



## Grumman Road Private Industrial Landfill

Port Wentworth, Georgia

PERMIT #: 025-061D(LI)

Chatham County

## 2020 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

The logo for Atlantic Coast Consulting, Inc., featuring the letters "ACC" in a white, stylized, cursive font.

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## PROFESSIONAL CERTIFICATION

This *2020 Semiannual Groundwater Monitoring and Corrective Action Report*, Georgia Power Company - Grumman Road Private Industrial Landfill has been prepared in compliance with the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 and 391-3-4-.14 by a qualified groundwater scientist or engineer with Atlantic Coast Consulting, Inc (ACC).

**ATLANTIC COAST CONSULTING, INC.**



William M. Malone  
Project Scientist



## SUMMARY

This summary of the 2020 Semiannual Groundwater Monitoring and Corrective Action Report provides the groundwater monitoring and corrective action program status through December 2020 for Georgia Power Company (Georgia Power) Grumman Road Private Industrial Landfill (GRL). This summary was prepared by Atlantic Coast Consulting, Inc. (ACC) on behalf of Georgia Power.

GRL is located on Gulfstream Road, in Chatham County, Georgia, approximately 0.8 miles east of Savannah/Hilton Head International Airport and 1.3 miles west of the city of Port Wentworth. GRL received CCR from Georgia Power – Plant Kraft and operated under EPD solid waste handling permit number 025-061D(LI). GRL is comprised of four cells or parcels: Parcel A [originally operated under permit number 025-034D(LI)], B1, B2, and B3.

The groundwater monitoring system is comprised of 2 upgradient, 3 sidegradient, and 13 downgradient wells installed from 1997 through 2018 to meet state monitoring requirements. Routine sampling and reporting began after background groundwater conditions were established in accordance with the Solid Waste Permit requirements specified in the Design and Operation (D&O) Plan. The monitoring program has been modified to include Appendix III and IV parameters to meet the requirements of the Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a) and 40 Code of Federal Regulations (CFR) § 257.95. Background groundwater conditions for Appendix III and IV parameters were established between September 2016 and July 2018.

Based on Site groundwater conditions, Georgia Power submitted a notification for the implementation of assessment monitoring under Rule 391-3-4-.10(6)(a) on November 13, 2019. An Assessment of Corrective Measures (ACM) was initiated on July 9, 2020 based on the requirements of GA EPD Rule 391-3-4.10(6)(a) which incorporates U.S. Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D) by reference. Georgia Power submitted an ACM report on December 4, 2020 pursuant to 391-3-4.10(6)(a) (Anchor 2020). The 2020 ACM supersedes previous documents submitted for the Site under the existing EPD Permit No. 025-061D(LI) (SCS 2013; ACC 2017, 2019). The ACM was prepared to evaluate potential groundwater corrective measures for the occurrence of arsenic and molybdenum in groundwater at statistically significant levels (SSLs) at GRL.





During the 2020 semiannual reporting period, ACC completed a groundwater sampling event in September. Groundwater samples were submitted to Pace Analytical Services, LLC (Pace) for analysis. Per the CCR rule, groundwater results for September 2020 data were evaluated in accordance with the certified statistical methods. That evaluation showed that statistically significant values of Appendix I/III<sup>1</sup> and Appendix II/IV<sup>2</sup> parameters are provided in the table below.

Appendix I/III Parameter	March 2020
Arsenic	GWC-15, GWC-16, GWC-20
Barium	GWC-20
Calcium	GWB-4R, GWB-5R, GWC-1, GWC-11, GWC-12, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21
pH	GWC-12, GWC-15, GWC-17
Sulfate	GWB-4R, GWB-5R, GWB-6R, GWC-11, GWC-12, GWC-16, GWC-17, GWC-20, GWC-21
Appendix II/IV Parameter <sup>3</sup>	March 2020
Arsenic	GWC-15, GWC-16, and GWC-20
Molybdenum	GWB-4R, GWC-1, GWC-15, GWC-16, GWC-20, and GWC-21

Based on review of the statistical results completed for the groundwater monitoring and corrective action program from July through December 2020, the Site will continue in assessment monitoring and the ACM should continue. Georgia Power will continue routine groundwater monitoring and reporting at the Site. Reports will be posted to the website and provided to the Georgia Environmental Protection Division (EPD) semiannually.

<sup>1</sup> Appendix I (state permit): Barium, chromium, lead, selenium, vanadium, and zinc. Appendix III: Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS).

<sup>2</sup> Appendix II/IV: Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, lithium, molybdenum, radium 226+228, selenium, thallium, vanadium, and zinc.

<sup>3</sup> A state statistically significant level (SSL) related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, or the calculated background interwell prediction limit.



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## 1.0 Introduction

In accordance with the Georgia Environmental Protection Division (GA EPD) Rules of Solid Waste Management 391-3-4-.10(6)(a)-(c) and 391-3-4-.14, Atlantic Coast Consulting, Inc. (ACC) has prepared this *2020 Semiannual Groundwater Monitoring and Corrective Action Report* to document groundwater monitoring activities conducted during the second half of 2020 at Georgia Power's Grumman Road Private Industrial Landfill (GRL). To specify groundwater monitoring requirements, GA EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) Coal Combustion Residuals (CCR) Rule 40 Code of Federal Regulations (CFR) § 257 Subpart D.

To comply with GA EPD's 391-3-4-.10, a permit application package for GRL was submitted to GA EPD in November 2018 and is currently under review. To meet the requirements of 391-3-4-.10(6), Appendix III and IV parameters listed in 40 CFR § 257 were incorporated into the routine groundwater monitoring program through a minor modification in August 2017. Semiannual reporting is completed pursuant to 391-3-4-.10(6)(c). This report documents groundwater activities conducted August 2020 through January 2021.

Georgia Power submitted an Assessment of Corrective Measures (ACM) in December 2020 pursuant to 391-3-4-.10(6)(a) (Anchor 2020). The 2020 ACM supersedes previous documents submitted for the Site under the existing EPD Permit No. 025-061D(LI) (SCS 2013; ACC 2017, 2019). The ACM was prepared to evaluate potential groundwater corrective measures for the occurrence of arsenic and molybdenum in groundwater at statistically significant levels (SSLs) at GRL.

### 1.1 Site Description and Background

GRL is located on Gulfstream Road, in Chatham County, Georgia, approximately 0.8 miles east of Savannah/Hilton Head International Airport and 1.3 miles west of the city of Port Wentworth. GRL occupies approximately 36 acres. The Site ceased accepting CCR prior to October 19, 2015 and is therefore not subject to Federal monitoring requirements. GRL received CCR from Georgia Power – Plant Kraft and operated under EPD solid waste handling permit number 025-061D(LI). GRL is comprised of four cells or parcels: Parcel A [originally operated under permit number 025-034D(LI)], B1, B2, and B3. Closure of parcels B1, B2, and B3 was completed after CCR disposal ceased. Capping of the last remaining uncapped portion of Parcel A has recently been completed and was documented to EPD in a submittal dated November 27, 2019.

Figure 1, Site Location Map, depicts the location of GRL relative to the surrounding area. Figure 2, Well Location Map, depicts the general configuration of GRL and the location of the monitoring wells.

### 1.2 Regional Geology and Hydrogeologic Setting

GRL is underlain by Atlantic Coastal Plain Physiographic Province strata consisting of unconsolidated to consolidated layers of sand, silt, and clay and semi-consolidated to dense layers of limestone and dolomite (Clarke et al, 2010). These sediments constitute three major aquifer systems, which are, from shallow to deep, the surficial aquifer system, the Brunswick aquifer system, and the Floridan aquifer system. In the Atlantic Coastal Plain, the surficial aquifer system consists of Miocene and younger interlayered sand, silt, clay, and thin limestone beds (Clarke et al, 2010). The surficial aquifer system is unconfined and the fine silty sands and clay partings are found generally less than 80 feet below ground surface.

The surficial aquifer is underlain by a confining unit that separates it from the Brunswick aquifer. The confining unit consists of silty clay and dense thin, phosphatic Miocene limestone. The Oligocene to Miocene Brunswick aquifer consists of two water-bearing zones. The upper Brunswick and lower Brunswick aquifers are separated by a low permeability, sandy phosphatic clay confining unit. The Brunswick aquifer is separated from the Upper Floridan aquifer with the Upper Confining unit and a non-water bearing limestone (NWBL) layer. The Floridan aquifer is confined by the overlying clay and NWBL layers.

### **1.3 Site Geology and Hydrogeologic Setting**

The sediments immediately underlying the Site are part of the regional surficial aquifer system described previously and consist of variable interbedded sands, silts, and clay comprising a near-surface aquifer system (SCS, 1998). Though complex with subtle distinctions, approximately 50 feet of the near-surface aquifer system (soil) can be divided into four units and described in further detail below:

- Upper Sands and Topsoil
- Unit 1 Uppermost Aquifer: Silty Fine Sand
- Unit 2 Low Permeability Zone: Interbedded Sand, Silt, and Clay
- Unit 3 Lower Sand Aquifer: Silty and/or Clayey Fine to Medium Sand

Unit 1 comprises the soil unit monitored at the site and has a thickness ranging from approximately 22 to 28 feet across GRL. The geologic and hydrogeologic conditions at GRL were recently described in detail in the ACC Report (Anchor 2020). Although regionally GRL Units 1 through 3 are classified as the surficial aquifer system, layers of lower permeability may be present in the surficial aquifer system (Clarke, Hacke, and Peck 1990; SCS 1998). Generally, groundwater in the near-surface aquifer system flows from north to south at the GRL but is influenced by topography. Groundwater elevations observed across the site and adjacent landfills suggest that hydraulic communication exists between Units 1, 2, and 3. Unit 2 has a lower permeability than Units 1 and 3 and locally may act as an impediment to downward migration, creating perched water within Unit 1 or impeding migration within the near surface aquifer system. Unit 2 does not appear to be continuous across the sites such that it creates distinct groundwater flow systems.

### **1.4 Groundwater Monitoring System and CCR Units**

A groundwater monitoring plan was submitted and approved January 13, 2000. The initial approved detection groundwater monitoring network included 17 monitoring wells: upgradient wells GWA-7 and GWA-8 and downgradient wells GWC-1 through GWC-6 and GWC-9 through GWC-17. As previously documented to EPD, in late 2018, three monitoring wells (GWC-4, GWC-5, and GWC-6) were replaced by new monitoring wells (GWB-4R, GWB-5R, and GWB-6R) and were also re-designated as side-gradient (i.e. "GWB" prefixes) locations. One well (GWC-3) was not replaced due to redundancy with GWC-20. These changes are detailed in the November 2018 permit application. Well installations have either been previously approved or pending permit application. Pursuant to GA EPD rule 391-3-4-.10(6)(a) and § 257.91, the monitoring system is designed to monitor groundwater passing the waste boundary of GRL within the uppermost aquifer. Wells were located to serve as upgradient and downgradient monitoring points based on groundwater flow direction (Table 1A, Monitoring Network Well Summary). Additional existing locations are presented in Table 1B, Delineation Well and Piezometer Summary.

As part of the assessment monitoring program, five vertical delineation wells (MW-23D through MW-27D) were installed in December 2020 and January 2021. Pursuant to GA EPD rule 391-3-4-.10(6)(a) and § 257.195(g)(1)(iv), the wells, classified as “delineation wells”, will be sampled in addition to the compliance monitoring wells as part of the ongoing assessment groundwater monitoring program.

## 2.0 GROUNDWATER MONITORING ACTIVITIES

The following describes monitoring-related activities performed at the Site from August 2020 through January 2021 (the reporting period) and discusses any change in status of the monitoring program.

### 2.1 Monitoring Well Installation/Maintenance

Monitoring well-related activities were limited to visual inspection of well conditions prior to sampling, recording the Site conditions, and performing exterior maintenance to provide safe access for sampling. Four non-network wells (GWC-3, GWC-4, GWC-5, and GWC-6) were abandoned on December 14, 2020. These wells were previously determined to be off-property and were replaced by GWB-4R, GWB-5R and GWB-6R in 2018. Five wells (MW-23D through MW-27D) were installed in December 2020 and January 2021 and incorporated into the assessment monitoring well network. Wells MW-23D through MW-25D were installed to vertically delineate the extent of arsenic and molybdenum at GWC-15, GWC-16, and GWC-20, respectively. Wells MW-26D and MW-27D were installed to vertically delineate the extent of molybdenum at wells GWB-4R and GWC-1. Groundwater monitoring well GWC-16 is clustered with GWC-21, therefore the molybdenum SSL at GWC-21 is also vertically delineated by MW-24D. Abandonment and installation logs are provided in Appendix A, Well Abandonment and Installation Logs.

Soil samples were collected from each vertical delineation well location to refine the conceptual site model and support the continued evaluation of corrective measures as presented in the ACM Report. Physical soil testing data will be included in a well installation report submitted under a separate cover in March 2020. The scope and associated results of additional ACM analyses are presented in Appendix B, *Semiannual Remedy Selection and Design Progress Report*.

### 2.2 Assessment Monitoring Program

Georgia Power has initiated an assessment monitoring program for CCR Appendix IV constituents. A notification for the implementation of assessment monitoring under 391-3-4-.10(6) was submitted on November 13, 2019. Statistical analyses of the 2019 groundwater data identified SSLs of arsenic and molybdenum (GWC-15, GWC-16, and GWC-20) and molybdenum only (GWB-4R, GWC-1, and GWC-21) in excess of the state groundwater protection standards (GWPS). The facility had previously implemented an assessment monitoring program for Appendix II metals (arsenic) included in its state permit.

Table 2, Groundwater Sampling Event Summary, presents a summary of groundwater sampling events completed at the Site during the reporting period. An initial assessment monitoring event for Appendix IV constituents was completed in August 2020. This was followed by a semiannual assessment monitoring event in September 2020. Groundwater samples were collected for the state-specific list of Appendix I/II metals specified in the permit, all Appendix III constituents, and the Appendix IV constituents detected during the August 2020 monitoring event. Following installation of vertical delineation wells MW-23D through MW-27D, samples of select parameters were collected in January 2021. A summary of the analytes required by Appendix III, Appendix IV,



and the existing permit is provided in Table 3, Summary of Groundwater Monitoring Parameters. Samples were collected from each well in the network monitoring system shown on Figure 2.

Details of these events and analytical results are discussed in Section 3, while the statistical results are discussed in Section 4. Results of sampling activities conducted during the reporting period are presented in Appendix C, Laboratory Analytical and Field Sampling Reports.

### 2.3 Assessment of Corrective Measures

Based on statistical analysis of assessment monitoring results presented in the 2020 Annual Groundwater and Corrective Action Monitoring Report, a Notice of Assessment of Corrective Measures was placed in the operating record on July 9, 2020 for the State CCR Rule. An ACM for arsenic was previously established under EPD Rule 391-3-4-.14. An ACM completed by Anchor QEA, LLC in December 2020 under GA EPD rule 391-3-4-.10(6)(a) and 40 CFR §257.96 supersedes the previous ACM and incorporates arsenic and an additional Appendix IV consistent, molybdenum. An ACM status update report has been updated to include recent activities and is provided as Appendix B.

## 3.0 SAMPLE METHODOLOGY AND ANALYSIS

The following sections describe the methods used to conduct groundwater monitoring at the Site.

### 3.1 Groundwater Flow Direction, Gradient, and Velocity

Prior to each sampling event, groundwater elevations are recorded from the certified well network and piezometers at GRL. Groundwater elevations recorded during the monitoring events are summarized in Tables 4A and 4B, Summary of Groundwater Elevations – August 2020 and September 2020, respectively. Groundwater elevation data was used to develop Figure 3, August 2020 Potentiometric Surface Map, and Figure 4, September 2020 Potentiometric Surface Map. A potentiometric high exists near wells GWA-7 in the northern portion of the Site and groundwater flows semi-radially from this high. In the southern portion of the Site groundwater flows to the south and southeast. The groundwater flow patterns observed during the monitoring events are consistent with historical patterns.

The groundwater flow velocity at GRL was calculated using a derivation of Darcy's Law.

Specifically:

#### Equation

$$v = \frac{K (dh/dl)}{P_e} \quad \text{where:} \quad \begin{array}{l} v = \text{ground water velocity} \\ K = \text{hydraulic conductivity} \\ dh/dl = \text{hydraulic gradient} \\ P_e = \text{effective porosity} \end{array}$$

Groundwater flow velocities were calculated for the Site based on hydraulic gradients, average hydraulic conductivity based on previous slug test data, and an estimated effective porosity of 0.20 (based on a review of several sources, including Driscoll, 1986; USEPA, 1989; Freeze and Cherry, 1979). Groundwater flow velocities have been calculated and are tabulated on Tables 5A and 5B, Groundwater Flow Velocity Calculations – August 2020 and September 2020, respectively. The calculated maximum flow velocities are 0.30 feet per day for August 2020 and 0.32 feet per day for September 2020.



### 3.2 Groundwater Sampling

Groundwater samples were collected using low-flow sampling procedures in accordance with 40 CFR § 257.93(a). Purging and sampling was performed using a peristaltic pump. Tubing was lowered into the well so that the intake was at the midpoint of the well screen (or as appropriate determined by the water level). Peristaltic pump samples were collected using new disposable polyethylene tubing. All non-disposable equipment was decontaminated before use and between well locations.

Monitoring wells were purged and sampled using low-flow sampling procedures. A SmarTroll or Aqua Troll (In-Situ field instruments) was used to monitor and record field water quality parameters (pH, conductivity, oxidation-reduction potential [ORP], dissolved oxygen [DO], and temperature) during well purging prior to sampling. Turbidity was measured using a Hach 2100Q portable turbidimeter. Groundwater samples were collected when the following stabilization criteria were met:

- $\pm 0.1$  standard units for pH
- $\pm 10\%$  for specific conductance
- $\pm 10\%$  for dissolved oxygen where DO > 0.5 milligrams per liter (mg/L). No criterion applies if DO < 0.5 mg/L.
- Turbidity measurements less than 10 nephelometric turbidity units (NTU)

Once stabilization was achieved, samples were collected directly into appropriately preserved laboratory-supplied sample containers. Sample bottles were placed in ice-packed coolers and submitted to Pace of Peachtree Corners, Georgia and Greensburg, Pennsylvania following chain-of-custody protocol. Stabilization logs for each well during each monitoring event are included in Appendix C.

### 3.3 Laboratory Analyses

Mercury was not detected in the initial Appendix IV assessment monitoring event completed in August 2020 and therefore not included in the semiannual assessment monitoring event completed in September 2020. Vertical delineation wells were sampled for Appendix III and select Appendix IV analytes (i.e., arsenic and/or molybdenum) in January 2021. Analytical methods used for groundwater monitoring parameters are provided in laboratory reports in Appendix C. Analytical data collected in monitoring events during the reporting period are summarized in Tables 6A, 6B, and 6C, Summary of Groundwater Analytical Data – August 2020, September 2020, and January 2021, respectively.

Laboratory analyses were performed by Pace. Pace is accredited by the National Environmental Laboratory Accreditation Program (NELAP) and maintains a NELAP certification for all parameters analyzed for this project. In addition, Pace is certified to perform analysis by the State of Georgia. Laboratory reports and chain-of-custody records for the monitoring events are presented in Appendix C.

### 3.4 Quality Assurance and Quality Control

During each sampling event, quality assurance/quality control (QA/QC) samples are collected at a rate of one QA/QC sample per every 10 groundwater assessment samples. Equipment blanks (where non-dedicated sampling equipment is used) and duplicate samples were collected during each sampling event. QA/QC sample data were evaluated during data validation and are included in Appendix C.



Groundwater quality data in this report was validated in accordance with USEPA guidance (USEPA, 2011) and the analytical methods. Data validation generally consisted of reviewing sample integrity, holding times, laboratory method blanks, laboratory control samples, matrix spikes/matrix spike duplicate recoveries and relative percent differences, post digestions spikes, laboratory, and field duplicate relative percent differences (RPDs), field and equipment blanks, and reporting limits. Where appropriate, validation qualifiers and flags are applied to the data using USEPA procedures as guidance (USEPA, 2017). The data are considered usable for meeting project objectives and the results are considered valid.

Values followed by a "J" flag indicate that the value is an estimated analyte concentration detected between the method detection limit (MDL) and the laboratory reporting limit (PQL). The estimated value is positively identified but is below the lowest level that can be reliably achieved within specified limits of precision and accuracy under routine laboratory operating conditions. "J" flagged data are used to establish background statistical limits but are not used when performing statistical analyses.

#### **4.0 STATISTICAL ANALYSIS**

The statistical method used at GRL was developed by Groundwater Stats Consulting, LLC (GSC), using methodology presented in *Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance*, March 2009, USEPA 530/ R-09-007 (USEPA, 2009).

Statistical analysis of the reporting period groundwater monitoring data was performed by GSC following the appropriate certified statistical methodology for GRL. Sanitas groundwater statistical software was used to screen the data and 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.

Appendix I and Appendix III statistical analysis was performed to determine if groundwater has returned to background levels. Appendix II and Appendix IV constituents were evaluated to determine if concentrations statistically exceeded the established state GWPS.

A summary of the statistical methodology used at GRL for routine groundwater monitoring is provided in Table 7, Statistical Method Summary. Statistical analysis methods and results are provided in Appendix D, Statistical Analysis Reports and summarized in the following sections.

##### **4.1 Appendix I and III Statistical Methods**

Based on guidance from GA EPD, statistical tests used to evaluate the groundwater monitoring data consist of interwell prediction limits combined with a 1-of-2 verification resample plan for each of the Appendix I and III parameters. Interwell prediction limits (PLs) are constructed using pooled data from upgradient wells GWA-7 and GWA-8 to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are SSIs. An "initial exceedance" occurs when an Appendix I or III constituent reported in downgradient groundwater compliance monitoring well exceeds the constituent's associated PL. The 1-of-2 resample plan allows for collection of an independent resample. A confirmed exceedance is noted only when the resample verifies the initial exceedance. If the resample result is less than its relevant prediction limit, the initial exceedance is not verified.

## 4.2 Appendix II and IV Statistical Methods

Appendix II constituents and Appendix IV constituents detected in the initial annual assessment sampling event (August 2020) were sampled during the semiannual assessment sampling event. To statistically compare groundwater data to GWPS, confidence intervals are constructed for each of the detected Appendix II and IV parameters in each downgradient well. Those confidence intervals are compared to the state GWPS. Only when the entire confidence interval is above a GWPS is the well/constituent pair considered to exceed its GWPS. If there is an exceedance of the established standard, a statistically significant level (SSL) exceedance is identified.

USEPA revised the federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum. USEPA's updated GWPS have not yet been incorporated under Georgia EPD's CCR Rule. The Georgia EPD CCR Rule GWPS is:

- (1) The federally established MCL.
- (2) Where an MCL has not been established, the background concentration.
- (3) Background levels for constituents where the background level is higher than the MCL.

As described in 40 CFR § 257.95(h)(1-3), the GWPS for cobalt, lead, lithium and molybdenum is:

- (1) The maximum contaminant level (MCL) established under 40 CFR §141.62 and 141.66.
- (2) Where an MCL has not been established:
  - (i) Cobalt 0.006 mg/L;
  - (ii) Lead 0.015 mg/L;
  - (iii) Lithium 0.040 mg/L; and
  - (iv) Molybdenum 0.100 mg/L.
- (3) Background levels for constituents where the background level is higher than the MCL or rule-specified GWPS.

Following the above state rule requirements, GWPS have been established for statistical comparison of Appendix II and Appendix IV constituents and are presented in Table 8, Summary of Background Levels and Groundwater Protection Standards.

## 4.3 Statistical Analyses Results

Based on review of the Appendix I and III statistical analyses presented in Appendix D, constituents have not returned to background levels and assessment monitoring should continue pursuant to 391-3-4-.10(6)(a)

### 4.3.1 Appendix I and III Parameters

Statistical analysis of Appendix I data identified SSIs for two groundwater monitoring parameters above site background levels. The SSIs include:

- Arsenic: GWC-15, GWC-16, GWC-20
- Barium: GWC-20

Appendix III SSIs include:

- Calcium: GWB-4R, GWB-5R, GWC-1, GWC-11, GWC-12, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21
- pH: GWC-12, GWC-15, GWC-17

- Sulfate: GWB-4R, GWB-5R, GWB-6R, GWC-11, GWC-12, GWC-16, GWC-17, GWC-20, GWC-21

#### 4.3.2 Appendix II and IV Parameters

Based on a review of the Appendix IV statistical analysis presented in Appendix D, the following parameters were found to exceed the state GWPS:

- Arsenic: GWC-15, GWC-16, and GWC-20
- Molybdenum: GWB-4R, GWC-1, GWC-15, GWC-16, GWC-20, and GWC-21

These results are consistent with those presented in the 2020 Annual Groundwater and Corrective Action Report (ACC 2020). An ACM was submitted in December 2020 for arsenic and molybdenum, per 391-3-4.10(6)(a) and 40 CFR §257.96, and potential corrective measures are under evaluation.

#### 4.4 Delineation Data

Wells MW-23D, MW-24D, and MW-25D were installed for vertical delineation of arsenic and molybdenum. Wells MW-26D and MW-27D were installed for vertical delineation of molybdenum. A well installation report documenting installation activities will be provided under a separate cover in March 2021. Data from the new wells are currently being incorporated into the existing Conceptual Site Model (CSM). The location of these wells is shown in Figure 2. Boring logs are provided in Appendix A.

Results from the January 2021 groundwater sampling event indicate that vertical delineation is complete: arsenic and molybdenum concentrations in the new vertical delineation wells are below the GWPS. The January 2021 delineation results are provided in Appendix C.

Horizontal delineation to the south is dependent on securing access from adjacent property owners. Per GA EPD guidance, where “denial of access prevents the installation of off-site delineation wells, a USEPA approved fate and transport model analysis may be used to delineate the limit of the contaminant plume” (GA EPD 2018). If off-site access cannot be secured, a fate and transport model analysis will be used to achieve horizontal delineation. Georgia Power is currently refining the CSM based on recent field investigations, which will assist with horizontal delineation evaluation.

### 5.0 MONITORING PROGRAM STATUS

In accordance with GA EPD rule 391-3-4.10(6)(a) and 40 CFR §257.94(e), the assessment monitoring program previously established under state permit requirements has been expanded to include Appendix IV constituents. An ongoing ACM to address arsenic concentrations was established under the state solid waste permit and was recently superseded by an ACM completed under GA EPD rule 391-3-4.10(6)(a) and 40 CFR §257.96. The previously identified arsenic concentrations and recent SSLs of molybdenum are currently being addressed by an ACM.

Pursuant to 40 CFR 257.96(b), Georgia Power will continue to monitor the groundwater at the Site in accordance with the assessment monitoring program regulations of 40 CFR 257.95 while ACM efforts are implemented to evaluate SSL concentrations of arsenic and molybdenum. Pursuant to § 257.94(e)(1), Georgia Power will continue assessment monitoring in accordance

with § 257.95. Pursuant to § 257.95(g)(1)(iv), the delineation wells will continue to be sampled as part of the ongoing semiannual assessment groundwater monitoring program.

### 5.1 Assessment of Corrective Measures

An ACM was implemented on July 9, 2020 and submitted to EPD on December 4, 2020. The ACM efforts completed during the reporting period covered by this groundwater monitoring and corrective action report are presented in Appendix B. The Semiannual Progress Report summarizes:

- (i) the current conceptual site model applicable to evaluating groundwater corrective measures proposed in the ACM Report (Anchor 2020).
- (ii) the analytical data obtained during supplemental ACM-specific field investigations.
- (iii) the status of applicable corrective measures evaluation.
- (iv) the planned activities and anticipated schedule for the following semi-annual reporting period.

Georgia Power will include future Semiannual Progress Reports with each groundwater monitoring and corrective action report.

## 6.0 CONCLUSIONS AND FUTURE ACTIONS

This 2020 Semiannual Groundwater Monitoring & Corrective Action Report was prepared to fulfill the requirements of GA EPD rule 391-3-4-.10(6)(c). Statistical evaluations of the groundwater monitoring data identified the presence of SSLs of arsenic (GWC-15, GWC-16, and GWC-20) and molybdenum (GWB-4R, GWC-1, GWC-15, GWC-16, GWC-20, and GWC-21) above the state GWPS. The arsenic and molybdenum SSLs are vertically delineated below the state GWPS by MW-23D through MW-27D. Horizontal delineation of SSLs is dependent on securing access from adjacent property owners or completion of a fate and transport model analysis.

Georgia Power will continue to monitor groundwater under the assessment monitoring program and evaluate potential corrective measures presented in Appendix B.

The next semiannual assessment sampling event is tentatively planned for March 2021.

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## TABLES

**Table 1A**  
**Monitoring Network Well Summary**

Well ID	Installation Date (mm/dd/yyyy)	Bottom Depth (ft BTOC)	Bottom Elevation (SD)	Depth to Top of Screen (ft BTOC)	Top of Screen Elevation (SD)	Hydraulic Location
GWA-7	07/29/1998	21.20	25.90	16.20	30.90	Upgradient
GWA-8	07/29/1998	20.80	26.04	15.80	31.04	Upgradient
GWB-4R	10/09/2018	27.00	22.58	16.76	32.82	Sidegradient
GWB-5R	10/09/2018	26.50	21.32	16.51	31.31	Sidegradient
GWB-6R	10/08/2018	22.70	24.70	12.69	34.71	Sidegradient
GWC-1	03/10/1997	28.20	22.10	21.93	28.37	Downgradient
GWC-2	03/11/1997	32.73	19.11	26.73	25.11	Downgradient
GWC-9	07/24/1998	27.40	19.71	22.40	24.71	Downgradient
GWC-11	07/23/1998	22.60	26.78	17.60	31.78	Downgradient
GWC-12	07/22/1998	26.70	20.78	21.70	25.78	Downgradient
GWC-13	07/22/1998	23.80	24.02	18.80	29.02	Downgradient
GWC-14	07/22/1998	27.00	23.70	22.00	28.70	Downgradient
GWC-15	07/22/1998	26.80	21.32	21.80	26.32	Downgradient
GWC-16	07/21/1998	28.20	19.59	23.20	24.59	Downgradient
GWC-17	1998	23.50	20.59	18.20	25.89	Downgradient
GWC-20	05/07/2010	25.59	24.44	20.29	29.74	Downgradient
GWC-21	05/07/2010	24.54	23.40	19.24	28.70	Downgradient
GWC-22	05/07/2010	19.21	27.51	13.91	32.81	Downgradient

Notes:

1. SD indicates feet relative to Site Datum.
2. ft BTOC indicates feet below top of casing.

**Table 1B**  
**Delineation Well and Piezometer Summary**

Well ID	Installation Date (mm/dd/yyyy)	Bottom Depth (ft BTOC)	Bottom Elevation (SD)	Depth to Top of Screen (ft BTOC)	Top of Screen Elevation (SD)	Purpose
GWC-10	07/24/1998	20.6	26.79	15.6	31.79	Piezometer
MW-23D	12/17/2020	63.30	-13.10	58.00	-7.80	Delineation
MW-24D	01/04/2021	66.30	-17.76	61.00	-12.46	Delineation
MW-25D	01/06/2021	70.20	-21.87	64.90	-16.57	Delineation
MW-26D	01/10/2021	69.90	-20.51	64.60	-15.21	Delineation
MW-27D	01/08/2021	72.43	-21.90	67.13	-16.60	Delineation

Notes:

1. SD indicates feet relative to Site Datum.
2. ft BTOC indicates feet below top of casing.



**Table 2**  
**Groundwater Sampling Event Summary**

Well	Hydraulic Location	Aug. 17-19, 2020	Sep. 28 - Oct. 1, 2020	Jan. 20-21, 2021
Purpose of Sampling Event		Initial App. IV Assessment	Assessment	Delineation
GWA-7	Upgradient	X	X	-
GWA-8	Upgradient	X	X	-
GWB-4R	Sidegradient	X	X	--
GWB-5R	Sidegradient	X	X	--
GWB-6R	Sidegradient	X	X	-
GWC-1	Downgradient	X	X	--
GWC-2	Downgradient	X	X	--
GWC-9	Downgradient	X	X	--
GWC-11	Downgradient	X	X	--
GWC-12	Downgradient	X	X	--
GWC-13	Downgradient	X	X	--
GWC-14	Downgradient	X	X	--
GWC-15	Downgradient	X	X	--
GWC-16	Downgradient	X	X	--
GWC-17	Downgradient	X	X	--
GWC-20	Downgradient	X	X	--
GWC-21	Downgradient	X	X	--
GWC-22	Downgradient	X	X	--
MW-23D	Delineation	-	-	X
MW-24D	Delineation	-	-	X
MW-25D	Delineation	-	-	X
MW-26D	Delineation	-	-	X
MW-27D	Delineation	-	-	X

Notes:

1. X indicates sample was collected.
2. Initial Assessment Event included all Appendix IV analytes.
3. Second 2020 Assessment Event included Appendix III and Detected Appendix IV analytes.
4. Delineation Event included Appendix III and select Appendix IV analytes.
5. -- = Not sampled.

**Table 3**  
**Summary of Groundwater Monitoring Parameters**

<b>Appendix III (40 CFR 257)</b>	<b>Appendix IV (40 CFR 257)</b>	<b>State Permit Appendix I and II Metals</b>
Boron	Antimony	Antimony
Calcium	Arsenic	Arsenic
Chloride	Barium	Barium
Fluoride	Beryllium	Chromium
pH	Cadmium	Lead
Sulfate	Chromium	Selenium
Total Dissolved Solids	Cobalt	Vanadium
	Fluoride	Zinc
	Lead	
	Lithium	
	Mercury	
	Molybdenum	
	Radium 226 and 228 combined	
	Selenium	
	Thallium	

**Table 4A**  
**Summary of Groundwater Elevations**  
**August 2020**

Well ID	TOC Elevation (SD)	Depth to Water (ft BTOC)	Groundwater Elevation (SD)
GWA-7	47.10	6.22	40.88
GWA-8	46.84	7.36	39.48
GWB-4R	49.58	14.97	34.61
GWB-5R	47.82	10.06	37.76
GWB-6R	47.40	7.80	39.60
GWC-1	50.30	19.16	31.14
GWC-2	51.84	19.23	32.61
GWC-9	47.11	8.70	38.41
GWC-11	49.38	12.66	36.72
GWC-12	47.48	12.49	34.99
GWC-13	47.82	13.89	33.93
GWC-14	50.70	19.51	31.19
GWC-15	48.12	19.28	28.84
GWC-16	47.79	20.71	27.08
GWC-17	44.09	6.42	37.67
GWC-20	50.03	21.19	28.84
GWC-21	47.94	20.64	27.30
GWC-22	46.72	8.41	38.31

Notes:

1. ft BTOC indicates feet below top of casing.
2. SD indicates feet relative to Site Datum.
3. Depths to water measured on August 17, 2020.

**Table 4B**  
**Summary of Groundwater Elevations**  
**September 2020**

Well ID	TOC Elevation (SD)	Depth to Water (ft BTOC)	Groundwater Elevation (ft MSL)
GWA-7	47.10	5.19	41.91
GWA-8	46.84	6.14	40.70
GWB-4R	49.58	14.11	35.47
GWB-5R	47.82	8.75	39.07
GWB-6R	47.40	6.22	41.18
GWC-1	50.30	18.28	32.02
GWC-2	51.84	18.06	33.78
GWC-9	47.11	7.40	39.71
GWC-11	49.38	11.26	38.12
GWC-12	47.48	11.13	36.35
GWC-13	47.82	12.43	35.39
GWC-14	50.70	18.53	32.17
GWC-15	48.12	18.63	29.49
GWC-16	47.79	19.88	27.91
GWC-17	44.09	4.60	39.49
GWC-20	50.03	20.49	29.54
GWC-21	47.94	19.73	28.21
GWC-22	46.72	7.25	39.47

Notes:

1. ft BTOC indicates feet below top of casing.
2. SD indicates feet relative to Site Datum.
3. Depths to water measured on September 28, 2020.

**Table 5A**  
**Groundwater Flow Velocity Calculations**  
**August 2020**

Equation

$$v = \frac{K (i)}{P_e}$$

where: v = ground water velocity  
K = hydraulic conductivity  
i = hydraulic gradient  
P<sub>e</sub> = effective porosity

Values Used in Calculation

Value		Source
K =	2.7E-03 cm/sec 7.60 ft/day	See note 1.
i <sub>max</sub> =	12.52/1576 ft/ft = 0.008	hydraulic gradient from GWB-6R to GWC-16
i <sub>min</sub> =	3.21/737 ft/ft = 0.004	hydraulic gradient from GWA-7 to GWC-17
P <sub>e</sub> =	0.20	See note 2.

$$v_{\max} = \frac{(7.60)(0.008)}{0.20} \quad v_{\max} = 0.30 \text{ ft/day}$$

$$v_{\min} = \frac{(7.60)(0.004)}{0.20} \quad v_{\min} = 0.17 \text{ ft/day}$$

Notes

- (1) Grumman Road Monofill Groundwater Monitoring Plan (SCS, 1999)
- (2) Default value for silty sands from Interim Final RCRA Investigation (EPA, 1989)

**Table 5B**  
**Groundwater Flow Velocity Calculations**  
**September 2020**

Equation

$$v = \frac{K (i)}{P_e} \quad \text{where: } v = \text{ground water velocity}$$

K = hydraulic conductivity  
i = hydraulic gradient  
P<sub>e</sub> = effective porosity

Values Used in Calculation

Value	Source
K =      2.7E-03    cm/sec 7.60            ft/day	See note 1.
i <sub>max</sub> =    13.27/1576    ft/ft =            0.008	hydraulic gradient from GWB-6R to GWC-16
i <sub>min</sub> =      2.42/737       ft/ft =            0.003	hydraulic gradient from GWA-7 to GWC-17
P <sub>e</sub> =        0.20	See note 2.

$$v_{\max} = \frac{(7.60)(0.008)}{0.20} \quad v_{\max} = 0.32 \text{ ft/day}$$

$$v_{\min} = \frac{(7.60)(0.003)}{0.20} \quad v_{\min} = 0.12 \text{ ft/day}$$

Notes

- (1) Grumman Road Monofill Groundwater Monitoring Plan (SCS, 1999)
- (2) Default value for silty sands from Interim Final RCRA Investigation (EPA, 1989)

**Table 6A**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - August 2020**

Substance		Well ID							
		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9
		8/19/2020	8/17/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/18/2020	8/19/2020
Appendix IV	Antimony	<0.0014	<0.00028	<0.00028	<0.00028	<0.00028	0.00061 J	<0.00028	<0.00028
	Arsenic	0.0060 J	<0.00078	0.0033 J	0.0019 J	0.0036 J	0.0070	<0.00078	<0.00078
	Barium	0.10	0.051	0.076	0.10	0.064	0.057	0.050	0.17
	Beryllium	<0.00023	0.00019 J	<0.000046	<0.000046	0.000050 J	<0.000046	0.000051 J	0.00022 J
	Cadmium	<0.00059	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012
	Chromium	0.015 J	0.00082 J	0.0022 J	0.0012 J	0.0037 J	0.0028 J	<0.00055	0.0013 J
	Cobalt	0.0021 J	<0.00038	0.00072 J	<0.00038	<0.00038	<0.00038	<0.00038	0.0011 J
	Fluoride	0.21	0.079 J	0.17	<0.050	<0.050	<0.050	<0.050	0.092 J
	Lead	0.0044 J	<0.000036	0.00048 J	0.000079 J	0.00014 J	<0.000036	<0.000036	0.000096 J
	Lithium	<0.0040	0.0010 J	0.014 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0019 J
	Mercury	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078
	Molybdenum	<0.0034	<0.00069	0.16	<0.00069	0.0010 J	0.061	<0.00069	<0.00069
	Radium	5.45	2.63	3.10	2.49	4.53	1.91	1.09 U	2.34
	Selenium	<0.0078	<0.0016	<0.0016	<0.0016	<0.0016	0.0020 J	<0.0016	<0.0016
Thallium	<0.00072	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.



