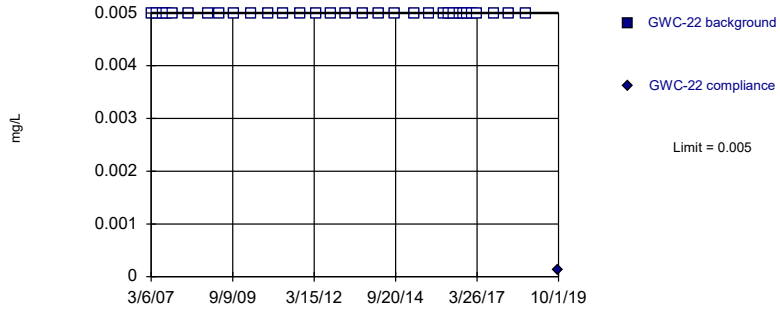
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

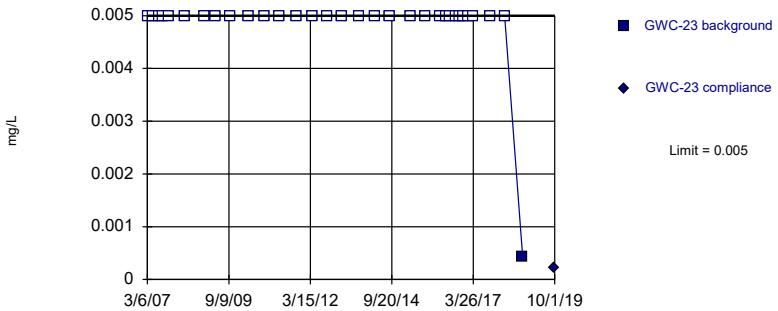
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

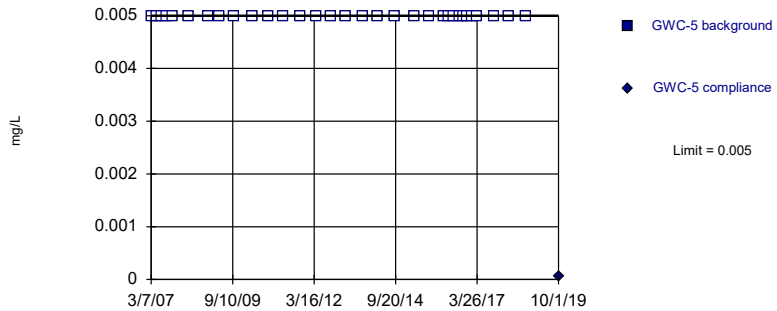
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

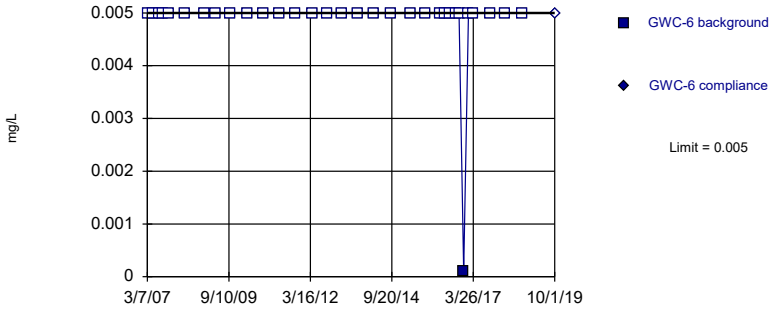
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

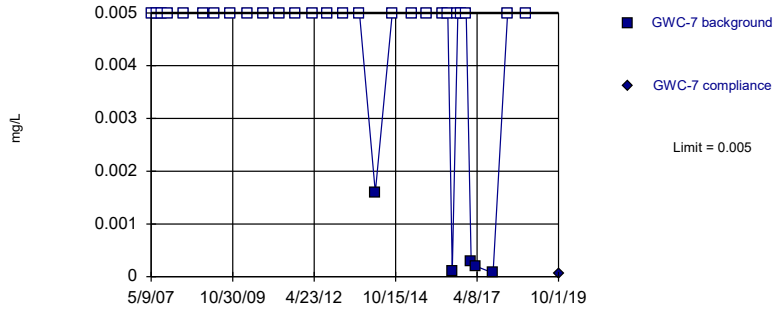
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 83.87% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

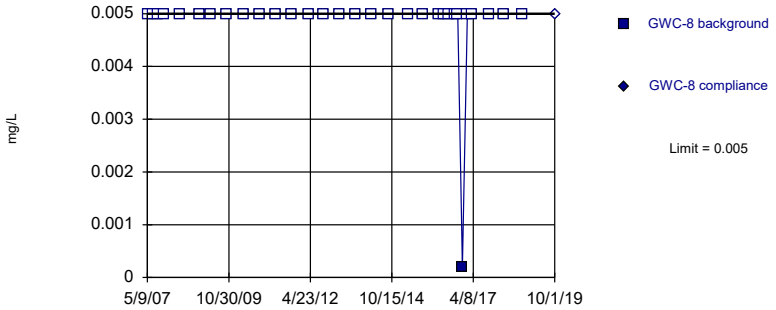
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 31 background values. 96.77% NDs. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

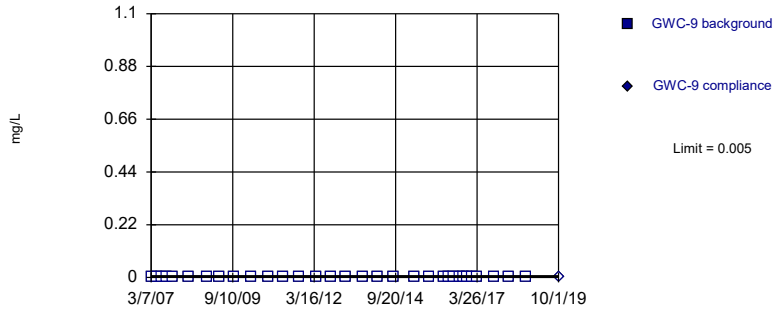
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Lead Analysis Run 11/26/2019 10:00 AM

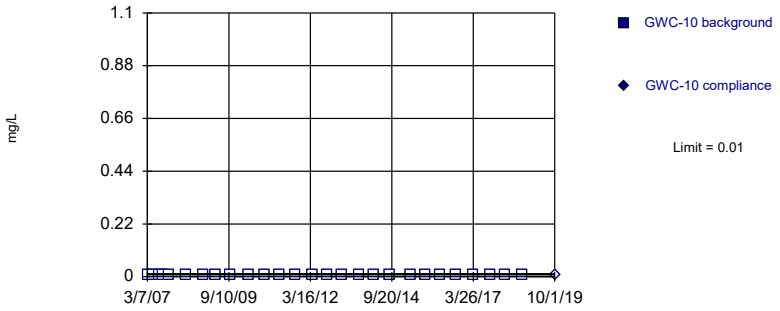
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

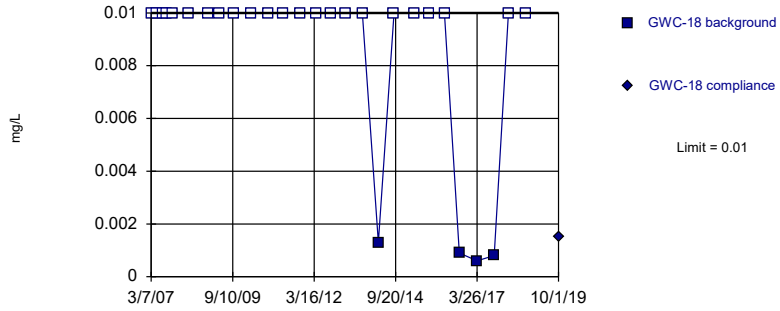
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 85.19% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

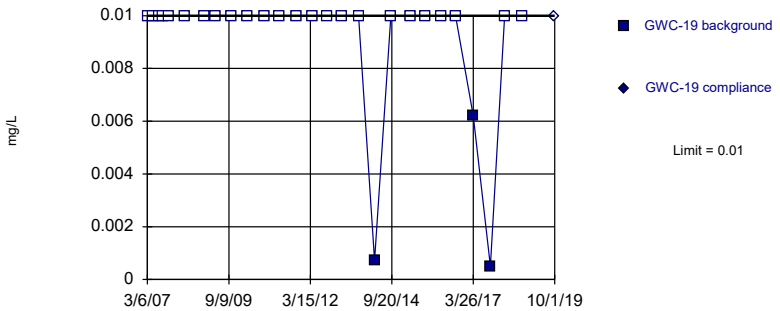
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 88.89% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

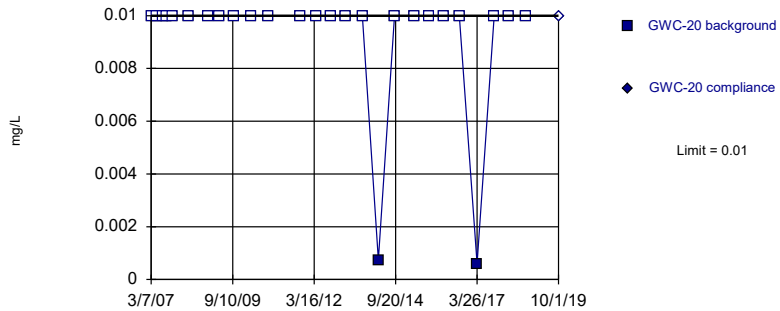
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 92.31% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

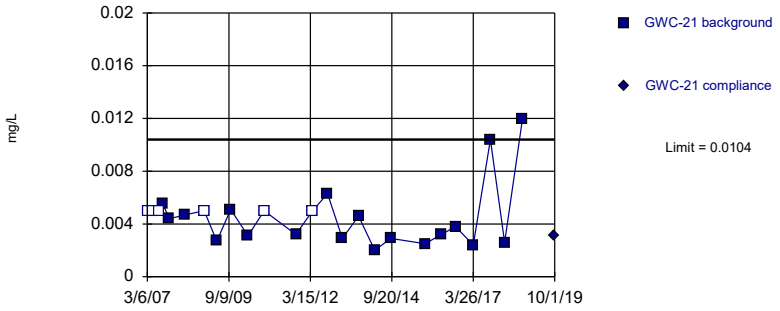
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.156, Std. Dev.=0.02523, n=25, 24% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.8912, critical = 0.888. Kappa = 2.47 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

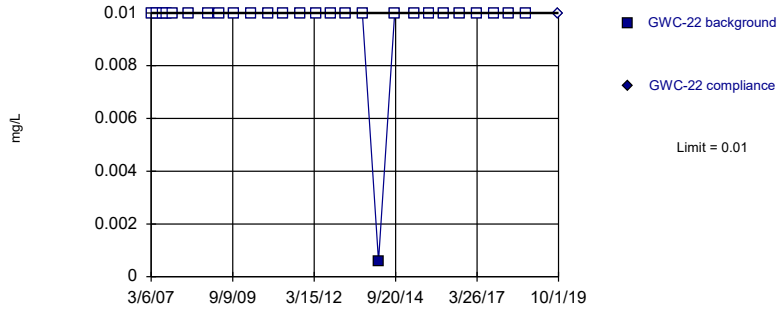
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

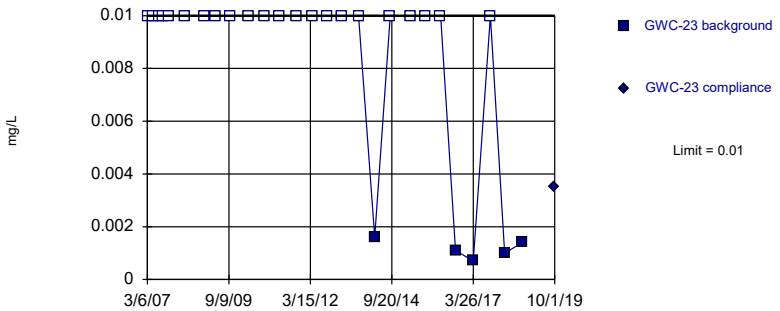
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 81.48% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

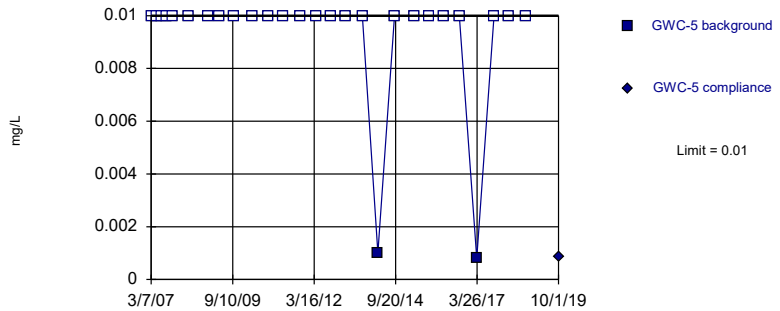
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 92.59% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

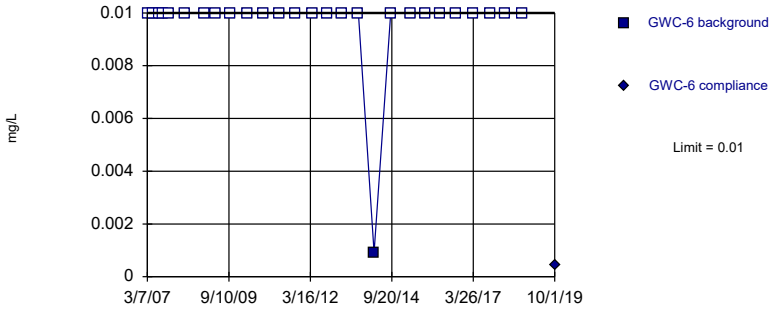
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

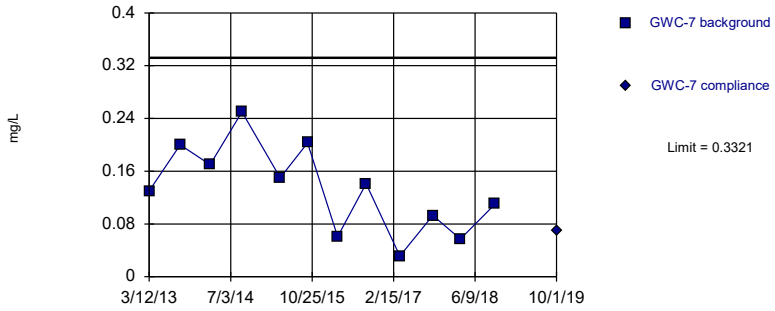
Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.133, Std. Dev.=0.06625, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9771, critical = 0.805. Kappa = 3.005 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

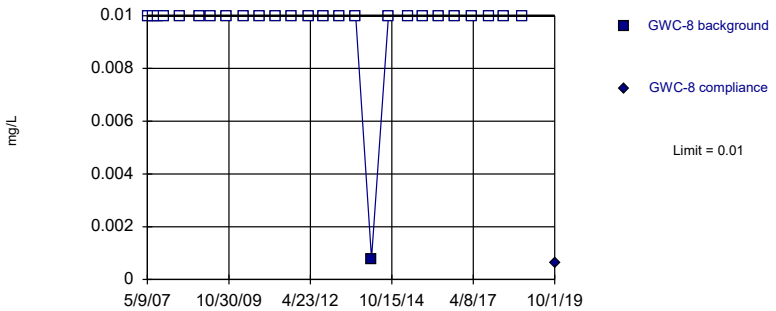
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 96.15% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

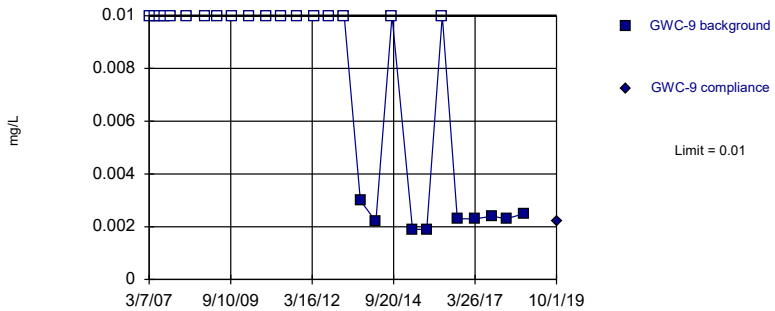
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Nickel Analysis Run 11/26/2019 10:00 AM

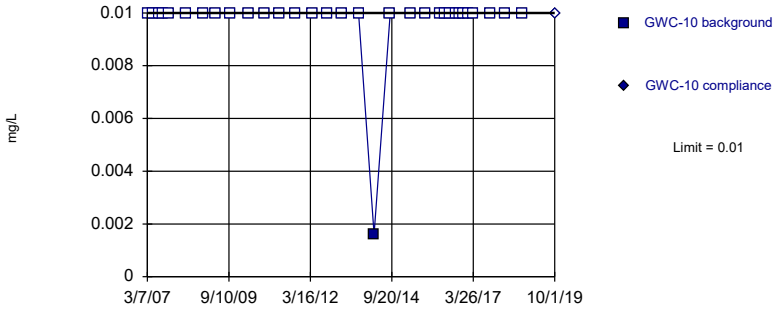
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:00 AM

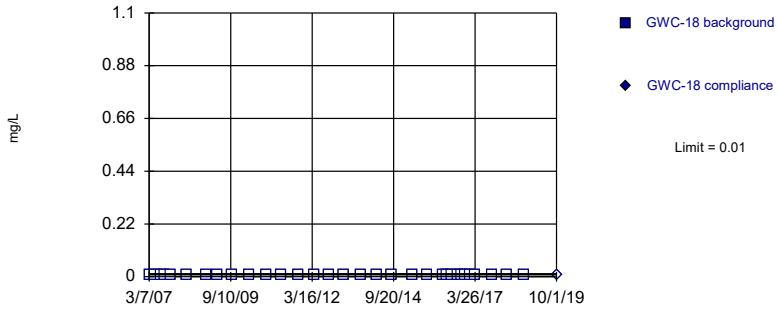
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:00 AM

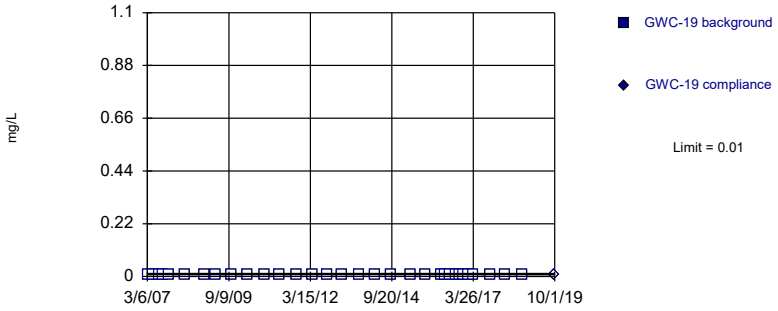
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:00 AM