**Table 6A**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - August 2020**

Substance		Well ID							
		GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20
		8/18/2020	8/17/2020	8/17/2020	8/18/2020	8/18/2020	8/18/2020	8/18/2020	8/18/2020
Appendix IV	Antimony	0.00064 J	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028
	Arsenic	<0.00078	<0.00078	<0.00078	0.0012 J	0.28	0.045	<0.00078	0.30
	Barium	0.12	0.018	0.024	0.028	0.030	0.32	0.074	0.38
	Beryllium	<0.000046	0.00046 J	<0.000046	<0.000046	<0.000046	0.000068 J	0.0016 J	<0.000046
	Cadmium	0.00058 J	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012
	Chromium	0.0015 J	0.0010 J	0.00077 J	0.00059 J	0.0018 J	0.0012 J	0.0011 J	0.0011 J
	Cobalt	0.00040 J	0.00060 J	<0.00038	<0.00038	<0.00038	<0.00038	0.0025 J	<0.00038
	Fluoride	<0.050	0.19	<0.050	<0.050	<0.050	<0.050	0.51	<0.050
	Lead	0.00035 J	0.000049 J	0.000076 J	<0.000036	0.000090 J	0.00017 J	0.00014 J	<0.000036
	Lithium	<0.00081	0.00091 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0065 J	<0.00081
	Mercury	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078	<0.000078
	Molybdenum	0.00077 J	<0.00069	<0.00069	0.017	0.12	0.15	0.00092 J	0.097
	Radium	6.76	2.25	1.42	0.731 U	1.84	4.24	3.11	6.86
	Selenium	0.0028 J	<0.0016	<0.0016	0.0029 J	0.0022 J	0.0058 J	0.0020 J	<0.0016
Thallium	0.00021 J	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.

**Table 6A**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - August 2020**

Substance		Well ID	
		GWC-21	GWC-22
		8/18/2020	8/18/2020
Appendix IV	Antimony	<0.00028	0.0022 J
	Arsenic	0.0059	<0.00078
	Barium	0.18	0.085
	Beryllium	<0.000046	0.000076 J
	Cadmium	<0.00012	0.00024 J
	Chromium	0.0012 J	0.00056 J
	Cobalt	<0.00038	<0.00038
	Fluoride	<0.050	<0.050
	Lead	0.00027 J	0.00072 J
	Lithium	<0.00081	<0.00081
	Mercury	<0.000078	<0.000078
	Molybdenum	0.069	<0.00069
	Radium	3.27	7.65
	Selenium	0.013	<0.0016
Thallium	<0.00014	0.00017 J	

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.

**Table 6B**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - September 2020**

Substance		Well ID							
		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9
		9/28/2020	9/28/2020	10/1/2020	9/30/2020	9/30/2020	9/28/2020	9/29/2020	10/1/2020
<b>APPENDIX III</b>	<b>Boron</b>	4.6	0.15	5.2	4.0	4.2	0.69	0.024 J	0.028 J
	<b>Calcium</b>	3.3	25.6	48.4	70.4	27.5	70.7	0.18 J	5.5
	<b>Chloride</b>	113	13.7	15.7	24.1	53.9	13.8	5.4	16.8
	<b>Fluoride</b>	0.069 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
	<b>pH</b>	5.86	4.41	5.75	4.99	5.39	5.79	4.60	4.42
	<b>Sulfate</b>	20.0	93.6	178	339	339	71.6	8.6	35.0
	<b>TDS</b>	1450	175	424	652	816	373	33.0	111
<b>APPENDIX IV</b>	<b>Antimony</b>	<0.0014	<0.00028	<0.00028	0.00030 J	0.00059 J	0.00035 J	0.0016 J	<0.00028
	<b>Arsenic</b>	<0.0039	<0.00078	0.0027 J	0.0017 J	0.0040 J	0.0058	<0.00078	<0.00078
	<b>Barium</b>	0.095	0.050	0.077	0.16	0.092	0.051	0.049	0.15
	<b>Beryllium</b>	<0.00023	0.00021 J	<0.000046	0.000065 J	0.000046 J	<0.000046	0.000075 J	0.00020 J
	<b>Cadmium</b>	<0.00059	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012
	<b>Chromium</b>	0.014 J	0.00071 J	0.0020 J	0.0018 J	0.0045 J	0.0024 J	<0.00055	0.0012 J
	<b>Cobalt</b>	<0.0019	<0.00038	0.00050 J	0.00056 J	<0.00038	<0.00038	<0.00038	0.00099 J
	<b>Lead</b>	0.0043 J	<0.000036	0.00026 J	0.0012 J	0.000080 J	0.000043 J	<0.000036	0.000038 J
	<b>Lithium</b>	<0.0040	0.0010 J	0.013 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0019 J
	<b>Molybdenum</b>	<0.0034	<0.00069	0.15	<0.00069	0.00097 J	0.059	<0.00069	<0.00069
	<b>Radium</b>	22.4	2.08	2.60	4.45	6.39	1.29	1.00 U	3.30
	<b>Selenium</b>	0.010 J	<0.0016	<0.0016	<0.0016	0.0023 J	<0.0016	<0.0016	<0.0016
<b>Thallium</b>	<0.00072	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	
See Note 8	<b>Vanadium</b>	0.10	<0.0022	0.0047 J	0.0037 J	0.018	0.0042 J	<0.0022	<0.0022
	<b>Zinc</b>	0.16	0.0092 J	0.0064 J	<0.0022	<0.0022	0.0092 J	0.056	0.025

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value.  
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. Appendix III = indicator parameters evaluated during Detection and Assessment Monitoring; Appendix IV = parameters included and evaluated during Assessment Monitoring.
8. Parameters required by Permit are Appendix I/II parameters included to meet EPD Rule 391-3-4-.14 requirements.

**Table 6B**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - September 2020**

	Substance	Well ID							
		GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20
		9/29/2020	9/29/2020	9/28/2020	9/29/2020	9/30/2020	9/30/2020	9/30/2020	9/30/2020
<b>APPENDIX III</b>	<b>Boron</b>	1.2	4.7	0.24	0.053	0.86	8.1	0.86	9.9
	<b>Calcium</b>	123	42.0	2.9	30.8	109	177	53.5	292
	<b>Chloride</b>	143	24.3	4.3	10.6	1.7	39.6	257	34.9
	<b>Fluoride</b>	<0.050	0.16	<0.050	<0.050	<0.050	<0.050	0.15	<0.050
	<b>pH</b>	4.77	3.95	4.76	5.69	6.71	5.47	4.08	6.04
	<b>Sulfate</b>	516	237	25.6	93.5	18.5	736	193	956
	<b>TDS</b>	1100	440	60.0	187	434	1140	752	1860
<b>APPENDIX IV</b>	<b>Antimony</b>	0.00051 J	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028
	<b>Arsenic</b>	<0.00078	<0.00078	<0.00078	<0.00078	0.24	0.044	0.0012 J	0.31
	<b>Barium</b>	0.14	0.018	0.029	0.026	0.034	0.14	0.035	0.35
	<b>Beryllium</b>	<0.000046	0.00043 J	<0.000046	<0.000046	<0.000046	0.000089 J	0.0013 J	<0.000046
	<b>Cadmium</b>	0.00077 J	<0.00012	<0.00012	0.00012 J	<0.00012	<0.00012	<0.00012	<0.00012
	<b>Chromium</b>	0.0011 J	0.00085 J	0.00062 J	<0.00055	0.0016 J	0.00098 J	0.00096 J	0.0013 J
	<b>Cobalt</b>	0.00055 J	0.00057 J	<0.00038	<0.00038	<0.00038	<0.00038	0.0018 J	<0.00038
	<b>Lead</b>	0.00032 J	0.000037 J	0.000064 J	<0.000036	0.000047 J	0.000091 J	0.000060 J	<0.000036
	<b>Lithium</b>	<0.00081	0.00086 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0041 J	<0.00081
	<b>Molybdenum</b>	<0.00069	<0.00069	<0.00069	0.0089 J	0.11	0.15	0.0041 J	0.33
	<b>Radium</b>	8.30	0.845 U	1.28	0.331 U	2.14	2.47	3.09	5.62
	<b>Selenium</b>	0.0024 J	<0.0016	<0.0016	0.0051 J	<0.0016	0.0037 J	<0.0016	<0.0016
<b>Thallium</b>	0.00017 J	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	
See Note 8	<b>Vanadium</b>	0.0023 J	0.0046 J	<0.0022	<0.0022	0.0028 J	0.0028 J	<0.0022	0.0029 J
	<b>Zinc</b>	0.0031 J	0.0074 J	0.016	<0.0022	0.032	0.0051 J	0.0043 J	0.031

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value.  
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. Appendix III = indicator parameters evaluated during Detection and Assessment Monitoring; Appendix IV = parameters included and evaluated during Assessment Monitoring.
8. Parameters required by Permit are Appendix I/II parameters included to meet EPD Rule 391-3-4-.14 requirements.

**Table 6B**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - September 2020**

	Substance	Well ID	
		GWC-21	GWC-22
		9/30/2020	9/30/2020
<b>APPENDIX III</b>	Boron	2.3	0.25
	Calcium	98.4	20.9
	Chloride	23.7	8.5
	Fluoride	<0.050	<0.050
	pH	5.82	4.63
	Sulfate	306	65.5
	TDS	634	113
<b>APPENDIX IV</b>	Antimony	0.00033 J	0.0016 J
	Arsenic	0.0029 J	<0.00078
	Barium	0.19	0.045
	Beryllium	<0.000046	<0.000046
	Cadmium	<0.00012	0.00024 J
	Chromium	0.00067 J	0.00064 J
	Cobalt	<0.00038	<0.00038
	Lead	0.000054 J	0.00023 J
	Lithium	<0.00081	<0.00081
	Molybdenum	0.028	<0.00069
	Radium	3.83	2.79
	Selenium	0.0061 J	<0.0016
	Thallium	<0.00014	<0.00014
See Note 8	Vanadium	0.0029 J	<0.0022
	Zinc	0.0096 J	<0.0022

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.). Radium results are reported in picocuries per liter (pCi/L).
2. Radium data are for Radium 226 & Radium 228 (combined).
3. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
4. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value.  
Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
5. TDS indicates total dissolved solids.
6. U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated.
7. Appendix III = indicator parameters evaluated during Detection and Assessment Monitoring; Appendix IV = parameters included and evaluated during Assessment Monitoring.
8. Parameters required by Permit are Appendix I/II parameters included to meet EPD Rule 391-3-4-.14 requirements.

**Table 6C**  
**Grumman Road Landfill**  
**Summary of Groundwater Analytical Data - January 2021**

Substance		Well ID				
		MW-23D	MW-24D	MW-25D	MW-26D	MW-27D
		1/21/2021	1/21/2021	1/20/2021	1/20/2021	1/20/2021
<b>APPENDIX III</b>	<b>Boron</b>	0.018 J	0.014 J	0.013 J	0.013 J	0.011 J
	<b>Calcium</b>	4.4	2.8	4.9	4.1	3.0
	<b>Chloride</b>	6.1	6.1	6.1	6.9	6.1
	<b>Fluoride</b>	<0.050	<0.050	0.11	<0.050	<0.050
	<b>pH</b>	5.75	6.13	6.25	5.66	5.68
	<b>Sulfate</b>	5.0	0.79 J	1.6	1.0	0.88 J
	<b>TDS</b>	41	50	58	54	43
<b>APP. IV</b>	<b>Arsenic</b>	<0.00078	<0.00078	<0.00078	--	--
	<b>Molybdenum</b>	<0.00069	0.0014 J	0.0011 J	<0.00069	<0.00069

Notes:

1. Results for substances are reported in milligrams per liter (mg/L). Results for pH are reported in standard units (S.U.).
2. < indicates the substance was not detected above the relevant laboratory method detection limit (MDL).
3. J indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number.
4. TDS indicates total dissolved solids.
5. Appendix III = indicator parameters evaluated during Detection and Assessment Monitoring; Appendix IV = parameters included and evaluated during Assessment Monitoring.
6. -- indicates parameter not analyzed.

**Table 7  
Statistical Method Summary**

Statistical Method Summary		
Monitoring Well Network	Upgradient Wells	GWA-7 and GWA-8
	Downgradient Wells	GWC-1, GWC-2, GWB-4R, GWB-5R, GWB-6R, GWC-9, GWC-11, GWC-12, GWC-13, GWC-14, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21, and GWC-22
CCR Monitoring Parameters	Appendix III (Detection Monitoring)	Boron, Calcium, Chloride, Fluoride, pH, Sulfate, and TDS
	Appendix IV (Assessment Monitoring)	Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, combined Radium 226 + 228, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, and Thallium
EPD Permit Metals	Appendix I (Detection Monitoring)	Antimony, Arsenic, Barium, Chromium, Lead, Selenium, Vanadium, and Zinc
	Appendix II (Assessment Monitoring)	Antimony, Arsenic, Barium, Chromium, Lead, Selenium, Vanadium, and Zinc
Statistical Methodology	Data Screening Proposed Background	Evaluate outliers, trends, and seasonality when sufficient data are available
	Statistical Limits	Interwell statistical limits.



**Table 8**  
**Summary of Background Levels and Groundwater Protection Standards**

Constituent	Site Background	MCL	GWPS
Antimony	0.003	0.006	0.006
Arsenic	0.029	0.01	0.029
Barium	0.22	2	2
Beryllium	0.003	0.004	0.004
Cadmium	0.0025	0.005	0.005
Chromium	0.068	0.1	0.1
Cobalt	0.01		0.01
Fluoride	0.49	4	4
Lead	0.013		0.013
Lithium	0.05		0.03
Mercury	0.0002	0.002	0.002
Molybdenum	0.01		0.01
Radium	33.8	5	33.8
Selenium	0.044	0.05	0.05
Thallium	0.001	0.002	0.002
Vanadium	0.43		0.43
Zinc	0.16		0.16

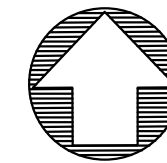
Notes:

1. Site Background = Tolerance limits calculated from pooled upgradient well data through March 2020.
2. MCL = Maximum Contaminant Level, per Georgia EPD Rule 391-3-5-.18(1)(a).
3. GWPS = Groundwater protection standard, per Georgia EPD Rule 391-3-4-.10(6)(a).
4. Units are milligrams per liter (mg/L), except for radium, which are picocuries per liter (pCi/L).
5. The background tolerance limit (TL) used to evaluate State GWPS for lithium is equal to the most recent laboratory-specified reporting limit (RL). Per the SAP, and in accordance with the Unified Guidance, a non-parametric limit approach was used because the data set contains greater than 50% non-detect results for this analyte. Under this approach, the TL equals the highest value reported, for which is the laboratory RL. However, the highest laboratory RL in background was 0.05 mg/L. As a result, the GWPS has been modified to be equal to the most recently used RL, which is 0.03 mg/L.

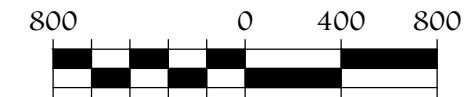
## FIGURES



P:\Industrial\054-Southern Company\10-Groundwater Consulting Services\Grumman Road\2-CW Sampling And Reporting\2020\DWG\Plant\_Krefl\_Grumman Road LF - September 2020.dwg 2020.dwg 2021-01-25 MATT MALONE



ATLANTIC COAST CONSULTING, INC.



SCALE (IN FEET)

### LEGEND:

EXISTING	DESCRIPTION
	PROPERTY BOUNDARY

#### NOTES:

1. PROPERTY BOUNDARY SURVEYED BY GUNNIN LAND SURVEYING ON AUGUST 30, 2018.

#### PROJECT



GEORGIA POWER COMPANY  
GRUMMAN ROAD PRIVATE INDUSTRIAL LANDFILL

#### SITE MAP

PROJECT NO. I054-110

January 2021

DRAWN BY: MM

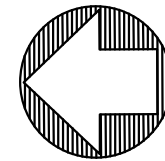
FIGURE:

CHECKED BY: EP

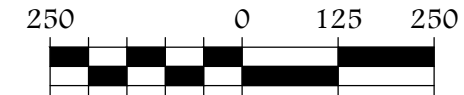
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CONSULTING, INC.



SCALE (IN FEET)

### LEGEND:

EXISTING	DESCRIPTION
	PROPERTY BOUNDARY
	GROUNDWATER MONITORING NETWORK WELL
	NON-NETWORK WELL
	DELINEATION WELL

- NOTES:
1. PROPERTY BOUNDARY SURVEYED BY GUNNIN LAND SURVEYING ON AUGUST 30, 2018.
  2. NON-NETWORK WELLS GWC-3, GWC-4, GWC-5, AND GWC-6 WERE ABANDONED IN DECEMBER 2020 AND ARE NOT SHOWN.
  3. WELLS MW-23D, MW-24D, MW-25D, MW-26D, AND MW-27D WERE INSTALLED IN DECEMBER 2020 AND JANUARY 2021.

#### PROJECT



GEORGIA POWER COMPANY  
GRUMMAN ROAD PRIVATE INDUSTRIAL LANDFILL

### WELL LOCATION MAP



PROJECT NO. I054-110 January 2021

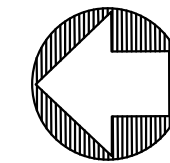
DRAWN BY:	MM	FIGURE:	2
CHECKED BY:	EP		



Groundwater Elevations and Well Depths  
Grumman Road Landfill August 2020

Monitoring Well ID	Well Depth (ft btoc)	Top of Casing (SD)	Depth to Water (ft btoc)	Groundwater Elevation (SD)
GWA-7	21.20	47.10	6.22	40.88
GWA-8	20.80	.....	7.36	39.48
GWB-4R	27.00	49.58	14.97	34.61
GWB-5R	26.50	47.82	10.06	37.76
GWB-6R	22.70	47.40	7.80	39.60
GWC-1	28.20	50.30	19.16	31.14
GWC-2	32.73	51.84	19.23	32.61
GWC-9	27.40	47.11	8.70	38.41
GWC-11	22.60	49.38	12.66	36.72
GWC-12	26.70	47.48	12.49	34.99
GWC-13	23.80	47.82	13.89	33.93
GWC-14	27.00	50.70	19.51	31.19
GWC-15	26.80	48.12	19.28	28.84
GWC-16	28.20	47.79	20.71	27.08
GWC-17	23.50	44.09	6.42	37.67
GWC-20	25.59	50.03	21.19	28.84
GWC-21	25.54	47.94	20.64	27.30
GWC-22	19.21	46.72	8.41	38.31

- Notes:  
 1. ft btoc - feet below top of casing.  
 2. SD indicates feet relative to Site Datum.  
 3. Depths to water measured on August 17, 2020.



ATLANTIC COAST  
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250 0 125 250



SCALE (IN FEET)

LEGEND:

EXISTING	DESCRIPTION
	PROPERTY BOUNDARY
	GROUNDWATER MONITORING NETWORK WELL GROUNDWATER ELEVATION
	NON-NETWORK WELL GROUNDWATER ELEVATION CONTOUR
	GROUNDWATER FLOW DIRECTION

- NOTES:  
 1. PROPERTY BOUNDARY SURVEYED BY GUNNIN LAND SURVEYING ON AUGUST 30, 2018.  
 2. WELLS GWC-3, GWC-4, GWC-5, AND GWC-6 WERE ABANDONED IN DECEMBER 2020.

PROJECT



GEORGIA POWER COMPANY  
GRUMMAN ROAD PRIVATE INDUSTRIAL LANDFILL

AUGUST 2020 POTENTIOMETRIC  
SURFACE MAP

PROJECT NO. I054-110

January 2021

DRAWN BY: JB

FIGURE:

CHECKED BY: MM

3

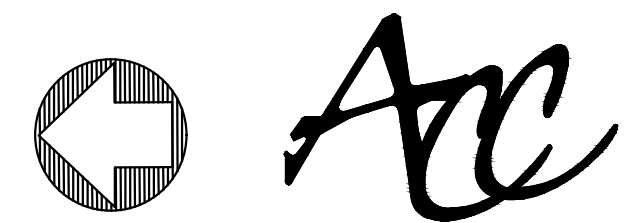




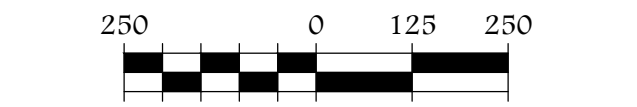
Groundwater Elevations and Well Depths  
Grumman Road Landfill September 2020

Monitoring Well ID	Well Depth (ft btoc)	Top of Casing (SD)	Depth to Water (ft btoc)	Groundwater Elevation (SD)
GWA-7	21.20	47.10	....	41.91
GWA-8	20.80	46.84	6.14	40.70
GWB-4R	27.00	49.58	14.11	35.47
GWB-5R	26.50	47.82	8.75	39.07
GWB-6R	22.70	47.40	6.22	41.18
GWC-1	28.20	50.30	18.28	32.02
GWC-2	32.73	51.84	18.06	33.78
GWC-9	27.40	47.11	7.40	39.71
GWC-11	22.60	49.38	11.26	38.12
GWC-12	26.70	47.48	11.13	36.35
GWC-13	23.80	47.82	12.43	35.39
GWC-14	27.00	50.70	18.53	32.17
GWC-15	26.80	48.12	18.63	29.49
GWC-16	28.20	47.79	19.88	27.91
GWC-17	23.50	44.09	4.60	39.49
GWC-20	25.59	50.03	20.49	29.54
GWC-21	25.54	47.94	19.73	28.21
GWC-22	19.21	46.72	7.25	39.47

- Notes:  
 1. ft btoc - feet below top of casing.  
 2. SD indicates feet relative to Site Datum.  
 3. Depths to water measured on September 28, 2020.



ATLANTIC COAST CONSULTING, INC.




SCALE (IN FEET)

### LEGEND:

EXISTING	DESCRIPTION
	PROPERTY BOUNDARY
	GROUNDWATER MONITORING NETWORK WELL GROUNDWATER ELEVATION
	NON-NETWORK WELL
	GROUNDWATER ELEVATION CONTOUR
	GROUNDWATER FLOW DIRECTION

- NOTES:  
 1. PROPERTY BOUNDARY SURVEYED BY GUNNIN LAND SURVEYING ON AUGUST 30, 2018.  
 2. WELLS GWC-3, GWC-4, GWC-5, AND GWC-6 WERE ABANDONED IN DECEMBER 2020.

PROJECT



GEORGIA POWER COMPANY  
GRUMMAN ROAD PRIVATE INDUSTRIAL LANDFILL

SEPTEMBER 2020 POTENTIOMETRIC SURFACE MAP

PROJECT NO. I054-110	January 2021
DRAWN BY: JB	FIGURE:
CHECKED BY: MM	4



\\ATLANTA1\Projects\Industrial\I054-Southern Company\110-Groundwater Consulting Services\Grumman Road\2-CW Sampling And Reporting\2020\GWC\Print\Kraft Grumman Road LF - September 2020.dwg 2021-02-11 EVAN PERRY



## APPENDICES

## APPENDIX A

### Well Abandonment and Installation Logs





## Well Abandonment Documentation Form

### General Information

<b>Project Name</b>	Grumman Road Well Abandonment	<b>Inspector</b>	Jordan Berisford	<b>Well Id.</b>	GWC-3
<b>Project Number</b>	I054-110	<b>Weather</b>	Sunny	<b>Sheet</b>	1 of 1
<b>Drilling Company</b>	Cascade	<b>Temperature</b>	70s° F	<b>Started</b>	12/14/2020
<b>Client Name</b>	GA Power	<b>Driller</b>	Tommy Ardito	<b>Completed</b>	12/14/2020

### Well Construction Information

<b>Well Depth (ft)</b>	22.93'	<b>Screen Type</b>	PVC Sch. 40	<b>Grout Type</b>	Portland
<b>Well Casing Dia.</b>	2" L.F. 17.93'	<b>Slot Size (in.)</b>	0.010"	<b>End Cap/Sump</b>	0.30'
<b>Casing Type</b>	PVC	<b>Pack Type &amp; Size</b>	Sand-1A (20/30)	<b>Protective</b>	
<b>Joint Type</b>	Flush Treaded	<b>Seal Type</b>	Bentonite	<b>Casing</b>	4"x4"
<b>Well Screen Dia.</b>	2" L.F. 5'			<b>Well Pad Size</b>	2.75'x3'x4"

### Abandonment Procedures and Volumes

<b>Expected Bentonite Volume</b>	0.44 cu ft.	<b>Actual Bentonite Volume:</b>	0.44 cu ft.
	Note: DTW- 20.36' btoc		DTB: 22.93' btoc

Filled casing to ground surface with bentonite pellets and hydrated with potable water.

Verified placement of bentonite with a weighted tag line to ensure bridging did not occur.

Removed surface completion and graded to ground surface.

#### Notes:

No obstructions noted.



## Well Abandonment Documentation Form

### General Information

<b>Project Name</b>	Grumman Road Well Abandonment	<b>Inspector</b>	Jordan Berisford	<b>Well Id.</b>	GWC-4
<b>Project Number</b>	I054-110	<b>Weather</b>	Sunny	<b>Sheet</b>	1 of 1
<b>Drilling Company</b>	Cascade	<b>Temperature</b>	70s° F	<b>Started</b>	12/14/2020
<b>Client Name</b>	GA Power	<b>Driller</b>	Tommy Ardito	<b>Completed</b>	12/14/2020

### Well Construction Information

<b>Well Depth (ft)</b>	26.83'	<b>Screen Type</b>	PVC Sch. 40	<b>Grout Type</b>	Portland
<b>Well Casing Dia.</b>	2" L.F. 21.83'	<b>Slot Size (in.)</b>	0.010"	<b>End Cap/Sump</b>	0.30'
<b>Casing Type</b>	PVC	<b>Pack Type &amp; Size</b>	Sand-1A (20/30)	<b>Protective</b>	
<b>Joint Type</b>	Flush Treaded	<b>Seal Type</b>	Bentonite	<b>Casing</b>	4"x4"
<b>Well Screen Dia.</b>	2" L.F. 5'			<b>Well Pad Size</b>	2.83'x3'x4"

### Abandonment Procedures and Volumes

<b>Expected Bentonite Volume</b>	0.53 cu ft.	<b>Actual Bentonite Volume:</b>	0.53 cu ft.
	Note: DTW- 14.52' btoc		DTB: 26.83' btoc

Filled casing to ground surface with bentonite pellets and hydrated with potable water.

Verified placement of bentonite with a weighted tag line to ensure bridging did not occur.

Removed surface completion and graded to ground surface.

#### Notes:

No obstructions noted.



## Well Abandonment Documentation Form

### General Information

<b>Project Name</b>	Grumman Road Well Abandonment	<b>Inspector</b>	Jordan Berisford	<b>Well Id.</b>	GWC-5
<b>Project Number</b>	I054-110	<b>Weather</b>	Sunny	<b>Sheet</b>	1 of 1
<b>Drilling Company</b>	Cascade	<b>Temperature</b>	70s° F	<b>Started</b>	12/14/2020
<b>Client Name</b>	GA Power	<b>Driller</b>	Tommy Ardito	<b>Completed</b>	12/14/2020

### Well Construction Information

<b>Well Depth (ft)</b>	26.91'	<b>Screen Type</b>	PVC Sch. 40	<b>Grout Type</b>	Portland
<b>Well Casing Dia.</b>	2" L.F. 21.91'	<b>Slot Size (in.)</b>	0.010"	<b>End Cap/Sump</b>	0.30'
<b>Casing Type</b>	PVC	<b>Pack Type &amp; Size</b>	Sand-1A (20/30)	<b>Protective</b>	
<b>Joint Type</b>	Flush Treaded	<b>Seal Type</b>	Bentonite	<b>Casing</b>	4"x4"
<b>Well Screen Dia.</b>	2" L.F. 5'			<b>Well Pad Size</b>	3'x3'x4"

### Abandonment Procedures and Volumes

<b>Expected Bentonite Volume</b>	0.52 cu ft.	<b>Actual Bentonite Volume:</b>	0.52 cu ft.
	Note: DTW- 10.22' btoc		DTB: 26.91' btoc

Filled casing to ground surface with bentonite pellets and hydrated with potable water.

Verified placement of bentonite with a weighted tag line to ensure bridging did not occur.

Removed surface completion and graded to ground surface.

#### Notes:

No obstructions noted.



## Well Abandonment Documentation Form

### General Information

<b>Project Name</b>	Grumman Road Well Abandonment	<b>Inspector</b>	Jordan Berisford	<b>Well Id.</b>	GWC-6
<b>Project Number</b>	I054-110	<b>Weather</b>	Sunny	<b>Sheet</b>	1 of 1
<b>Drilling Company</b>	Cascade	<b>Temperature</b>	70s° F	<b>Started</b>	12/14/2020
<b>Client Name</b>	GA Power	<b>Driller</b>	Tommy Ardito	<b>Completed</b>	12/14/2020

### Well Construction Information

<b>Well Depth (ft)</b>	22.50'	<b>Screen Type</b>	PVC Sch. 40	<b>Grout Type</b>	Portland
<b>Well Casing Dia.</b>	2" L.F. 17.5'	<b>Slot Size (in.)</b>	0.010"	<b>End Cap/Sump</b>	0.30'
<b>Casing Type</b>	PVC	<b>Pack Type &amp; Size</b>	Sand-1A (20/30)	<b>Protective</b>	
<b>Joint Type</b>	Flush Treaded	<b>Seal Type</b>	Bentonite	<b>Casing</b>	4"x4"
<b>Well Screen Dia.</b>	2" L.F. 5'			<b>Well Pad Size</b>	2.5'x3'x4"

### Abandonment Procedures and Volumes

<b>Expected Bentonite Volume</b>	0.42 cu ft.	<b>Actual Bentonite Volume:</b>	0.42 cu ft.
	Note: DTW- 7.80' btoc		DTB: 22.50' btoc

Filled casing to ground surface with bentonite pellets and hydrated with potable water.

Verified placement of bentonite with a weighted tag line to ensure bridging did not occur.

Removed surface completion and graded to ground surface.

#### Notes:

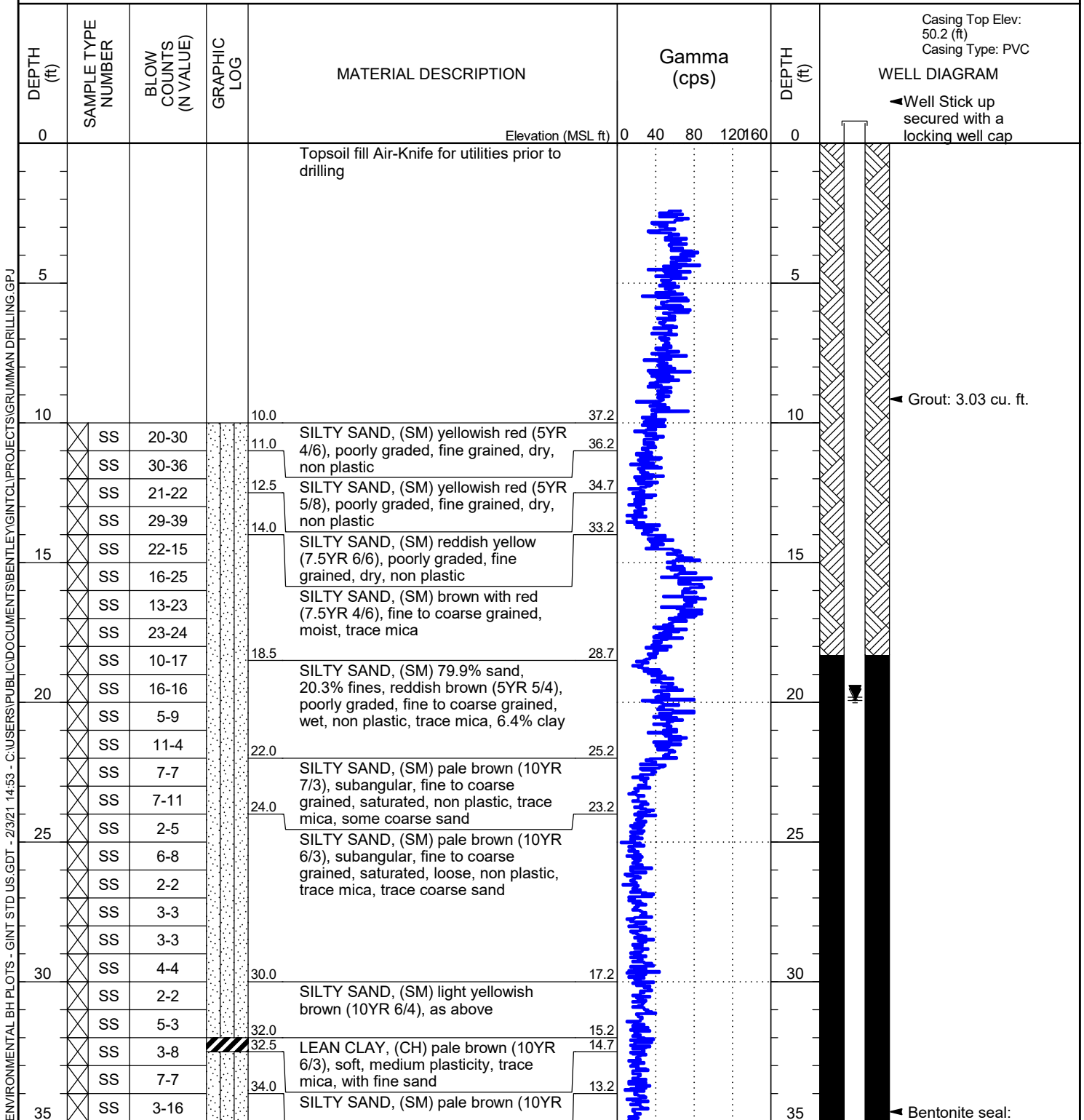
No obstructions noted.



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# BORING NUMBER MW-23D

<b>CLIENT</b> Georgia Power	<b>PROJECT NAME</b> Jordan Berisford
<b>PROJECT NUMBER</b> I054-110	<b>PROJECT LOCATION</b> Grumman Road
<b>DATE STARTED</b> 12/15/20	<b>COMPLETED</b> 12/17/20
<b>DRILLING CONTRACTOR</b> Cascade	<b>GROUND ELEVATION</b> 47.2 ft
<b>DRILLING METHOD</b> Rotasonic	<b>HOLE SIZE</b> 6 inch
<b>LOGGED BY</b> Jordan Berisford	<b>CHECKED BY</b> Evan Perry
<b>NOTES</b>	<b>GROUND WATER LEVELS:</b>
	<b>AT TIME OF DRILLING</b> ---
	<b>AT END OF DRILLING</b> 19.82 ft / Elev 27.38 ft
	<b>AFTER DRILLING</b> 19.93 ft / Elev 27.27 ft



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# BORING NUMBER MW-23D

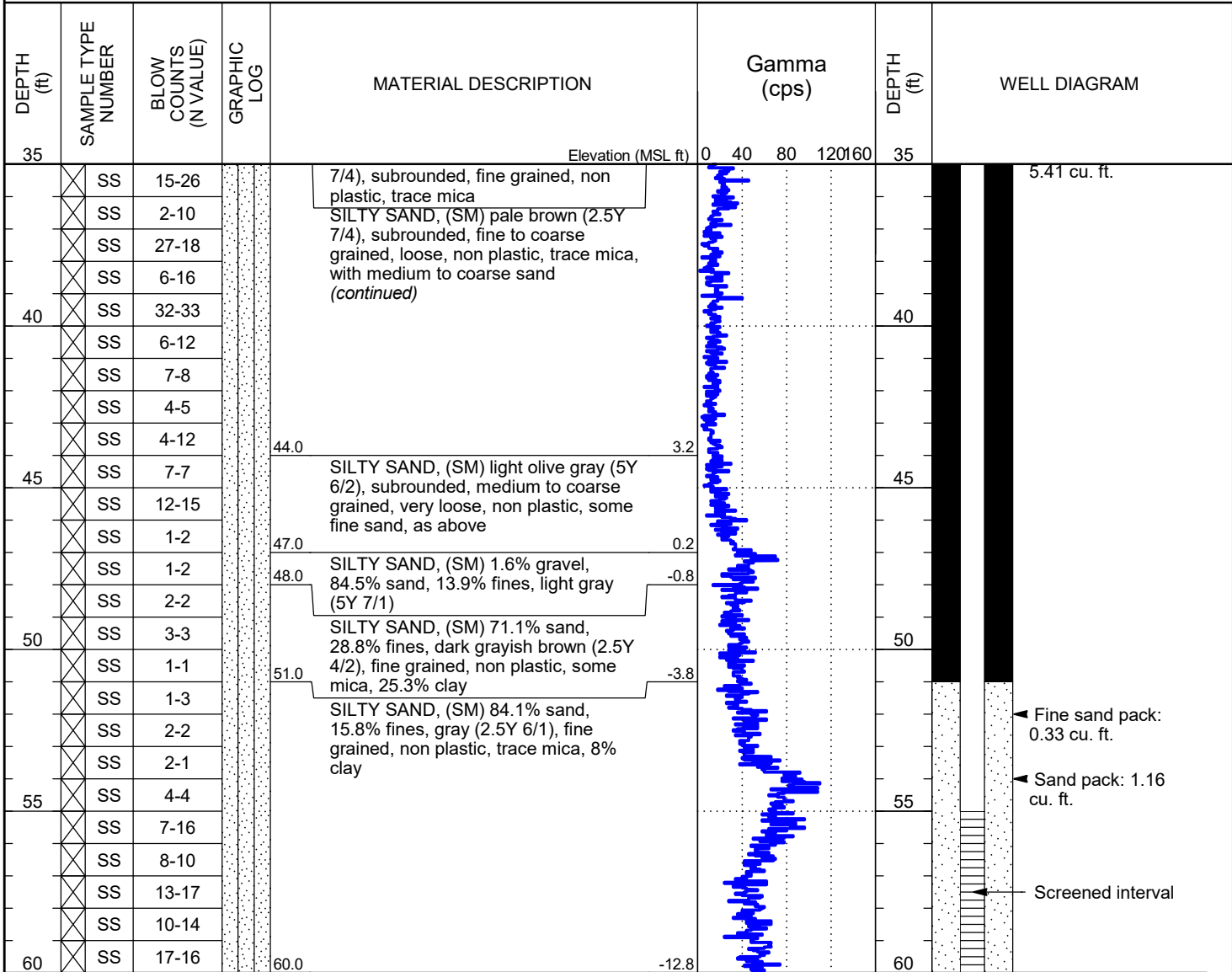
CLIENT Georgia Power

PROJECT NAME Jordan Berisford

PROJECT NUMBER I054-110

PROJECT LOCATION Grumman Road

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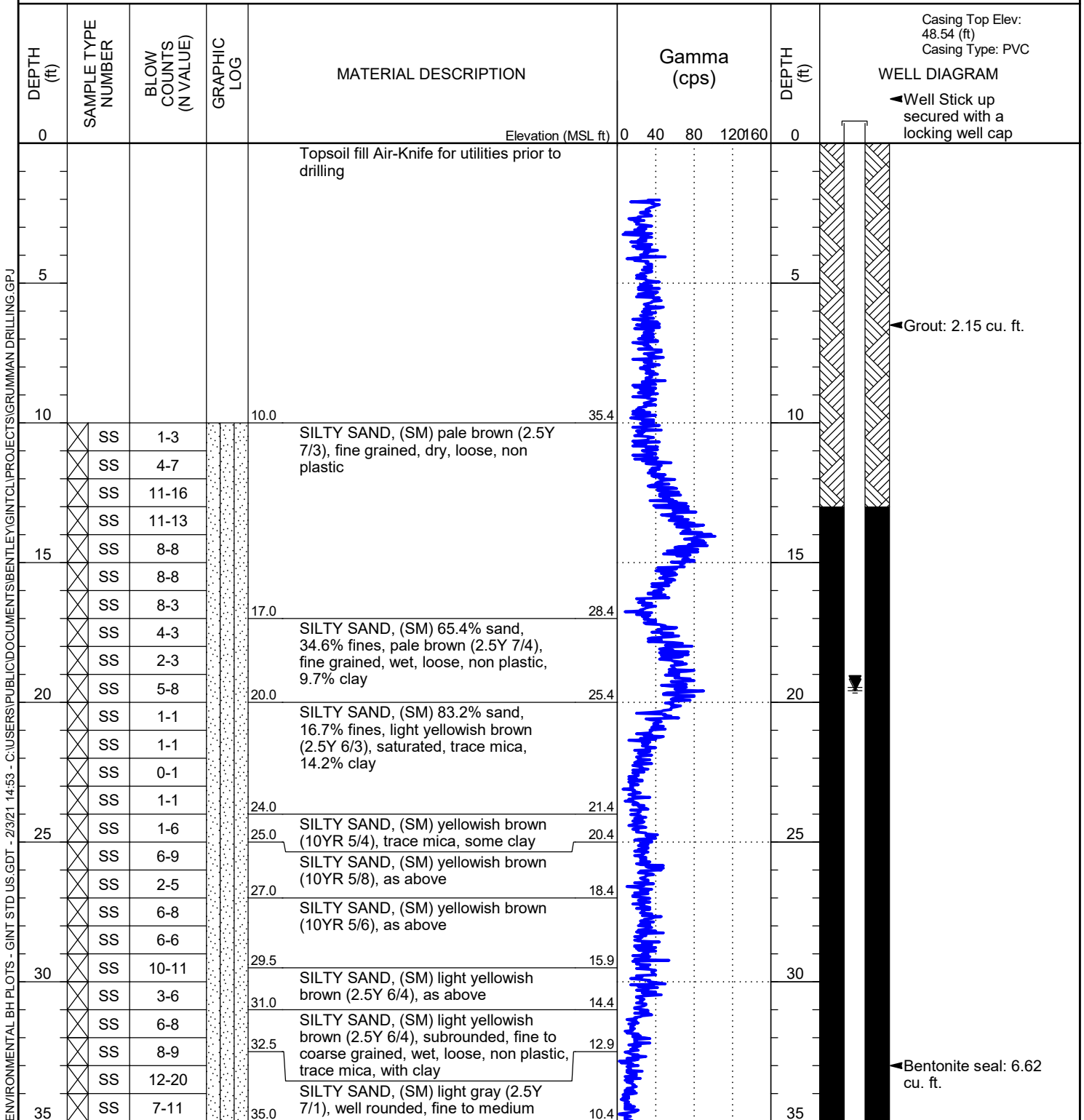
Bottom of borehole at 60.0 feet.



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# BORING NUMBER MW-24D

<b>CLIENT</b> Georgia Power	<b>PROJECT NAME</b> Jordan Berisford
<b>PROJECT NUMBER</b> I054-110	<b>PROJECT LOCATION</b> Grumman Road
<b>DATE STARTED</b> 12/17/20	<b>COMPLETED</b> 1/5/21
<b>DRILLING CONTRACTOR</b> Cascade	<b>GROUND ELEVATION</b> 45.35 ft
<b>DRILLING METHOD</b> Rotasonic	<b>HOLE SIZE</b> 6 inch
<b>LOGGED BY</b> Jordan Berisford	<b>CHECKED BY</b> Evan Perry
<b>NOTES</b>	<b>GROUND WATER LEVELS:</b>
	<b>AT TIME OF DRILLING</b> ---
	<b>AT END OF DRILLING</b> 19.47 ft / Elev 25.88 ft
	<b>AFTER DRILLING</b> 19.58 ft / Elev 25.77 ft



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# BORING NUMBER MW-24D

CLIENT Georgia Power

PROJECT NAME Jordan Berisford

PROJECT NUMBER 1054-110

PROJECT LOCATION Grumman Road

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	Gamma (cps)	DEPTH (ft)	WELL DIAGRAM
35				Elevation (MSL ft)	0 40 80 120 160	35	
	SS	22-23		grained, wet, medium dense, non plastic, trace mica, some clay			
	SS	6-2		SILTY SAND, (SM) light gray (2.5Y 7/1), well rounded, medium to coarse			
	SS	7-9		grained, wet, medium dense, non plastic			
	SS	4-4					
40	SS	8-13		40.0	5.4	40	
	SS	7-10		SILTY SAND, (SM) gray (2.5Y 6/1), as above			
	SS	10-10					
	SS	3-3		42.5	2.9		
	SS	5-8		WELL GRADED SAND, (SM) gray (2.5Y 6/1), well graded, fine to coarse			
	SS	7-10		grained, wet, loose, non plastic, trace clay, with fine to coarse gravel			
45	SS	12-13		46.0	-0.6	45	
	SS	4-3		SILTY SAND, (SM) 73.3% sand, 26.7% fines, dark gray (5Y 4/1), fine			
	SS	2-3		grained, wet, non plastic, trace mica, trace medium to coarse sand, 27% clay			
	SS	3-3					
50	SS	4-5		50.0	-4.7	50	
	SS	2-2		SILTY SAND, (SM) 86.1% sand, 14% fines, gray (2.5Y 6/1), fine grained, wet,			
	SS	1-4		non plastic, some mica, trace clay, 7.4% clay			
	SS	2-3					
	SS	6-6					
55	SS	2-3				55	Fine sand pack: 0.33 cu. ft.
	SS	4-6					
	SS	1-3					Sand pack: 1.16 cu. ft.
	SS	7-9					
	SS	1-3					
60	SS	6-11				60	Screened interval
	SS	3-2					
	SS	9-15		62.0	-16.7		

Bottom of borehole at 62.0 feet.

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# BORING NUMBER MW-25D

**CLIENT** Georgia Power **PROJECT NAME** Jordan Berisford

**PROJECT NUMBER** 1054-110 **PROJECT LOCATION** Grumman Road

**DATE STARTED** 1/5/21 **COMPLETED** 1/6/21 **GROUND ELEVATION** 45.38 ft **HOLE SIZE** 6 inch

**DRILLING CONTRACTOR** Cascade **GROUND WATER LEVELS:**

**DRILLING METHOD** Rotosonic **AT TIME OF DRILLING** ---

**LOGGED BY** Jordan Berisford **CHECKED BY** Evan Perry **▼ AT END OF DRILLING** 18.91 ft / Elev 26.47 ft

**NOTES** --- **▼ AFTER DRILLING** 17.95 ft / Elev 27.43 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	GRAPHIC LOG	MATERIAL DESCRIPTION	Gamma (cps)	DEPTH (ft)	WELL DIAGRAM
0				Topsoil fill Air-Knife for utilities prior to drilling		0	Casing Top Elev: 48.33 (ft) Casing Type: PVC Well Stick up secured with a locking well cap
5						5	
10						10	Grout: 3.11 cu. ft.
10.0	SS 4-13			SILTY SAND, (SM) brown (7.5YR 5/8), fine grained, dry, medium dense, non plastic, with silt	35.4	10.0	
12.0	SS 19-22			SILTY SAND, (SM) yellowish red (5YR 5/6), fine grained, dry, medium dense, non plastic, trace mica, with silt	33.4	12.0	
14.0	SS 6-20			SILTY SAND, (SM) brown (7.5YR 4/6), as above	31.4	14.0	
15	SS 24-27					15	
15	SS 1-1					15	
15	SS 2-4					15	
15	SS 8-19					15	
17.0	SS 25-29			SILTY SAND, (SM) pale brown (2.5Y 7/3), as above	28.4	17.0	
18.0	SS 2-3			Drillers lost sample	27.4	18.0	
20	SS 2-4					20	
20	SS 1-4			SILTY SAND, (SC) pale brown (2.5Y 7/3), as above	25.4	20	
20.5	SS 6-7			CLAYEY SAND, (SM) pale brown (2.5Y 7/3), fine grained, moist, soft, medium plasticity, trace coarse sand, with silt	24.9	20.5	
21.0	SS 1-2				24.4	21.0	
24.0	SS 4-5					24.0	
25	SS 2-2			SILTY SAND, (SM) 83% sand, 16.9% fines, pale brown (2.5Y 7/3), fine grained, wet, loose, non plastic, trace mica, with silt, 8.8% clay	21.4	25	
25	SS 4-7					25	
25	SS 1-1					25	
25	SS 2-3			SILTY SAND, (SM) pale brown (2.5Y 7/4), as above		25	
25	SS 2-2					25	
30	SS 2-6					30	
30	SS 5-7			SILTY SAND, (SM) pale brown (2.5Y 7/4), fine grained, loose, non plastic, with clay	15.4	30	
32.0	SS 7-9				13.4	32.0	
35	SS 2-3			SILTY SAND, (SM) light gray (2.5Y 7/1), fine to coarse grained, wet, very loose, non plastic		35	
35	SS 2-3					35	
35	SS 2-2					35	

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# BORING NUMBER MW-25D

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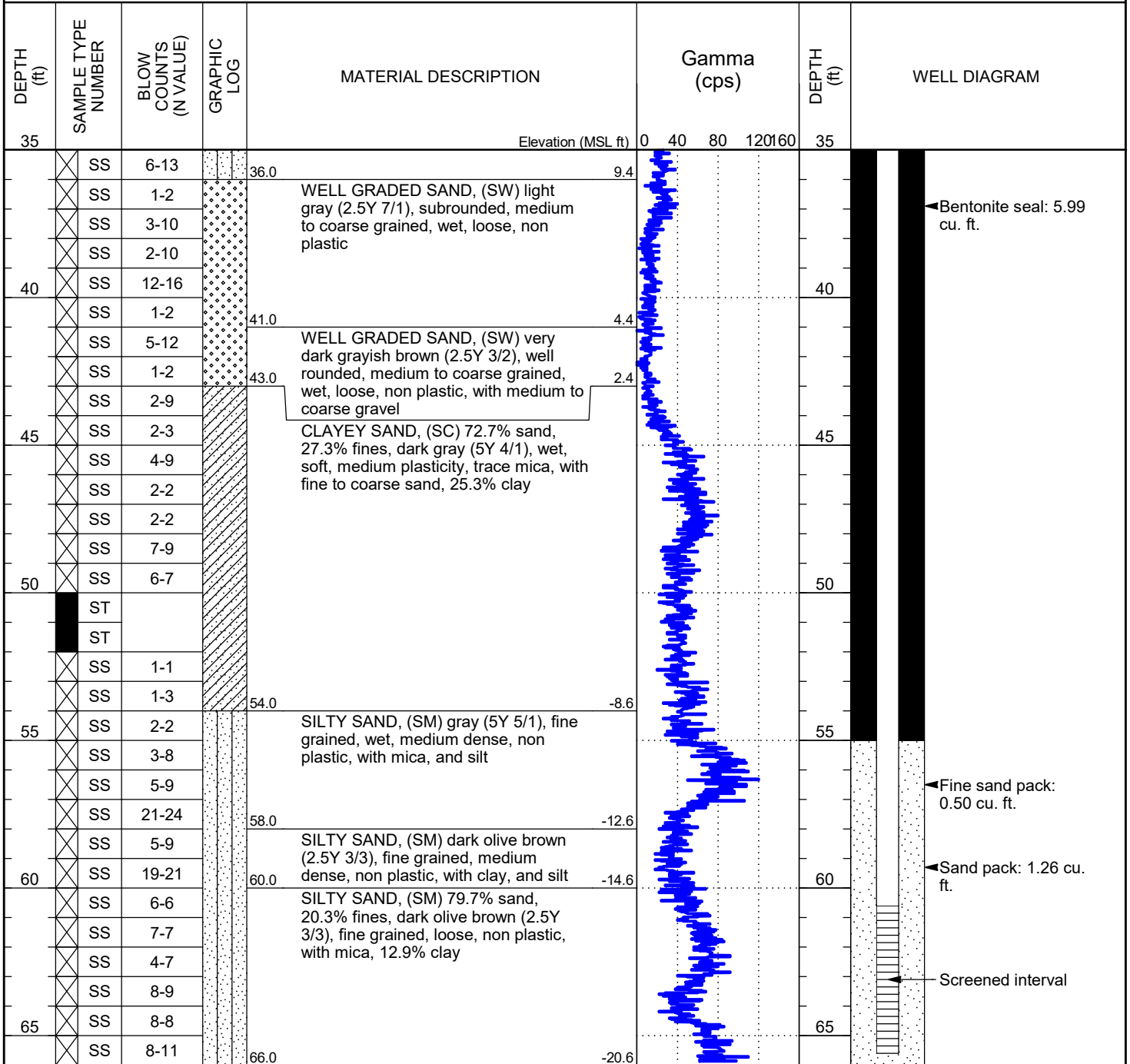
CLIENT Georgia Power

PROJECT NAME Jordan Berisford

PROJECT NUMBER I054-110

PROJECT LOCATION Grumman Road

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Bottom of borehole at 66.0 feet.

Bentonite seal: 5.99 cu. ft.

Fine sand pack: 0.50 cu. ft.

Sand pack: 1.26 cu. ft.

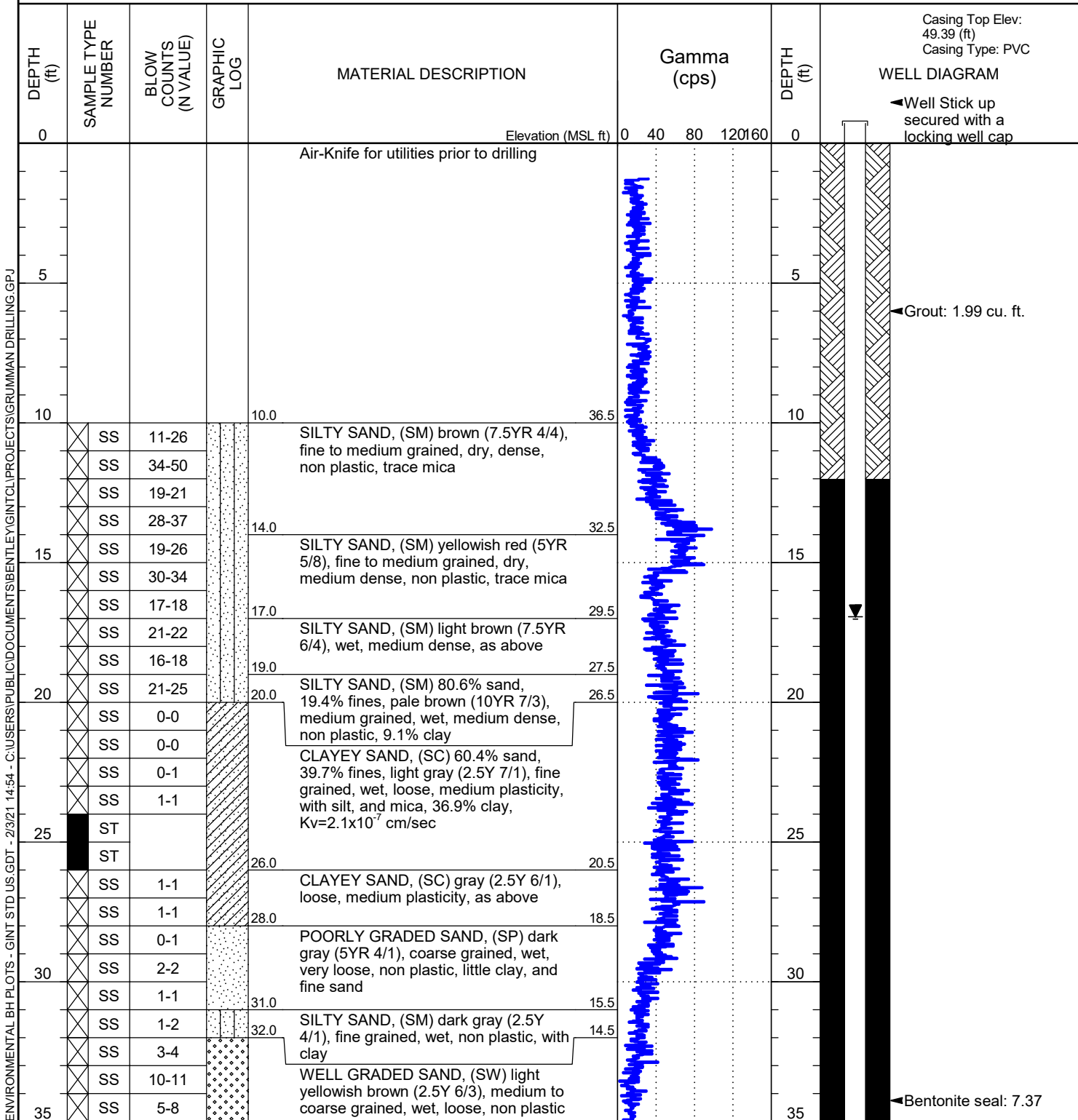
Screened interval



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# BORING NUMBER MW-26D

**CLIENT** Georgia Power  
**PROJECT NAME** Jordan Berisford  
**PROJECT NUMBER** I054-110  
**PROJECT LOCATION** Grumman Road  
**DATE STARTED** 1/8/21 **COMPLETED** 1/9/21  
**GROUND ELEVATION** 46.45 ft **HOLE SIZE** 6 inch  
**DRILLING CONTRACTOR** Cascade  
**GROUND WATER LEVELS:**  
**DRILLING METHOD** Rotasonic **AT TIME OF DRILLING** ---  
**LOGGED BY** Jordan Berisford **CHECKED BY** Evan Perry **AT END OF DRILLING** 16.94 ft / Elev 29.51 ft  
**NOTES** **AFTER DRILLING** 16.93 ft / Elev 29.52 ft



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# BORING NUMBER MW-26D

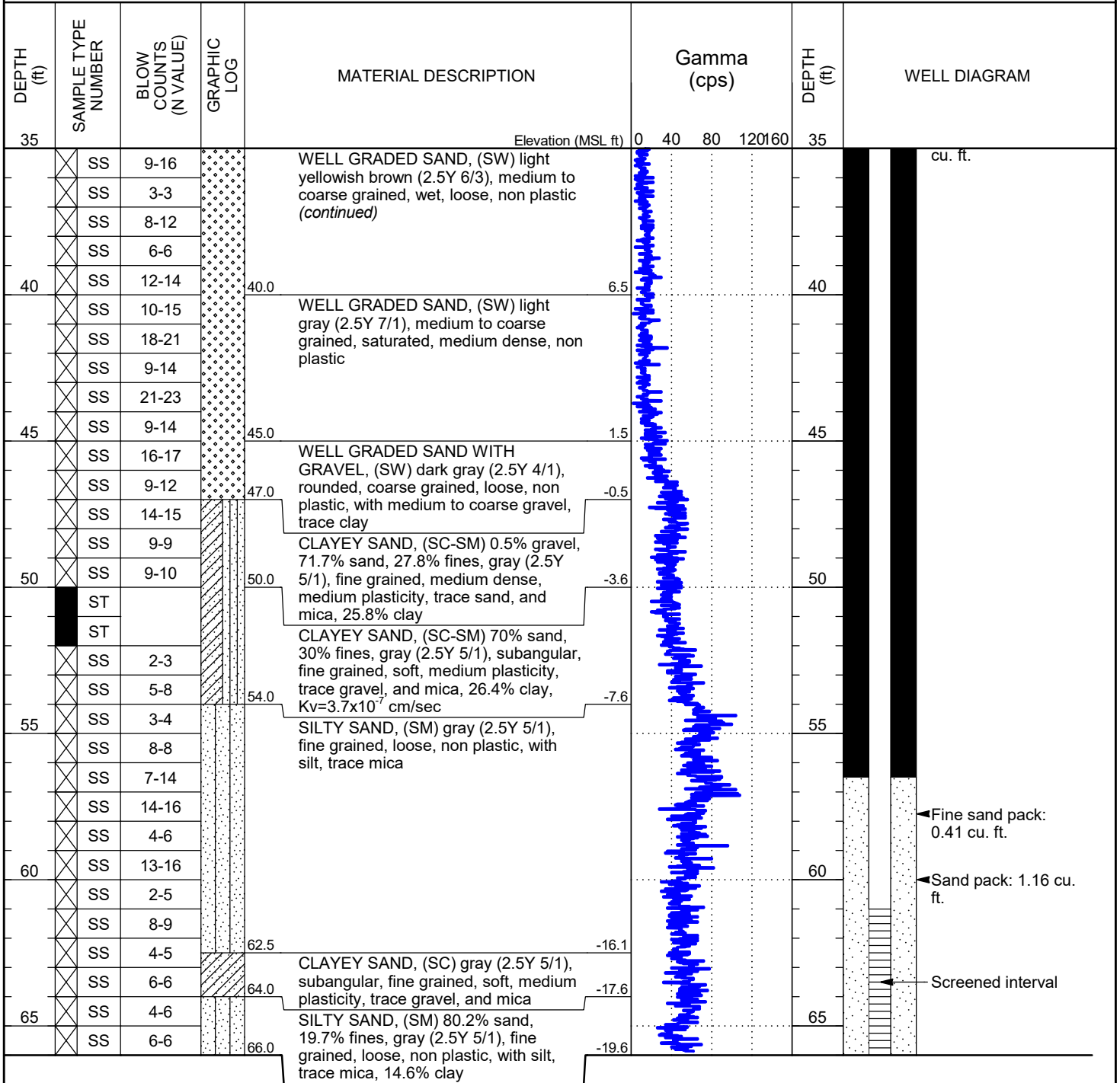
CLIENT Georgia Power

PROJECT NAME Jordan Berisford

PROJECT NUMBER 1054-110

PROJECT LOCATION Grumman Road

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Bottom of borehole at 66.0 feet.

Fine sand pack: 0.41 cu. ft.  
 Sand pack: 1.16 cu. ft.  
 Screened interval

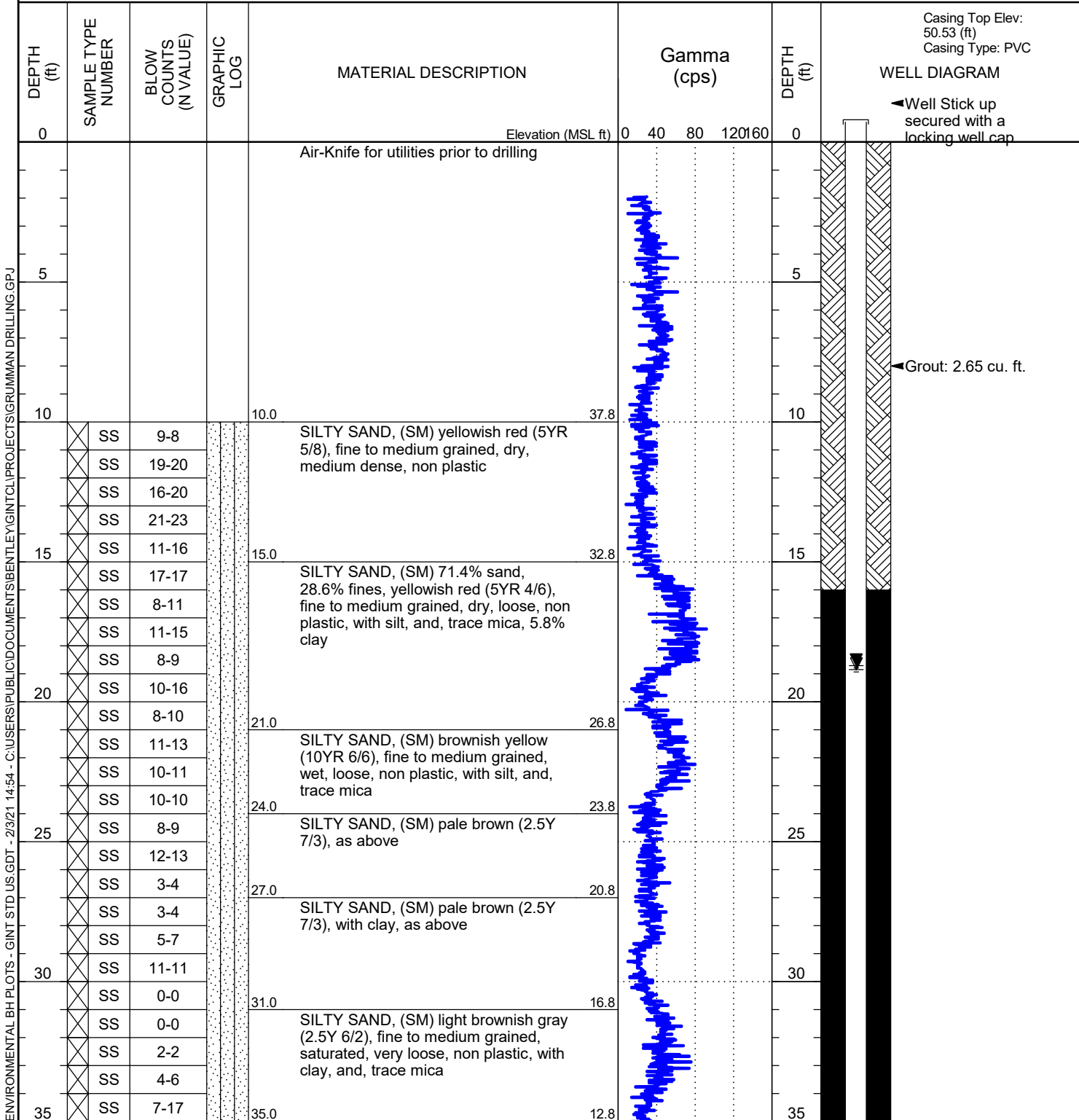


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# BORING NUMBER MW-27D

PAGE 1 OF 2

<b>CLIENT</b> Georgia Power	<b>PROJECT NAME</b> Jordan Berisford
<b>PROJECT NUMBER</b> I054-110	<b>PROJECT LOCATION</b> Grumman Road
<b>DATE STARTED</b> 1/7/21	<b>COMPLETED</b> 1/8/21
<b>DRILLING CONTRACTOR</b> Cascade	<b>GROUND ELEVATION</b> 47.75 ft
<b>DRILLING METHOD</b> Rotasonic	<b>HOLE SIZE</b> 6 inch
<b>LOGGED BY</b> Jordan Berisford	<b>CHECKED BY</b> Evan Perry
<b>NOTES</b>	<b>GROUND WATER LEVELS:</b>
	<b>AT TIME OF DRILLING</b> ---
	<b>AT END OF DRILLING</b> 18.71 ft / Elev 29.04 ft
	<b>AFTER DRILLING</b> 18.85 ft / Elev 28.90 ft



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# BORING NUMBER MW-27D

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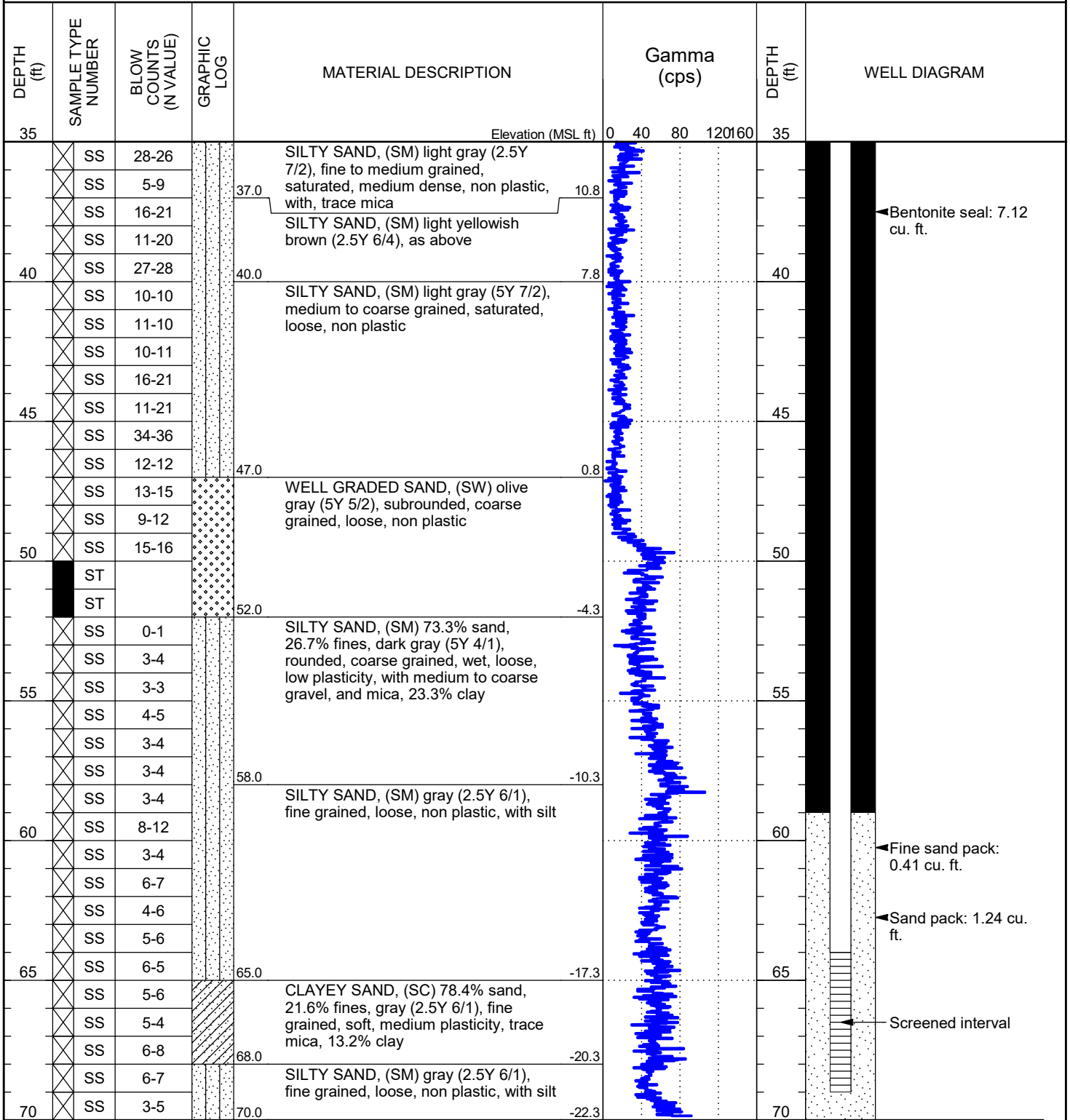
CLIENT Georgia Power

PROJECT NAME Jordan Berisford

PROJECT NUMBER I054-110

PROJECT LOCATION Grumman Road

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Bottom of borehole at 70.0 feet.

**APPENDIX B**

**Semiannual Remedy Selection and Design**

**Progress Report**





February 2021  
Grumman Road Private Industrial Landfill



---

# Semiannual Remedy Selection and Design Progress Report

Prepared for Georgia Power Company



February 2021  
Grumman Road Private Industrial Landfill

# Semiannual Remedy Selection and Design Progress Report

Walter John Dinicola, Senior Reviewer / PE (GA No. PE038601)  
James C. Redwine, Originator  
Kristi Mitchell, Originator

**Prepared for**  
Georgia Power Company  
214 Ralph McGill Boulevard NE  
Atlanta, Georgia 30308

**Prepared by**  
Anchor QEA, LLC  
600 Vestavia Parkway, Suite 121  
Vestavia Hills, Alabama 35216

## Engineer's Certification

This *Semiannual Remedy Selection and Design Progress Report* has been prepared for Georgia Power Company's Grumman Road Private Industrial Landfill in accordance with the U.S. Environmental Protection Agency coal combustion residual rule, specifically 40 Code of Federal (CFR) 257.97(a) and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10(6)(a). This report describes the progress made during the second semi-annual period of 2020 in selecting and designing a remedy previously documented in the *Assessment of Corrective Measures Report* (Anchor QEA 2020).

This report was prepared under the supervision and direction of the undersigned, whose seal as a registered professional engineer is affixed below. The undersigned is practicing through Anchor QEA, LLC, which is an authorized engineering business in the State of Georgia (Certificate of Authorization license number PEF006751; a copy of this license is provided in Appendix A).



---

Walter John Dinicola, Principal Engineer

Georgia Professional Engineer No. PE038601

Walt

Dinicola

Digitally signed by Walt  
Dinicola

Date: 2021.02.25  
11:03:22 -05'00'

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Figure 4	Isoconcentration Map: Arsenic – September/October 2020
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## APPENDIX

Appendix A	Certificate of Authorization
Appendix B	Laboratory Analytical Report

## ABBREVIATIONS

ACM	Assessment of Corrective Measures
CCR	coal combustion residuals
CFR	Code of Federal Regulations
CSM	conceptual site model
GA EPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
GWPS	groundwater protection standard
ISS	in situ stabilization/solidification
MNA	monitored natural attenuation
PRB	permeable reactive barrier
Site	Grumman Road Private Industrial Landfill
SRIL	Savannah Regional Industrial Landfill
SSE	selective sequential extraction
SSI	statistically significant increase
SSL	statistically significant level
USEPA	U.S. Environmental Protection Agency

# 1 Introduction

In accordance with the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4.10(6)(a), this *Semiannual Remedy Selection and Design Progress Report* has been prepared for the Grumman Road Private Industrial Landfill (Site). Assessment of Corrective Measures (ACM) requirements of GA EPD Rule 391-3-4.10(6)(a) are incorporated by reference from U.S. Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D). Specifically, this report has been prepared to describe supplementary activities conducted in December 2020 and January 2021. This report documents the progress made in selecting and designing a remedy, in support of the previously submitted *Assessment of Corrective Measures* (Anchor QEA, 2020).

On December 4, 2020, Georgia Power Company (Georgia Power) submitted an *Assessment of Corrective Measures* (Anchor QEA, 2020) to evaluate potential corrective measures to address the occurrence of arsenic and molybdenum in groundwater at statistically significant levels (SSLs). Georgia Power placed the ACM in the Site's operating record and posted to the Site's CCR Rule compliance website. Pursuant to 40 CFR § 257.97, Georgia Power is evaluating the potential corrective measures presented in the ACM to identify an appropriate remedy, or combination of remedies, as soon as feasible. In the ACM, the following remedies were considered feasible for corrective measures for groundwater at the Site:

- Geochemical Approaches (In Situ Injection)
- Hydraulic Containment (Pump-and-Treat)
- In Situ Stabilization/Solidification (ISS)
- Monitored Natural Attenuation (MNA)
- Permeable Reactive Barrier (PRB) Wall
- Phytoremediation
- Subsurface Vertical Barrier Wall

This *Semiannual Remedy Selection and Design Progress Report* has been included as an appendix to the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (ACC, 2021). Georgia Power will include future semiannual remedy selection progress reports as an appendix to the routine semiannual groundwater monitoring and corrective action reports. This *Semiannual Remedy Selection and Design Progress Report* provides the results of additional well installation and groundwater data analysis conducted between December 2020 and January 2021. Details of the additional work and results are described in Section 2.1.

Georgia Power plans to proactively initiate adaptive Site management as outlined in the ACM Report (Anchor QEA, 2020) to support the groundwater remedy selection process and address potential changes in Site conditions as appropriate. The adaptive Site management approach will take existing

Site conditions, including natural attenuation mechanisms, into account. Characterization activities to evaluate attenuation mechanisms at the Site include collection of data necessary to progressively evaluate the existing and long-term effectiveness of these processes in the aquifer and reduce uncertainty for decision making at each of the following screening steps as listed in the USEPA guidelines for MNA (USEPA, 2015):

- Tier I: Constituent concentrations and plume stability
- Tier II: Constituent attenuation mechanisms and rates
- Tier III: Aquifer capacity and constituent stability
- Tier IV: Performance monitoring and contingency remedies

The Site, located in Port Wentworth, Chatham County, Georgia, is a permitted industrial landfill owned and operated by Georgia Power, which was previously used for disposal of fly ash and bottom ash from Georgia Power's Plant Kraft. The Site has not received ash since Plant Kraft was retired in late 2015, exempting it from the requirements of the federal CCR rule. The Site location is shown in Figure 1.

The Site is adjacent to two other permitted solid waste disposal facilities: one located to the east and the other to the south, as shown in Figure 1. The closed Clifton landfill [Permit No. 025-030D(L)] is east and upgradient of the Site. Based on available information, Clifton landfill was not constructed with a synthetic liner or leachate collection system (which was consistent with GA EPD requirements at time of construction) and waste extends below the water table. Studies performed in 2018 and 2019 verified that Site monitoring wells are affected by leachate-impacted water from Clifton landfill, which is affecting general groundwater quality at the Site. This could contribute a source of arsenic (and by geochemical inference, molybdenum) from Site soils. The active Savannah Regional Industrial Landfill (SRIL) operated by Republic Services, Inc. [Permit No. 025-072D(L)], is south of the Site and hydraulically downgradient of both Clifton landfill and the Site. The SRIL is constructed with a synthetic liner and leachate collection system meeting the requirements specified in GA EPD Rule 391-3-4.

The Site consists of four parcels—A, B1, B2, and B3—comprising approximately 33 acres. Closure of the Site in accordance with the landfill permit has been completed. Parcels A and B1 were closed in 2004, and parcels B2 and B3 were closed in 2017. The Site is permitted under Solid Waste Handling Permit No. 025-061D(LI).

A new final cover system was installed in 2019 to meet the requirements of GA EPD Rule 391-3-4-.10(7). The final cover was designed and constructed to meet the performance standards listed in 40 CFR § 257.102(d)(3). The final closure Certification Report was submitted to GA EPD on November 25, 2019 (Brantley Engineering, 2019).