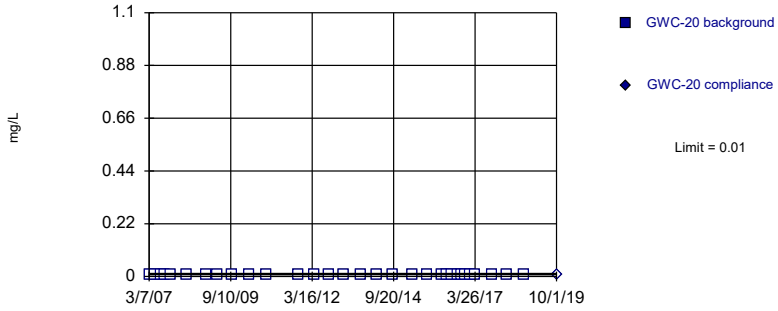
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:00 AM

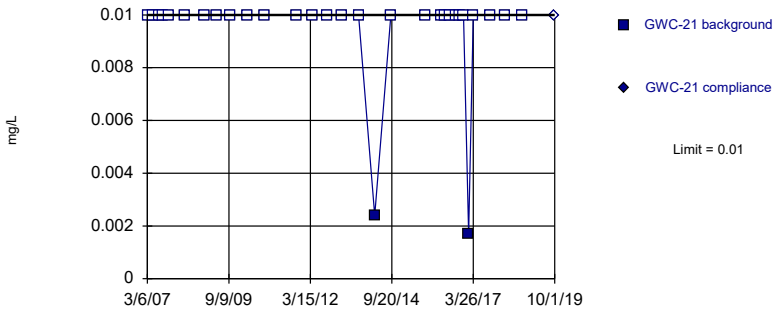
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 93.33% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:00 AM

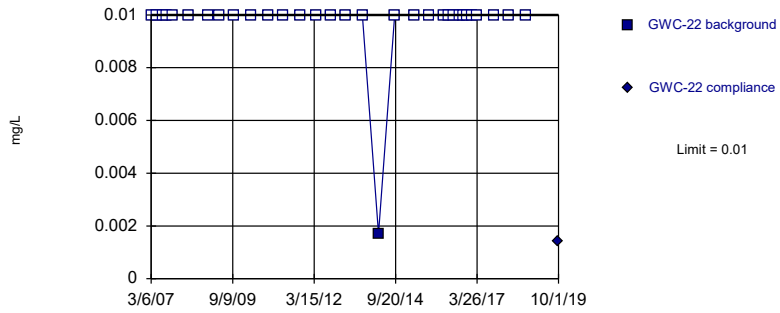
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

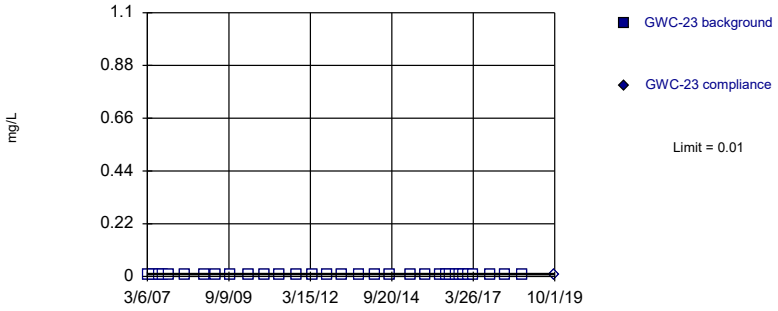
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

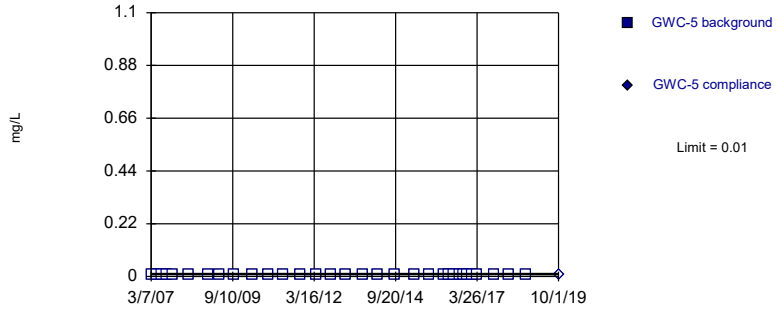
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

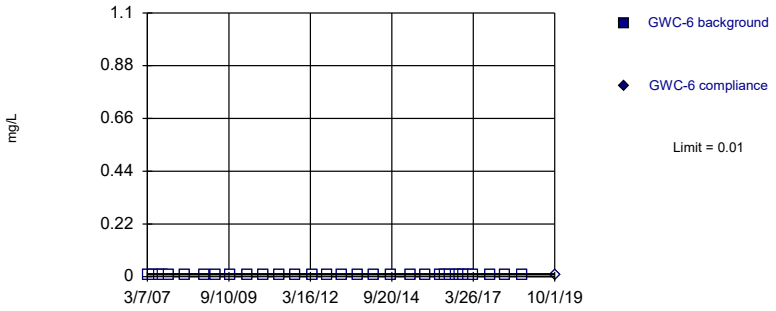
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

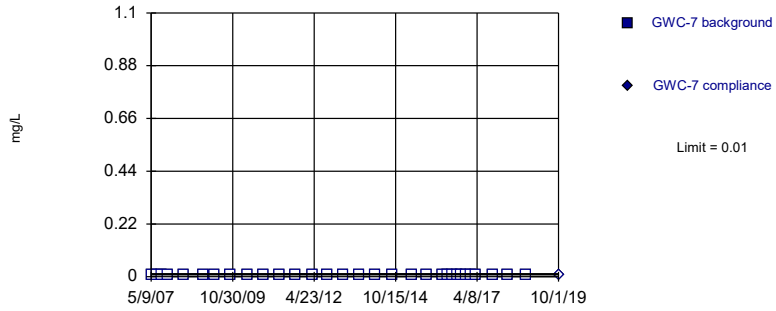
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

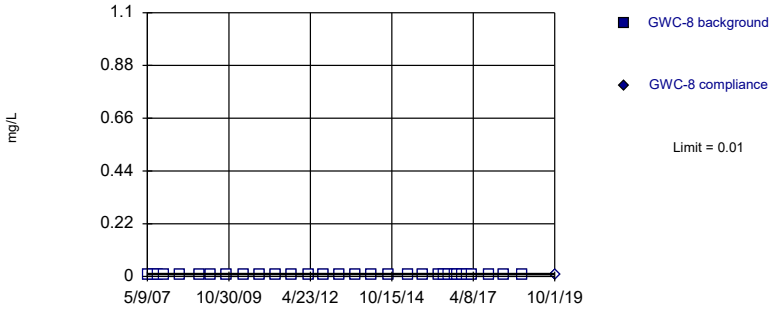
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

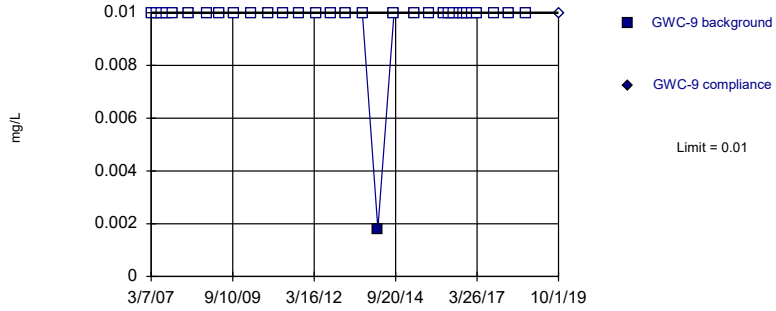
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 32 background values. 96.88% NDs. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Selenium Analysis Run 11/26/2019 10:01 AM

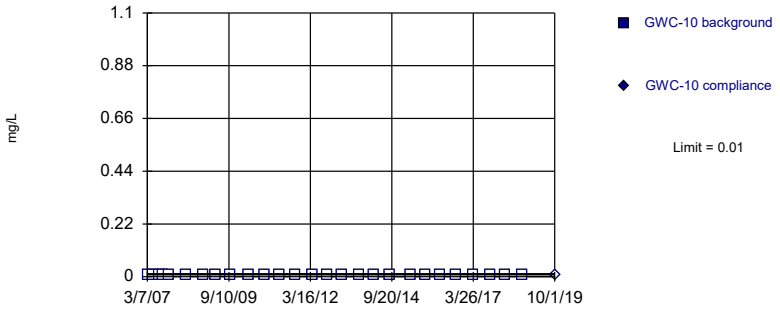
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

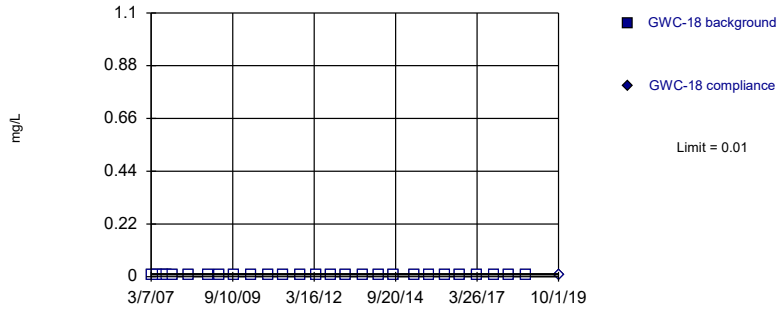
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