## 2 Summary of Work Completed

### 2.1 Nature and Extent

Groundwater monitoring has been performed at the Site according to a state permit since 2000. Assessment monitoring was initiated in 2005 under the state program. Since that time, an additional investigation has been performed and ACMs have been prepared and updated as the conceptual site model (CSM) was updated, closure activities performed, and Site conditions changed.

Under new GA EPD regulations applicable to the Site, background sampling occurred between 2016 and 2018. Groundwater detection monitoring began following completion of background sampling, with the first sampling event occurring in March 2019. Statistically significant increases (SSIs) of Appendix III constituents were noted, as described in the *Supplemental 2019 First Semiannual Groundwater Monitoring Report* (ACC, 2019). The Appendix III SSIs triggered assessment sampling for Appendix IV constituents. Subsequent monitoring has verified Appendix IV constituents arsenic and molybdenum at SSLs that exceeded the groundwater protection standards (GWPS). Recurring SSLs that exceeded the GWPS for arsenic (0.0289 milligram per liter) and molybdenum (0.01 milligram per liter) during assessment monitoring are summarized below (ACC, 2020). Pursuant to 40 CFR 257.96, groundwater at the Site continues to be monitored in accordance with the established assessment monitoring program while potential corrective measures are evaluated. Details are provided in the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (ACC, 2021). Monitoring well locations are shown in Figure 2. A potentiometric surface contour map from the September 2020 gauging event is shown in Figure 3.

- Arsenic SSLs were identified at monitoring wells GWC-15, GWC-16, and GWC-20 (Figure 4).
- Molybdenum SSLs were identified at monitoring wells GWB-4R, GWC-1, GWC-15, GWC-16, GWC-20, and GWC-21 (Figure 5).

As part of the assessment program, five additional groundwater monitoring wells were installed between December 2020 and January 2021 to provide additional data to vertically delineate arsenic and molybdenum SSLs. Wells MW-23D, MW-24D, and MW-25D were installed for vertical delineation of arsenic and molybdenum. Wells MW-26D and MW-27D were installed for vertical delineation of molybdenum. The location of these wells is shown in Figure 2. Boring and well installation logs for the new delineation wells are included in the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (ACC, 2021). A well installation report documenting installation activities will be provided under a separate cover in March 2021. Data from the new wells are currently being incorporated into the existing CSM.

Results from the January 2021 groundwater sampling event indicate that vertical delineation is complete: arsenic and molybdenum concentrations in the new vertical delineation wells are less than

the GWPS. The January 2021 delineation results are provided in the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (ACC, 2021) and in Appendix B for reference.

Horizontal delineation to the south is dependent on securing access from adjacent property owners. Per GA EPD guidance, where “denial of access prevents the installation of off-site delineation wells, a USEPA approved fate and transport model analysis may be used to delineate the limit of the contaminant plume” (GA EPD, 2018). If off-site access cannot be secured, a fate and transport model analysis will be used to achieve horizontal delineation. Georgia Power is currently refining the CSM based on recent field investigations, which will assist with horizontal delineation evaluation.

## 2.2 Summary of Corrective Measures

Closure of the Site and installing a cover system is a source control measure that reduces the potential for migration of CCR constituents to groundwater. The corrective measures proposed in the ACM are being evaluated to address SSLs in groundwater at and downgradient of the compliance boundary. Each individual corrective measure is evaluated relative to criteria specified in 40 CFR § 257.96(c) and 40 CFR § 257.97(b). A comparative evaluation of the corrective measures is provided in Table 1; the following provides a brief overview of each corrective measure being screened.

- Geochemical Approaches (In Situ Injection)
  - Geochemical approaches involve modifying the geochemistry of the Site to immobilize arsenic and molybdenum on solids created by injection.
- Hydraulic Containment (Pump-and-Treat)
  - Hydraulic containment uses pumping wells (and sometimes injection wells, trenches, and/or galleries) to contain and prevent the expansion of impacted groundwater by creating a horizontal and vertical capture zone or a hydraulic barrier.
- In Situ Stabilization/Solidification
  - ISS, also known as deep soil mixing, is a method for solidifying soil or waste material, immobilizing constituents of interest in the solid matrix, and reducing leaching of the constituents to groundwater. ISS both reduces permeability and chemically binds constituents of interest such as arsenic and molybdenum.
- Monitored Natural Attenuation
  - MNA relies on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods (USEPA, 1999, 2007a, 2007b; EPRI, 2015).
- Permeable Reactive Barrier Wall
  - A PRB wall is the emplacement of chemically reactive materials in the subsurface to intercept impacted groundwater, provide a flow path through the reactive media, and capture or transform the constituents in groundwater to achieve GWPS downgradient



of the PRB wall. Reactive media may be placed in a trench or mixed directly with the soil or aquifer media using augers or other mixing techniques

- Phytoremediation
  - Phytoremediation uses trees or other plants to take up or immobilize constituents or achieve some level of hydraulic containment.
- Subsurface Vertical Barrier Wall
  - Subsurface vertical barrier walls can be used to stop the flow of groundwater and any constituents that groundwater contains, including arsenic and molybdenum.

## 2.3 Field Investigation and Data Collection

Additional data collection and analysis, treatability studies, and site-specific evaluation are necessary to refine the CSM and to further evaluate the feasibility of each proposed corrective measure.

Field efforts conducted since the ACM was completed in December 2020 include collecting soil samples during vertical delineation installation activities. The soil samples will be used for future column studies to evaluate rates, capacity, and stability of MNA. In the column studies, soils will be characterized using X-ray fluorescence, X-ray diffraction, grain size analysis, selective sequential extraction (SSE), and possibly other techniques as needed. Site groundwater impacted with arsenic and/or molybdenum will be run through the columns until arsenic and molybdenum are found in the elutriate (i.e., until breakthrough occurs). SSE will be performed on the tested soil from the columns to assess the mechanisms and stability of attenuation.

Boring logs and field data from delineation well installation in December 2020 and January 2021 are currently being evaluated with respect to the CSM included in the *Assessment of Corrective Measures* (Anchor QEA, 2020). Updates to the CSM will be provided in future progress reports, as applicable.

### 3 Planned Activities and Anticipated Schedule

Georgia Power proactively plans to initiate adaptive site management as outlined in the ACM Report (Anchor QEA, 2020) to support the remedial strategy and address potential changes in Site conditions as appropriate. The adaptive site management approach may be adjusted over the Site's life cycle as new site information and technologies become available. Georgia Power will continue its data collection efforts as necessary in support of efforts to refine the CSM and to further evaluate the feasibility of each corrective measure proposed in the *Assessment of Corrective Measures* (Anchor QEA, 2020). At this time, all corrective measures outlined in Table 1 continue to be evaluated. Once sufficient data are available to make technically sound decisions regarding the ability to implement one or more specific corrective measures, appropriate steps will be taken to design and implement a remedy for the Site.

Supplementary data collection and evaluation activities proposed to be completed during the next semi-annual reporting period include the following:

- Determine if natural attenuation is occurring at the Site for arsenic and molybdenum; the geochemical data from this task will inform design of the two tasks below.
- Perform oxygenation treatability studies on groundwater to determine if oxygenation will induce the precipitation of arsenic and molybdenum, thereby enhancing natural attenuation.
- Perform treatability studies (batch and/or column tests) to determine the optimum treatment solutions, dose, and staging for in situ geochemical approaches (hot spot treatment).

According to USEPA guidance (USEPA, 2015), a four-phase approach should be used to establish whether MNA can be successfully implemented at a given site. The phases (also referred to as "steps" or "tiers") include the following (USEPA, 1999, 2007a, 2007b):

1. Demonstrate that the extent of groundwater impacts is stable or shrinking.
2. Determine the mechanisms and rates of attenuation.
3. Determine if the capacity of the aquifer is sufficient to attenuate the mass of constituents in groundwater and that the immobilized constituents are stable and will not remobilize.
4. Design a performance monitoring program based on the mechanisms of attenuation and establish contingency remedies (tailored to site-specific conditions) should MNA not perform adequately.

Based on the USEPA's MNA approach, the following investigations will be performed to evaluate USEPA's Tiers 1 through 3:

- Plot concentration versus time graphs to determine if natural attenuation is already occurring through time. Rates of attenuation can be deduced from these graphs. Concentration versus distance graphs can also demonstrate that natural attenuation is occurring with distance from the CCR landfill.
- Collect groundwater and well solids (precipitate) samples from monitoring wells at the site.

- Analyze groundwater for major cations and anions and other salient geochemical parameters; evaluate Site geochemistry to predict attenuating species and to support the well solids analysis.
- Perform a series of geochemical tests in the laboratory on well solids (Table 2) to determine the attenuating mechanisms (part of Tier 2) and stability based on the mechanisms (part of Tier 3).
- Perform column studies on soil samples collected during additional delineation well installation (December 2020) to inform rates and stability of attenuation and the capacity of the aquifer (part of Tier 3) to attenuate arsenic and molybdenum.

Groundwater will be collected from select wells representing the range of Site geochemical conditions. Treatability studies will be performed in the laboratory to determine if oxygenation induces the precipitation of arsenic and molybdenum. Laboratory treatability studies will be designed to simulate both chemical oxygenation as well as physical oxygenation (e.g., air sparging and Waterloo Emitters). Similarly, laboratory treatability studies will be performed to advance geochemical approaches, particularly treatment solution composition, dose, and staging (if needed). In situ injections have been used to treat arsenic at several sites with a range of geochemical conditions. Similar or slightly modified solutions will likely be effective for molybdenum. Laboratory treatability tests will be performed using aquifer material (soil) and impacted Site groundwater.

Supplementary data collection and evaluation activities proposed to be completed during the next semi-annual reporting period are presented in Table 3. Georgia Power will continue to prepare semiannual remedy selection progress reports to document groundwater conditions, results associated with additional data gathering, and the progress in selecting and designing the remedy in accordance with 40 CFR § 257.97(a). Georgia Power will include future semiannual remedy selection progress reports in routine groundwater monitoring and corrective action reports. Record keeping, notifications, and publicly accessible Internet site requirements for the semiannual remedy selection progress reports will be provided in accordance with 40 CFR § 257.105(h)(12), 257.106(h)(9), and 257.107(h)(9), respectively.

## 4 References

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- USEPA, 2015. *Use of Monitored Natural Attenuation for Inorganic Contaminants in Groundwater at Superfund Sites*. U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response Directive 9283.1-36. August 2015.

# Tables

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**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	40 CFR 257.96(C)(1)				
	Regulatory Citation for Criteria:	Performance	Reliability	Ease or Difficulty of Implementation	Potential Impacts of Remedy
Geochemical Approaches (injection of oxidizing chemicals or placement of slow release oxidizing chemical candles in wells)	Geochemical approaches involve modifying the geochemistry of the Site to immobilize arsenic and molybdenum on solids created by injection. Depending upon the objective and Site geochemical conditions, immobilization may be achieved by oxygenation or injection of the appropriate treatment solutions. Oxygenation may be achieved chemically by injecting oxidants or placing slow release oxidizing chemical candles in wells or by physical methods such as air sparging or installation of Waterloo Emitters in wells. Other forms of geochemical approaches (also known as enhanced attenuation) include the injection of treatment solutions to immobilize constituents by precipitation/coprecipitation and/or sorption. The treatment solutions would likely contain iron compounds to create ferrihydrite to sorb arsenic and molybdenum, or to precipitate sulfide minerals, which incorporate arsenic and molybdenum into their mineral structures.	The performance of this remedy is considered medium. The groundwater is made more oxidizing by the treatment chemicals, which prevents mobilization of arsenic and molybdenum concentrations due to Clifton landfill leachate and produces conditions more amenable to attenuation.	The reliability of this remedy is considered medium. Multiple injections will likely be required, or oxidizing candles will need to be replaced.	Implementation of this remedy would be relatively easy.	The unintended release of constituents currently bound to soil is possible if inappropriate treatment chemicals are used.
Geochemical Approaches (oxygenation by physical means such as air sparging or Waterloo emitters)		The performance of this remedy is considered medium. Oxygen would need good distribution within the aquifer, and sufficient iron would need to be present in groundwater to facilitate attenuation.	The reliability of this remedy is considered medium. Mechanical components such as sparging wells and emitters would need to be maintained.	The ease of implementation for this remedy is considered moderate. Mechanical components would need to be designed and installed.	The unintended release of constituents currently bound to soil is possible if geochemical conditions are not well understood.
Geochemical Approaches (adsorption to, or coprecipitation with iron compounds via injection of treatment chemicals)		The performance of this remedy is considered medium. Leachate from the Clifton landfill would need to be controlled for adsorption to iron compounds.	The reliability of this remedy is considered medium. Multiple injections will likely be required.	Implementation of this remedy would be relatively easy.	The unintended release of constituents currently bound to soil is possible if inappropriate treatment chemicals are used.
Hydraulic Containment (pump-and-treat)	Hydraulic containment uses pumping wells (and sometimes injection wells, trenches, and/or galleries) to contain and prevent the expansion of impacted groundwater by creating a horizontal and vertical capture zone or a hydraulic barrier. If pumped, the water may be reused in beneficial applications or treated, discharged, or reinjected after treatment. Reinjection contributes to hydraulic containment by creating a hydraulic barrier of clean water. Hydraulic containment in various applications (including pump-and-treat) is applicable to arsenic and molybdenum because conventional and proven water treatment technologies are available for arsenic and molybdenum.	Hydraulic containment via pump-and-treat has been used for groundwater corrective action for decades. When the pump-and-treat system is online, the performance is considered high. Arsenic and molybdenum are readily treated, and if the system subsurface hydraulics are designed properly, the area of impact will stabilize or shrink.	Because the pump-and-treat system requires substantial operation and maintenance, the reliability is considered medium. In other words, pumps, piping, and the water treatment system must be maintained and will be offline occasionally for various reasons.	Hydraulic containment via pump-and-treat is difficult to implement due to design; installation of wells, pumps, and piping; and space constraints. An on-site water treatment plant would be required to accommodate the quantity and constituents in the pumped groundwater. Because the quantity of water requiring treatment cannot be determined without further study, the design parameters of the treatment system would also need to be verified through additional investigations.	Hydraulic containment via pump-and-treat will alter groundwater flow hydraulics beneath and adjacent to the Site; this could be evaluated with a groundwater model.
In Situ Solidification/Stabilization	ISS, also known as deep soil mixing, is a method for solidifying soil or waste material, immobilizing constituents of interest in the solid matrix, and reducing leaching of the constituents to groundwater. ISS both reduces permeability and chemically binds constituents of interest such as arsenic and molybdenum. Materials specific to the constituents of interest (e.g., ferrous sulfate or zero-valent iron for arsenic and molybdenum) may be added in small quantities to further reduce leaching of the constituents. In ISS, Portland cement and sometimes select chemical additives are mixed with soil or waste material using a bucket, large augers, or rotary methods. At the Site, ISS would be used as a source control measure to solidify/stabilize ash beneath the water table, thereby reducing leaching to groundwater. Due to the ISS application depths required at the Site, mixing by auger is likely the only viable application method.	Performance is considered high, as leaching of constituents can be greatly reduced in both laboratory treatability studies and subsequent field applications. Site-specific performance would need to be assessed with laboratory treatability and possibly a field pilot test.	Reliability is considered high because the stabilized block does not require maintenance and is essentially permanent.	Ease of implementation is considered moderate at the Site because mixing would need to be implemented at depth from the top or slopes of the ash landfill. Depending upon the method of application, a cement batch plant (and associated pumps) may need to be constructed at the Site.	ISS may cause a temporary spike of arsenic, and possibly molybdenum, in groundwater at the time of implementation. This spike is expected to dissipate, and groundwater arsenic and molybdenum concentrations to fall below pre-implementation values with time.

**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)			
	Description	Performance	Reliability	Ease or Difficulty of Implementation	Potential Impacts of Remedy
Monitored Natural Attenuation	MNA relies on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. For arsenic and molybdenum, the primary mechanisms of natural attenuation include sorption to iron compounds such as ferrihydrite or iron sulfide minerals, precipitation and coprecipitation with sparingly soluble sulfide minerals and other compounds, and physical processes such as dispersion (USEPA 1999, 2007a, 2007b; EPRI 2015). Under favorable conditions, these processes act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater.	The performance of MNA requires further investigation, especially related to the identification of attenuating mechanisms, aquifer capacity for attenuation, and time to achieve GWPS. The aquifer material at the Site contains significant silt and/or clay, which favors natural attenuation mechanisms such as sorption. However, leachate from the Clifton landfill is likely mobilizing arsenic and possibly molybdenum from ash and natural soil, resulting in a continued source of those constituents to groundwater if not controlled. Therefore, MNA performance is considered medium to high if landfill leachate from Clifton landfill is controlled.	Reliability of MNA will be relatively high because MNA requires almost no operation and maintenance.	Implementation of MNA at the Site will be relatively easy. Most of the wells for MNA are already in place, though a few additional wells may need to be installed to monitor progress in critical areas.	Potential impacts of the remedy will be negligible because MNA is non-intrusive and produces no effluents or emissions.
PRB Wall (containing sorptive media, oxygenation chemicals, or organic matter)	A PRB wall is the emplacement of chemically reactive materials in the subsurface to intercept impacted groundwater, provide a flow path through the reactive media, and capture or transform the constituents in groundwater to achieve GWPS downgradient of the PRB wall. PRB walls are an in situ technology that allows impacted water to flow through the media and provides a barrier to constituents rather than to groundwater flow, thereby reducing constituents to compliance levels downgradient of the reactive barrier (Powell et al. 1998, 2002). PRB walls may be constructed as funnel-and-gate systems.  In a PRB wall implementation, reactive media may be emplaced in a trench or mixed directly with the soil or aquifer media using augers or other mixing techniques. If emplaced in a trench, coarse sand is usually included to maintain permeability through the wall. Effective reactive media are commercially available for arsenic and molybdenum.  Depending on the site conditions and the objective of the PRB wall, three types of media could be used: oxygenating chemicals, adsorptive media, or organic matter and chemicals to create sulfide minerals (i.e., a biowall).	When working effectively in suitable conditions, PRB walls can reduce constituents to GWPS downgradient of the walls. However, because of site-specific uncertainties associated with the reactive media and subsurface hydraulics, performance is considered medium to high.	Because the reactive media are expended, may clog through time, and will need to be replaced at some point, reliability is considered to be medium.	Because it involves trenching or mixing with augers, and due to space constraints, ease of implementation is considered moderate to difficult.	Alteration of subsurface hydraulics (flow) may be a potential impact of this remedy.
Phytoremediation	Phytoremediation uses trees or other plants to take up or immobilize constituents or achieve some level of hydraulic containment. Hyperaccumulating plants are available for arsenic and molybdenum, but the roots of those plants are too shallow to access impacted groundwater at the Site. Some level of hydraulic containment could be achieved at the Site using trees, including the engineered TreeWell® system. Trees can affect hydraulic gradients and groundwater flow by removal of water and thus can be used to create a partial barrier to groundwater flow. This process may be enhanced by planting the tree in a column of more permeable material (e.g., the TreeWell® system), such that water preferentially flows toward the TreeWell®. Transpiration of groundwater causes the tree well to act like a pumping well. In addition, some arsenic and molybdenum may be immobilized within the root zone or incidentally taken up into the tree biomass.	The performance of TreeWells® is considered medium because the trees may not transpire (pump) enough water to maintain hydraulic containment based on site-specific conditions.	The reliability of TreeWells® is considered medium because the trees may not transpire (pump) as much during winter.	Implementation of hydraulic containment using trees will be relatively easy, primarily consisting of constructing the TreeWells® and planting the trees.	No potential impacts have been identified.

**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)			
	Description	Performance	Reliability	Ease or Difficulty of Implementation	Potential Impacts of Remedy
Subsurface Vertical Barrier Walls (if/as needed as a component of PRB walls or possibly hydraulic containment)	Subsurface vertical barrier walls can be used to stop the flow of groundwater and any constituents that groundwater contains, including arsenic and molybdenum. Though effective, vertical barrier walls may serve as groundwater dams such that groundwater rises to the surface or flows around the ends of the wall. Subsurface barrier walls are not envisioned as stand-alone corrective measures at the Site. If they offer advantages, subsurface barrier walls could be a component of PRB walls in a funnel-and-gate configuration or as part of a hydraulic containment system to direct groundwater toward pumping wells.	Subsurface vertical barrier walls are a widely used and accepted technology with relatively high performance.	Subsurface vertical barrier walls are a widely used and accepted technology with relatively high reliability due to minimal need for maintenance or replacement.	Implementation at the Site is considered easy to moderate, due to trenching or other emplacement methods.	Potential impacts of the remedy include alteration of subsurface hydraulics (flow) beneath and adjacent to the Site. This could be evaluated with a groundwater model.



**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR 257.96(C)(3)		Relative Cost
	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	
Geochemical Approaches (injection of oxidizing chemicals or placement of slow release oxidizing chemical candles in wells)	Geochemical approaches involve modifying the geochemistry of the Site to immobilize arsenic and molybdenum on solids created by injection. Depending upon the objective and Site geochemical conditions, immobilization may be achieved by oxygenation or injection of the appropriate treatment solutions. Oxygenation may be achieved chemically by injecting oxidants or placing slow release oxidizing chemical candles in wells or by physical methods such as air sparging or installation of Waterloo Emitter in wells. Other forms of geochemical approaches (also known as enhanced attenuation) include the injection of treatment solutions to immobilize constituents by precipitation/coprecipitation and/or sorption. The treatment solutions would likely contain iron compounds to create ferrihydrite to sorb arsenic and molybdenum, or to precipitate sulfide minerals, which incorporate arsenic and molybdenum into their mineral structures.	This remedy could be designed and implemented in 1 to 2 years. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation processes of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.	Underground Injection Control permit may be required for injection of oxidizing chemicals.	Groundwater and/or geochemical modeling and monitoring may be required to demonstrate that unintended impacts (e.g., release of constituents) are not occurring and do not extend off site.	Low to Medium
Geochemical Approaches (oxygenation by physical means such as air sparging or Waterloo emitters)		This remedy could be designed and implemented in 1 to 2 years. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation processes of each targeted constituent. The time for complete distribution of the introduced oxygen throughout the treatment area is also variable.	None identified		Medium, due to mechanical equipment and possible use of oxygen
Geochemical Approaches (adsorption to, or coprecipitation with iron compounds via injection of treatment chemicals)		This remedy could be designed and implemented in 1 to 2 years. Once installed, the time required to achieve GWPS within the treatment area may be relatively quick but depends on the attenuation processes of each targeted constituent. The time for complete distribution of the injected materials throughout the treatment area is also variable.	Underground Injection Control permit may be required for injection of treatment chemicals.		Low to Medium
Hydraulic Containment (pump-and-treat)	Hydraulic containment uses pumping wells (and sometimes injection wells, trenches, and/or galleries) to contain and prevent the expansion of impacted groundwater by creating a horizontal and vertical capture zone or a hydraulic barrier. If pumped, the water may be reused in beneficial applications or treated, discharged, or reinjected after treatment. Reinjection contributes to hydraulic containment by creating a hydraulic barrier of clean water. Hydraulic containment in various applications (including pump-and-treat) is applicable to arsenic and molybdenum because conventional and proven water treatment technologies are available for arsenic and molybdenum.	Pump-and-treat could probably be designed and installed within 1 to 2 years. Based on published and unpublished case histories, time to achieve GWPS is dependent on the desorption kinetics of arsenic and molybdenum from the aquifer solids and could take an extended period of time. If leachate coming from the Clifton landfill is not controlled, time to achieve GWPS cannot be determined.	Regulatory requirements and institutional controls may be greater for pump-and-treat than some of the other technologies. For example, permits may be required for the withdrawal and reinjection (if used) of water. Discharge of treated water would likely require a National Pollutant Discharge Elimination System permit.	Above-ground treatment components may need to be present for an extended period of time, generating residuals requiring management and disposal.	High
In Situ Solidification/Stabilization	ISS, also known as deep soil mixing, is a method for solidifying soil or waste material, immobilizing constituents of interest in the solid matrix, and reducing leaching of the constituents to groundwater. ISS both reduces permeability and chemically binds constituents of interest such as arsenic and molybdenum. Materials specific to the constituents of interest (e.g., ferrous sulfate or zero-valent iron for arsenic and molybdenum) may be added in small quantities to further reduce leaching of the constituents. In ISS, Portland cement and sometimes select chemical additives are mixed with soil or waste material using a bucket, large augers, or rotary methods. At the Site, ISS would be used as a source control measure to solidify/stabilize ash beneath the water table, thereby reducing leaching to groundwater. Due to the ISS application depths required at the Site, mixing by auger is likely the only viable application method.	ISS could be designed and implemented in 1 to 2 years. Laboratory treatability and possibly a field pilot test would need to be performed. Time to achieve GWPS is uncertain and may be dependent on natural attenuation processes.	No institutional requirements are expected.	There would be a small disruption of industrial area during construction. Following installation, the remedy is passive.	Medium, due to mobilization and use of large equipment, and possibly a cement batch plant and associated equipment such as pumps.

**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR 257.96(C)(3)		Relative Cost
	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	
Monitored Natural Attenuation	MNA relies on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a time frame that is reasonable compared to that offered by other more active methods. For arsenic and molybdenum, the primary mechanisms of natural attenuation include sorption to iron compounds such as ferrihydrite or iron sulfide minerals, precipitation and coprecipitation with sparingly soluble sulfide minerals and other compounds, and physical processes such as dispersion (USEPA 1999, 2007a, 2007b; EPRI 2015). Under favorable conditions, these processes act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater.	Implementation of MNA would require some geochemical studies and possibly the installation of some new wells. Because MNA does not require design and construction of infrastructure other than new monitoring wells, it can be initiated within 6 months to a year and fully implemented in 18 to 24 months. The longer time period is because initial geochemical studies would need to be performed to support USEPA's tiers, and at least 1 year of groundwater monitoring data is recommended before implementation of MNA is considered complete. The additional data would be needed for statistical analysis and to determine if additional monitoring wells need to be installed. MNA is expected to be successful within a reasonable time frame if Clifton landfill leachate is controlled.	None identified	Little to no physical disruption to remediation areas and no adverse construction related impacts are expected on the surrounding industrial area. Following installation, the remedy is passive and does not require external energy.	Low
PRB Wall (containing sorptive media, oxygenation chemicals, or organic matter)	A PRB wall is the emplacement of chemically reactive materials in the subsurface to intercept impacted groundwater, provide a flow path through the reactive media, and capture or transform the constituents in groundwater to achieve GWPS downgradient of the PRB wall. PRB walls are an in situ technology that allows impacted water to flow through the media and provides a barrier to constituents rather than to groundwater flow, thereby reducing constituents to compliance levels downgradient of the reactive barrier (Powell et al. 1998, 2002). PRB walls may be constructed as funnel-and-gate systems. In a PRB wall implementation, reactive media may be emplaced in a trench or mixed directly with the soil or aquifer media using augers or other mixing techniques. If emplaced in a trench, coarse sand is usually included to maintain permeability through the wall. Effective reactive media are commercially available for arsenic and molybdenum. Depending on the site conditions and the objective of the PRB wall, three types of media could be used: oxygenating chemicals, adsorptive media, or organic matter and chemicals to create sulfide minerals (i.e., a biowall).	Considering the need for laboratory treatability studies on the reactive media, analysis of the subsurface hydraulics, and the relatively small area of emplacement, time to implement the remedy is estimated to be 1 to 2 years. Once installed, the time to achieve GWPS immediately downgradient of the PRB is anticipated to be relatively quick. Time to achieve GWPS more distant from PRB wall would be dependent on natural attenuation processes.	None identified	There would be a small disruption of industrial area during construction. Following installation, the remedy is passive. If reactive media are not selected carefully through laboratory treatability studies, groundwater geochemistry could be altered (possibly resulting in unintended releases of constituents downgradient of the wall).	Medium
Phytoremediation	Phytoremediation uses trees or other plants to take up or immobilize constituents or achieve some level of hydraulic containment. Hyperaccumulating plants are available for arsenic and molybdenum, but the roots of those plants are too shallow to access impacted groundwater at the Site. Some level of hydraulic containment could be achieved at the Site using trees, including the engineered TreeWell® system. Trees can affect hydraulic gradients and groundwater flow by removal of water and thus can be used to create a partial barrier to groundwater flow. This process may be enhanced by planting the tree in a column of more permeable material (e.g., the TreeWell® system), such that water preferentially flows toward the tree well. Transpiration of groundwater causes the tree well to act like a pumping well. In addition, some arsenic and molybdenum may be immobilized within the root zone or incidentally taken up into the tree biomass.	Phytoremediation could be designed and implemented in 6 to 12 months. Hydraulic containment is expected to occur in a reasonable time frame but needs to be calculated based on the number and transpiration rate of the TreeWells®.	None identified	Little to no physical disruption to remediation areas and no adverse construction-related impacts are expected on the surrounding industrial area. Following installation, the remedy is passive and does not require external energy.	Low

**Table 1**  
**Evaluation of Remedial Technologies**

Corrective Measure	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR 257.96(C)(3)		Relative Cost
	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	
Subsurface Vertical Barrier Walls (if/as needed as a component of PRB walls or possibly hydraulic containment)	Subsurface vertical barrier walls can be used to stop the flow of groundwater and any constituents that groundwater contains, including arsenic and molybdenum. Though effective, vertical barrier walls may serve as groundwater dams such that groundwater rises to the surface or flows around the ends of the wall. Subsurface barrier walls are not envisioned as stand-alone corrective measures at the Site. If they offer advantages, subsurface barrier walls could be a component of PRB walls in a funnel-and-gate configuration or as part of a hydraulic containment system to direct groundwater toward pumping wells.	Time to implement the remedy (design and construct the wall) could be 1 to 2 years As a component of PRB walls in a funnel-and-gate configuration or as part of a hydraulic containment system, time to achieve GWPS would be dependent on the other corrective measures.	None identified	There would be some disruption of industrial area during construction. Following installation, the remedy is passive.	Medium

Notes:  
>: greater than  
CFR: Code of Federal Regulations  
Clifton landfill: Clifton closed landfill  
GWPS: groundwater protection standard  
ISS: In situ solidification/stabilization  
MNA: monitored natural attenuation  
PRB: permeable reactive barrier  
USEPA: U.S. Environmental Protection Agency

**Table 2**  
**Summary of Well Solids Analyses**

Analysis	Description	Relevance to MNA Demonstration
X-Ray Fluorescence	Provides bulk chemistry	Relationships are determined among elements in attenuating phases (e.g., iron and calcium) and arsenic and/or molybdenum; supports Tier 2 (mechanisms) and Tier 3 (stability)
X-Ray Diffraction	Identifies and provides mineralogy of crystalline attenuating phases	Supports Tier 2 (mechanisms) and Tier 3 (stability) of attenuation involving crystalline mineral phases
Scanning Electron Microscopy	Allows direct visual observation of attenuating phases	Supports Tier 2 (mechanisms) and Tier 3 (stability) of attenuating phases
Selective Sequential Extraction	Determines which attenuating solid phases are associated with arsenic and molybdenum	Supports Tier 2 (mechanisms) and Tier 3 (stability) of attenuating phases
Cation Exchange Capacity	Determines if cation exchange on clays is an attenuating mechanism	Supports Tier 2 (mechanisms) and Tier 3 (stability) for cation exchange

Note:  
MNA: monitored natural attenuation

**Table 3**  
**Proposed ACM Supplementary Data Collection and Analysis Tasks**

Task/Data Collection Event	Applicable CMs <sup>(1)</sup>	Applicability/Rationale	Field Component	Parameters of Interest	Analytical Laboratory Performing Analysis
Groundwater sampling and analysis	1, 2, 3, 4	Predict/identify attenuating mechanisms that are currently operating; evaluate site geochemistry; determine viability of geochemical approaches and aid in selection of reactive media for a PRB wall; collect information for water treatment if needed	Collect groundwater samples from wells with SSLs and select upgradient and sidegradient wells.	Arsenic and molybdenum, major cations and anions, parameters that influence arsenic and molybdenum such as iron and manganese	Groundwater - Pace Analytical Services, LLC
Well solids (precipitate) sampling and analysis	1, 3	Predict/identify attenuating mechanisms that are currently operating; evaluate site geochemistry; determine viability of geochemical approaches	Collect solids (if present) from the bottom of all monitoring wells.	All constituents heavier than sodium amenable to analysis by X-ray fluorescence (XRF), X-ray diffraction (XRD), scanning electron microscopy (SEM), cation exchange capacity (CEC), and selective sequential extraction (SSE)	Anchor QEA Environmental Geochemistry Laboratory (Portland, Oregon) with support from: Apex Laboratories (Tigard, Oregon) CEC and SEM - RC Imaging (Portland, Oregon)
Aquifer solids (soil) sampling and subsequent column studies	1, 3	Aquifer capacity for attenuation, rates, attenuating mechanisms, and stability (permanence)	Completed as part of new well installation, 12/2020 and 1/2021	Same analysis as immediately above, followed by column studies to assess arsenic and molybdenum uptake, and SSE on solids from column studies to assess stability (permanence)	Anchor QEA Environmental Geochemistry Laboratory (Portland, Oregon) with support from: Apex Laboratories (Tigard, Oregon) CEC and SEM - RC Imaging (Portland, Oregon)
Determine if area of impacts is stable or shrinking	3	First requirement (tier) for MNA; may not be met until leachate from Clifton is controlled	No additional field component; work with groundwater monitoring data as it becomes available	Prepare concentration vs. time and concentration vs. distance graphs for arsenic and molybdenum; apply statistics to graphs to demonstrate statistically significant decreases; compute rates of decrease. Prepare isoconcentration maps in plan (map) view and section view; compute decrease in area through time; apply Ricker method	Desktop analysis performed by Anchor QEA using existing data
Determine if increased oxidation of groundwater will enhance MNA or other treatments such as geochemical approaches, PRB walls, or pump-and-treat	1, 2, 3, 4	Site geochemical data indicate that reductive dissolution of iron is mobilizing arsenic and molybdenum. Introduction of oxygen into the system is expected to mitigate release of arsenic and molybdenum.	Groundwater and soil will be collected as part of MNA evaluation (see first and third items above).	Arsenic, molybdenum, and iron. Introduce oxygen to groundwater in the laboratory to simulate field conditions (e.g., chemically and physically), observe whether precipitates form, and analyze the precipitates and treated groundwater.	Anchor QEA laboratory work, oxygenation treatability studies, and follow-up data analysis
Perform batch tests on site soil-groundwater systems to determine liquid (or very fine particle) reagents that could be injected to enhance MNA or create subsurface treatment zones by the precipitation of solids	1, 3, 4	Arsenic has been removed from groundwater in situ at other sites through the injection of iron-based chemical treatment solutions. By geochemical analogy, the same techniques should work for molybdenum.	Groundwater and soil will be collected as part of MNA evaluation (see first and third items above).	Arsenic, molybdenum, and iron	Anchor QEA laboratory work, geochemical treatability studies, and follow-up data analysis
Evaluate hydraulic containment feasibility using both pump-and-treat and TreeWells	2, 5	Determine number, placement, and pumping rate of wells (or trees) to stabilize plume. Determine water treatment options and placement of treatment plant and piping.	No additional field work	Arsenic and molybdenum	Desktop analysis performed by Anchor QEA

**Table 3**  
**Proposed ACM Supplementary Data Collection and Analysis Tasks**

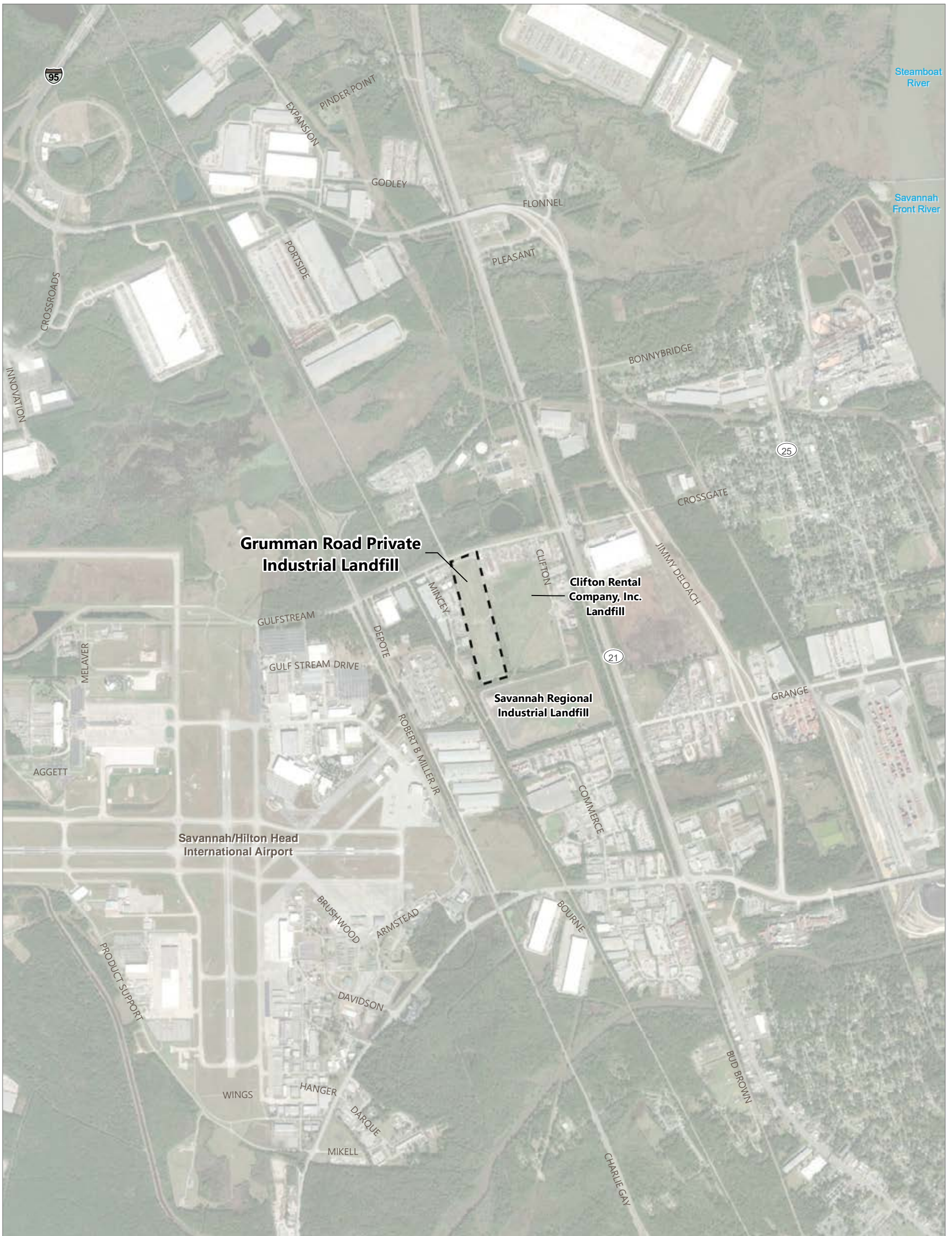
Task/Data Collection Event	Applicable CMs <sup>(1)</sup>	Applicability/Rationale	Field Component	Parameters of Interest	Analytical Laboratory Performing Analysis
Evaluate PRB, ISS, and subsurface vertical barrier wall feasibility	4, 6, 7	PRB: Determine length, depth, and hydraulics of PRB walls; identify potentially viable reactive media for further laboratory testing (if needed), or liquid media that could be injected to create a reactive zone in-situ. ISS: Determine location, depth, volume, probable mixtures, and feasibility; develop treatability studies plan (if needed). Vertical Barrier Walls: Determine if walls enhance PRB, pump-and-treat, or other technologies or would have standalone benefits; determine depths, construction materials and methods, and feasibility.	No additional field work	Arsenic and molybdenum; creation of more oxidizing conditions	Desktop analysis performed by Anchor QEA