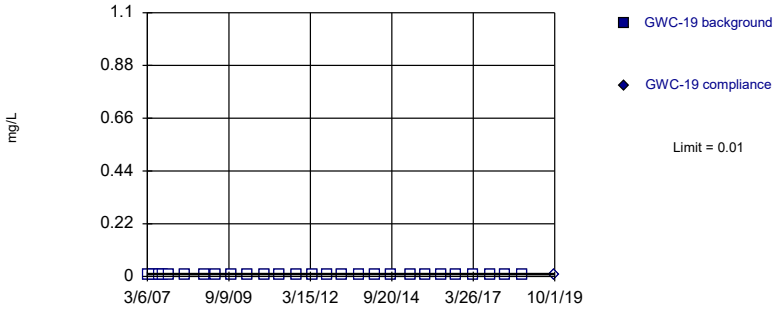
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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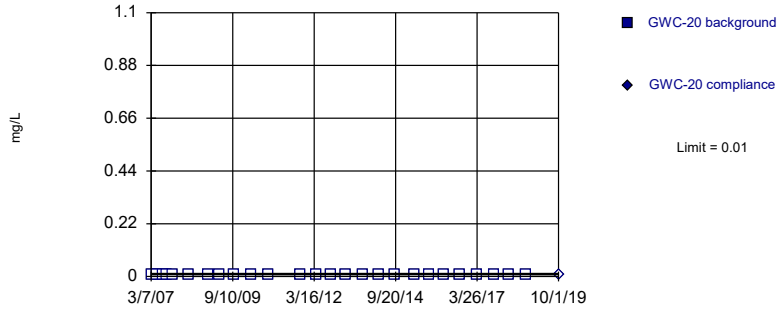
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

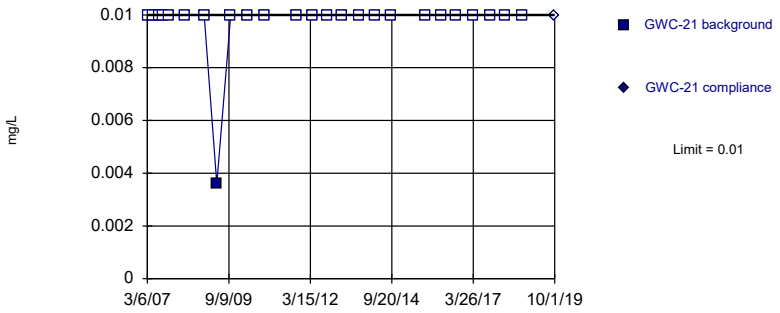
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 96% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

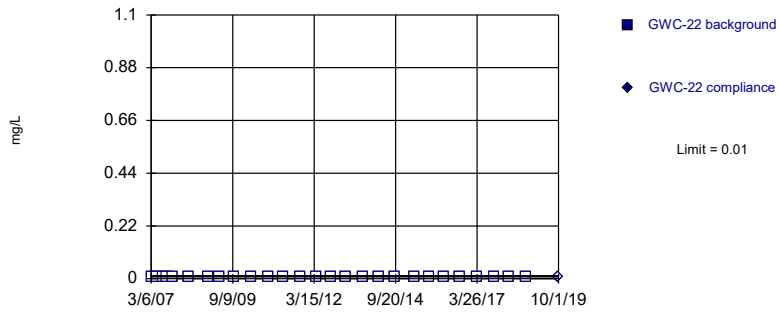
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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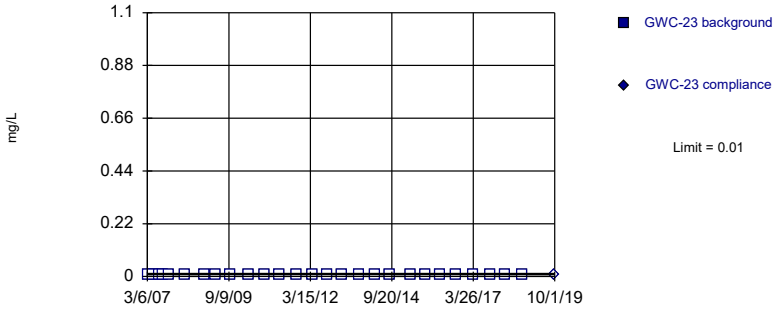
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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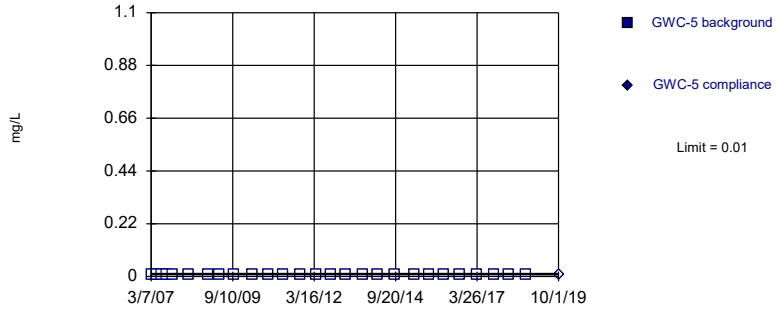
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

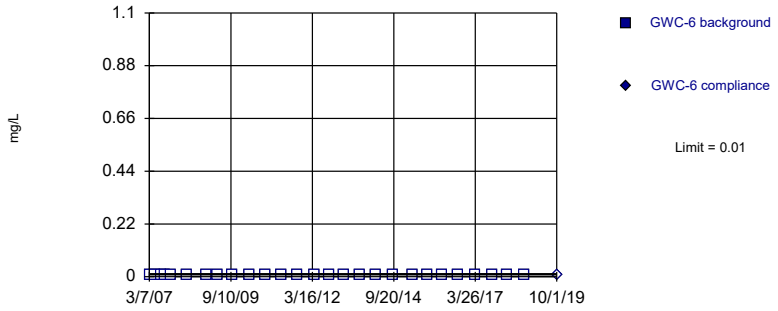
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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Constituent: Silver Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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Hollow symbols indicate censored values.

Within Limit

Prediction Limit

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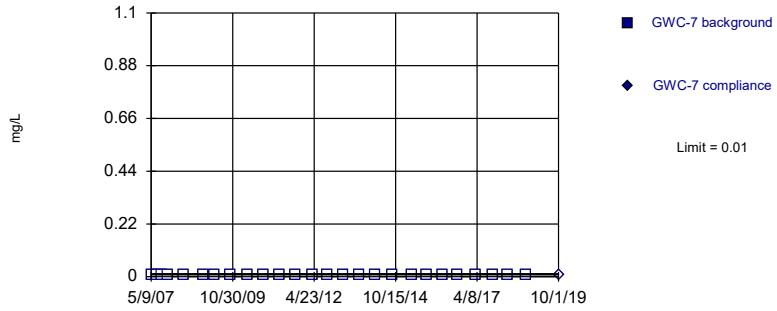


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

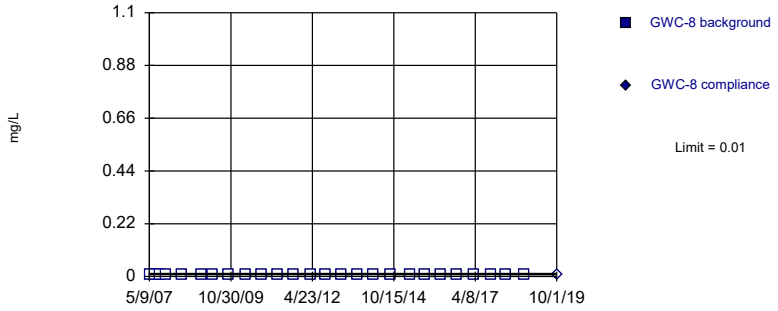
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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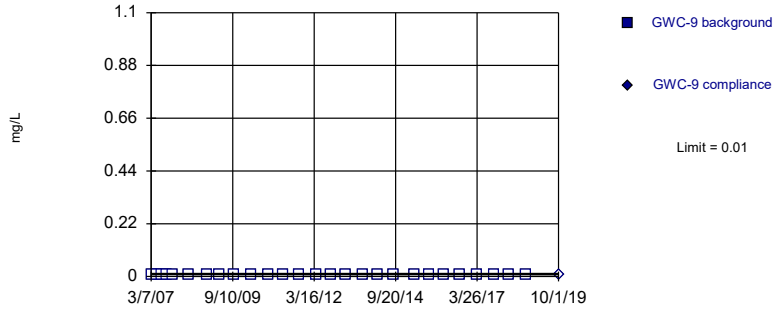
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Silver Analysis Run 11/26/2019 10:01 AM

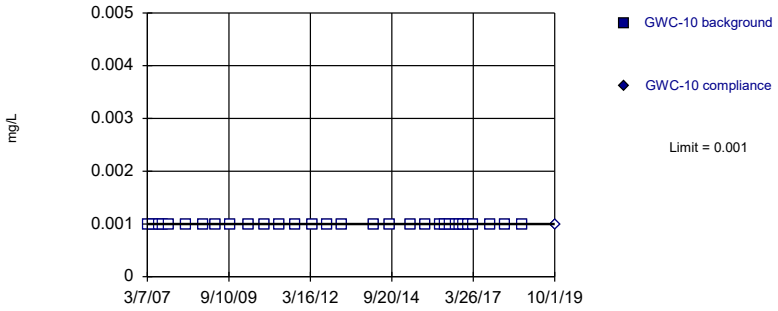
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

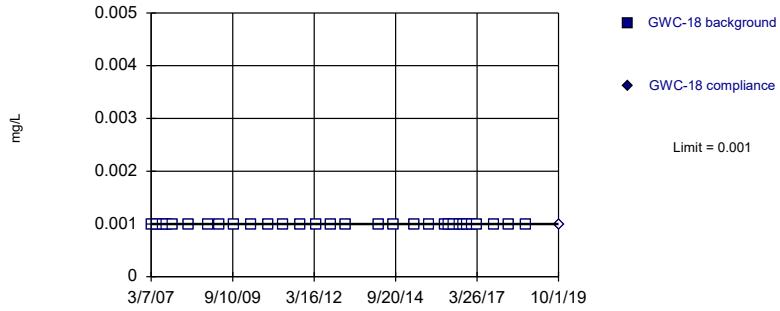
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

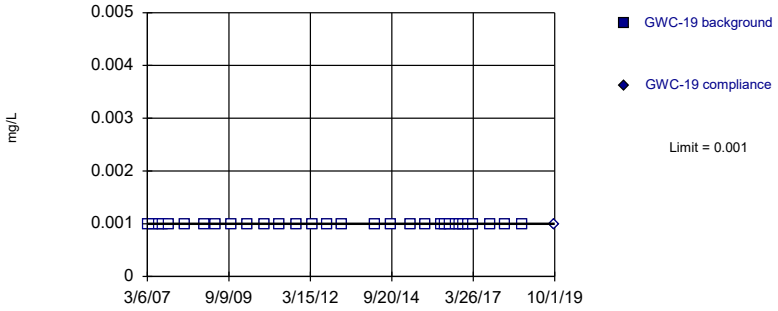
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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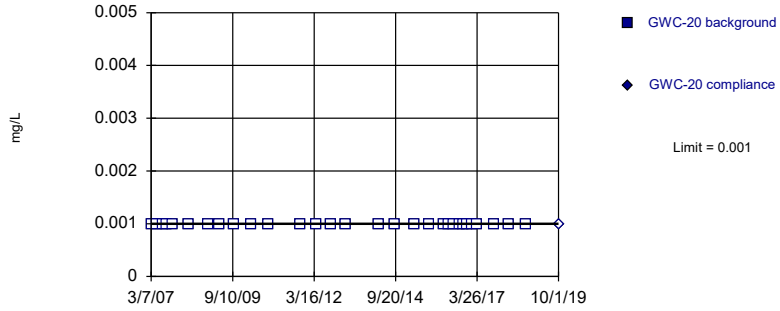
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 30) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

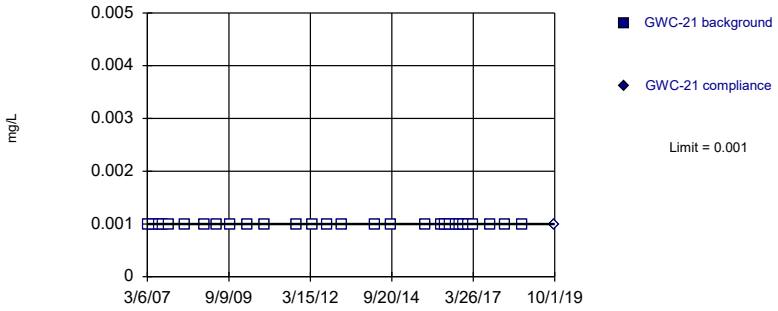
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 29) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.00434. Individual comparison alpha = 0.002172 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

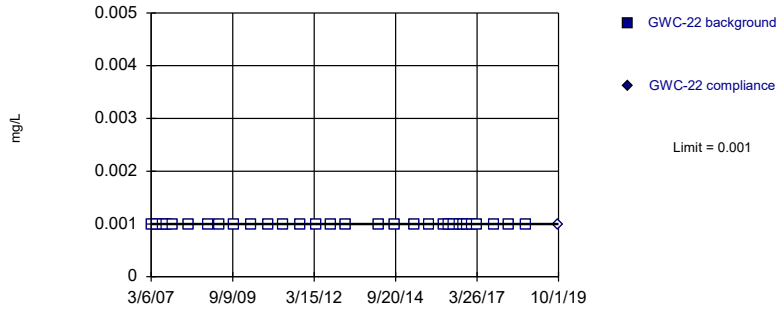
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

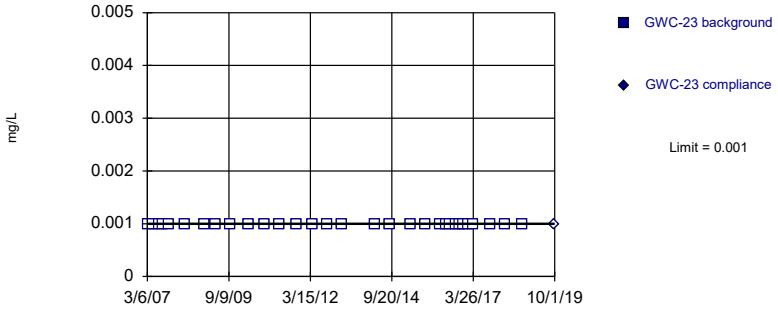
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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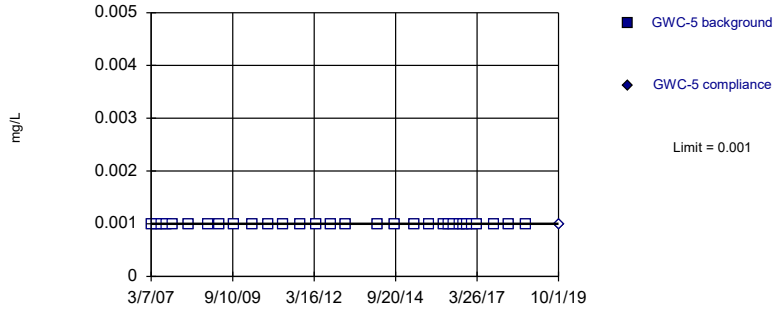
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

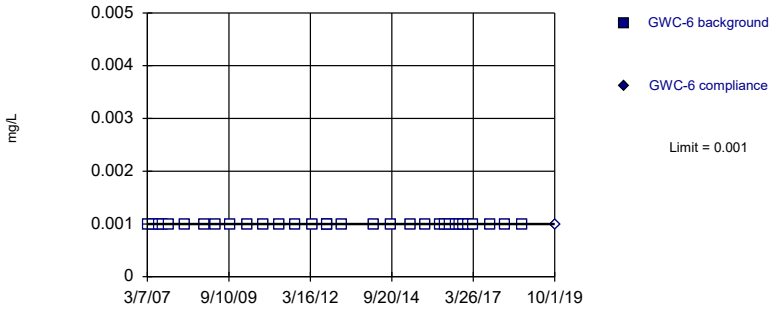
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 32) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003603. Individual comparison alpha = 0.001803 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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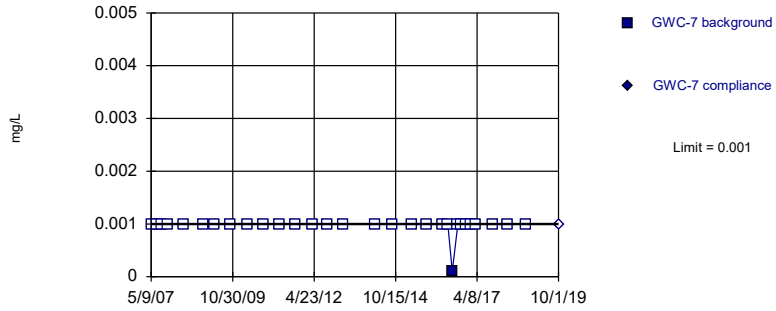
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 30 background values. 96.67% NDs. Well-constituent pair annual alpha = 0.004011. Individual comparison alpha = 0.002008 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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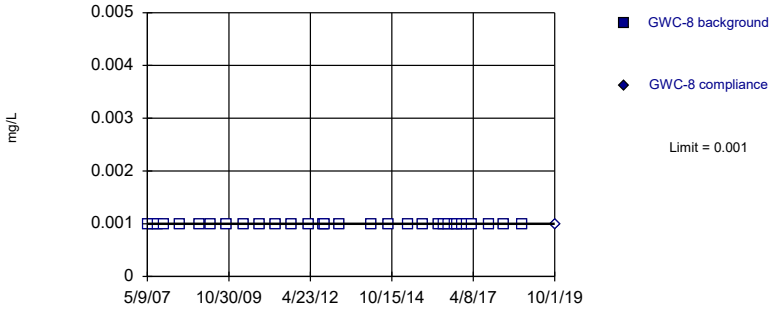
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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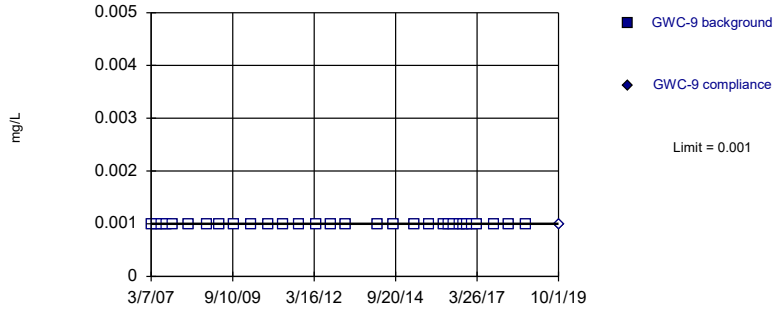
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 31) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.003807. Individual comparison alpha = 0.001905 (1 of 2).