Notes:  
 Corrective Measure (CM) codes:  
 1. Geochemical Approaches (injections, in situ oxidation)  
 2. Hydraulic Containment (including water treatment)  
 3. Monitored Natural Attenuation (MNA)  
 4. Permeable Reactive Barrier (PRB) Wall  
 5. TreeWells  
 6. In Situ Solidification/Stabilization (ISS)  
 7. Subsurface Vertical Barrier Wall  
 ACM: Assessment of Corrective Measures  
 SSL: statistically significant level

## Figures

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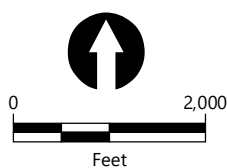


**LEGEND:**

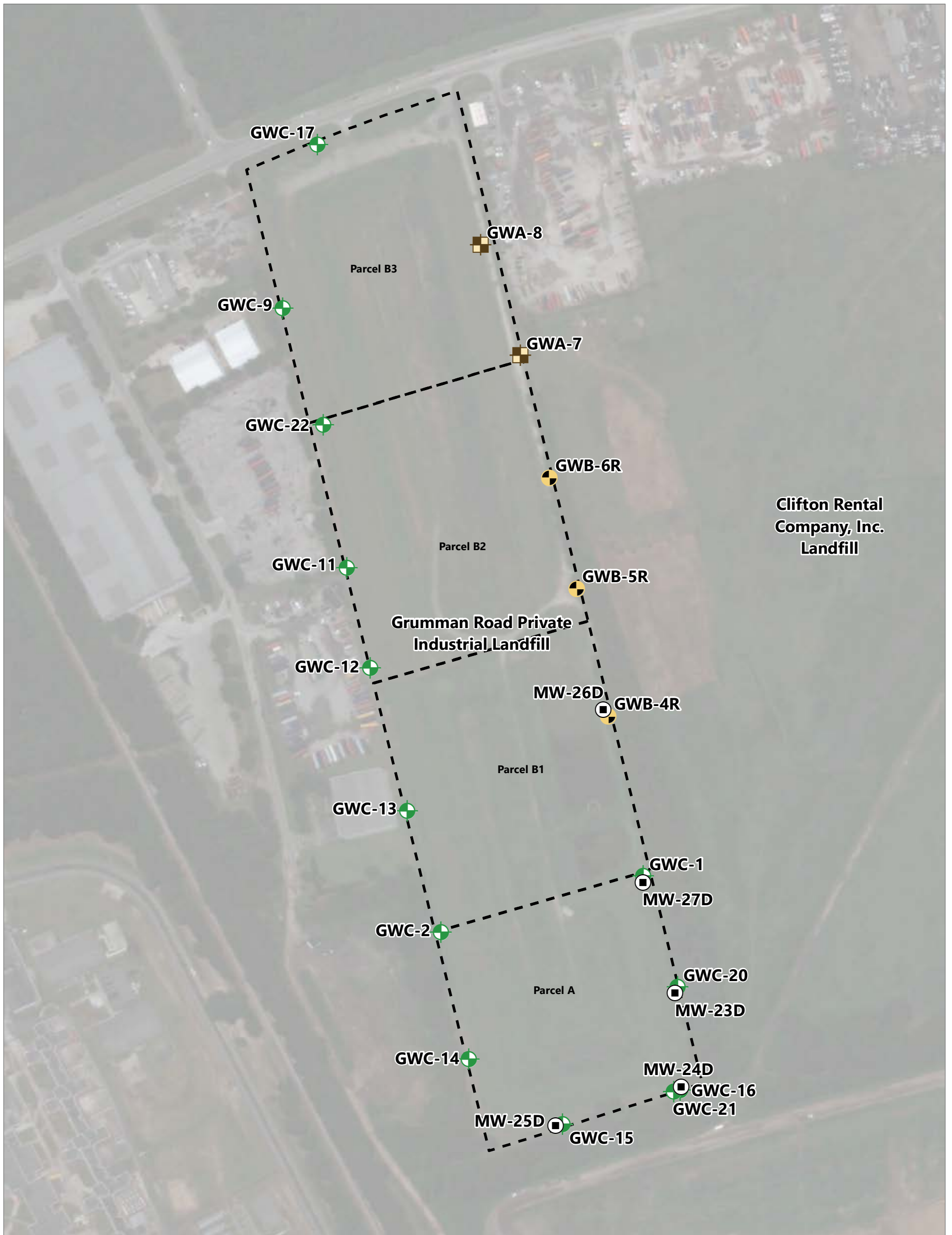
 Grumman Road Private Industrial Landfill

**NOTES:**

1. Aerial imagery is from Esri basemap service (source date: 11/10/2019)







**LEGEND:**

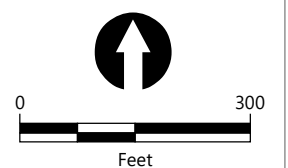
Grumman Road Private Industrial Landfill

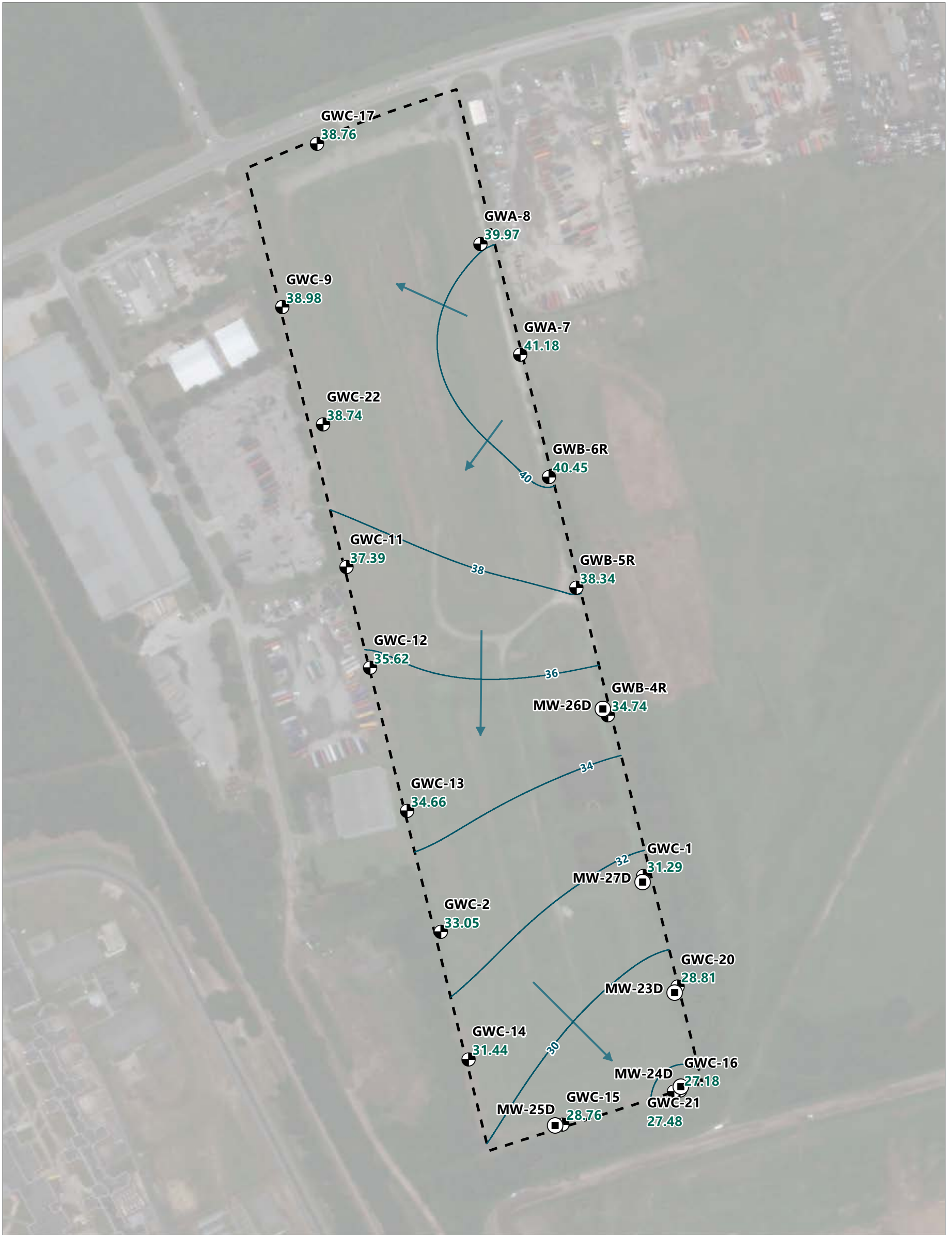
**Monitoring Well**

- Downgradient
- Sidegradient
- Upgradient
- Vertical Delineation






**NOTE:**

1. MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were installed between December 2020 and January 2021.
2. Aerial imagery is from Esri basemap service (source date: 11/10/2019)





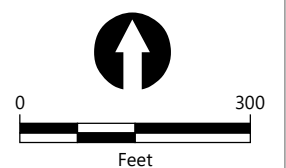
**LEGEND:**

-  Grumman Road Private Industrial Landfill
-  Groundwater Contour (NAVD88)
-  Groundwater Flow Direction
-  Monitoring Well
-  Vertical Delineation Well

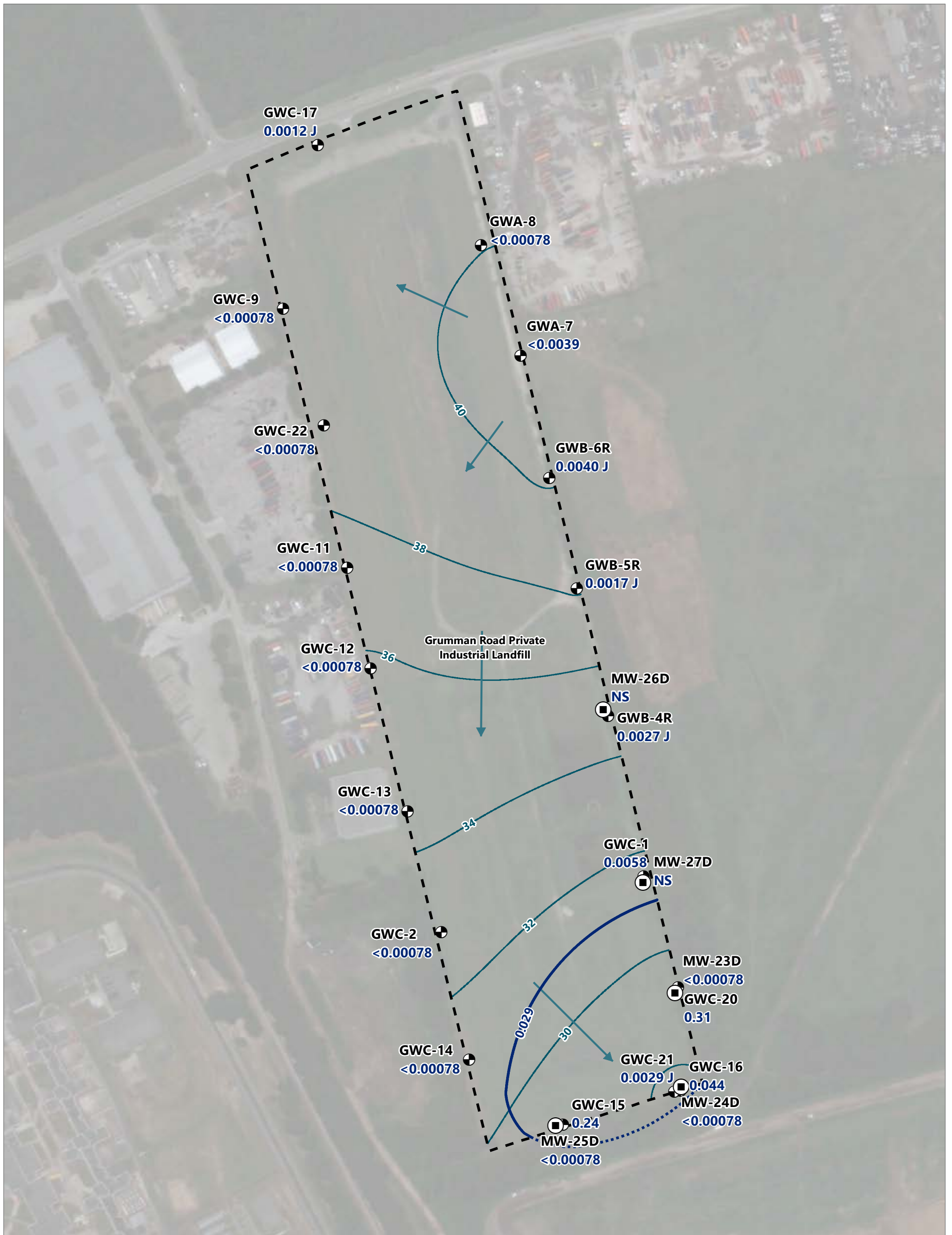
**NOTES:**

1. Groundwater elevations are from September 2020 sampling event.
2. Groundwater elevation values were converted from "Site Datum" to NAVD88 by subtracting 0.73 foot from the original value.
3. Aerial imagery is from Esri online basemap service.
4. GWC-21, MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were not used to create groundwater contours.
5. MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were installed between December 2020 and January 2021.

NAVD88: North American Vertical Datum of 1988





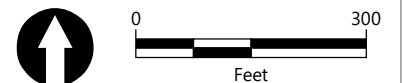


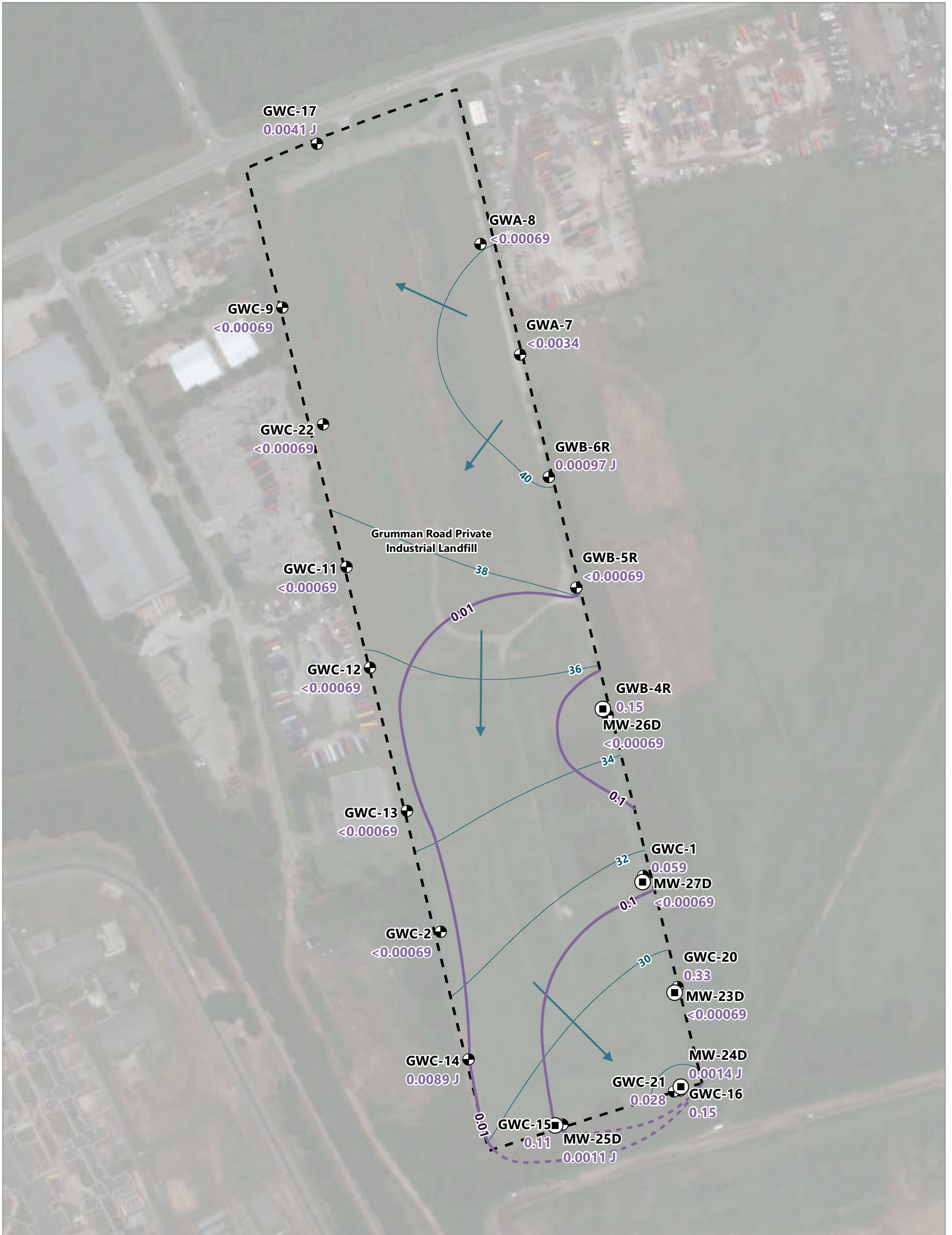
**LEGEND:**

- Site Boundary
- Monitoring Well
- Vertical Delineation Well
- Arsenic Isoconcentration Contour
- Projected Arsenic Isoconcentration Contour
- Groundwater Flow Direction
- Groundwater Contour (NAVD88)

**NOTES:**

- <: Indicates the constituent was analyzed for but not detected above the method detection limit.
- mg/L: milligrams per liter
- J: Reported value is an estimate because concentration is less than reporting limit and greater than the method detection limit.
- NS: not sampled
- 1. Grumman Road Private Industrial Landfill arsenic data are from the September/October 2020 sampling event.
- 2. Groundwater elevation contour lines were provided by Atlantic Coast Consulting, Inc.
- 3. Concentrations are reported in mg/L.
- 4. Site background concentration for arsenic is 0.029 mg/L and is the site-specific groundwater protection standard.
- 5. The groundwater protection standard was calculated using data through the September/October 2020 sampling event.
- 6. Groundwater elevations are in feet NAVD88.
- 7. GWC-21, MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were not used to create the isoconcentration.
- 8. MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were installed between December 2020 and January 2021. Wells were sampled in January 2021.
- 9. Vertical delineation wells were not used for interpretation of isoconcentration contours.
- 10. Aerial imagery is from Esri basemap service (source date: November 10, 2019).





**LEGEND:**

- Site Boundary
- Monitoring Well
- Vertical Delineation Well
- Molybdenum Isoconcentration Contour
- Projected Molybdenum Isoconcentration Contour
- Groundwater Flow Direction
- Groundwater Contour (NAVD88)

**NOTES:**

- <: Indicates the constituent was analyzed for but not detected above the method detection limit.
- mg/L: milligrams per liter
- J: Reported value is an estimate because concentration is less than reporting limit and greater than the method detection limit.
- RSL: rule specified level
- 1. Molybdenum and groundwater elevation data are from the September/October 2020 sampling event.
- 2. Concentrations are reported in mg/L.
- 3. RSL is 0.1 mg/L.
- 4. Site background for molybdenum is 0.01 mg/L and is the site-specific groundwater protection standard.
- 5. Dashed lines indicate projected molybdenum isoconcentration contours.
- 6. The groundwater protection standard was calculated using data through the September/October 2020 sampling event.
- 7. GWC-21, MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were not used to create isoconcentration.
- 8. MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were installed between December 2020 and January 2021. Wells were sampled in January 2021.
- 9. Vertical delineation wells were not used for interpretation of isoconcentration contours.
- 10. Aerial imagery is from Esri basemap service (source date: November 10, 2019).



# Appendix A

## Certificate of Authorization

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A pocket-sized license card is below. Above is an enlarged copy of your pocket card.

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237 Coliseum Drive  
Macon GA 31217  
Phone: (404) 424-9966  
[www.sos.ga.gov/plb](http://www.sos.ga.gov/plb)

Anchor QEA, LLC  
10320 Little Patuxent Parkway Suite 1140  
Columbia MD 21044



Appendix B

Laboratory Analytical Report

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January 27, 2021

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on January 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,



Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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### **Pace Analytical Services Asheville**

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
Virginia/VELAP Certification #: 460222

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### **Pace Analytical Services Peachtree Corners**

110 Technology Pkwy, Peachtree Corners, GA 30092  
Florida DOH Certification #: E87315  
Georgia DW Inorganics Certification #: 812

North Carolina Certification #: 381  
South Carolina Certification #: 98011001

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92517999001	MW-23D	Water	01/21/21 09:45	01/22/21 09:41
92517999002	MW-24D	Water	01/21/21 13:10	01/22/21 09:41
92517999003	MW-25D	Water	01/20/21 10:50	01/22/21 09:41
92517999004	MW-26D	Water	01/20/21 09:50	01/22/21 09:41
92517999005	MW-27D	Water	01/20/21 14:20	01/22/21 09:41

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92517999001	MW-23D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999002	MW-24D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999003	MW-25D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999004	MW-26D	EPA 6010D	DRB	1
		EPA 6020B	CW1	2
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999005	MW-27D	EPA 6010D	DRB	1
		EPA 6020B	CW1	2
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3

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

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92517999001</b>	<b>MW-23D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.75	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.4	mg/L	1.0	01/25/21 16:10	
EPA 6020B	Boron	0.018J	mg/L	0.040	01/22/21 18:27	
SM 2450C-2011	Total Dissolved Solids	41.0	mg/L	10.0	01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 18:55	
EPA 300.0 Rev 2.1 1993	Sulfate	5.0	mg/L	1.0	01/26/21 18:55	
<b>92517999002</b>	<b>MW-24D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	6.13	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	2.8	mg/L	1.0	01/25/21 16:15	
EPA 6020B	Boron	0.014J	mg/L	0.040	01/22/21 18:33	
EPA 6020B	Molybdenum	0.0014J	mg/L	0.010	01/22/21 18:33	
SM 2450C-2011	Total Dissolved Solids	50.0	mg/L	10.0	01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 19:40	
EPA 300.0 Rev 2.1 1993	Sulfate	0.79J	mg/L	1.0	01/26/21 19:40	
<b>92517999003</b>	<b>MW-25D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	6.25	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.9	mg/L	1.0	01/25/21 16:20	
EPA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:39	
EPA 6020B	Molybdenum	0.0011J	mg/L	0.010	01/22/21 18:39	
SM 2450C-2011	Total Dissolved Solids	58.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Sulfate	1.6	mg/L	1.0	01/26/21 19:55	
<b>92517999004</b>	<b>MW-26D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.66	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.1	mg/L	1.0	01/25/21 16:24	
EPA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:44	
SM 2450C-2011	Total Dissolved Solids	54.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.9	mg/L	1.0	01/26/21 20:10	
EPA 300.0 Rev 2.1 1993	Sulfate	1.0	mg/L	1.0	01/26/21 20:10	
<b>92517999005</b>	<b>MW-27D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.68	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	3.0	mg/L	1.0	01/25/21 17:15	
EPA 6020B	Boron	0.011J	mg/L	0.040	01/22/21 19:02	
SM 2450C-2011	Total Dissolved Solids	43.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 20:24	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92517999005</b>	<b>MW-27D</b>					
EPA 300.0 Rev 2.1 1993	Sulfate	0.88J	mg/L	1.0	01/26/21 20:24	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
 Pace Project No.: 92517999

Sample: MW-23D		Lab ID: 92517999001		Collected: 01/21/21 09:45	Received: 01/22/21 09:41	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>Field Data</b>		Analytical Method: Pace Analytical Services - Charlotte								
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36			
pH	<b>5.75</b>	Std. Units			1		01/25/21 09:36			
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	<b>4.4</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:10	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:27	7440-38-2		
Boron	<b>0.018J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:27	7440-42-8		
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:27	7439-98-7		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	<b>41.0</b>	mg/L	10.0	10.0	1		01/22/21 16:42			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 18:55	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 18:55	16984-48-8		
Sulfate	<b>5.0</b>	mg/L	1.0	0.50	1		01/26/21 18:55	14808-79-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Sample: MW-24D		Lab ID: 92517999002		Collected: 01/21/21 13:10		Received: 01/22/21 09:41		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>6.13</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>2.8</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:15	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:33	7440-38-2	
Boron	<b>0.014J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:33	7440-42-8	
Molybdenum	<b>0.0014J</b>	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:33	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>50.0</b>	mg/L	10.0	10.0	1		01/22/21 16:42		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 19:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 19:40	16984-48-8	
Sulfate	<b>0.79J</b>	mg/L	1.0	0.50	1		01/26/21 19:40	14808-79-8	

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Sample: MW-25D		Lab ID: 92517999003		Collected: 01/20/21 10:50		Received: 01/22/21 09:41		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>6.25</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>4.9</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:20	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:39	7440-38-2	
Boron	<b>0.013J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:39	7440-42-8	
Molybdenum	<b>0.0011J</b>	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:39	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>58.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 19:55	16887-00-6	
Fluoride	<b>0.11</b>	mg/L	0.10	0.050	1		01/26/21 19:55	16984-48-8	
Sulfate	<b>1.6</b>	mg/L	1.0	0.50	1		01/26/21 19:55	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
 Pace Project No.: 92517999

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: MW-26D</b>									
<b>Lab ID: 92517999004</b>									
Collected: 01/20/21 09:50 Received: 01/22/21 09:41 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>5.66</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>4.1</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:24	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Boron	<b>0.013J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:44	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:44	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>54.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	<b>6.9</b>	mg/L	1.0	0.60	1		01/26/21 20:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 20:10	16984-48-8	
Sulfate	<b>1.0</b>	mg/L	1.0	0.50	1		01/26/21 20:10	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: MW-27D</b>									
<b>Lab ID: 92517999005</b>									
Collected: 01/20/21 14:20 Received: 01/22/21 09:41 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>5.68</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>3.0</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 17:15	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Boron	<b>0.011J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 19:02	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 19:02	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>43.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 20:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 20:24	16984-48-8	
Sulfate	<b>0.88J</b>	mg/L	1.0	0.50	1		01/26/21 20:24	14808-79-8	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD

Pace Project No.: 92517999

QC Batch:	594973	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010D ATL
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3138783 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	01/25/21 15:41	

LABORATORY CONTROL SAMPLE: 3138784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3138785 3138786

Parameter	Units	3138785		3138786		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	6.7	1	7.7	7.6	98	91	75-125	1	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 594723 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3137728 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00078	01/22/21 17:53	
Boron	mg/L	ND	0.040	0.0052	01/22/21 17:53	
Molybdenum	mg/L	ND	0.010	0.00069	01/22/21 17:53	

LABORATORY CONTROL SAMPLE: 3137729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.090	90	80-120	
Boron	mg/L	1	0.98	98	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3137730 3137731

Parameter	Units	92517846001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Arsenic	mg/L	ND	0.1	0.1	0.094	0.095	89	91	75-125	1	20	
Boron	mg/L	ND	1	1	0.89	0.90	88	89	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.1	0.097	0.10	93	96	75-125	2	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 594779      Analysis Method: SM 2450C-2011  
QC Batch Method: SM 2450C-2011      Analysis Description: 2540C Total Dissolved Solids  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3137995      Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	01/22/21 16:40	

LABORATORY CONTROL SAMPLE: 3137996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	394	98	84-108	

SAMPLE DUPLICATE: 3137997

Parameter	Units	92517969001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 3138171

Parameter	Units	92517909004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	289	270	7	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 595172 Analysis Method: EPA 300.0 Rev 2.1 1993  
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3139608 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	01/26/21 18:25	
Fluoride	mg/L	ND	0.10	0.050	01/26/21 18:25	
Sulfate	mg/L	ND	1.0	0.50	01/26/21 18:25	

LABORATORY CONTROL SAMPLE: 3139609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.7	99	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	50	51.5	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139610 3139611

Parameter	Units	92517999001		3139610		3139611		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	6.1	50	50	58.6	58.9	105	106	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	102	102	90-110	0	10		
Sulfate	mg/L	5.0	50	50	59.1	59.4	108	109	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139612 3139613

Parameter	Units	92517909004		3139612		3139613		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	3.5	50	50	56.5	56.6	106	106	90-110	0	10		
Fluoride	mg/L	0.22	2.5	2.5	2.5	2.5	92	93	90-110	0	10		
Sulfate	mg/L	14.2	50	50	67.4	67.7	106	107	90-110	1	10		

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## QUALIFIERS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92517999001	MW-23D				
92517999002	MW-24D				
92517999003	MW-25D				
92517999004	MW-26D				
92517999005	MW-27D				
92517999001	MW-23D	EPA 3010A	594973	EPA 6010D	595039
92517999002	MW-24D	EPA 3010A	594973	EPA 6010D	595039
92517999003	MW-25D	EPA 3010A	594973	EPA 6010D	595039
92517999004	MW-26D	EPA 3010A	594973	EPA 6010D	595039
92517999005	MW-27D	EPA 3010A	594973	EPA 6010D	595039
92517999001	MW-23D	EPA 3005A	594723	EPA 6020B	594790
92517999002	MW-24D	EPA 3005A	594723	EPA 6020B	594790
92517999003	MW-25D	EPA 3005A	594723	EPA 6020B	594790
92517999004	MW-26D	EPA 3005A	594723	EPA 6020B	594790
92517999005	MW-27D	EPA 3005A	594723	EPA 6020B	594790
92517999001	MW-23D	SM 2450C-2011	594779		
92517999002	MW-24D	SM 2450C-2011	594779		
92517999003	MW-25D	SM 2450C-2011	594779		
92517999004	MW-26D	SM 2450C-2011	594779		
92517999005	MW-27D	SM 2450C-2011	594779		
92517999001	MW-23D	EPA 300.0 Rev 2.1 1993	595172		
92517999002	MW-24D	EPA 300.0 Rev 2.1 1993	595172		
92517999003	MW-25D	EPA 300.0 Rev 2.1 1993	595172		
92517999004	MW-26D	EPA 300.0 Rev 2.1 1993	595172		
92517999005	MW-27D	EPA 300.0 Rev 2.1 1993	595172		

### REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition  
Upon Receipt

Client Name:

*GA Power*

Project #:

WO#: 92517999



92517999

Date/Initials Person Examining Contents: *11/22/21*

Courier:  Fed Ex  UPS  USPS  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Custody Seal Present?  Yes  No    Seals Intact?  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Thermometer:  IR Gun ID: *233*    Type of Ice:  Wet  Blue  None

Biological Tissue Frozen?  Yes  No  N/A

Cooler Temp: *3.1*    Correction Factor: Add/Subtract (°C) *-0.2*

Temp should be above freezing to 6°C  
 Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): *2.9*

USDA Regulated Soil (  N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

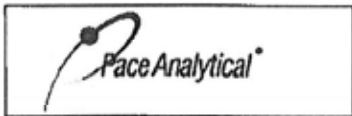
Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_

Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_

Date: \_\_\_\_\_



Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
 F-CAR-CS-033-Rev.07

Document Revised: October 28, 2020  
 Page 2 of 2  
 Issuing Authority:  
 Pace Carolinas Quality Office

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

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

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

Project #

**WO# : 92517999**

PM: KLH1

Due Date: 01/27/21

CLIENT : ~~GA-GS~~ Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFLU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGOU-100 mL Amber Unpreserved vials (N/A)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

**pH Adjustment Log for Preserved Samples**

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

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



## APPENDIX C

### Laboratory Analytical and Field Sampling Reports

September 22, 2020

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between August 19, 2020 and August 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Revision 1 - This report replaces the September 11, 2020 report. This project was revised on September 21, 2020 to reflect correction of Client Sample ID. (Greensburg, PA)

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

Sincerely,



Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting

Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

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### Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601  
ANAB DOD-ELAP Rad Accreditation #: L2417  
Alabama Certification #: 41590  
Arizona Certification #: AZ0734  
Arkansas Certification  
California Certification #: 04222CA  
Colorado Certification #: PA01547  
Connecticut Certification #: PH-0694  
Delaware Certification  
EPA Region 4 DW Rad  
Florida/TNI Certification #: E87683  
Georgia Certification #: C040  
Florida: Cert E871149 SEKS WET  
Guam Certification  
Hawaii Certification  
Idaho Certification  
Illinois Certification  
Indiana Certification  
Iowa Certification #: 191  
Kansas/TNI Certification #: E-10358  
Kentucky Certification #: KY90133  
KY WW Permit #: KY0098221  
KY WW Permit #: KY0000221  
Louisiana DHH/TNI Certification #: LA180012  
Louisiana DEQ/TNI Certification #: 4086  
Maine Certification #: 2017020  
Maryland Certification #: 308  
Massachusetts Certification #: M-PA1457  
Michigan/PADEP Certification #: 9991

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

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### Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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### Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
Virginia/VELAP Certification #: 460222

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### Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092  
Florida DOH Certification #: E87315  
Georgia DW Inorganics Certification #: 812  
Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381  
South Carolina Certification #: 98011001  
Virginia Certification #: 460204

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491455001	DUP-1	Water	08/17/20 00:00	08/19/20 12:45
92491455002	EB-1-8-18-20	Water	08/18/20 00:00	08/19/20 12:45
92491455003	GWA-8	Water	08/17/20 14:59	08/19/20 12:45
92491455004	GWC-13	Water	08/17/20 16:16	08/19/20 12:45
92491455005	GWC-12	Water	08/17/20 17:25	08/19/20 12:45
92491455006	GWC-16	Water	08/18/20 09:32	08/19/20 12:45
92491455007	GWC-21	Water	08/18/20 10:58	08/19/20 12:45
92491455008	GWC-15	Water	08/18/20 12:56	08/19/20 12:45
92491455009	GWC-14	Water	08/18/20 14:24	08/19/20 12:45
92491455010	GWC-2	Water	08/18/20 15:23	08/19/20 12:45
92491455011	GWC-17	Water	08/18/20 14:50	08/19/20 12:45
92491455012	GWC-20	Water	08/18/20 16:36	08/19/20 12:45
92491455013	GWC-11	Water	08/18/20 10:45	08/19/20 12:45
92491455014	GWC-22	Water	08/18/20 14:30	08/19/20 12:45
92491455015	EB-2-8-18-20	Water	08/18/20 16:50	08/19/20 12:45
92491455016	DUP-2	Water	08/18/20 00:00	08/19/20 12:45
92491455017	FB-1-8-19-20	Water	08/19/20 10:30	08/20/20 12:20
92491455018	FB-2-8-19-20	Water	08/19/20 09:00	08/20/20 12:20
92491455019	GWC-1	Water	08/19/20 09:35	08/20/20 12:20
92491455020	GWC-9	Water	08/19/20 09:20	08/20/20 12:20
92491455021	GWB-5R	Water	08/19/20 11:58	08/20/20 12:20
92491455022	GWA-7	Water	08/19/20 10:30	08/20/20 12:20
92491455023	GWB-4R	Water	08/19/20 11:45	08/20/20 12:20
92491455024	GWB-6R	Water	08/19/20 14:00	08/20/20 12:20

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491455001	DUP-1	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455002	EB-1-8-18-20	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455003	GWA-8	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455004	GWC-13	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455005	GWC-12	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455006	GWC-16	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455007	GWC-21	EPA 6020B	CW1	12	PASI-GA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491455008	GWC-15	EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92491455009	GWC-14	EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
92491455010	GWC-2	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
92491455011	GWC-17	EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92491455012	GWC-20	EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
92491455013	GWC-11	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
92491455014	GWC-22	EPA 9315	LAL	1	PASI-PA		
		EPA 9320	VAL	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A		
		EPA 6020B	CW1	12	PASI-GA		
		EPA 7470A	VB	1	PASI-GA		
		EPA 9315	LAL	1	PASI-PA		
		EPA 9320	VAL	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A		
92491455015	EB-2-8-18-20	EPA 6020B	CW1	12	PASI-GA		
		EPA 7470A	VB	1	PASI-GA		
		EPA 9315	LAL	1	PASI-PA		
		EPA 9320	VAL	1	PASI-PA		
		Total Radium Calculation	JAL	1	PASI-PA		
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A		
		92491455016	DUP-2	EPA 6020B	CW1	12	PASI-GA
				EPA 7470A	VB	1	PASI-GA
				EPA 9315	LAL	1	PASI-PA
				EPA 9320	VAL	1	PASI-PA
Total Radium Calculation	JAL			1	PASI-PA		
EPA 300.0 Rev 2.1 1993	CDC			1	PASI-A		
92491455017	FB-1-8-19-20			EPA 6020B	CW1	12	PASI-GA
				EPA 7470A	VB	1	PASI-GA
				EPA 9315	LAL	1	PASI-PA
				EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA		
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A		
		92491455018	FB-2-8-19-20	EPA 6020B	CW1	12	PASI-GA
				EPA 7470A	VB	1	PASI-GA
				EPA 9315	LAL	1	PASI-PA
				EPA 9320	VAL	1	PASI-PA
Total Radium Calculation	JAL			1	PASI-PA		
EPA 300.0 Rev 2.1 1993	CDC			1	PASI-A		
92491455019	GWC-1			EPA 6020B	CW1	12	PASI-GA
				EPA 7470A	VB	1	PASI-GA
				EPA 9315	LAL	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92491455020	GWC-9	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92491455021	GWB-5R	Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92491455022	GWA-7	EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
		EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	BRJ	1	PASI-A
92491455023	GWB-4R	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	BRJ	1	PASI-A
		92491455024	GWB-6R	EPA 6020B	CW1
EPA 7470A	VB			1	PASI-GA
EPA 9315	LAL			1	PASI-PA
EPA 9320	VAL			1	PASI-PA
Total Radium Calculation	JAL			1	PASI-PA
EPA 300.0 Rev 2.1 1993	BRJ			1	PASI-A

PASI-A = Pace Analytical Services - Asheville  
PASI-C = Pace Analytical Services - Charlotte  
PASI-GA = Pace Analytical Services - Peachtree Corners, GA  
PASI-PA = Pace Analytical Services - Greensburg