Constituent: Thallium Analysis Run 11/26/2019 10:01 AM

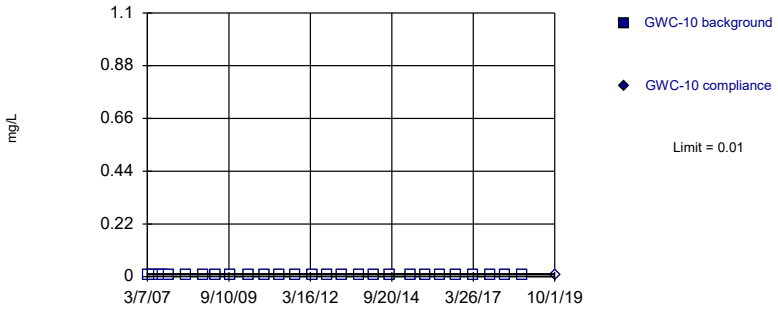
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

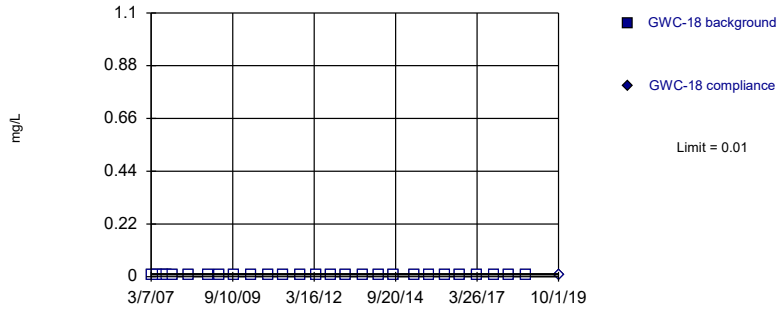
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

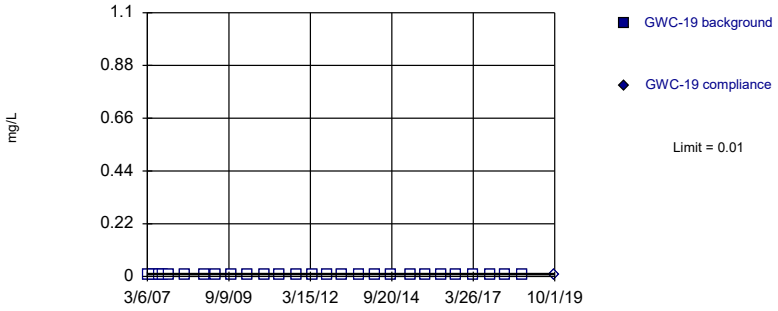
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



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Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

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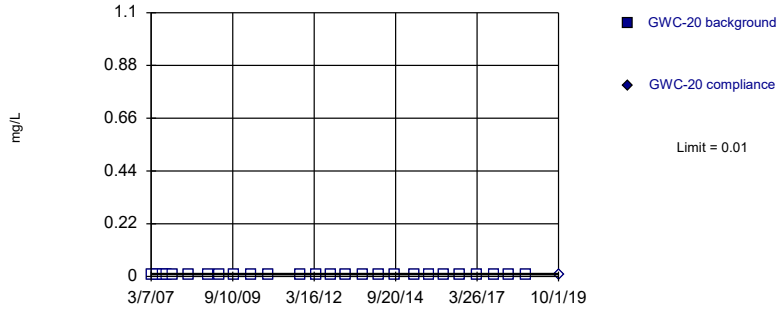
Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

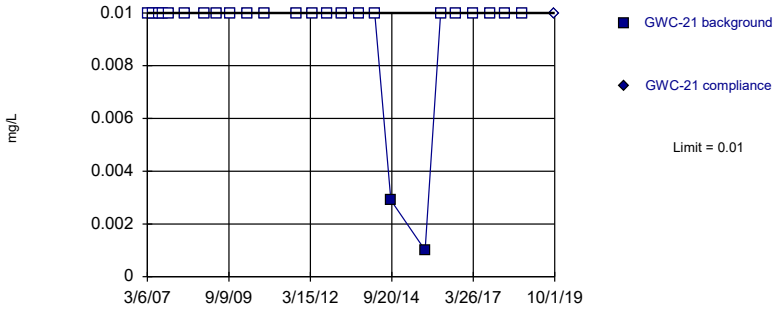
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 25 background values. 92% NDs. Well-constituent pair annual alpha = 0.005656. Individual comparison alpha = 0.002832 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

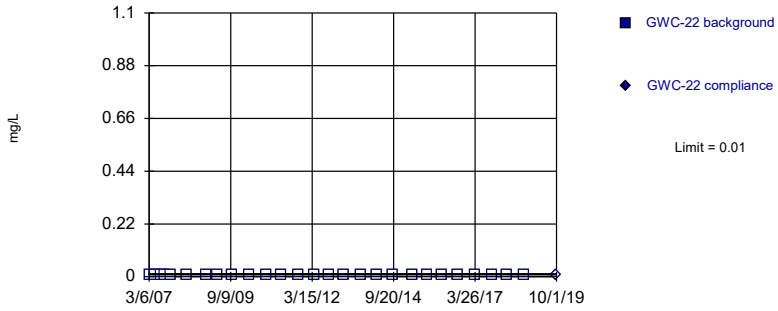
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

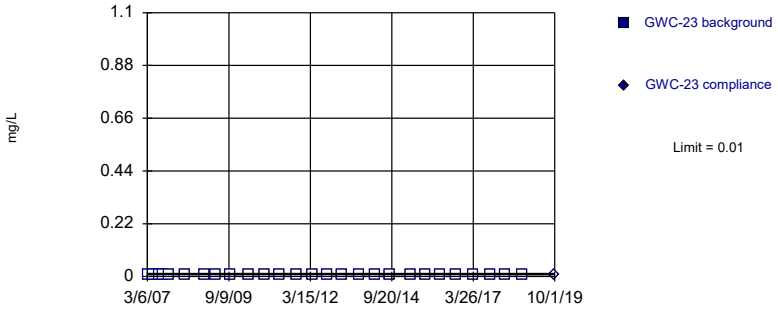
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

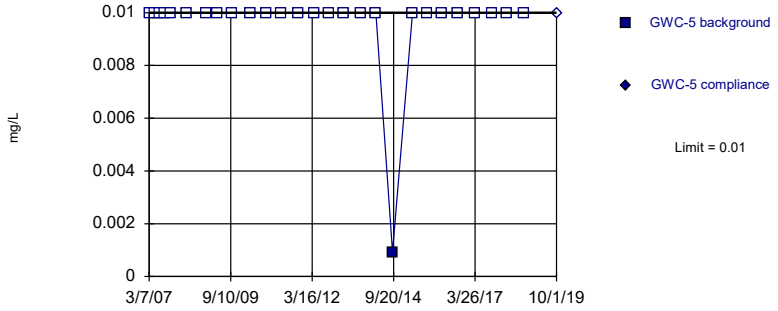
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

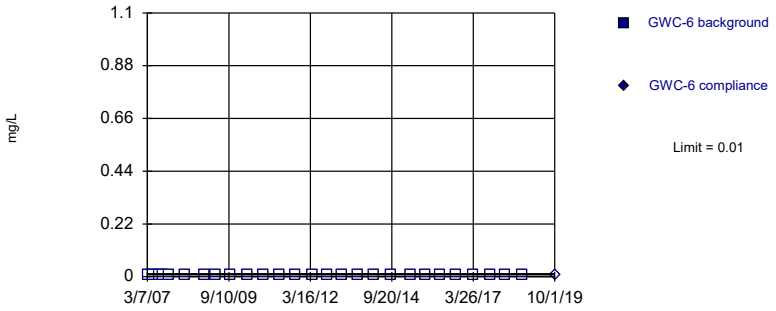
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 27) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

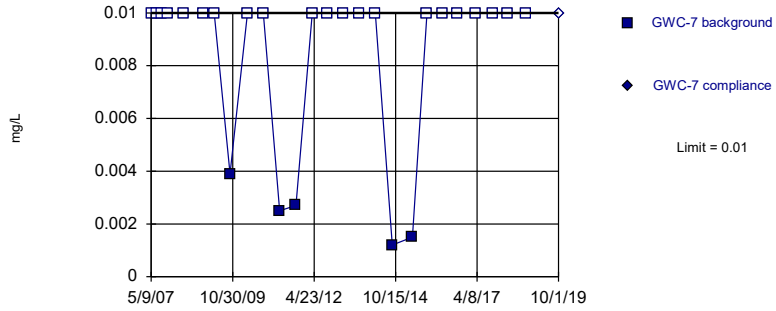
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 80.77% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

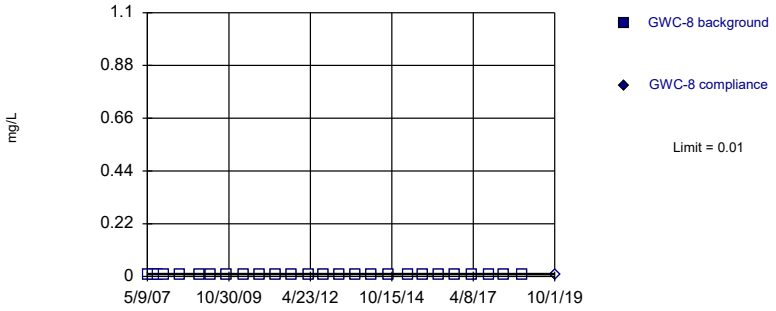
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. All background values (n = 26) were censored; limit is most recent reporting limit. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

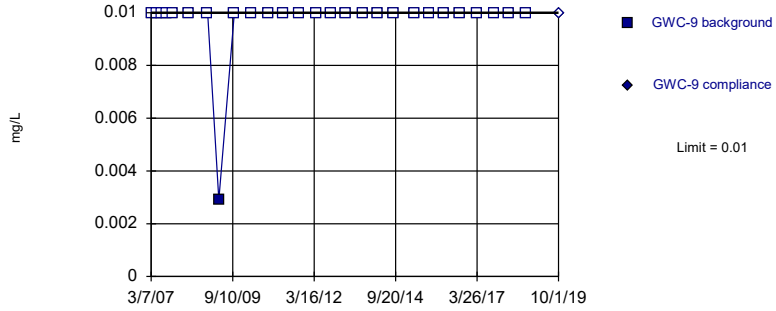
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 96.3% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Vanadium Analysis Run 11/26/2019 10:01 AM

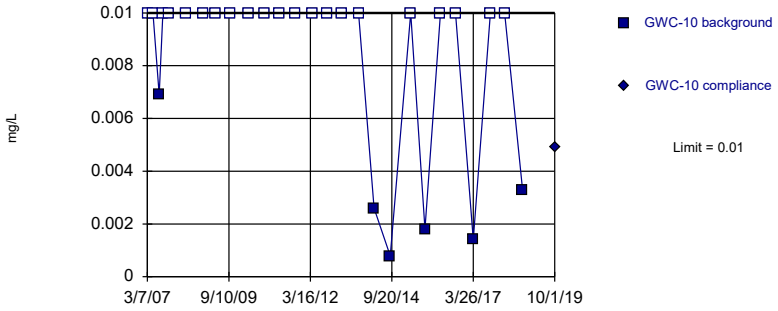
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 77.78% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

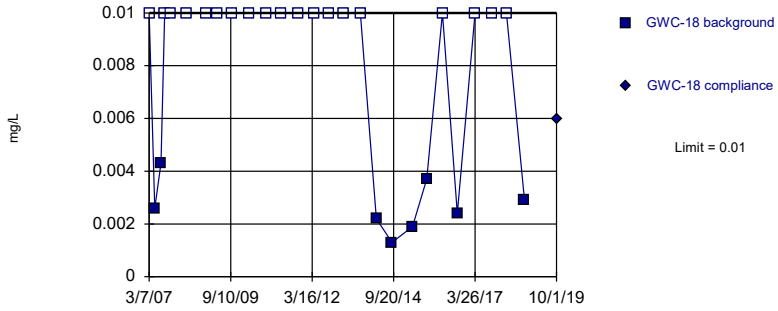
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 70.37% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

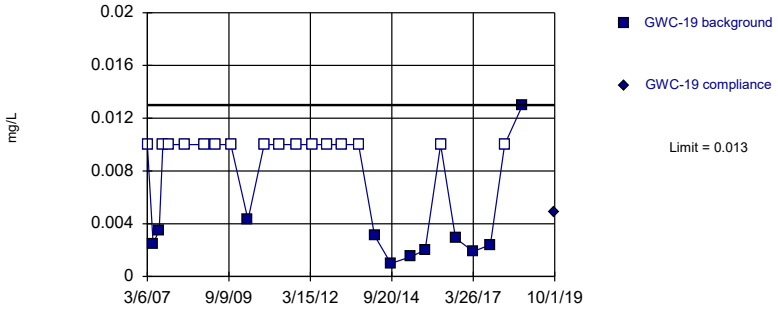
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 59.26% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

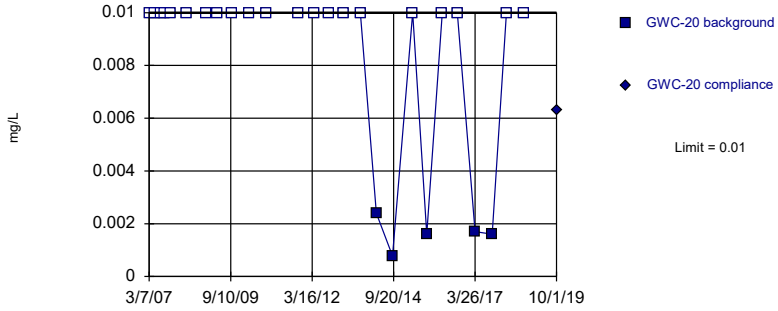
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 80.77% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

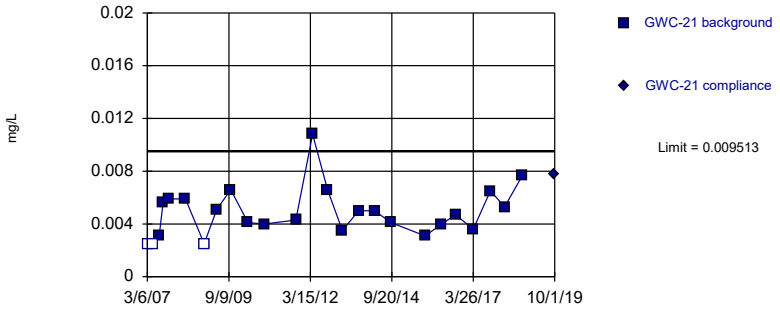
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.004877, Std. Dev.=0.001877, n=25, 12% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.908, critical = 0.888. Kappa = 2.47 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

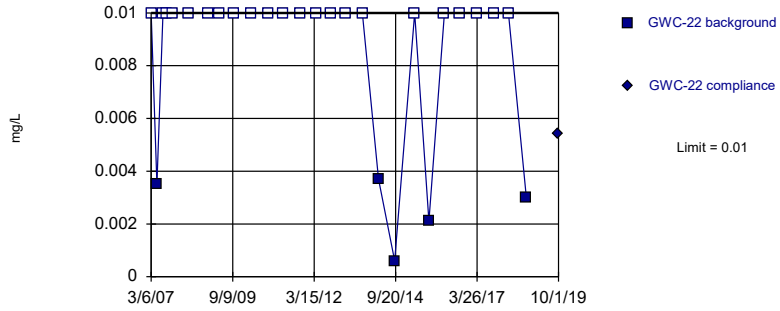
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 81.48% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

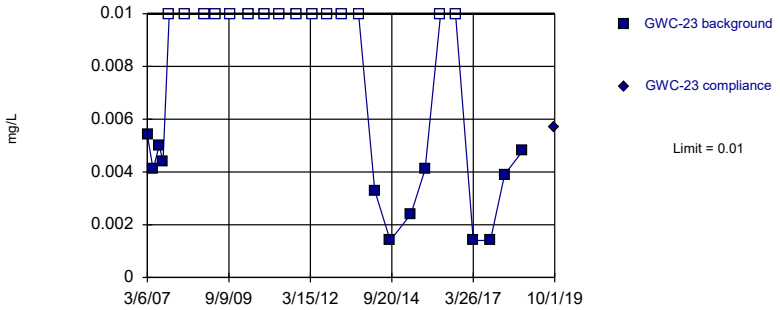
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 55.56% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

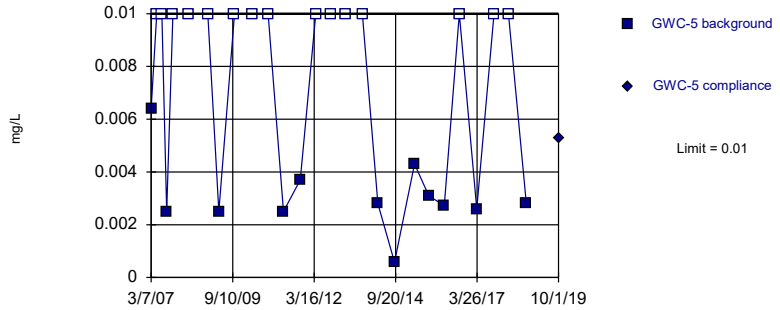
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 55.56% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

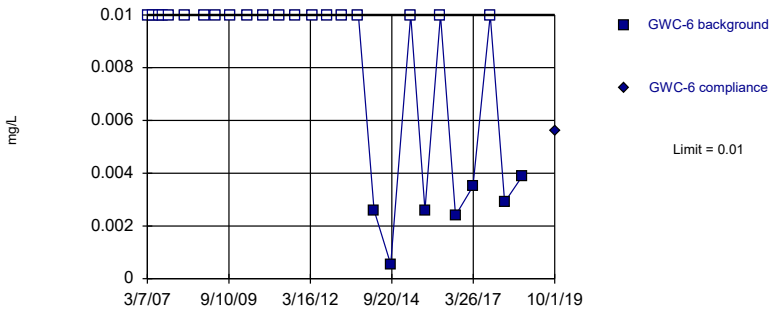
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 74.07% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

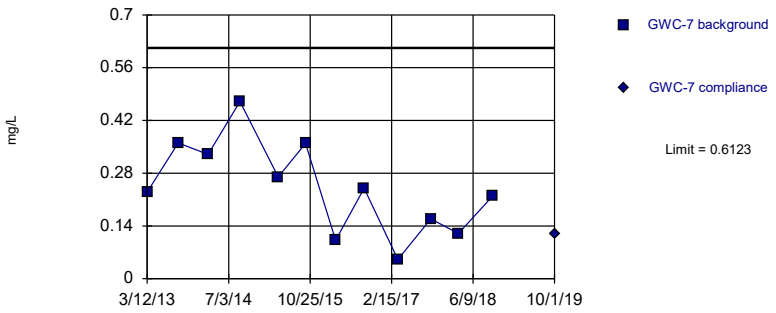
Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Within Limit

Prediction Limit

Intrawell Parametric



Background Data Summary: Mean=0.2426, Std. Dev.=0.123, n=12. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9762, critical = 0.805. Kappa = 3.005 (c=15, w=12, 1 of 2, event alpha = 0.05132). Report alpha = 0.0002926.

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

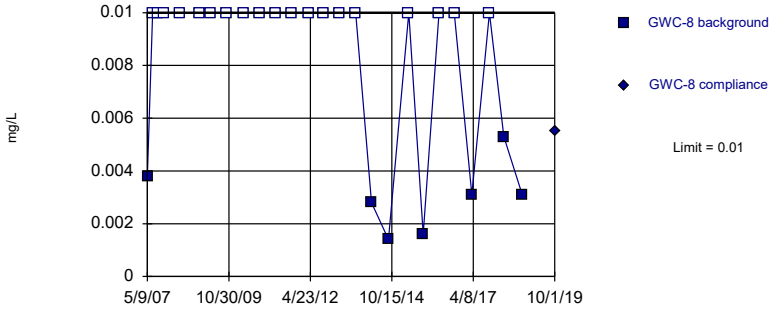
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 26 background values. 73.08% NDs. Well-constituent pair annual alpha = 0.005327. Individual comparison alpha = 0.002667 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

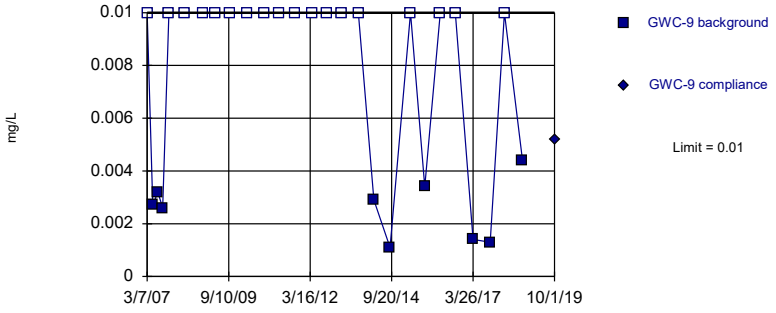
Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Intrawell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 27 background values. 66.67% NDs. Well-constituent pair annual alpha = 0.004998. Individual comparison alpha = 0.002502 (1 of 2).