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491455001</b>	<b>DUP-1</b>					
EPA 6020B	Barium	0.023	mg/L	0.010	08/21/20 18:57	
EPA 6020B	Lead	0.000073J	mg/L	0.0050	08/21/20 18:57	
EPA 9315	Radium-226	0.475 ± 0.356 (0.629) C:87% T:NA	pCi/L		09/02/20 07:43	
EPA 9320	Radium-228	0.401 ± 0.482 (1.01) C:62% T:77%	pCi/L		09/09/20 13:44	
Total Radium Calculation	Total Radium	0.876 ± 0.838 (1.64)	pCi/L		09/10/20 13:24	
<b>92491455002</b>	<b>EB-1-8-18-20</b>					
EPA 9315	Radium-226	0.181 ± 0.115 (0.185) C:86% T:NA	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	0.645 ± 0.510 (1.01) C:65% T:81%	pCi/L		09/09/20 13:10	
Total Radium Calculation	Total Radium	0.826 ± 0.625 (1.20)	pCi/L		09/10/20 13:24	
<b>92491455003</b>	<b>GWA-8</b>					
	pH	4.23	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.051	mg/L	0.010	08/21/20 19:08	
EPA 6020B	Beryllium	0.00019J	mg/L	0.0030	08/21/20 19:08	
EPA 6020B	Chromium	0.00082J	mg/L	0.010	08/21/20 19:08	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	08/21/20 19:08	
EPA 9315	Radium-226	1.64 ± 0.340 (0.198) C:81% T:NA	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	0.987 ± 0.488 (0.830) C:63% T:79%	pCi/L		09/09/20 12:06	
Total Radium Calculation	Total Radium	2.63 ± 0.828 (1.03)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.079J	mg/L	0.10	08/20/20 22:47	
<b>92491455004</b>	<b>GWC-13</b>					
	pH	4.65	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.024	mg/L	0.010	08/21/20 19:14	
EPA 6020B	Chromium	0.00077J	mg/L	0.010	08/21/20 19:14	
EPA 6020B	Lead	0.000076J	mg/L	0.0050	08/21/20 19:14	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491455004</b>	<b>GWC-13</b>					
EPA 9315	Radium-226	0.429 ± 0.150 (0.162) C:83% T:NA	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	0.986 ± 0.510 (0.897) C:68% T:80%	pCi/L		09/09/20 15:09	
Total Radium Calculation	Total Radium	1.42 ± 0.660 (1.06)	pCi/L		09/10/20 13:24	
<b>92491455005</b>	<b>GWC-12</b>					
	pH	3.94	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.018	mg/L	0.010	08/21/20 19:20	
EPA 6020B	Beryllium	0.00046J	mg/L	0.0030	08/21/20 19:20	
EPA 6020B	Chromium	0.0010J	mg/L	0.010	08/21/20 19:20	
EPA 6020B	Cobalt	0.00060J	mg/L	0.0050	08/21/20 19:20	
EPA 6020B	Lead	0.000049J	mg/L	0.0050	08/21/20 19:20	
EPA 6020B	Lithium	0.00091J	mg/L	0.030	08/21/20 19:20	
EPA 9315	Radium-226	0.630 ± 0.176 (0.152) C:88% T:NA	pCi/L		09/02/20 18:00	
EPA 9320	Radium-228	1.62 ± 0.620 (0.917) C:70% T:70%	pCi/L		09/09/20 15:09	
Total Radium Calculation	Total Radium	2.25 ± 0.796 (1.07)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.19	mg/L	0.10	08/20/20 23:14	
<b>92491455006</b>	<b>GWC-16</b>					
	pH	5.52	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.045	mg/L	0.0050	08/21/20 19:25	
EPA 6020B	Barium	0.32	mg/L	0.010	08/21/20 19:25	
EPA 6020B	Beryllium	0.000068J	mg/L	0.0030	08/21/20 19:25	
EPA 6020B	Chromium	0.0012J	mg/L	0.010	08/21/20 19:25	
EPA 6020B	Lead	0.00017J	mg/L	0.0050	08/21/20 19:25	
EPA 6020B	Molybdenum	0.15	mg/L	0.010	08/21/20 19:25	
EPA 6020B	Selenium	0.0058J	mg/L	0.010	08/21/20 19:25	
EPA 9315	Radium-226	2.61 ± 0.460 (0.136) C:101% T:NA	pCi/L		09/02/20 18:00	

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Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92491455006</b>	<b>GWC-16</b>					
EPA 9320	Radium-228	1.63 ± 0.625 (0.970) C:69% T:82%	pCi/L		09/09/20 15:09	
Total Radium Calculation	Total Radium	4.24 ± 1.09 (1.11)	pCi/L		09/10/20 13:24	
<b>92491455007</b>	<b>GWC-21</b>					
	pH	5.82	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0059	mg/L	0.0050	08/21/20 19:31	
EPA 6020B	Barium	0.18	mg/L	0.010	08/21/20 19:31	
EPA 6020B	Chromium	0.0012J	mg/L	0.010	08/21/20 19:31	
EPA 6020B	Lead	0.00027J	mg/L	0.0050	08/21/20 19:31	
EPA 6020B	Molybdenum	0.069	mg/L	0.010	08/21/20 19:31	
EPA 6020B	Selenium	0.013	mg/L	0.010	08/21/20 19:31	
EPA 9315	Radium-226	1.89 ± 0.372 (0.243) C:96% T:NA	pCi/L		09/02/20 18:00	
EPA 9320	Radium-228	1.38 ± 0.583 (0.956) C:69% T:81%	pCi/L		09/09/20 15:09	
Total Radium Calculation	Total Radium	3.27 ± 0.955 (1.20)	pCi/L		09/10/20 13:24	
<b>92491455008</b>	<b>GWC-15</b>					
	pH	6.39	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.28	mg/L	0.0050	08/21/20 19:48	
EPA 6020B	Barium	0.030	mg/L	0.010	08/21/20 19:48	
EPA 6020B	Chromium	0.0018J	mg/L	0.010	08/21/20 19:48	
EPA 6020B	Lead	0.000090J	mg/L	0.0050	08/21/20 19:48	
EPA 6020B	Molybdenum	0.12	mg/L	0.010	08/21/20 19:48	
EPA 6020B	Selenium	0.0022J	mg/L	0.010	08/21/20 19:48	
EPA 9315	Radium-226	0.285 ± 0.129 (0.182) C:94% T:NA	pCi/L		09/02/20 18:00	
EPA 9320	Radium-228	1.55 ± 0.588 (0.892) C:66% T:87%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	1.84 ± 0.717 (1.07)	pCi/L		09/10/20 13:24	
<b>92491455009</b>	<b>GWC-14</b>					
	pH	5.56	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0012J	mg/L	0.0050	08/21/20 19:54	

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Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491455009</b>	<b>GWC-14</b>					
EPA 6020B	Barium	0.028	mg/L	0.010	08/21/20 19:54	
EPA 6020B	Chromium	0.00059J	mg/L	0.010	08/21/20 19:54	
EPA 6020B	Molybdenum	0.017	mg/L	0.010	08/21/20 19:54	
EPA 6020B	Selenium	0.0029J	mg/L	0.010	08/21/20 19:54	
EPA 9315	Radium-226	0.388 ± 0.152 (0.201)	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	C:84% T:NA 0.343 ± 0.564 (1.23)	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	C:69% T:66% 0.731 ± 0.716 (1.43)	pCi/L		09/10/20 13:24	
<b>92491455010</b>	<b>GWC-2</b>					
	pH	4.60	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.050	mg/L	0.010	08/21/20 20:00	
EPA 6020B	Beryllium	0.000051J	mg/L	0.0030	08/21/20 20:00	
EPA 9315	Radium-226	0.377 ± 0.150 (0.200)	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	C:86% T:NA 0.709 ± 0.486 (0.941)	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	C:71% T:79% 1.09 ± 0.636 (1.14)	pCi/L		09/10/20 13:24	
<b>92491455011</b>	<b>GWC-17</b>					
	pH	4.31	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.074	mg/L	0.010	08/21/20 20:05	
EPA 6020B	Beryllium	0.0016J	mg/L	0.0030	08/21/20 20:05	
EPA 6020B	Chromium	0.0011J	mg/L	0.010	08/21/20 20:05	
EPA 6020B	Cobalt	0.0025J	mg/L	0.0050	08/21/20 20:05	
EPA 6020B	Lead	0.00014J	mg/L	0.0050	08/21/20 20:05	
EPA 6020B	Lithium	0.0065J	mg/L	0.030	08/21/20 20:05	
EPA 6020B	Molybdenum	0.00092J	mg/L	0.010	08/21/20 20:05	
EPA 6020B	Selenium	0.0020J	mg/L	0.010	08/21/20 20:05	
EPA 9315	Radium-226	1.97 ± 0.377 (0.171)	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	C:93% T:NA 1.14 ± 0.669 (1.24)	pCi/L		09/09/20 15:10	
		C:71% T:60%				

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92491455011</b>	<b>GWC-17</b>					
Total Radium Calculation	Total Radium	3.11 ± 1.05 (1.41)	pCi/L		09/10/20 13:24	
EPA 300.0 Rev 2.1 1993	Fluoride	0.51	mg/L	0.10	08/21/20 01:02	
<b>92491455012</b>	<b>GWC-20</b>					
	pH	5.89	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.30	mg/L	0.0050	08/21/20 20:11	
EPA 6020B	Barium	0.38	mg/L	0.010	08/21/20 20:11	
EPA 6020B	Chromium	0.0011J	mg/L	0.010	08/21/20 20:11	
EPA 6020B	Molybdenum	0.097	mg/L	0.010	08/21/20 20:11	
EPA 9315	Radium-226	3.09 ± 0.537 (0.138)	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	C:97% T:NA 3.77 ± 0.976 (0.980)	pCi/L		09/09/20 15:10	
		C:69% T:77%				
Total Radium Calculation	Total Radium	6.86 ± 1.51 (1.12)	pCi/L		09/10/20 13:24	
<b>92491455013</b>	<b>GWC-11</b>					
	pH	4.41	Std. Units		08/20/20 17:18	
EPA 6020B	Antimony	0.00064J	mg/L	0.0030	08/25/20 16:20	
EPA 6020B	Barium	0.12	mg/L	0.010	08/25/20 16:20	
EPA 6020B	Cadmium	0.00058J	mg/L	0.0025	08/25/20 16:20	
EPA 6020B	Chromium	0.0015J	mg/L	0.010	08/25/20 16:20	
EPA 6020B	Cobalt	0.00040J	mg/L	0.0050	08/25/20 16:20	
EPA 6020B	Lead	0.00035J	mg/L	0.0050	08/26/20 16:32	
EPA 6020B	Molybdenum	0.00077J	mg/L	0.010	08/25/20 16:20	
EPA 6020B	Selenium	0.0028J	mg/L	0.010	08/25/20 16:20	
EPA 6020B	Thallium	0.00021J	mg/L	0.0010	08/26/20 16:32	
EPA 9315	Radium-226	3.22 ± 0.562 (0.179)	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	C:89% T:NA 3.54 ± 1.00 (1.17)	pCi/L		09/09/20 15:10	
		C:58% T:80%				
Total Radium Calculation	Total Radium	6.76 ± 1.56 (1.35)	pCi/L		09/10/20 13:24	
<b>92491455014</b>	<b>GWC-22</b>					
	pH	4.52	Std. Units		08/20/20 17:18	
EPA 6020B	Antimony	0.0022J	mg/L	0.0030	08/25/20 16:43	
EPA 6020B	Barium	0.085	mg/L	0.010	08/25/20 16:43	
EPA 6020B	Beryllium	0.000076J	mg/L	0.0030	08/25/20 16:43	
EPA 6020B	Cadmium	0.00024J	mg/L	0.0025	08/25/20 16:43	
EPA 6020B	Chromium	0.00056J	mg/L	0.010	08/25/20 16:43	
EPA 6020B	Lead	0.00072J	mg/L	0.0050	08/26/20 16:49	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020

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Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491455014</b>	<b>GWC-22</b>					
EPA 6020B	Thallium	0.00017J	mg/L	0.0010	08/26/20 16:49	
EPA 9315	Radium-226	4.29 ± 0.717 (0.153) C:87% T:NA	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	3.36 ± 0.984 (1.23) C:68% T:68%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	7.65 ± 1.70 (1.38)	pCi/L		09/10/20 13:24	
<b>92491455015</b>	<b>EB-2-8-18-20</b>					
EPA 6020B	Antimony	0.00059J	mg/L	0.0030	08/25/20 16:48	
EPA 9315	Radium-226	0.0983 ± 0.0893 (0.156) C:82% T:NA	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	-0.000828 ± 0.364 (0.850) C:64% T:88%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	0.0983 ± 0.453 (1.01)	pCi/L		09/10/20 13:24	
<b>92491455016</b>	<b>DUP-2</b>					
EPA 6020B	Antimony	0.00062J	mg/L	0.0030	08/25/20 16:54	
EPA 6020B	Barium	0.083	mg/L	0.010	08/25/20 16:54	
EPA 6020B	Beryllium	0.000063J	mg/L	0.0030	08/25/20 16:54	
EPA 6020B	Cadmium	0.00019J	mg/L	0.0025	08/25/20 16:54	
EPA 6020B	Chromium	0.00070J	mg/L	0.010	08/25/20 16:54	
EPA 6020B	Lead	0.00066J	mg/L	0.0050	08/26/20 17:00	
EPA 9315	Radium-226	4.34 ± 0.723 (0.166) C:90% T:NA	pCi/L		09/02/20 17:59	
EPA 9320	Radium-228	5.03 ± 1.20 (0.992) C:68% T:75%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	9.37 ± 1.92 (1.16)	pCi/L		09/10/20 13:24	
<b>92491455017</b>	<b>FB-1-8-19-20</b>					
EPA 6020B	Antimony	0.0019J	mg/L	0.0030	08/27/20 15:43	
EPA 9315	Radium-226	0.0591 ± 0.0951 (0.185) C:94% T:NA	pCi/L		09/03/20 16:47	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020  
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Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92491455017</b>	<b>FB-1-8-19-20</b>					
EPA 9320	Radium-228	0.0611 ± 0.357 (0.819) C:66% T:80%	pCi/L		09/09/20 12:02	
Total Radium Calculation	Total Radium	0.120 ± 0.452 (1.00)	pCi/L		09/10/20 15:11	
<b>92491455018</b>	<b>FB-2-8-19-20</b>					
EPA 6020B	Antimony	0.00060J	mg/L	0.0030	08/27/20 15:48	
EPA 9315	Radium-226	-0.0223 ± 0.145 (0.305) C:87% T:NA	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	0.820 ± 0.441 (0.761) C:62% T:78%	pCi/L		09/09/20 12:02	
Total Radium Calculation	Total Radium	0.820 ± 0.586 (1.07)	pCi/L		09/10/20 15:11	
<b>92491455019</b>	<b>GWC-1</b>					
	pH	5.73	Std. Units		08/20/20 17:18	
EPA 6020B	Antimony	0.00061J	mg/L	0.0030	08/27/20 15:54	
EPA 6020B	Arsenic	0.0070	mg/L	0.0050	08/27/20 15:54	
EPA 6020B	Barium	0.057	mg/L	0.010	08/27/20 15:54	
EPA 6020B	Chromium	0.0028J	mg/L	0.010	08/27/20 15:54	
EPA 6020B	Molybdenum	0.061	mg/L	0.010	08/27/20 15:54	
EPA 6020B	Selenium	0.0020J	mg/L	0.010	08/27/20 15:54	
EPA 9315	Radium-226	1.08 ± 0.260 (0.235) C:87% T:NA	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	0.830 ± 0.488 (0.892) C:63% T:77%	pCi/L		09/09/20 12:02	
Total Radium Calculation	Total Radium	1.91 ± 0.748 (1.13)	pCi/L		09/10/20 15:11	
<b>92491455020</b>	<b>GWC-9</b>					
	pH	4.58	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.17	mg/L	0.010	08/27/20 16:00	
EPA 6020B	Beryllium	0.00022J	mg/L	0.0030	08/27/20 16:00	
EPA 6020B	Chromium	0.0013J	mg/L	0.010	08/27/20 16:00	
EPA 6020B	Cobalt	0.0011J	mg/L	0.0050	08/27/20 16:00	
EPA 6020B	Lead	0.000096J	mg/L	0.0050	08/27/20 16:00	
EPA 6020B	Lithium	0.0019J	mg/L	0.030	08/27/20 16:00	

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Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92491455020</b>	<b>GWC-9</b>					
EPA 9315	Radium-226	1.20 ± 0.267 (0.192)	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	C:90% T:NA 1.14 ± 0.521 (0.849)	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	C:59% T:83% 2.34 ± 0.788 (1.04)	pCi/L		09/10/20 15:11	
EPA 300.0 Rev 2.1 1993	Fluoride	0.092J	mg/L	0.10	08/21/20 23:45	
<b>92491455021</b>	<b>GWB-5R</b>					
	pH	5.14	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0019J	mg/L	0.0050	08/27/20 16:25	
EPA 6020B	Barium	0.10	mg/L	0.010	08/27/20 16:25	
EPA 6020B	Chromium	0.0012J	mg/L	0.010	08/27/20 16:25	
EPA 6020B	Lead	0.000079J	mg/L	0.0050	08/27/20 16:25	
EPA 9315	Radium-226	1.97 ± 0.388 (0.210)	pCi/L		09/03/20 16:47	
EPA 9320	Radium-228	C:82% T:NA 0.521 ± 0.444 (0.882)	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	C:65% T:73% 2.49 ± 0.832 (1.09)	pCi/L		09/10/20 15:11	
<b>92491455022</b>	<b>GWA-7</b>					
	pH	5.81	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0060J	mg/L	0.025	08/27/20 16:30	D3
EPA 6020B	Barium	0.10	mg/L	0.050	08/27/20 16:30	
EPA 6020B	Chromium	0.015J	mg/L	0.050	08/27/20 16:30	D3
EPA 6020B	Cobalt	0.0021J	mg/L	0.025	08/27/20 16:30	D3
EPA 6020B	Lead	0.0044J	mg/L	0.025	08/27/20 16:30	D3
EPA 9315	Radium-226	4.22 ± 1.13 (0.672)	pCi/L		09/10/20 15:09	
EPA 9320	Radium-228	C:90% T:NA 1.23 ± 0.583 (0.978)	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	C:66% T:89% 5.45 ± 1.71 (1.65)	pCi/L		09/11/20 13:22	
EPA 300.0 Rev 2.1 1993	Fluoride	0.21	mg/L	0.10	08/22/20 23:51	
<b>92491455023</b>	<b>GWB-4R</b>					
	pH	5.70	Std. Units		08/20/20 17:18	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491455023</b>	<b>GWB-4R</b>					
EPA 6020B	Arsenic	0.0033J	mg/L	0.0050	08/27/20 16:36	
EPA 6020B	Barium	0.076	mg/L	0.010	08/27/20 16:36	
EPA 6020B	Chromium	0.0022J	mg/L	0.010	08/27/20 16:36	
EPA 6020B	Cobalt	0.00072J	mg/L	0.0050	08/27/20 16:36	
EPA 6020B	Lead	0.00048J	mg/L	0.0050	08/27/20 16:36	
EPA 6020B	Lithium	0.014J	mg/L	0.030	08/27/20 16:36	
EPA 6020B	Molybdenum	0.16	mg/L	0.010	08/27/20 16:36	
EPA 9315	Radium-226	1.89 ± 0.368 (0.222)	pCi/L		09/03/20 18:44	
EPA 9320	Radium-228	C:94% T:NA 1.21 ± 0.552 (0.915) C:67% T:77%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	3.10 ± 0.920 (1.14)	pCi/L		09/10/20 15:11	
EPA 300.0 Rev 2.1 1993	Fluoride	0.17	mg/L	0.10	08/23/20 00:06	
<b>92491455024</b>	<b>GWB-6R</b>					
	pH	5.21	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0036J	mg/L	0.0050	08/27/20 16:42	
EPA 6020B	Barium	0.064	mg/L	0.010	08/27/20 16:42	
EPA 6020B	Beryllium	0.000050J	mg/L	0.0030	08/27/20 16:42	
EPA 6020B	Chromium	0.0037J	mg/L	0.010	08/27/20 16:42	
EPA 6020B	Lead	0.00014J	mg/L	0.0050	08/27/20 16:42	
EPA 6020B	Molybdenum	0.0010J	mg/L	0.010	08/27/20 16:42	
EPA 9315	Radium-226	3.78 ± 0.640 (0.184)	pCi/L		09/03/20 18:45	
EPA 9320	Radium-228	C:88% T:NA 0.754 ± 0.462 (0.836) C:61% T:79%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	4.53 ± 1.10 (1.02)	pCi/L		09/10/20 15:11	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: DUP-1		Lab ID: 92491455001		Collected: 08/17/20 00:00		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 18:57	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 18:57	7440-38-2	
Barium	<b>0.023</b>	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 18:57	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 18:57	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 18:57	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 18:57	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 18:57	7440-48-4	
Lead	<b>0.000073J</b>	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 18:57	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 18:57	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 18:57	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 18:57	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 18:57	7440-28-0	
<b>7470 Mercury</b>		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:08	7439-97-6	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 21:54	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: EB-1-8-18-20		Lab ID: 92491455002		Collected: 08/18/20 00:00		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:02	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:02	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:02	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:02	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:02	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:02	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:02	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:02	7440-28-0	
<b>7470 Mercury</b>		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA							
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:10	7439-97-6	
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 22:07	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWA-8		Lab ID: 92491455003		Collected: 08/17/20 14:59		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.23	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:08	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:08	7440-38-2	
Barium	0.051	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:08	7440-39-3	
Beryllium	0.00019J	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:08	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:08	7440-43-9	
Chromium	0.00082J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:08	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:08	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:08	7439-92-1	
Lithium	0.0010J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:08	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:08	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:08	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:08	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:13	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	0.079J	mg/L	0.10	0.050	1		08/20/20 22:47	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-13**      **Lab ID: 92491455004**      Collected: 08/17/20 16:16      Received: 08/19/20 12:45      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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**Field Data**

Analytical Method:  
Pace Analytical Services - Charlotte

pH	4.65	Std. Units			1		08/20/20 17:18		
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**6020 MET ICPMS**

Analytical Method: EPA 6020B      Preparation Method: EPA 3005A  
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:14	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:14	7440-38-2	
Barium	0.024	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:14	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:14	7440-43-9	
Chromium	0.00077J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:14	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:14	7440-48-4	
Lead	0.000076J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:14	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:14	7440-28-0	

**7470 Mercury**

Analytical Method: EPA 7470A      Preparation Method: EPA 7470A  
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:15	7439-97-6	
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**300.0 IC Anions 28 Days**

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

Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:01	16984-48-8	
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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-12		Lab ID: 92491455005		Collected: 08/17/20 17:25		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	3.94	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:20	7440-38-2	
Barium	0.018	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:20	7440-39-3	
Beryllium	0.00046J	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:20	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:20	7440-43-9	
Chromium	0.0010J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:20	7440-47-3	
Cobalt	0.00060J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:20	7440-48-4	
Lead	0.000049J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:20	7439-92-1	
Lithium	0.00091J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:20	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:20	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:17	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	0.19	mg/L	0.10	0.050	1		08/20/20 23:14	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWC-16		Lab ID: 92491455006		Collected: 08/18/20 09:32		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.52	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:25	7440-36-0	
Arsenic	0.045	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:25	7440-38-2	
Barium	0.32	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:25	7440-39-3	
Beryllium	0.000068J	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:25	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:25	7440-43-9	
Chromium	0.0012J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:25	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:25	7440-48-4	
Lead	0.00017J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:25	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:25	7439-93-2	
Molybdenum	0.15	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:25	7439-98-7	
Selenium	0.0058J	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:25	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:25	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:28	16984-48-8	

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-21		Lab ID: 92491455007		Collected: 08/18/20 10:58		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.82	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:31	7440-36-0	
Arsenic	0.0059	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:31	7440-38-2	
Barium	0.18	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:31	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:31	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:31	7440-43-9	
Chromium	0.0012J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:31	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:31	7440-48-4	
Lead	0.00027J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:31	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:31	7439-93-2	
Molybdenum	0.069	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:31	7439-98-7	
Selenium	0.013	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:31	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:31	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:27	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:41	16984-48-8	

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-15**      **Lab ID: 92491455008**      Collected: 08/18/20 12:56      Received: 08/19/20 12:45      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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**Field Data**

Analytical Method:  
Pace Analytical Services - Charlotte

pH	<b>6.39</b>	Std. Units			1		08/20/20 17:18		
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**6020 MET ICPMS**

Analytical Method: EPA 6020B      Preparation Method: EPA 3005A  
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:48	7440-36-0	
Arsenic	<b>0.28</b>	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:48	7440-38-2	
Barium	<b>0.030</b>	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:48	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:48	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:48	7440-43-9	
Chromium	<b>0.0018J</b>	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:48	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:48	7440-48-4	
Lead	<b>0.000090J</b>	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:48	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:48	7439-93-2	
Molybdenum	<b>0.12</b>	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:48	7439-98-7	
Selenium	<b>0.0022J</b>	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:48	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:48	7440-28-0	

**7470 Mercury**

Analytical Method: EPA 7470A      Preparation Method: EPA 7470A  
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:29	7439-97-6	
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**300.0 IC Anions 28 Days**

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

Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:55	16984-48-8	
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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>GWC-14</b>		Lab ID: <b>92491455009</b>		Collected: 08/18/20 14:24	Received: 08/19/20 12:45	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>5.56</b>	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:54	7440-36-0	
Arsenic	<b>0.0012J</b>	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:54	7440-38-2	
Barium	<b>0.028</b>	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 19:54	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 19:54	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 19:54	7440-43-9	
Chromium	<b>0.00059J</b>	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 19:54	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 19:54	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:54	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:54	7439-93-2	
Molybdenum	<b>0.017</b>	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:54	7439-98-7	
Selenium	<b>0.0029J</b>	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:54	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:32	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 00:35	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-2		Lab ID: 92491455010		Collected: 08/18/20 15:23		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.60	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 20:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 20:00	7440-38-2	
Barium	0.050	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 20:00	7440-39-3	
Beryllium	0.000051J	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 20:00	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 20:00	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 20:00	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 20:00	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 20:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 20:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 20:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 20:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 20:00	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:34	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 00:49	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWC-17		Lab ID: 92491455011		Collected: 08/18/20 14:50		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.31	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 20:05	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 20:05	7440-38-2	
Barium	0.074	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 20:05	7440-39-3	
Beryllium	0.0016J	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 20:05	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 20:05	7440-43-9	
Chromium	0.0011J	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 20:05	7440-47-3	
Cobalt	0.0025J	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 20:05	7440-48-4	
Lead	0.00014J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 20:05	7439-92-1	
Lithium	0.0065J	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 20:05	7439-93-2	
Molybdenum	0.00092J	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 20:05	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 20:05	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 20:05	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:36	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	0.51	mg/L	0.10	0.050	1		08/21/20 01:02	16984-48-8	

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: <b>GWC-20</b>		Lab ID: <b>92491455012</b>		Collected: 08/18/20 16:36	Received: 08/19/20 12:45	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>5.89</b>	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 20:11	7440-36-0	
Arsenic	<b>0.30</b>	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 20:11	7440-38-2	
Barium	<b>0.38</b>	mg/L	0.010	0.00071	1	08/20/20 14:56	08/21/20 20:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/20/20 14:56	08/21/20 20:11	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/20/20 14:56	08/21/20 20:11	7440-43-9	
Chromium	<b>0.0011J</b>	mg/L	0.010	0.00055	1	08/20/20 14:56	08/21/20 20:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/20/20 14:56	08/21/20 20:11	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 20:11	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 20:11	7439-93-2	
Molybdenum	<b>0.097</b>	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 20:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 20:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 20:11	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:39	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 01:43	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWC-11		Lab ID: 92491455013		Collected: 08/18/20 10:45		Received: 08/19/20 12:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.41	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.00064J	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 16:20	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 16:20	7440-38-2	
Barium	0.12	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 16:20	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 16:20	7440-41-7	
Cadmium	0.00058J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 16:20	7440-43-9	
Chromium	0.0015J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 16:20	7440-47-3	
Cobalt	0.00040J	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 16:20	7440-48-4	
Lead	0.00035J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 16:32	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 16:20	7439-93-2	
Molybdenum	0.00077J	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 16:20	7439-98-7	
Selenium	0.0028J	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 16:20	7782-49-2	
Thallium	0.00021J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 16:32	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:38	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 02:23	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>GWC-22</b>		Lab ID: <b>92491455014</b>		Collected: 08/18/20 14:30	Received: 08/19/20 12:45	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>4.52</b>	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.0022J</b>	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 16:43	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 16:43	7440-38-2	
Barium	<b>0.085</b>	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 16:43	7440-39-3	
Beryllium	<b>0.000076J</b>	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 16:43	7440-41-7	
Cadmium	<b>0.00024J</b>	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 16:43	7440-43-9	
Chromium	<b>0.00056J</b>	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 16:43	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 16:43	7440-48-4	
Lead	<b>0.00072J</b>	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 16:49	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 16:43	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 16:43	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 16:43	7782-49-2	
Thallium	<b>0.00017J</b>	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 16:49	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:40	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 02:37	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>EB-2-8-18-20</b> Lab ID: <b>92491455015</b> Collected: 08/18/20 16:50      Received: 08/19/20 12:45      Matrix: Water										
Parameters	Results	Units	Report Limit		MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>										
Analytical Method: EPA 6020B    Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA										
Antimony	<b>0.00059J</b>	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 16:48	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 16:48	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 16:48	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 16:48	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 16:48	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 16:48	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 16:48	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 16:55	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 16:48	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 16:48	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 16:48	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 16:55	7440-28-0		
<b>7470 Mercury</b>										
Analytical Method: EPA 7470A    Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA										
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:47	7439-97-6		
<b>300.0 IC Anions 28 Days</b>										
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville										
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 03:17	16984-48-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: DUP-2		Lab ID: 92491455016		Collected: 08/18/20 00:00	Received: 08/19/20 12:45	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	0.00062J	mg/L	0.0030	0.00028	1	08/24/20 15:05	08/25/20 16:54	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:05	08/25/20 16:54	7440-38-2		
Barium	0.083	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 16:54	7440-39-3		
Beryllium	0.000063J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 16:54	7440-41-7		
Cadmium	0.00019J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 16:54	7440-43-9		
Chromium	0.00070J	mg/L	0.010	0.00055	1	08/24/20 15:05	08/25/20 16:54	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:05	08/25/20 16:54	7440-48-4		
Lead	0.00066J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 17:00	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 16:54	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:05	08/25/20 16:54	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:05	08/25/20 16:54	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 17:00	7440-28-0		
<b>7470 Mercury</b>		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA								
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:50	7439-97-6		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 03:31	16984-48-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>FB-1-8-19-20</b> Lab ID: <b>92491455017</b> Collected: 08/19/20 10:30      Received: 08/20/20 12:20      Matrix: Water										
Parameters	Results	Units	Report Limit		MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>										
Analytical Method: EPA 6020B    Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA										
Antimony	<b>0.0019J</b>	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 15:43	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 15:43	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 15:43	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 15:43	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 15:43	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 15:43	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 15:43	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 15:43	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 15:43	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 15:43	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 15:43	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 15:43	7440-28-0		
<b>7470 Mercury</b>										
Analytical Method: EPA 7470A    Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA										
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:02	7439-97-6		
<b>300.0 IC Anions 28 Days</b>										
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville										
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:05	16984-48-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: <b>FB-2-8-19-20</b> Lab ID: <b>92491455018</b> Collected: 08/19/20 09:00      Received: 08/20/20 12:20      Matrix: Water										
Parameters	Results	Units	Report Limit		MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>										
Analytical Method: EPA 6020B    Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA										
Antimony	<b>0.00060J</b>	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 15:48	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 15:48	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 15:48	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 15:48	7440-41-7		
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 15:48	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 15:48	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 15:48	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 15:48	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 15:48	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 15:48	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 15:48	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 15:48	7440-28-0		
<b>7470 Mercury</b>										
Analytical Method: EPA 7470A    Preparation Method: EPA 7470A Pace Analytical Services - Peachtree Corners, GA										
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:04	7439-97-6		
<b>300.0 IC Anions 28 Days</b>										
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville										
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:18	16984-48-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWC-1		Lab ID: 92491455019		Collected: 08/19/20 09:35		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.73	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	0.00061J	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 15:54	7440-36-0	
Arsenic	0.0070	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 15:54	7440-38-2	
Barium	0.057	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 15:54	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 15:54	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 15:54	7440-43-9	
Chromium	0.0028J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 15:54	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 15:54	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 15:54	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 15:54	7439-93-2	
Molybdenum	0.061	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 15:54	7439-98-7	
Selenium	0.0020J	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 15:54	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 15:54	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:06	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:32	16984-48-8	

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-9**      **Lab ID: 92491455020**      Collected: 08/19/20 09:20      Received: 08/20/20 12:20      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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**Field Data**

Analytical Method:  
Pace Analytical Services - Charlotte

pH	4.58	Std. Units			1		08/20/20 17:18		
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**6020 MET ICPMS**

Analytical Method: EPA 6020B      Preparation Method: EPA 3005A  
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:00	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:00	7440-38-2	
Barium	0.17	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:00	7440-39-3	
Beryllium	0.00022J	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:00	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:00	7440-43-9	
Chromium	0.0013J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:00	7440-47-3	
Cobalt	0.0011J	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:00	7440-48-4	
Lead	0.000096J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:00	7439-92-1	
Lithium	0.0019J	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:00	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:00	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:00	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:00	7440-28-0	

**7470 Mercury**

Analytical Method: EPA 7470A      Preparation Method: EPA 7470A  
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:09	7439-97-6	
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**300.0 IC Anions 28 Days**

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

Fluoride	0.092J	mg/L	0.10	0.050	1		08/21/20 23:45	16984-48-8	
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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>GWB-5R</b>		Lab ID: <b>92491455021</b>		Collected: 08/19/20 11:58		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>5.14</b>	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:25	7440-36-0	
Arsenic	<b>0.0019J</b>	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:25	7440-38-2	
Barium	<b>0.10</b>	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:25	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:25	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:25	7440-43-9	
Chromium	<b>0.0012J</b>	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:25	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:25	7440-48-4	
Lead	<b>0.000079J</b>	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:25	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:25	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:16	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:59	16984-48-8	

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: GWA-7		Lab ID: 92491455022		Collected: 08/19/20 10:30		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.81	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.015	0.0014	5	08/24/20 15:10	08/27/20 16:30	7440-36-0	D3
Arsenic	0.0060J	mg/L	0.025	0.0039	5	08/24/20 15:10	08/27/20 16:30	7440-38-2	D3
Barium	0.10	mg/L	0.050	0.0036	5	08/24/20 15:10	08/27/20 16:30	7440-39-3	
Beryllium	ND	mg/L	0.015	0.00023	5	08/24/20 15:10	08/27/20 16:30	7440-41-7	D3
Cadmium	ND	mg/L	0.012	0.00059	5	08/24/20 15:10	08/27/20 16:30	7440-43-9	D3
Chromium	0.015J	mg/L	0.050	0.0028	5	08/24/20 15:10	08/27/20 16:30	7440-47-3	D3
Cobalt	0.0021J	mg/L	0.025	0.0019	5	08/24/20 15:10	08/27/20 16:30	7440-48-4	D3
Lead	0.0044J	mg/L	0.025	0.00018	5	08/24/20 15:10	08/27/20 16:30	7439-92-1	D3
Lithium	ND	mg/L	0.15	0.0040	5	08/24/20 15:10	08/27/20 16:30	7439-93-2	D3
Molybdenum	ND	mg/L	0.050	0.0034	5	08/24/20 15:10	08/27/20 16:30	7439-98-7	D3
Selenium	ND	mg/L	0.050	0.0078	5	08/24/20 15:10	08/27/20 16:30	7782-49-2	D3
Thallium	ND	mg/L	0.0050	0.00072	5	08/24/20 15:10	08/27/20 16:30	7440-28-0	D3
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:18	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	0.21	mg/L	0.10	0.050	1		08/22/20 23:51	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Sample: <b>GWB-4R</b>		Lab ID: <b>92491455023</b>		Collected: 08/19/20 11:45		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>5.70</b>	Std. Units			1		08/20/20 17:18		
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:36	7440-36-0	
Arsenic	<b>0.0033J</b>	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:36	7440-38-2	
Barium	<b>0.076</b>	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:36	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:36	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:36	7440-43-9	
Chromium	<b>0.0022J</b>	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:36	7440-47-3	
Cobalt	<b>0.00072J</b>	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:36	7440-48-4	
Lead	<b>0.00048J</b>	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:36	7439-92-1	
Lithium	<b>0.014J</b>	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:36	7439-93-2	
Molybdenum	<b>0.16</b>	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:36	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:36	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:36	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:20	7439-97-6	
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Fluoride	<b>0.17</b>	mg/L	0.10	0.050	1		08/23/20 00:06	16984-48-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWB-6R**      **Lab ID: 92491455024**      Collected: 08/19/20 14:00      Received: 08/20/20 12:20      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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**Field Data**

Analytical Method:  
Pace Analytical Services - Charlotte

pH	<b>5.21</b>	Std. Units			1		08/20/20 17:18		
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**6020 MET ICPMS**

Analytical Method: EPA 6020B      Preparation Method: EPA 3005A  
Pace Analytical Services - Peachtree Corners, GA

Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:42	7440-36-0	
Arsenic	<b>0.0036J</b>	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:42	7440-38-2	
Barium	<b>0.064</b>	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:42	7440-39-3	
Beryllium	<b>0.000050J</b>	mg/L	0.0030	0.000046	1	08/24/20 15:10	08/27/20 16:42	7440-41-7	
Cadmium	ND	mg/L	0.0025	0.00012	1	08/24/20 15:10	08/27/20 16:42	7440-43-9	
Chromium	<b>0.0037J</b>	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:42	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:42	7440-48-4	
Lead	<b>0.00014J</b>	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:42	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:42	7439-93-2	
Molybdenum	<b>0.0010J</b>	mg/L	0.010	0.00069	1	08/24/20 15:10	08/27/20 16:42	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	08/24/20 15:10	08/27/20 16:42	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:42	7440-28-0	

**7470 Mercury**

Analytical Method: EPA 7470A      Preparation Method: EPA 7470A  
Pace Analytical Services - Peachtree Corners, GA

Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:23	7439-97-6	
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**300.0 IC Anions 28 Days**

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

Fluoride	ND	mg/L	0.10	0.050	1		08/23/20 00:21	16984-48-8	
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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

QC Batch: 561324 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011, 92491455012

METHOD BLANK: 2977587 Matrix: Water  
Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011, 92491455012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/21/20 17:31	
Arsenic	mg/L	ND	0.0050	0.00078	08/21/20 17:31	
Barium	mg/L	ND	0.010	0.00071	08/21/20 17:31	
Beryllium	mg/L	ND	0.0030	0.000046	08/21/20 17:31	
Cadmium	mg/L	ND	0.0025	0.00012	08/21/20 17:31	
Chromium	mg/L	ND	0.010	0.00055	08/21/20 17:31	
Cobalt	mg/L	ND	0.0050	0.00038	08/21/20 17:31	
Lead	mg/L	ND	0.0050	0.000036	08/21/20 17:31	
Lithium	mg/L	ND	0.030	0.00081	08/21/20 17:31	
Molybdenum	mg/L	ND	0.010	0.00069	08/21/20 17:31	
Selenium	mg/L	ND	0.010	0.0016	08/21/20 17:31	
Thallium	mg/L	ND	0.0010	0.00014	08/21/20 17:31	

LABORATORY CONTROL SAMPLE: 2977588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	103	80-120	
Arsenic	mg/L	0.1	0.094	94	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.097	97	80-120	
Cadmium	mg/L	0.1	0.10	100	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.096	96	80-120	
Selenium	mg/L	0.1	0.095	95	80-120	
Thallium	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977589 2977590

Parameter	Units	92491389001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Antimony	mg/L	ND	0.1	0.1	0.1	0.11	106	105	75-125	1	20	
Arsenic	mg/L	ND	0.1	0.1	0.094	0.095	94	95	75-125	2	20	
Barium	mg/L	0.022	0.1	0.1	0.13	0.12	108	96	75-125	9	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Parameter	Units	2977589		2977590		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92491389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Beryllium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20		
Cadmium	mg/L	ND	0.1	0.1	0.097	0.10	97	100	75-125	3	20		
Chromium	mg/L	0.0069J	0.1	0.1	0.11	0.11	102	101	75-125	1	20		
Cobalt	mg/L	0.00048J	0.1	0.1	0.10	0.099	99	99	75-125	1	20		
Lead	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	1	20		
Lithium	mg/L	0.00095J	0.1	0.1	0.098	0.098	97	97	75-125	0	20		
Molybdenum	mg/L	0.0015J	0.1	0.1	0.10	0.10	99	101	75-125	2	20		
Selenium	mg/L	ND	0.1	0.1	0.095	0.091	94	90	75-125	4	20		
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20		

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

QC Batch: 561963 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92491455013, 92491455014, 92491455015, 92491455016

METHOD BLANK: 2980652 Matrix: Water  
Associated Lab Samples: 92491455013, 92491455014, 92491455015, 92491455016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/25/20 16:08	
Arsenic	mg/L	ND	0.0050	0.00078	08/25/20 16:08	
Barium	mg/L	ND	0.010	0.00071	08/25/20 16:08	
Beryllium	mg/L	ND	0.0030	0.000046	08/25/20 16:08	
Cadmium	mg/L	ND	0.0025	0.00012	08/25/20 16:08	
Chromium	mg/L	ND	0.010	0.00055	08/25/20 16:08	
Cobalt	mg/L	ND	0.0050	0.00038	08/25/20 16:08	
Lead	mg/L	ND	0.0050	0.000036	08/26/20 16:20	
Lithium	mg/L	ND	0.030	0.00081	08/25/20 16:08	
Molybdenum	mg/L	ND	0.010	0.00069	08/25/20 16:08	
Selenium	mg/L	ND	0.010	0.0016	08/25/20 16:08	
Thallium	mg/L	ND	0.0010	0.00014	08/26/20 16:20	

LABORATORY CONTROL SAMPLE: 2980653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.097	97	80-120	
Beryllium	mg/L	0.1	0.098	98	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.10	100	80-120	
Lithium	mg/L	0.1	0.098	98	80-120	
Molybdenum	mg/L	0.1	0.097	97	80-120	
Selenium	mg/L	0.1	0.098	98	80-120	
Thallium	mg/L	0.1	0.10	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980654 2980655

Parameter	Units	2980654		2980655		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Antimony	mg/L	0.00064J	0.1	0.1	0.10	0.10	101	99	75-125	2	20	
Arsenic	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Barium	mg/L	0.12	0.1	0.1	0.24	0.23	115	114	75-125	0	20	
Beryllium	mg/L	ND	0.1	0.1	0.098	0.099	98	99	75-125	0	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Parameter	Units	2980654		2980655		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92491455013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Cadmium	mg/L	0.00058J	0.1	0.1	0.096	0.096	95	95	75-125	0	20	
Chromium	mg/L	0.0015J	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	0.00040J	0.1	0.1	0.10	0.10	99	99	75-125	0	20	
Lead	mg/L	0.00035J	0.1	0.1	0.094	0.093	94	93	75-125	1	20	
Lithium	mg/L	ND	0.1	0.1	0.096	0.098	96	97	75-125	1	20	
Molybdenum	mg/L	0.00077J	0.1	0.1	0.10	0.10	102	99	75-125	2	20	
Selenium	mg/L	0.0028J	0.1	0.1	0.10	0.10	99	99	75-125	0	20	
Thallium	mg/L	0.00021J	0.1	0.1	0.094	0.093	94	93	75-125	1	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

QC Batch: 561964 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023, 92491455024

METHOD BLANK: 2980659 Matrix: Water  
Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023, 92491455024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	08/27/20 15:08	
Arsenic	mg/L	ND	0.0050	0.00078	08/27/20 15:08	
Barium	mg/L	ND	0.010	0.00071	08/27/20 15:08	
Beryllium	mg/L	ND	0.0030	0.000046	08/27/20 15:08	
Cadmium	mg/L	ND	0.0025	0.00012	08/27/20 15:08	
Chromium	mg/L	ND	0.010	0.00055	08/27/20 15:08	
Cobalt	mg/L	ND	0.0050	0.00038	08/27/20 15:08	
Lead	mg/L	ND	0.0050	0.000036	08/27/20 15:08	
Lithium	mg/L	ND	0.030	0.00081	08/27/20 15:08	
Molybdenum	mg/L	ND	0.010	0.00069	08/27/20 15:08	
Selenium	mg/L	ND	0.010	0.0016	08/27/20 15:08	
Thallium	mg/L	ND	0.0010	0.00014	08/27/20 15:08	

LABORATORY CONTROL SAMPLE: 2980660

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	0.097	97	80-120	
Barium	mg/L	0.1	0.099	99	80-120	
Beryllium	mg/L	0.1	0.099	99	80-120	
Cadmium	mg/L	0.1	0.099	99	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.10	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	0.099	99	80-120	
Selenium	mg/L	0.1	0.096	96	80-120	
Thallium	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980661 2980662

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Spike Conc.	Result	Result								
Antimony	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20		
Arsenic	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20		
Barium	mg/L	0.047	0.1	0.1	0.14	0.14	98	97	75-125	0	20		

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Parameter	Units	2980661		2980662		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92491663009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Beryllium	mg/L	ND	0.1	0.1	0.097	0.096	97	96	75-125	1	20		
Cadmium	mg/L	ND	0.1	0.1	0.10	0.098	100	98	75-125	2	20		
Chromium	mg/L	0.012	0.1	0.1	0.12	0.11	106	102	75-125	4	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.10	103	102	75-125	1	20		
Lead	mg/L	ND	0.1	0.1	0.10	0.10	100	100	75-125	0	20		
Lithium	mg/L	0.0010J	0.1	0.1	0.10	0.099	98	98	75-125	0	20		
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	103	100	75-125	2	20		
Selenium	mg/L	0.0030J	0.1	0.1	0.10	0.10	99	102	75-125	3	20		
Thallium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20		

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch:	561377	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011, 92491455012

METHOD BLANK: 2977870 Matrix: Water

Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011, 92491455012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/21/20 12:32	

LABORATORY CONTROL SAMPLE: 2977871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0027	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977872 2977873

Parameter	Units	92491389001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0026	0.0026	104	106	75-125	2	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch:	561894	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92491455013, 92491455014, 92491455015, 92491455016, 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023, 92491455024

METHOD BLANK: 2980088 Matrix: Water

Associated Lab Samples: 92491455013, 92491455014, 92491455015, 92491455016, 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023, 92491455024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.000078	08/25/20 08:19	

LABORATORY CONTROL SAMPLE: 2980089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0026	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980090 2980091

Parameter	Units	92491616002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	0.0025	0.0025	0.0023	0.0026	90	102	75-125	12	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

QC Batch: 561236 Analysis Method: EPA 300.0 Rev 2.1 1993  
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011

METHOD BLANK: 2977010 Matrix: Water  
Associated Lab Samples: 92491455001, 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/20/20 16:29	

LABORATORY CONTROL SAMPLE: 2977011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977012 2977013

Parameter	Units	92490037006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.055J	2.5	2.5	2.7	2.4	107	94	90-110	12	10	R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977014 2977015

Parameter	Units	92491455002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	ND	2.5	2.5	2.4	2.3	95	92	90-110	4	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 561238 Analysis Method: EPA 300.0 Rev 2.1 1993  
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92491455012, 92491455013, 92491455014, 92491455015, 92491455016

METHOD BLANK: 2977016 Matrix: Water  
 Associated Lab Samples: 92491455012, 92491455013, 92491455014, 92491455015, 92491455016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/21/20 01:16	

LABORATORY CONTROL SAMPLE: 2977017

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977018 2977019

Parameter	Units	92491455012		2977018		2977019		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	98	99	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977020 2977021

Parameter	Units	92490037060		2977020		2977021		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	97	100	90-110	3	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 561506 Analysis Method: EPA 300.0 Rev 2.1 1993  
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021

METHOD BLANK: 2978310 Matrix: Water  
 Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/21/20 17:28	

LABORATORY CONTROL SAMPLE: 2978311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2978312 2978313

Parameter	Units	2978312		2978313		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92491393004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Fluoride	mg/L	0.17	2.5	2.5	3.0	3.0	112	112	90-110	0	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2978314 2978315

Parameter	Units	2978314		2978315		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92491663005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Fluoride	mg/L	0.060J	2.5	2.5	2.7	2.7	105	106	90-110	1	10

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch:	561764	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92491455022, 92491455023, 92491455024

METHOD BLANK: 2979652 Matrix: Water

Associated Lab Samples: 92491455022, 92491455023, 92491455024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	0.050	08/22/20 16:53	

LABORATORY CONTROL SAMPLE: 2979653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.7	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2979654 2979655

Parameter	Units	92491912001		2979654		2979655		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	106	108	90-110	2	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2979656 2979657

Parameter	Units	92491692001		2979656		2979657		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	107	109	90-110	2	10

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: DUP-1**      **Lab ID: 92491455001**      Collected: 08/17/20 00:00      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.475 ± 0.356 (0.629)</b> <b>C:87% T:NA</b>	pCi/L	09/02/20 07:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.401 ± 0.482 (1.01)</b> <b>C:62% T:77%</b>	pCi/L	09/09/20 13:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.876 ± 0.838 (1.64)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: EB-1-8-18-20**      **Lab ID: 92491455002**      Collected: 08/18/20 00:00      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.181 ± 0.115 (0.185)</b> <b>C:86% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.645 ± 0.510 (1.01)</b> <b>C:65% T:81%</b>	pCi/L	09/09/20 13:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.826 ± 0.625 (1.20)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWA-8**      **Lab ID: 92491455003**      Collected: 08/17/20 14:59      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>1.64 ± 0.340 (0.198)</b> <b>C:81% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.987 ± 0.488 (0.830)</b> <b>C:63% T:79%</b>	pCi/L	09/09/20 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>2.63 ± 0.828 (1.03)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-13**      **Lab ID: 92491455004**      Collected: 08/17/20 16:16      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.429 ± 0.150 (0.162)</b> <b>C:83% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.986 ± 0.510 (0.897)</b> <b>C:68% T:80%</b>	pCi/L	09/09/20 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.42 ± 0.660 (1.06)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-12**      **Lab ID: 92491455005**      Collected: 08/17/20 17:25      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.630 ± 0.176 (0.152)</b> <b>C:88% T:NA</b>	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.62 ± 0.620 (0.917)</b> <b>C:70% T:70%</b>	pCi/L	09/09/20 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.25 ± 0.796 (1.07)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-16**      **Lab ID: 92491455006**      Collected: 08/18/20 09:32      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>2.61 ± 0.460 (0.136)</b> <b>C:101% T:NA</b>	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.63 ± 0.625 (0.970)</b> <b>C:69% T:82%</b>	pCi/L	09/09/20 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>4.24 ± 1.09 (1.11)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-21**      **Lab ID: 92491455007**      Collected: 08/18/20 10:58      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.89 ± 0.372 (0.243)</b> <b>C:96% T:NA</b>	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.38 ± 0.583 (0.956)</b> <b>C:69% T:81%</b>	pCi/L	09/09/20 15:09	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.27 ± 0.955 (1.20)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-15**      **Lab ID: 92491455008**      Collected: 08/18/20 12:56      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.285 ± 0.129 (0.182)</b> <b>C:94% T:NA</b>	pCi/L	09/02/20 18:00	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>1.55 ± 0.588 (0.892)</b> <b>C:66% T:87%</b>	pCi/L	09/09/20 15:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.84 ± 0.717 (1.07)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-14**      **Lab ID: 92491455009**      Collected: 08/18/20 14:24      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.388 ± 0.152 (0.201)</b> <b>C:84% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.343 ± 0.564 (1.23)</b> <b>C:69% T:66%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.731 ± 0.716 (1.43)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-2**      **Lab ID: 92491455010**      Collected: 08/18/20 15:23      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.377 ± 0.150 (0.200)</b> <b>C:86% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.709 ± 0.486 (0.941)</b> <b>C:71% T:79%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.09 ± 0.636 (1.14)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-17**      **Lab ID: 92491455011**      Collected: 08/18/20 14:50      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.97 ± 0.377 (0.171)</b> <b>C:93% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.14 ± 0.669 (1.24)</b> <b>C:71% T:60%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.11 ± 1.05 (1.41)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-20**      **Lab ID: 92491455012**      Collected: 08/18/20 16:36      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.09 ± 0.537 (0.138)</b> <b>C:97% T:NA</b>	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>3.77 ± 0.976 (0.980)</b> <b>C:69% T:77%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>6.86 ± 1.51 (1.12)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-11**      **Lab ID: 92491455013**      Collected: 08/18/20 10:45      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.22 ± 0.562 (0.179)</b> <b>C:89% T:NA</b>	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>3.54 ± 1.00 (1.17)</b> <b>C:58% T:80%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>6.76 ± 1.56 (1.35)</b>	pCi/L	09/10/20 13:24	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: GWC-22</b> <b>Lab ID: 92491455014</b> Collected: 08/18/20 14:30      Received: 08/19/20 12:45      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>4.29 ± 0.717 (0.153)</b> <b>C:87% T:NA</b>	pCi/L	09/02/20 17:59	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>3.36 ± 0.984 (1.23)</b> <b>C:68% T:68%</b>	pCi/L	09/09/20 15:10	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>7.65 ± 1.70 (1.38)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: EB-2-8-18-20</b> <b>Lab ID: 92491455015</b> Collected: 08/18/20 16:50      Received: 08/19/20 12:45      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0983 ± 0.0893 (0.156)</b> <b>C:82% T:NA</b>	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>-0.000828 ± 0.364 (0.850)</b> <b>C:64% T:88%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.0983 ± 0.453 (1.01)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: DUP-2**      **Lab ID: 92491455016**      Collected: 08/18/20 00:00      Received: 08/19/20 12:45      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>4.34 ± 0.723 (0.166)</b> <b>C:90% T:NA</b>	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>5.03 ± 1.20 (0.992)</b> <b>C:68% T:75%</b>	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>9.37 ± 1.92 (1.16)</b>	pCi/L	09/10/20 13:24	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: FB-1-8-19-20**      **Lab ID: 92491455017**      Collected: 08/19/20 10:30      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0591 ± 0.0951 (0.185)</b> <b>C:94% T:NA</b>	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.0611 ± 0.357 (0.819)</b> <b>C:66% T:80%</b>	pCi/L	09/09/20 12:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.120 ± 0.452 (1.00)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: FB-2-8-19-20**      **Lab ID: 92491455018**      Collected: 08/19/20 09:00      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>-0.0223 ± 0.145 (0.305)</b> <b>C:87% T:NA</b>	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.820 ± 0.441 (0.761)</b> <b>C:62% T:78%</b>	pCi/L	09/09/20 12:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.820 ± 0.586 (1.07)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-1**      **Lab ID: 92491455019**      Collected: 08/19/20 09:35      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.08 ± 0.260 (0.235)</b> <b>C:87% T:NA</b>	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.830 ± 0.488 (0.892)</b> <b>C:63% T:77%</b>	pCi/L	09/09/20 12:02	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.91 ± 0.748 (1.13)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWC-9**      **Lab ID: 92491455020**      Collected: 08/19/20 09:20      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.20 ± 0.267 (0.192)</b> <b>C:90% T:NA</b>	pCi/L	09/03/20 16:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.14 ± 0.521 (0.849)</b> <b>C:59% T:83%</b>	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.34 ± 0.788 (1.04)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWB-5R**      **Lab ID: 92491455021**      Collected: 08/19/20 11:58      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>1.97 ± 0.388 (0.210)</b> <b>C:82% T:NA</b>	pCi/L	09/03/20 16:47	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.521 ± 0.444 (0.882)</b> <b>C:65% T:73%</b>	pCi/L	09/09/20 15:08	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>2.49 ± 0.832 (1.09)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWA-7**      **Lab ID: 92491455022**      Collected: 08/19/20 10:30      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>4.22 ± 1.13 (0.672)</b> <b>C:90% T:NA</b>	pCi/L	09/10/20 15:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.23 ± 0.583 (0.978)</b> <b>C:66% T:89%</b>	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>5.45 ± 1.71 (1.65)</b>	pCi/L	09/11/20 13:22	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWB-4R**      **Lab ID: 92491455023**      Collected: 08/19/20 11:45      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.89 ± 0.368 (0.222)</b> <b>C:94% T:NA</b>	pCi/L	09/03/20 18:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.21 ± 0.552 (0.915)</b> <b>C:67% T:77%</b>	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.10 ± 0.920 (1.14)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

**Sample: GWB-6R**      **Lab ID: 92491455024**      Collected: 08/19/20 14:00      Received: 08/20/20 12:20      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.78 ± 0.640 (0.184)</b> <b>C:88% T:NA</b>	pCi/L	09/03/20 18:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.754 ± 0.462 (0.836)</b> <b>C:61% T:79%</b>	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>4.53 ± 1.10 (1.02)</b>	pCi/L	09/10/20 15:11	7440-14-4	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

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QC Batch:	411435	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455001, 92491455002, 92491455003

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METHOD BLANK: 1990342 Matrix: Water

Associated Lab Samples: 92491455001, 92491455002, 92491455003

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.664 ± 0.374 (0.672) C:70% T:89%	pCi/L	09/09/20 12:03	

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

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch:	411373	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455001

METHOD BLANK:	1989993	Matrix:	Water
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Associated Lab Samples: 92491455001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0671 ± 0.195 (0.481) C:88% T:NA	pCi/L	09/02/20 07:31	

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

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## QUALIFIERS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491455003	GWA-8				
92491455004	GWC-13				
92491455005	GWC-12				
92491455006	GWC-16				
92491455007	GWC-21				
92491455008	GWC-15				
92491455009	GWC-14				
92491455010	GWC-2				
92491455011	GWC-17				
92491455012	GWC-20				
92491455013	GWC-11				
92491455014	GWC-22				
92491455019	GWC-1				
92491455020	GWC-9				
92491455021	GWB-5R				
92491455022	GWA-7				
92491455023	GWB-4R				
92491455024	GWB-6R				
92491455001	DUP-1	EPA 3005A	561324	EPA 6020B	561396
92491455002	EB-1-8-18-20	EPA 3005A	561324	EPA 6020B	561396
92491455003	GWA-8	EPA 3005A	561324	EPA 6020B	561396
92491455004	GWC-13	EPA 3005A	561324	EPA 6020B	561396
92491455005	GWC-12	EPA 3005A	561324	EPA 6020B	561396
92491455006	GWC-16	EPA 3005A	561324	EPA 6020B	561396
92491455007	GWC-21	EPA 3005A	561324	EPA 6020B	561396
92491455008	GWC-15	EPA 3005A	561324	EPA 6020B	561396
92491455009	GWC-14	EPA 3005A	561324	EPA 6020B	561396
92491455010	GWC-2	EPA 3005A	561324	EPA 6020B	561396
92491455011	GWC-17	EPA 3005A	561324	EPA 6020B	561396
92491455012	GWC-20	EPA 3005A	561324	EPA 6020B	561396
92491455013	GWC-11	EPA 3005A	561963	EPA 6020B	562039
92491455014	GWC-22	EPA 3005A	561963	EPA 6020B	562039
92491455015	EB-2-8-18-20	EPA 3005A	561963	EPA 6020B	562039
92491455016	DUP-2	EPA 3005A	561963	EPA 6020B	562039
92491455017	FB-1-8-19-20	EPA 3005A	561964	EPA 6020B	562041
92491455018	FB-2-8-19-20	EPA 3005A	561964	EPA 6020B	562041
92491455019	GWC-1	EPA 3005A	561964	EPA 6020B	562041
92491455020	GWC-9	EPA 3005A	561964	EPA 6020B	562041
92491455021	GWB-5R	EPA 3005A	561964	EPA 6020B	562041
92491455022	GWA-7	EPA 3005A	561964	EPA 6020B	562041
92491455023	GWB-4R	EPA 3005A	561964	EPA 6020B	562041
92491455024	GWB-6R	EPA 3005A	561964	EPA 6020B	562041
92491455001	DUP-1	EPA 7470A	561377	EPA 7470A	561555
92491455002	EB-1-8-18-20	EPA 7470A	561377	EPA 7470A	561555
92491455003	GWA-8	EPA 7470A	561377	EPA 7470A	561555
92491455004	GWC-13	EPA 7470A	561377	EPA 7470A	561555
92491455005	GWC-12	EPA 7470A	561377	EPA 7470A	561555

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491455006	GWC-16	EPA 7470A	561377	EPA 7470A	561555
92491455007	GWC-21	EPA 7470A	561377	EPA 7470A	561555
92491455008	GWC-15	EPA 7470A	561377	EPA 7470A	561555
92491455009	GWC-14	EPA 7470A	561377	EPA 7470A	561555
92491455010	GWC-2	EPA 7470A	561377	EPA 7470A	561555
92491455011	GWC-17	EPA 7470A	561377	EPA 7470A	561555
92491455012	GWC-20	EPA 7470A	561377	EPA 7470A	561555
92491455013	GWC-11	EPA 7470A	561894	EPA 7470A	562048
92491455014	GWC-22	EPA 7470A	561894	EPA 7470A	562048
92491455015	EB-2-8-18-20	EPA 7470A	561894	EPA 7470A	562048
92491455016	DUP-2	EPA 7470A	561894	EPA 7470A	562048
92491455017	FB-1-8-19-20	EPA 7470A	561894	EPA 7470A	562048
92491455018	FB-2-8-19-20	EPA 7470A	561894	EPA 7470A	562048
92491455019	GWC-1	EPA 7470A	561894	EPA 7470A	562048
92491455020	GWC-9	EPA 7470A	561894	EPA 7470A	562048
92491455021	GWB-5R	EPA 7470A	561894	EPA 7470A	562048
92491455022	GWA-7	EPA 7470A	561894	EPA 7470A	562048
92491455023	GWB-4R	EPA 7470A	561894	EPA 7470A	562048
92491455024	GWB-6R	EPA 7470A	561894	EPA 7470A	562048
92491455001	DUP-1	EPA 9315	411373		
92491455002	EB-1-8-18-20	EPA 9315	411374		
92491455003	GWA-8	EPA 9315	411374		
92491455004	GWC-13	EPA 9315	411374		
92491455005	GWC-12	EPA 9315	411374		
92491455006	GWC-16	EPA 9315	411374		
92491455007	GWC-21	EPA 9315	411374		
92491455008	GWC-15	EPA 9315	411374		
92491455009	GWC-14	EPA 9315	411374		
92491455010	GWC-2	EPA 9315	411374		
92491455011	GWC-17	EPA 9315	411374		
92491455012	GWC-20	EPA 9315	411374		
92491455013	GWC-11	EPA 9315	411374		
92491455014	GWC-22	EPA 9315	411374		
92491455015	EB-2-8-18-20	EPA 9315	411374		
92491455016	DUP-2	EPA 9315	411374		
92491455017	FB-1-8-19-20	EPA 9315	411375		
92491455018	FB-2-8-19-20	EPA 9315	411375		
92491455019	GWC-1	EPA 9315	411375		
92491455020	GWC-9	EPA 9315	411375		
92491455021	GWB-5R	EPA 9315	411375		
92491455022	GWA-7	EPA 9315	411375		
92491455023	GWB-4R	EPA 9315	411375		
92491455024	GWB-6R	EPA 9315	411375		
92491455001	DUP-1	EPA 9320	411435		
92491455002	EB-1-8-18-20	EPA 9320	411435		
92491455003	GWA-8	EPA 9320	411435		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491455004	GWC-13	EPA 9320	411436		
92491455005	GWC-12	EPA 9320	411436		
92491455006	GWC-16	EPA 9320	411436		
92491455007	GWC-21	EPA 9320	411436		
92491455008	GWC-15	EPA 9320	411436		
92491455009	GWC-14	EPA 9320	411436		
92491455010	GWC-2	EPA 9320	411436		
92491455011	GWC-17	EPA 9320	411436		
92491455012	GWC-20	EPA 9320	411436		
92491455013	GWC-11	EPA 9320	411436		
92491455014	GWC-22	EPA 9320	411436		
92491455015	EB-2-8-18-20	EPA 9320	411436		
92491455016	DUP-2	EPA 9320	411436		
92491455017	FB-1-8-19-20	EPA 9320	411439		
92491455018	FB-2-8-19-20	EPA 9320	411439		
92491455019	GWC-1	EPA 9320	411439		
92491455020	GWC-9	EPA 9320	411439		
92491455021	GWB-5R	EPA 9320	411439		
92491455022	GWA-7	EPA 9320	411439		
92491455023	GWB-4R	EPA 9320	411439		
92491455024	GWB-6R	EPA 9320	411439		
92491455001	DUP-1	Total Radium Calculation	413343		
92491455002	EB-1-8-18-20	Total Radium Calculation	413343		
92491455003	GWA-8	Total Radium Calculation	413343		
92491455004	GWC-13	Total Radium Calculation	413343		
92491455005	GWC-12	Total Radium Calculation	413343		
92491455006	GWC-16	Total Radium Calculation	413343		
92491455007	GWC-21	Total Radium Calculation	413343		
92491455008	GWC-15	Total Radium Calculation	413343		
92491455009	GWC-14	Total Radium Calculation	413343		
92491455010	GWC-2	Total Radium Calculation	413343		
92491455011	GWC-17	Total Radium Calculation	413343		
92491455012	GWC-20	Total Radium Calculation	413343		
92491455013	GWC-11	Total Radium Calculation	413343		
92491455014	GWC-22	Total Radium Calculation	413343		
92491455015	EB-2-8-18-20	Total Radium Calculation	413343		
92491455016	DUP-2	Total Radium Calculation	413343		
92491455017	FB-1-8-19-20	Total Radium Calculation	413382		
92491455018	FB-2-8-19-20	Total Radium Calculation	413382		
92491455019	GWC-1	Total Radium Calculation	413382		
92491455020	GWC-9	Total Radium Calculation	413382		
92491455021	GWB-5R	Total Radium Calculation	413382		
92491455022	GWA-7	Total Radium Calculation	413546		
92491455023	GWB-4R	Total Radium Calculation	413382		
92491455024	GWB-6R	Total Radium Calculation	413382		
92491455001	DUP-1	EPA 300.0 Rev 2.1 1993	561236		

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SCAN EVENT 2020  
Pace Project No.: 92491455

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491455002	EB-1-8-18-20	EPA 300.0 Rev 2.1 1993	561236		
92491455003	GWA-8	EPA 300.0 Rev 2.1 1993	561236		
92491455004	GWC-13	EPA 300.0 Rev 2.1 1993	561236		
92491455005	GWC-12	EPA 300.0 Rev 2.1 1993	561236		
92491455006	GWC-16	EPA 300.0 Rev 2.1 1993	561236		
92491455007	GWC-21	EPA 300.0 Rev 2.1 1993	561236		
92491455008	GWC-15	EPA 300.0 Rev 2.1 1993	561236		
92491455009	GWC-14	EPA 300.0 Rev 2.1 1993	561236		
92491455010	GWC-2	EPA 300.0 Rev 2.1 1993	561236		
92491455011	GWC-17	EPA 300.0 Rev 2.1 1993	561236		
92491455012	GWC-20	EPA 300.0 Rev 2.1 1993	561238		
92491455013	GWC-11	EPA 300.0 Rev 2.1 1993	561238		
92491455014	GWC-22	EPA 300.0 Rev 2.1 1993	561238		
92491455015	EB-2-8-18-20	EPA 300.0 Rev 2.1 1993	561238		
92491455016	DUP-2	EPA 300.0 Rev 2.1 1993	561238		
92491455017	FB-1-8-19-20	EPA 300.0 Rev 2.1 1993	561506		
92491455018	FB-2-8-19-20	EPA 300.0 Rev 2.1 1993	561506		
92491455019	GWC-1	EPA 300.0 Rev 2.1 1993	561506		
92491455020	GWC-9	EPA 300.0 Rev 2.1 1993	561506		
92491455021	GWB-5R	EPA 300.0 Rev 2.1 1993	561506		
92491455022	GWA-7	EPA 300.0 Rev 2.1 1993	561764		
92491455023	GWB-4R	EPA 300.0 Rev 2.1 1993	561764		
92491455024	GWB-6R	EPA 300.0 Rev 2.1 1993	561764		

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 92491455

Client Name: GA POWER



Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other  
Tracking #: 819120

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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other ZIPLOC

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

Cooler Temperature 20/37/13 Biological Tissue is Frozen: Yes No  
Temp should be above freezing to 6°C Comments:

Project:  
Proj. Due Date:  
Proj. Name:

Date and Initials of person examining contents: KRW 8/19/20

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.		
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.		
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.		
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.		
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.		
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.		
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.		
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.		
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.	DUPL, EB-1, GWC-16, GWC-21, metals Container w/o label. DUPL pres. also w/o label.	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
exceptions: VOA, coliform, TOC, D&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.		
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: \_\_\_\_\_  
Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Comments/ Resolution: \_\_\_\_\_  
Field Data Required? Y / N

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)





# CHAIN-OF-CUSTODY / Analytical Request Document

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

<b>Section A</b> Required Client Information: Company: GA Power Address: Atlanta, GA	<b>Section B</b> Required Project Information: Report To: SCS Contacts Corp To: ACC Contacts	<b>Section C</b> Invoice Information: Attention: Southern Co. Company Name: Address:	Page: <u>2</u> of <u>2</u>
---	---	--	----------------------------

<b>Section D</b> Required Client Information: Purchase Order No.: Project Name: Gunman Road - Scan Event 2020 Requested Due Date/AT: 10 Day	<b>Section E</b> Valid Matrix Codes: MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Preservatives: Analysis Test Fluoride 300.0 App. IV Metals 6020/7470 RAD 226/228	<b>Section F</b> Requested Analysis Filtered (Y/N) REGULATORY AGENCY: NPOES <input type="checkbox"/> GROUND WATER <input checked="" type="checkbox"/> DRINKING WATER UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/> Site Location: GA STATE: GA
---	--	--

ITEM #	MATRIX CODE	SAMPLE TYPE	DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	PH	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1	GW-C-11	G	8-18-20	1645	8-18-20	1645	4	Unpreserved	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Fluoride 300.0 App. IV Metals 6020/7470 RAD 226/228							
2	GW-C-22	G	8-18-20	1430	8-18-20	1430	4	Unpreserved	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Fluoride 300.0 App. IV Metals 6020/7470 RAD 226/228							
3	EB-2-2-18-20	G	8-18-20	1650	8-18-20	1650	4	Unpreserved	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Fluoride 300.0 App. IV Metals 6020/7470 RAD 226/228							
4	Dep-2	G					4	Unpreserved	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Fluoride 300.0 App. IV Metals 6020/7470 RAD 226/228							
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

ADDITIONAL COMMENTS: [Handwritten notes in the table cells]

PLEASE NOTE: when the last sample for the event has been taken.

PRINT NAME AND SIGNATURE: [Handwritten signatures and names]

DATE SIGNED: [Handwritten dates]

Temp in °C: [Handwritten values]

Received on Ice (Y/N): [Handwritten values]

Custody Sealed Cooler (Y/N): [Handwritten values]

Samples Intact (Y/N): [Handwritten values]



Sample Condition Upon Receipt

WO#: 92491455

Client Name: GA Power

PM: KLH1

Due Date: 09/02/20

CLIENT: GA-GA Power

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: \_\_\_\_\_

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

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used 233 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temperature 21°C Biological Tissue is Frozen: Yes No

Temp should be above freezing to 8°C

Proj. Due Date: \_\_\_\_\_
Proj. Name: \_\_\_\_\_

Date and Initials of person examining contents: 8/20/20 [Signature]

Table with 16 rows of inspection criteria and checkboxes. Includes items like 'Chain of Custody Present', 'Short Hold Time Analysis', and 'Sample Labels match COC'. Includes handwritten notes in row 12: 'Only 4 containers for GWP for present note as listed on COC'.

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)



# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: LAL  
Date: 9/3/2020  
Worklist: 55839  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1989998
MB concentration:	0.135
MB Counting Uncertainty:	0.113
MB MDC:	0.203
MB Numerical Performance Indicator:	2.34
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
Count Date:	9/4/2020
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.502
Target Conc. (pCi/L, g, F):	4.785
Uncertainty (Calculated):	0.057
Result (pCi/L, g, F):	4.098
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.782
Numerical Performance Indicator:	-1.72
Percent Recovery:	85.64%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	Pass
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Duplicate Sample Assessment	
Sample I.D.:	92491393012
Duplicate Sample I.D.:	92491393012DUP
Sample Result (pCi/L, g, F):	0.684
Sample Result Counting Uncertainty (pCi/L, g, F):	0.375
Sample Duplicate Result (pCi/L, g, F):	0.377
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.254
Are sample and/or duplicate results below RL?	See Below #
Duplicate Numerical Performance Indicator:	(1.32) <i>CL</i>
Duplicate RPD:	57.84%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail***
% RPD Limit:	25%

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

Comments:

\*\*\*Data must be rechecked due to unacceptable precision. N/A  
AM 9/4/2020

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

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

AM 9/4/2020

*Over...*

# Quality Control Sample Performance Assessment



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

Test: Ra-228  
Analyst: LAL  
Date: 9/3/2020  
Worklist: 55839  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1988998
MB Concentration:	0.135
MB Counting Uncertainty:	0.113
MB MDC:	0.203
MB Numerical Performance Indicator:	2.34
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
LCSD (Y or N)?	N
LCSD55839	LCSD55839
Count Date:	9/4/2020
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.502
Target Conc. (pCi/L, g, F):	4.785
Uncertainty (Calculated):	0.057
Result (pCi/L, g, F):	4.098
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.782
Numerical Performance Indicator:	-1.72
Percent Recovery:	85.64%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	Pass
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Duplicate Sample Assessment	
Sample I.D.:	92491663008
Duplicate Sample I.D.:	92491663008DUP
Sample Result (pCi/L, g, F):	0.467
Sample Result Counting Uncertainty (pCi/L, g, F):	0.143
Sample Duplicate Result (pCi/L, g, F):	0.359
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.256
Are sample and/or duplicate results below RL?	See Below #
Duplicate Numerical Performance Indicator:	0.728
Duplicate RPD:	26.34%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail**
% RPD Limit:	25%

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

Comments:

\*\*\*Batch must be re-prepped due to unacceptable precision: N/A

WAM 9/14/2020

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

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

WAM 9/14/2020  
TAR\_55839\_W.xls  
Total Alpha Radium (R104-3 11Feb2019).xls  
WAM

# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: LAL  
Date: 9/1/2020  
Worklist: 55837  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1969993
MB Concentration:	0.067
M/B Counting Uncertainty:	0.195
MB MDC:	0.481
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
Count Date:	9/2/2020
Spike ID:	LCS55837
Decay Corrected Spike Concentration (pCi/mL):	19-033
Volume Used (mL):	24.045
Aliquot Volume (L, g, F):	0.10
Target Conc. (pCi/L, g, F):	0.508
Uncertainty (Calculated):	4.738
Result (pCi/L, g, F):	0.057
Numerical Performance Indicator:	5.286
Percent Recovery:	0.868
Status vs Numerical Indicator:	1.24
Status vs Recovery:	111.58%
Upper % Recovery Limits:	N/A
Lower % Recovery Limits:	Pass
	125%
	75%

Duplicate Sample Assessment	
Sample ID:	92490963004
Duplicate Sample ID:	92490963004DUP
Sample Result (pCi/L, g, F):	0.116
Sample Duplicate Result (pCi/L, g, F):	0.301
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.448
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.277
Are sample and/or duplicate results below RL?	See Below ##
Duplicate Numerical Performance Indicator:	-1.591
Duplicate RPD:	117.70%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail***
% RPD Limit:	25%

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

Comments:

\*\*\* Batch number is prepended to unacceptable precision. N/A

LAM 9/2/2020

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

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

09/02/2020

LAM 9/2/2020



# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226  
Analyst: LAL  
Date: 9/1/2020  
Worklist: 55837  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1989993
MB Concentration:	0.067
M/B Counting Uncertainty:	0.195
MB MDC:	0.481
MB Numerical Performance Indicator:	0.67
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCS D (Y or N)?	Y
Count Date:	9/2/2020	LCS D 55837	9/2/2020
Spike I.D.:	19-033		19-033
Decay Corrected Spike Concentration (pCi/mL):	24.045		24.045
Volume Used (mL):	0.10		0.10
Aliquot Volume (L, g, F):	0.501		0.501
Target Conc. (pCi/L, g, F):	4.738		4.797
Uncertainty (Calculated):	0.057		0.058
Result (pCi/L, g, F):	5.286		4.329
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.868		0.605
Numerical Performance Indicator:	1.24		-1.13
Percent Recovery:	111.58%		90.26%
Status vs Numerical Indicator:	N/A		N/A
Status vs Recovery:	Pass		Pass
Upper % Recovery Limits:	125%		125%
Lower % Recovery Limits:	75%		75%

Duplicate Sample Assessment	
Sample I.D.:	LCS 55837
Duplicate Sample I.D.:	LCSD 55837
Sample Result (pCi/L, g, F):	5.286
Sample Result Counting Uncertainty (pCi/L, g, F):	0.868
Sample Duplicate Result (pCi/L, g, F):	4.329
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.605
Are sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	1.584
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	21.13%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

Comments:

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

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

*0.067/0.195/0.481/0.67/1.24/111.58/21.13/Pass*

LAM 9/2/2020

# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: LAL  
Date: 9/2/2020  
Worklist: 55838  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1989996
MB Concentration:	0.241
MB Counting Uncertainty:	0.161
MB MDC:	0.285
MB Numerical Performance Indicator:	2.94
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	N
	LCSD55838	LCSD55838
Count Date:	9/2/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.045	
Volume Used (mL):	0.10	
Aliquot Volume (L, g, F):	0.501	
Target Conc. (pCi/L, g, F):	4.798	
Uncertainty (Calculated):	0.058	
Result (pCi/L, g, F):	4.336	
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.343	
Numerical Performance Indicator:	-2.60	
Percent Recovery:	90.37%	
Status vs Numerical Indicator:	N/A	
Status vs Recovery:	Pass	
Upper % Recovery Limits:	125%	
Lower % Recovery Limits:	75%	