Constituent: Zinc Analysis Run 11/26/2019 10:01 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Trend Test (D&O) - Significant Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	**GWA-3 (bg)**	**0**	**-235**	**-176**	**Yes**	**34**	**67.65**	**n/a**	**n/a**	**0.01**	**NP**

Trend Test (D&O) - All Results

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill Printed 11/26/2019, 10:57 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	GWA-1 (bg)	0	0	176	No	34	100	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWA-11 (bg)	0	-31	-176	No	34	97.06	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWA-2 (bg)	0	0	176	No	34	100	n/a	n/a	0.01	NP
Arsenic (mg/L)	**GWA-3 (bg)**	**0**	**-235**	**-176**	**Yes**	**34**	**67.65**	**n/a**	**n/a**	**0.01**	**NP**
Arsenic (mg/L)	GWA-4 (bg)	0	-96	-176	No	34	88.24	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWC-7	0.00005987	127	167	No	33	42.42	n/a	n/a	0.01	NP

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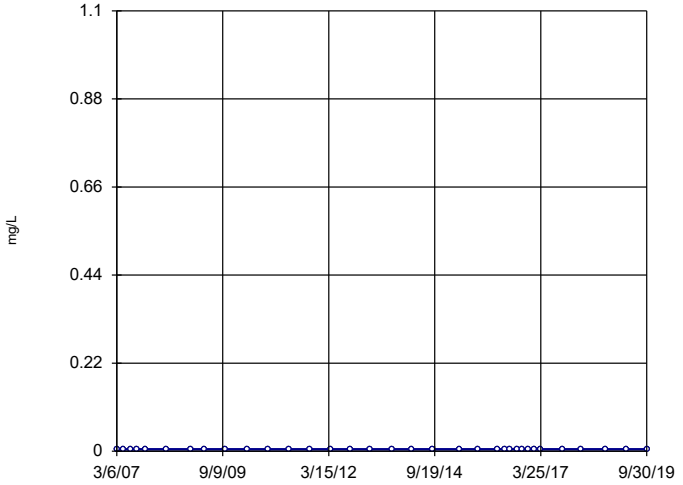
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWA-1 (bg)



n = 34

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 176

Trend not significant at 99% confidence level (α = 0.005 per tail).

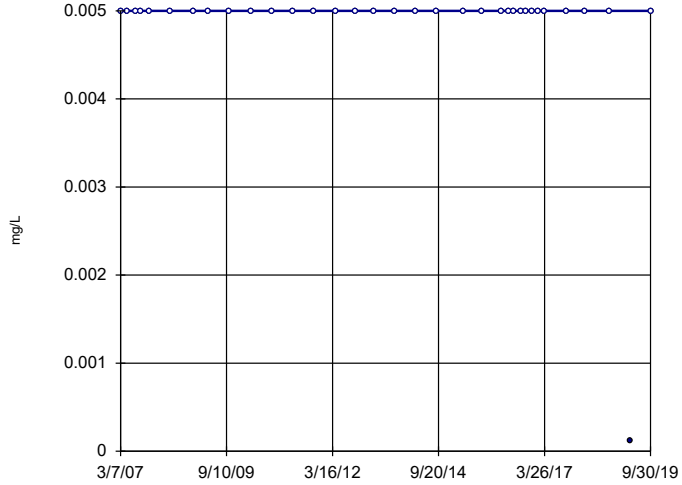
Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWA-11 (bg)



n = 34

Slope = 0 units per year.

Mann-Kendall statistic = -31
critical = -176

Trend not significant at 99% confidence level (α = 0.005 per tail).

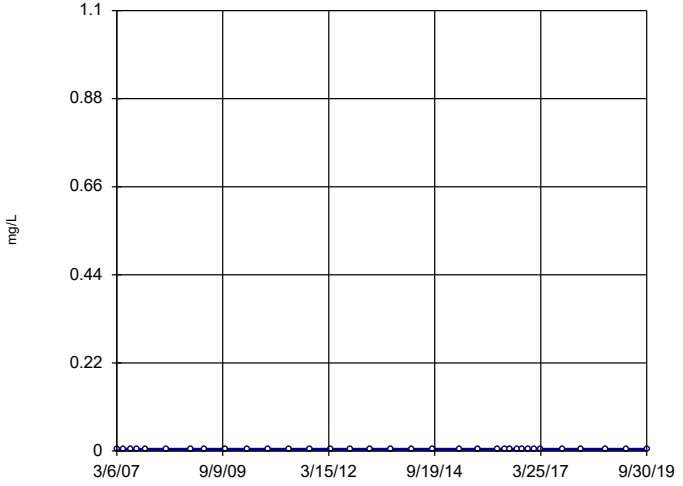
Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWA-2 (bg)



n = 34

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 176

Trend not significant at 99% confidence level (α = 0.005 per tail).

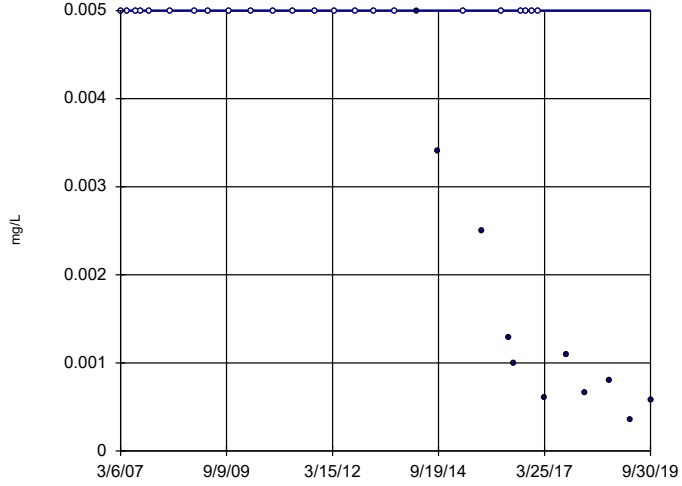
Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWA-3 (bg)



n = 34

Slope = 0 units per year.

Mann-Kendall statistic = -235
critical = -176

Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

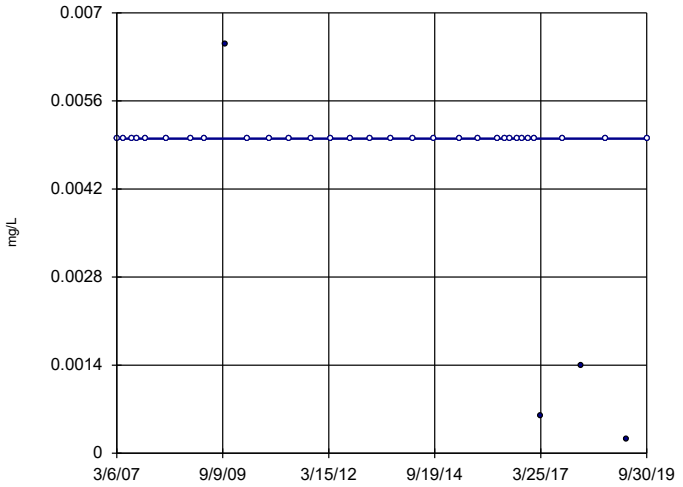
Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWA-4 (bg)



n = 34

Slope = 0 units per year.

Mann-Kendall statistic = -96
critical = -176

Trend not significant at 99% confidence level (α = 0.005 per tail).

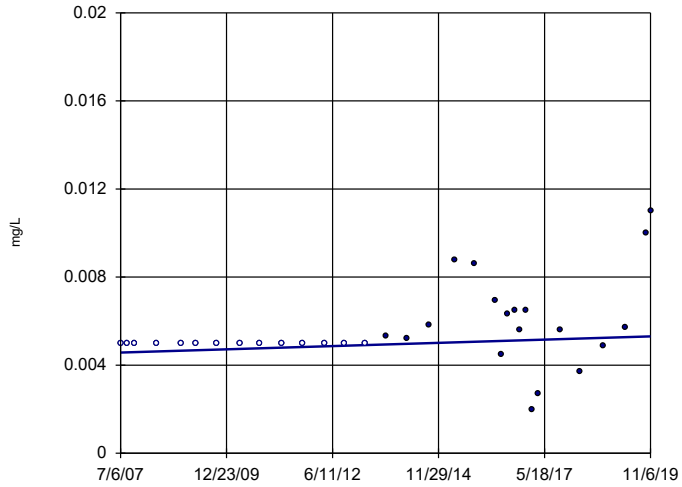
Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill

Sanitas™ v.9.6.23f Sanitas software licensed to Geosyntec Consultants. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

GWC-7



n = 33

Slope = 0.00005987 units per year.

Mann-Kendall statistic = 127
critical = 167

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 11/26/2019 10:56 AM

Hammond AP Client: Georgia Power Data: Huffaker Road Landfill