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	92491663005
Duplicate Sample I.D.:	92491663005DUP
Sample Result (pCi/L, g, F):	0.117
Sample Result Counting Uncertainty (pCi/L, g, F):	0.110
Sample Duplicate Result (pCi/L, g, F):	0.098
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.087
Ave sample and/or duplicate results below RL?	See Below #
Duplicate Numerical Performance Indicator:	0.253
Duplicate RPD:	16.83%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

Comments:

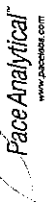
Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
<p>Sample Collection Date: Sample I.D. Sample MS I.D. Sample MSD I.D. Spike I.D.:</p> <p>MS/MSD Decay Corrected Spike Concentration (pCi/mL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL): MS Aliquot (L, g, F): MS Target Conc. (pCi/L,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

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

Jan 9/3/2020

Cu a. 3. 20

# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: LAL  
Date: 9/2/2020  
Worklist: 55638  
Matrix: DW

Method Blank Assessment	
MB Sample ID	1989996
MB concentration:	0.241
M/B Counting Uncertainty:	0.161
MB MDC:	0.285
MB Numerical Performance Indicator:	2.94
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCS/D (Y or N)?	Y
Decay Corrected Spike Concentration (pCi/mL):		LCS55838	LCS55838
Count Date:	9/2/2020		
Spike I.D.:	19-033		19-033
Volume Used (mL):	24.045		24.045
Aliquot Volume (L, g, F):	0.10		0.10
Target Conc. (pCi/L, g, F):	0.501		0.509
Uncertainty (Calculated):	4.798		4.720
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.058		0.057
Result (pCi/L, g, F):	4.336		4.783
Numerical Performance Indicator:	0.343		0.364
Percent Recovery:	-2.60		0.34
Status vs Numerical Indicator:	90.37%		101.35%
Upper % Recovery Limits:	N/A		N/A
Lower % Recovery Limits:	Pass		Pass
	125%		125%
	75%		75%

Duplicate Sample Assessment	
Sample I.D.:	LCS55838
Duplicate Sample I.D.:	LCS55838
Sample Result (pCi/L, g, F):	4.336
Sample Duplicate Result (pCi/L, g, F):	0.343
Ave sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-1.753
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	11.46%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

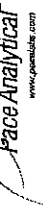
Comments:

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

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

Jan 9/13/2020  
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# Quality Control Sample Performance Assessment



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

Test: Ra-228  
Analyst: VAL  
Date: 9/2/2020  
Worklist: 55851  
Matrix: WT

Method Blank Assessment	
MB Sample ID	1990342
MB concentration:	0.664
MB 2 Sigma CSU:	0.374
MB MDC:	0.672
MB Numerical Performance Indicator:	3.48
MB Status vs Numerical Indicator:	Fail*
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/D (Y or N)?	
	LCS55851	LCS55851
Count Date:	9/9/2020	9/9/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.472	38.472
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.812	0.803
Target Conc. (pCi/L, g, F):	4.737	4.789
Uncertainty (Calculated):	0.232	0.235
Result (pCi/L, g, F):	5.598	4.322
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.288	1.030
Numerical Performance Indicator:	1.29	-0.87
Percent Recovery:	118.17%	90.24%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below:
Sample I.D.:	
Duplicate Sample I.D.:	
Sample Result (pCi/L, g, F):	
Sample Result 2 Sigma CSU (pCi/L, g, F):	
Sample Duplicate Result (pCi/L, g, F):	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	
Are sample and/or duplicate results below RL?	
Duplicate Numerical Performance Indicator:	
Duplicate Percent Recoveries) Duplicate RPD:	
Duplicate Status vs Numerical Indicator:	
Duplicate Status vs RPD:	
% RPD Limit:	

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

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

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

Comments:

\*if the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

17  
19-10-20

On 9.10.20

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228  
Analyst: VAL  
Date: 9/2/2020  
Worklist: 55852  
Matrix: W/T

Method Blank Assessment	
MB Sample ID	1990343
MB concentration:	0.245
M/B 2 Sigma CSU:	0.335
MB MDC:	0.715
MB Numerical Performance Indicator:	1.43
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCSS5852	LCSD56852
Count Date:	9/9/2020	9/9/2020
Spike I.D.:	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.470	38.470
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.801	0.802
Target Conc. (pCi/L, g, F):	4.804	4.799
Uncertainty (Calculated):	0.235	0.235
Result (pCi/L, g, F):	4.151	5.838
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.079	1.360
Numerical Performance Indicator:	-1.16	1.47
Percent Recovery:	86.42%	121.64%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	LCSS5852
Duplicate Sample I.D.:	LCSD56852
Sample Result (pCi/L, g, F):	4.151
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.079
Sample Duplicate Result (pCi/L, g, F):	5.838
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.360
Are sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-1.903
Duplicate (Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	33.85%
Duplicate Status vs Numerical Indicator:	Pass
Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

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

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

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

Comments:

*Handwritten signature/initials*

*Handwritten signature/initials*

# Quality Control Sample Performance Assessment

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



Test: Ra-228  
Analyst: VAL  
Date: 9/2/2020  
Worklist: 55853  
Matrix: WT

Method Blank Assessment	
MB Sample ID	1900347
MB concentration:	0.274
MB 2 Sigma CSU:	0.326
MB MDC:	0.685
MB Numerical Performance Indicator:	1.65
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSID (Y or N)?	Y
Count Date:	9/9/2020	LCSID55853	9/9/2020
Spike I.D.:	20-030		
Decay Corrected Spike Concentration (pCi/mL):	38.472		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.810		
Target Conc. (pCi/L, g, F):	4.748		
Uncertainty (Calculated):	0.233		
Result (pCi/L, g, F):	4.963		
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.118		
Numerical Performance Indicator:	0.37		
Percent Recovery:	104.53%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	135%		
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.	
Sample I.D.:	LCS55853		
Duplicate Sample I.D.:	LCSID55853		
Sample Result (pCi/L, g, F):	4.963		
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.118		
Sample Duplicate Result (pCi/L, g, F):	5.603		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.205		
Are sample and/or duplicate results below RL?	NO		
Duplicate Numerical Performance Indicator:	-0.762		
Duplicate Numerical Performance Indicator:	12.36%		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

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

Comments:

9-10-20  
TJ

0.200/0.10/10  
TJ

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

Matrix Spike/Matrix Spike Duplicate Sample Assessment	
Sample I.D.:	
Sample MS I.D.:	
Sample MSD I.D.:	
Sample Matrix Spike Result:	
Sample Matrix Spike Duplicate Result:	
Sample Matrix Spike Duplicate Result:	
Sample Matrix Spike Duplicate Result:	
Duplicate Numerical Performance Indicator:	
Duplicate Numerical Performance Indicator:	
(Based on the Percent Recoveries): MS/MSD Duplicate RPD:	
MS/MSD Duplicate Status vs Numerical Indicator:	
MS/MSD Duplicate Status vs RPD:	
% RPD Limit:	

August 27, 2020

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD - SCAN EVENT 2020  
Pace Project No.: 92491818

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,



Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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### **Pace Analytical Services Peachtree Corners**

110 Technology Pkwy, Peachtree Corners, GA 30092  
Florida DOH Certification #: E87315  
Georgia DW Inorganics Certification #: 812  
Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381  
South Carolina Certification #: 98011001  
Virginia Certification #: 460204

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92491818001	GWA-7	Water	08/19/20 10:30	08/20/20 12:20
92491818002	GWB-5R	Water	08/19/20 11:58	08/20/20 12:20

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92491818001	GWA-7	EPA 6020B	CW1	12
		EPA 7470A	VB	1
92491818002	GWB-5R	EPA 6020B	CW1	12
		EPA 7470A	VB	1

PASI-C = Pace Analytical Services - Charlotte

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

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92491818001</b>	<b>GWA-7</b>					
	pH	5.81	Std. Units		08/20/20 16:59	
EPA 6020B	Antimony, Dissolved	0.00044J	mg/L	0.0030	08/24/20 18:04	
EPA 6020B	Arsenic, Dissolved	0.0024J	mg/L	0.0050	08/24/20 18:04	
EPA 6020B	Barium, Dissolved	0.082	mg/L	0.010	08/24/20 18:04	
EPA 6020B	Beryllium, Dissolved	0.00011J	mg/L	0.0030	08/24/20 18:04	
EPA 6020B	Chromium, Dissolved	0.010	mg/L	0.010	08/24/20 18:04	
EPA 6020B	Cobalt, Dissolved	0.0017J	mg/L	0.0050	08/24/20 18:04	
EPA 6020B	Lead, Dissolved	0.00015J	mg/L	0.0050	08/24/20 18:04	
EPA 6020B	Molybdenum, Dissolved	0.00070J	mg/L	0.010	08/24/20 18:04	
EPA 6020B	Selenium, Dissolved	0.0074J	mg/L	0.010	08/24/20 18:04	
<b>92491818002</b>	<b>GWB-5R</b>					
	pH	5.14	Std. Units		08/20/20 17:00	
EPA 6020B	Arsenic, Dissolved	0.0019J	mg/L	0.0050	08/24/20 18:10	
EPA 6020B	Barium, Dissolved	0.098	mg/L	0.010	08/24/20 18:10	
EPA 6020B	Beryllium, Dissolved	0.000058J	mg/L	0.0030	08/24/20 18:10	
EPA 6020B	Chromium, Dissolved	0.0029J	mg/L	0.010	08/24/20 18:10	
EPA 6020B	Lead, Dissolved	0.00089J	mg/L	0.0050	08/24/20 18:10	
EPA 7470A	Mercury, Dissolved	0.00011J	mg/L	0.00020	08/27/20 10:03	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD - SCAN EVENT 2020  
Pace Project No.: 92491818

Sample: GWA-7		Lab ID: 92491818001		Collected: 08/19/20 10:30		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.81	Std. Units			1		08/20/20 16:59		
<b>6020 MET ICPMS, Dissolved</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony, Dissolved	0.00044J	mg/L	0.0030	0.00028	1	08/24/20 12:49	08/24/20 18:04	7440-36-0	
Arsenic, Dissolved	0.0024J	mg/L	0.0050	0.00078	1	08/24/20 12:49	08/24/20 18:04	7440-38-2	
Barium, Dissolved	0.082	mg/L	0.010	0.00071	1	08/24/20 12:49	08/24/20 18:04	7440-39-3	
Beryllium, Dissolved	0.00011J	mg/L	0.0030	0.000046	1	08/24/20 12:49	08/24/20 18:04	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.0025	0.00012	1	08/24/20 12:49	08/24/20 18:04	7440-43-9	
Chromium, Dissolved	0.010	mg/L	0.010	0.00055	1	08/24/20 12:49	08/24/20 18:04	7440-47-3	
Cobalt, Dissolved	0.0017J	mg/L	0.0050	0.00038	1	08/24/20 12:49	08/24/20 18:04	7440-48-4	
Lead, Dissolved	0.00015J	mg/L	0.0050	0.000036	1	08/24/20 12:49	08/24/20 18:04	7439-92-1	
Lithium, Dissolved	ND	mg/L	0.030	0.00081	1	08/24/20 12:49	08/24/20 18:04	7439-93-2	
Molybdenum, Dissolved	0.00070J	mg/L	0.010	0.00069	1	08/24/20 12:49	08/24/20 18:04	7439-98-7	
Selenium, Dissolved	0.0074J	mg/L	0.010	0.0016	1	08/24/20 12:49	08/24/20 18:04	7782-49-2	
Thallium, Dissolved	ND	mg/L	0.0010	0.00014	1	08/24/20 12:49	08/24/20 18:04	7440-28-0	
<b>7470 Mercury, Dissolved</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury, Dissolved	ND	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 09:53	7439-97-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Sample: <b>GWB-5R</b>		Lab ID: <b>92491818002</b>		Collected: 08/19/20 11:58		Received: 08/20/20 12:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
pH	<b>5.14</b>	Std. Units			1		08/20/20 17:00		
<b>6020 MET ICPMS, Dissolved</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony, Dissolved	ND	mg/L	0.0030	0.00028	1	08/24/20 12:49	08/24/20 18:10	7440-36-0	
Arsenic, Dissolved	<b>0.0019J</b>	mg/L	0.0050	0.00078	1	08/24/20 12:49	08/24/20 18:10	7440-38-2	
Barium, Dissolved	<b>0.098</b>	mg/L	0.010	0.00071	1	08/24/20 12:49	08/24/20 18:10	7440-39-3	
Beryllium, Dissolved	<b>0.000058J</b>	mg/L	0.0030	0.000046	1	08/24/20 12:49	08/24/20 18:10	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.0025	0.00012	1	08/24/20 12:49	08/24/20 18:10	7440-43-9	
Chromium, Dissolved	<b>0.0029J</b>	mg/L	0.010	0.00055	1	08/24/20 12:49	08/24/20 18:10	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.0050	0.00038	1	08/24/20 12:49	08/24/20 18:10	7440-48-4	
Lead, Dissolved	<b>0.00089J</b>	mg/L	0.0050	0.000036	1	08/24/20 12:49	08/24/20 18:10	7439-92-1	
Lithium, Dissolved	ND	mg/L	0.030	0.00081	1	08/24/20 12:49	08/24/20 18:10	7439-93-2	
Molybdenum, Dissolved	ND	mg/L	0.010	0.00069	1	08/24/20 12:49	08/24/20 18:10	7439-98-7	
Selenium, Dissolved	ND	mg/L	0.010	0.0016	1	08/24/20 12:49	08/24/20 18:10	7782-49-2	
Thallium, Dissolved	ND	mg/L	0.0010	0.00014	1	08/24/20 12:49	08/24/20 18:10	7440-28-0	
<b>7470 Mercury, Dissolved</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Peachtree Corners, GA									
Mercury, Dissolved	<b>0.00011J</b>	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 10:03	7439-97-6	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD - SCAN EVENT 2020  
Pace Project No.: 92491818

QC Batch: 561952      Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A      Analysis Description: 6020 MET Dissolved  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92491818001, 92491818002

METHOD BLANK: 2980579      Matrix: Water  
Associated Lab Samples: 92491818001, 92491818002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.0030	0.00028	08/24/20 17:24	
Arsenic, Dissolved	mg/L	ND	0.0050	0.00078	08/24/20 17:24	
Barium, Dissolved	mg/L	ND	0.010	0.00071	08/24/20 17:24	
Beryllium, Dissolved	mg/L	ND	0.0030	0.000046	08/24/20 17:24	
Cadmium, Dissolved	mg/L	ND	0.0025	0.00012	08/24/20 17:24	
Chromium, Dissolved	mg/L	ND	0.010	0.00055	08/24/20 17:24	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00038	08/24/20 17:24	
Lead, Dissolved	mg/L	ND	0.0050	0.000036	08/24/20 17:24	
Lithium, Dissolved	mg/L	ND	0.030	0.00081	08/24/20 17:24	
Molybdenum, Dissolved	mg/L	ND	0.010	0.00069	08/24/20 17:24	
Selenium, Dissolved	mg/L	ND	0.010	0.0016	08/24/20 17:24	
Thallium, Dissolved	mg/L	ND	0.0010	0.00014	08/24/20 17:24	

METHOD BLANK: 2980581      Matrix: Water  
Associated Lab Samples: 92491818001, 92491818002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.0030	0.00028	08/24/20 17:30	
Arsenic, Dissolved	mg/L	ND	0.0050	0.00078	08/24/20 17:30	
Barium, Dissolved	mg/L	ND	0.010	0.00071	08/24/20 17:30	
Beryllium, Dissolved	mg/L	ND	0.0030	0.000046	08/24/20 17:30	
Cadmium, Dissolved	mg/L	ND	0.0025	0.00012	08/24/20 17:30	
Chromium, Dissolved	mg/L	ND	0.010	0.00055	08/24/20 17:30	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00038	08/24/20 17:30	
Lead, Dissolved	mg/L	ND	0.0050	0.000036	08/24/20 17:30	
Lithium, Dissolved	mg/L	ND	0.030	0.00081	08/24/20 17:30	
Molybdenum, Dissolved	mg/L	ND	0.010	0.00069	08/24/20 17:30	
Selenium, Dissolved	mg/L	ND	0.010	0.0016	08/24/20 17:30	
Thallium, Dissolved	mg/L	ND	0.0010	0.00014	08/24/20 17:30	

LABORATORY CONTROL SAMPLE: 2980580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.1	0.10	103	80-120	
Arsenic, Dissolved	mg/L	0.1	0.098	98	80-120	
Barium, Dissolved	mg/L	0.1	0.096	96	80-120	
Beryllium, Dissolved	mg/L	0.1	0.099	99	80-120	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

LABORATORY CONTROL SAMPLE: 2980580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium, Dissolved	mg/L	0.1	0.10	100	80-120	
Chromium, Dissolved	mg/L	0.1	0.10	101	80-120	
Cobalt, Dissolved	mg/L	0.1	0.10	101	80-120	
Lead, Dissolved	mg/L	0.1	0.10	101	80-120	
Lithium, Dissolved	mg/L	0.1	0.10	100	80-120	
Molybdenum, Dissolved	mg/L	0.1	0.097	97	80-120	
Selenium, Dissolved	mg/L	0.1	0.097	97	80-120	
Thallium, Dissolved	mg/L	0.1	0.099	99	80-120	

LABORATORY CONTROL SAMPLE: 2980582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.1	0.085	85	80-120	
Arsenic, Dissolved	mg/L	0.1	0.10	100	80-120	
Barium, Dissolved	mg/L	0.1	0.097	97	80-120	
Beryllium, Dissolved	mg/L	0.1	0.094	94	80-120	
Cadmium, Dissolved	mg/L	0.1	0.10	103	80-120	
Chromium, Dissolved	mg/L	0.1	0.082	82	80-120	
Cobalt, Dissolved	mg/L	0.1	0.097	97	80-120	
Lead, Dissolved	mg/L	0.1	0.088	88	80-120	
Lithium, Dissolved	mg/L	0.1	0.096	96	80-120	
Molybdenum, Dissolved	mg/L	0.1	0.087	87	80-120	
Selenium, Dissolved	mg/L	0.1	0.10	104	80-120	
Thallium, Dissolved	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980616 2980617

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92491818002 Result	Spike Conc.	Spike Conc.	Result							Result
Antimony, Dissolved	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	1	20	
Arsenic, Dissolved	mg/L	0.0019J	0.1	0.1	0.099	0.099	97	97	75-125	0	20	
Barium, Dissolved	mg/L	0.098	0.1	0.1	0.21	0.21	109	110	75-125	0	20	
Beryllium, Dissolved	mg/L	0.000058J	0.1	0.1	0.095	0.093	95	93	75-125	1	20	
Cadmium, Dissolved	mg/L	ND	0.1	0.1	0.099	0.097	99	97	75-125	2	20	
Chromium, Dissolved	mg/L	0.0029J	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.099	0.097	98	97	75-125	2	20	
Lead, Dissolved	mg/L	0.00089J	0.1	0.1	0.10	0.099	99	99	75-125	1	20	
Lithium, Dissolved	mg/L	ND	0.1	0.1	0.097	0.095	96	94	75-125	2	20	
Molybdenum, Dissolved	mg/L	ND	0.1	0.1	0.099	0.099	98	98	75-125	0	20	
Selenium, Dissolved	mg/L	ND	0.1	0.1	0.090	0.091	88	89	75-125	1	20	
Thallium, Dissolved	mg/L	ND	0.1	0.1	0.099	0.098	99	98	75-125	1	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

QC Batch: 562439	Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A	Analysis Description: 7470 Mercury Dissolved
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92491818001, 92491818002

METHOD BLANK: 2982838 Matrix: Water

Associated Lab Samples: 92491818001, 92491818002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	ND	0.00020	0.000078	08/27/20 09:48	

LABORATORY CONTROL SAMPLE: 2982839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	0.0025	0.0025	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2982840 2982841

Parameter	Units	2982840		2982841		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Mercury, Dissolved	mg/L	ND	0.0025	0.0025	0.0023	99	91	75-125	8	20	

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## QUALIFIERS

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491818001	GWA-7				
92491818002	GWB-5R				
92491818001	GWA-7	EPA 3005A	561952	EPA 6020B	561968
92491818002	GWB-5R	EPA 3005A	561952	EPA 6020B	561968
92491818001	GWA-7	EPA 7470A	562439	EPA 7470A	562584
92491818002	GWB-5R	EPA 7470A	562439	EPA 7470A	562584

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Client Name: GA Power

WO#: **92491818**



Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other  
Tracking #: \_\_\_\_\_

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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_

Thermometer Used 233 Type of Ice:  Wet  Blue  None  Samples on ice, cooling process has begun

Cooler Temperature 2.1°C Biological Tissue is Frozen: Yes No  
Temp should be above freezing to 6°C  
Comments: \_\_\_\_\_  
Date and initials of person examining contents: SPH/06/11

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



Document Name:  
Bottle Identification Form (BIF)  
Document No:  
F-CAR-CS-043-Rev.00

Document issued: March 14, 2019  
Page 1 of 1  
Issuing Authority:  
Pace Carolinas Quality Office

**WO#: 92491818**

PH: KLH1 Due Date: 09/03/20  
CLIENT: GA-GA Power

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

• Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/BO15 (water) DOC, LLHg

• Bottom half of box is to list number of bottle

Project #

Matrix	Item#	1	2	3	4	5	6	7	8	9	10	11	12
	BP4U-125 mL Plastic Unpreserved (N/A) (C-)												
	BP3U-250 mL Plastic Unpreserved (N/A)												
	BP2U-500 mL Plastic Unpreserved (N/A)												
	BP1U-1 liter Plastic Unpreserved (N/A)												
	BP4S-125 mL Plastic H2SO4 (pH < 2) (C-)												
	BP3N-250 mL plastic HNO3 (pH < 2)												
	BP4Z-125 mL Plastic Zn Acetate & NaOH (>9)												
	BP4C-125 mL Plastic NaOH (pH > 12) (C-)												
	WGFU-Wide-mouthed Glass Jar Unpreserved												
	AG1U-1 liter Amber Unpreserved (N/A) (C-)												
	AG1H-1 liter Amber HCl (pH < 2)												
	AG3U-250 mL Amber Unpreserved (N/A) (C-)												
	AG1S-1 liter Amber H2SO4 (pH < 2)												
	AG3S-250 mL Amber H2SO4 (pH < 2)												
	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(C-)												
	DG9H-40 mL VOA HCl (N/A)												
	VG9T-40 mL VOA Na2S2O3 (N/A)												
	VG9U-40 mL VOA Unp (N/A)												
	DG9P-40 mL VOA H3PO4 (N/A)												
	VOAK (6 vials per kit)-YPH/Gas kit (N/A)												
	V/GK (3 vials per kit)-YPH/Gas kit (N/A)												
	SP5T-125 mL Sterile Plastic (N/A - lab)												
	SP2T-250 mL Sterile Plastic (N/A - lab)												
	BP9A-250 mL Plastic (NH2)2SO4 (9.3-9.7)												
	AG6U-100 mL Amber Unpreserved vials (N/A)												
	VS6U-20 mL Scintillation Vials (N/A)												

**pH Adjustment Log for Preserved Samples**

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

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



**LEVEL 2A LABORATORY DATA VALIDATIONS**

**Grumman Road**

**Scan Event**

**August 2020**

## **Georgia Power Company – Grumman Road**

### **Quality Control Review of Analytical Data – August 2020**

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Pace Analytical Services, Asheville, Atlanta, Charlotte, and Pittsburgh for groundwater samples collected at Grumman Road between August 17, 2020 and August 19, 2020. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision-making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1 of this Appendix.

In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detected monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma – Mass Spectrometry (USEPA Method 6020B), Mercury in Liquid Wastes (USEPA Method 7470A), Determination of Inorganic Anions (USEPA Method 300.0), Radium-226 (USEPA 9315), and Radium-228 (USEPA Method 9320).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0)<sup>1</sup> and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)<sup>2</sup>. The review included an assessment of the results for completeness, precision (laboratory duplicate recoveries and matrix spike/matrix spike duplicate recoveries), accuracy (laboratory control samples and matrix spike samples), and blank contamination (field, equipment, and laboratory blanks). Sample receipt conditions, holding times, and chains of custody (COCs) were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytical methodology, method-specific criteria or professional judgment were used.

## DATA QUALITY OBJECTIVES

**Laboratory Precision:** Laboratory goals for precision were met.

**Field Precision:** Field goals for precision were met, with the exceptions of Antimony on GWC-22 (92491455014) and Radium-228 on GWC-13 (92491455004) and GWC-22 (92491455014) as described in the qualifications section below.

**Accuracy:** Laboratory goals for accuracy were met.

**Detection Limits:** Project goals for detection limits were met. Certain samples were diluted due to the concentration of target or non-target analyte interferences. Dilutions do not require qualifications based on USEPA guidelines. Reporting limits (RLs) of non-detect compounds are elevated proportional to the dilution when undiluted sample results were not provided by the laboratory. The data usability of diluted results was evaluated by the data user in the context of site-wide characterization.

**Completeness:** There were no rejected analytical results for this event, resulting in a completion of 100%.

**Holding Times:** Holding time requirements were met.

## QUALIFICATIONS

In general, chemical results for the samples collected at the site were qualified on the basis of low precision or low accuracy or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the validation process:

**J:** The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample

**U:** The analyte was not detected above the method detection limit

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines except as specified below. The applied qualifications may not have been required for all samples collected at the site. A summary of sample qualifications can be found in Table 2 of this Appendix.



- Samples GWC-22 (92491455014) and DUP-2 (92491455016) were qualified as estimated (J) for Antimony and Radium-228 as the field RPDs (relative percent differences) exceeded QC criteria (112.06% and 39.81%, respectively, above limit of 20).
- Samples GWC-13 (92491455004) and DUP-1 (92491455001) were qualified as estimated (J) for Radium-228 as the field RPD exceeded QC criteria (84.35% above limit of 20).
- Certain Radium results in SDG 92491455 were qualified as non-detect (ND) due to the analyte being detected at a similar concentration in an associated blank sample. As shown in Table 2, the minimum detectable concentration (MDC) was raised to the sample result as part of the qualification process.

Atlantic Coast Consulting, Inc. reviewed the laboratory data from Grumman Road sampled between August 17, 2020 and August 19, 2020 in accordance with the analytical methods, the laboratory-specified QC criteria, and the guidelines. As described above, the results were acceptable for project use.

## REFERENCES

<sup>1</sup>USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0

<sup>2</sup>USEPA, January 2017, National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0

TABLE 1

## Georgia Power Company – Grumman Road

## Sample Summary Table – August 2020

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses			
						Metals (6020B, 7470A)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)
491455	DUP-1	8/17/2020	92491455001	GW	FD (GWC-13)	X	X		X
491455	EB-1-8-18-20	8/18/2020	92491455002	WQ	EB	X	X		X
491455	GWA-8	8/17/2020	92491455003	GW		X	X		X
491455	GWC-13	8/17/2020	92491455004	GW		X	X		X
491455	GWC-12	8/17/2020	92491455005	GW		X	X		X
491455	GWC-16	8/18/2020	92491455006	GW		X	X		X
491455	GWC-21	8/18/2020	92491455007	GW		X	X		X
491455	GWC-15	8/18/2020	92491455008	GW		X	X		X
491455	GWC-14	8/18/2020	92491455009	GW		X	X		X
491455	GWC-2	8/18/2020	92491455010	GW		X	X		X
491455	GWC-17	8/18/2020	92491455011	GW		X	X		X
491455	GWC-20	8/18/2020	92491455012	GW		X	X		X
491455	GWC-11	8/18/2020	92491455013	GW		X	X		X
491455	GWC-22	8/18/2020	92491455014	GW		X	X		X
491455	EB-2-8-18-20	8/18/2020	92491455015	WQ	EB	X	X		X
491455	DUP-2	8/18/2020	92491455016	GW	FD (GWC-22)	X	X		X
491455	FB-1-8-19-20	8/19/2020	92491455017	WQ	FB	X	X		X
491455	FB-2-8-19-20	8/19/2020	92491455018	WQ	FB	X	X		X
491455	GWC-1	8/19/2020	92491455019	GW		X	X		X
491455	GWC-9	8/19/2020	92491455020	GW		X	X		X
491455	GWB-5R	8/19/2020	92491455021	GW		X	X		X
491455	GWA-7	8/19/2020	92491455022	GW		X	X		X
491455	GWB-4R	8/19/2020	92491455023	GW		X	X		X
491455	GWB-6R	8/19/2020	92491455024	GW		X	X		X
491818	GWA-7	8/19/2020	92491818001	GW		X			
491818	GWB-5R	8/19/2020	92491818002	GW		X			

## Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

GW – Groundwater

QC – Quality Control

TDS – Total Dissolved Solids

WQ – Water Quality Control

TABLE 2

Georgia Power Company – Grumman Road

Qualifier Summary Table – August 2020

SDG	Field Identification	Constituent	New RL	New MDL or MDC	Qualifier	Reason
491455	GWC-22	Antimony			J	RPD exceeds field goal
491455	DUP-2	Antimony			J	RPD exceeds field goal
491455	GWC-13	Radium-228			J	RPD exceeds field goal
491455	DUP-1	Radium-228			J	RPD exceeds field goal
491455	GWC-22	Radium-228			J	RPD exceeds field goal
491455	DUP-2	Radium-228			J	RPD exceeds field goal
491455	GWA-8	Radium-228		0.830	ND	Blank detection
491455	GWC-13	Radium-228		0.897	ND	Blank detection
491455	GWC-12	Radium-228		0.917	ND	Blank detection
491455	GWC-16	Radium-228		0.970	ND	Blank detection
491455	GWC-21	Radium-228		0.956	ND	Blank detection
491455	GWC-15	Radium-228		0.892	ND	Blank detection
491455	GWC-14	Radium-228		1.23	ND	Blank detection
491455	GWC-2	Radium-228		0.941	ND	Blank detection
491455	GWC-17	Radium-228		1.24	ND	Blank detection
491455	GWC-20	Radium-228		0.980	ND	Blank detection
491455	GWC-11	Radium-228		1.17	ND	Blank detection
491455	GWC-22	Radium-228		1.23	ND	Blank detection
491455	GWC-1	Radium-226		0.235	ND	Blank detection
491455	GWC-1	Radium-228		0.892	ND	Blank detection
491455	GWC-9	Radium-228		0.849	ND	Blank detection
491455	GWB-5R	Radium-226		0.210	ND	Blank detection
491455	GWB-5R	Radium-228		0.882	ND	Blank detection
491455	GWA-7	Radium-226		0.672	ND	Blank detection
491455	GWA-7	Radium-228		0.978	ND	Blank detection
491455	GWB-4R	Radium-226		0.222	ND	Blank detection
491455	GWB-4R	Radium-228		0.915	ND	Blank detection
491455	GWB-6R	Radium-228		0.836	ND	Blank detection

Abbreviations:

MDC – Minimum Detectable Concentration  
 MS/MSD – Matrix Spike / Matrix Spike Duplicate  
 MDL – Method Detection Limit  
 RL – Reporting Limit  
 RPD – Relative Percent Difference  
 SDG – Sample Delivery Group

Qualifiers:

J – Estimated Result  
 ND – Non-Detect Result

# Low-Flow Test Report:

Test Date / Time: 8/19/2020 10:05:24 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWA-7</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 16.1 ft</b> <b>Total Depth: 21.1 ft</b> <b>Initial Depth to Water: 6.26 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 18 ft</b> <b>Estimated Total Volume Pumped: 6.75 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 225 ml/min</b> <b>Final Draw Down: 4.1 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny 80s

, sample time 1035. Field filtered metals

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/19/2020 10:05 AM	00:00	5.78 pH	27.75 °C	1,658.9 µS/cm	0.11 mg/L		102.1 mV	6.26 ft	225.00 ml/min
8/19/2020 10:10 AM	05:00	5.77 pH	26.28 °C	1,720.5 µS/cm	0.06 mg/L	21.00 NTU	81.2 mV	6.60 ft	225.00 ml/min
8/19/2020 10:15 AM	10:00	5.81 pH	26.47 °C	1,598.1 µS/cm	0.04 mg/L	69.00 NTU	72.9 mV	6.60 ft	225.00 ml/min
8/19/2020 10:20 AM	15:00	5.81 pH	26.87 °C	1,607.9 µS/cm	0.03 mg/L	155.00 NTU	69.1 mV	6.60 ft	225.00 ml/min
8/19/2020 10:25 AM	20:00	5.81 pH	26.94 °C	1,597.0 µS/cm	0.03 mg/L	186.00 NTU	65.1 mV	6.60 ft	225.00 ml/min
8/19/2020 10:30 AM	25:00	5.81 pH	26.96 °C	1,596.5 µS/cm	0.02 mg/L	199.00 NTU	61.5 mV	6.60 ft	225.00 ml/min
8/19/2020 10:35 AM	30:00	5.81 pH	26.97 °C	1,610.4 µS/cm	0.03 mg/L	210.00 NTU	57.6 mV	6.60 ft	225.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 8/17/2020 2:30:08 PM

Project: 2020 Scan

Operator Name: O. Fuquea

<b>Location Name: GWA-8</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 15.9 ft</b> <b>Total Depth: 20.9 ft</b> <b>Initial Depth to Water: 7.36 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 18.4 ft</b> <b>Estimated Total Volume Pumped: 9 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 19 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

91F clear.

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/17/2020 2:30 PM	00:00	5.10 pH	26.03 °C	235.19 µS/cm	0.17 mg/L		98.3 mV	7.36 ft	250.00 ml/min
8/17/2020 2:35 PM	05:00	4.70 pH	25.32 °C	257.40 µS/cm	0.13 mg/L	2.99 NTU	96.0 mV	9.80 ft	250.00 ml/min
8/17/2020 2:40 PM	10:00	4.43 pH	25.70 °C	285.14 µS/cm	0.14 mg/L	2.63 NTU	93.6 mV	9.30 ft	250.00 ml/min
8/17/2020 2:45 PM	15:00	4.31 pH	25.59 °C	304.72 µS/cm	0.13 mg/L	2.47 NTU	88.3 mV	9.10 ft	250.00 ml/min
8/17/2020 2:50 PM	20:00	4.27 pH	25.37 °C	310.66 µS/cm	0.11 mg/L	2.10 NTU	87.6 mV	9.10 ft	250.00 ml/min
8/17/2020 2:55 PM	25:00	4.23 pH	25.48 °C	312.85 µS/cm	0.11 mg/L	1.97 NTU	84.9 mV	9.10 ft	250.00 ml/min
8/17/2020 3:00 PM	30:00	4.23 pH	25.55 °C	315.43 µS/cm	0.10 mg/L	0.79 NTU	83.3 mV	9.10 ft	250.00 ml/min

## Samples

Sample ID:	Description:
GWA-8	Collected at 1459.

Product Name: Low-Flow System

Date: 2020-08-19 11:49:08

Project Information:

Operator Name Zack Davis  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH2100Q

Pump Information:

Pump Model/Type Peristaltic  
Tubing Type poly  
Tubing Diameter 0.17 in  
Tubing Length 23.0 ft

Pump placement from TOC 21 ft

Well Information:

Well ID GWB-4R  
Well diameter 2 in  
Well Total Depth 23.3 ft  
Screen Length 5 ft  
Depth to Water 14.99 ft

Pumping Information:

Final Pumping Rate 200 mL/min  
Total System Volume 0.1926587 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 4.1 in  
Total Volume Pumped 36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 100%	+/- 0.1	+/- 5%	+/- 10		+/- 0.1%	+/- 100%
Last 5	11:25:13	8099.93	23.63	5.70	646.21	7.42	15.40	0.20	68.40
Last 5	11:30:13	8399.93	23.64	5.70	647.44	7.50	15.40	0.19	67.79
Last 5	11:35:13	8699.93	23.72	5.70	646.75	7.87	15.40	0.18	67.44
Last 5	11:40:13	8999.93	23.88	5.70	646.21	8.52	15.40	0.17	67.13
Last 5	11:45:13	9299.88	23.97	5.70	644.24	7.25	15.40	0.15	67.23
Variance 0			0.08	-0.00	-0.69			-0.01	-0.35
Variance 1			0.16	0.00	-0.54			-0.01	-0.31
Variance 2			0.09	0.00	-1.97			-0.02	0.10

Notes

Sunny 80s, Collected at 1145.

Grab Samples

# Low-Flow Test Report:

Test Date / Time: 8/19/2020 10:07:17 AM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWB-5R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 21.5 ft</b> <b>Total Depth: 26.5 ft</b> <b>Initial Depth to Water: 10.39 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 24 ft</b> <b>Estimated Total Volume Pumped: 36 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 1 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/19/2020 10:07 AM	00:00	5.12 pH	24.06 °C	511.18 µS/cm	0.42 mg/L		88.7 mV	10.40 ft	200.00 ml/min
8/19/2020 10:07 AM	00:20	5.12 pH	24.06 °C	506.51 µS/cm	0.36 mg/L	25.00 NTU	89.6 mV	10.50 ft	200.00 ml/min
8/19/2020 10:12 AM	05:20	5.18 pH	24.01 °C	539.34 µS/cm	0.15 mg/L	22.30 NTU	76.3 mV	10.50 ft	200.00 ml/min
8/19/2020 10:17 AM	10:20	5.14 pH	23.92 °C	522.01 µS/cm	0.11 mg/L	23.60 NTU	69.8 mV	10.50 ft	200.00 ml/min
8/19/2020 10:22 AM	15:20	5.14 pH	23.97 °C	497.45 µS/cm	0.11 mg/L	18.50 NTU	65.1 mV	10.60 ft	200.00 ml/min
8/19/2020 10:27 AM	20:20	5.15 pH	24.04 °C	526.07 µS/cm	0.10 mg/L	18.80 NTU	61.3 mV	10.60 ft	200.00 ml/min
8/19/2020 10:32 AM	25:20	5.15 pH	23.98 °C	502.85 µS/cm	0.09 mg/L	23.80 NTU	58.3 mV	10.60 ft	200.00 ml/min
8/19/2020 10:37 AM	30:20	5.15 pH	23.99 °C	512.14 µS/cm	0.09 mg/L	21.00 NTU	55.8 mV	10.60 ft	200.00 ml/min
8/19/2020 10:42 AM	35:20	5.14 pH	23.88 °C	496.63 µS/cm	0.08 mg/L	21.30 NTU	52.3 mV	10.60 ft	200.00 ml/min
8/19/2020 10:47 AM	40:20	5.16 pH	23.84 °C	499.88 µS/cm	0.08 mg/L	21.40 NTU	49.8 mV	10.60 ft	200.00 ml/min
8/19/2020 10:53 AM	46:24	5.15 pH	23.89 °C	538.95 µS/cm	0.08 mg/L	30.10 NTU	49.3 mV	10.60 ft	200.00 ml/min
8/19/2020 10:58 AM	51:24	5.15 pH	23.95 °C	526.63 µS/cm	0.07 mg/L	32.10 NTU	47.3 mV	10.60 ft	200.00 ml/min
8/19/2020 11:03 AM	56:24	5.14 pH	23.97 °C	519.69 µS/cm	0.07 mg/L	32.00 NTU	45.6 mV	10.60 ft	200.00 ml/min
8/19/2020 11:08 AM	01:01:24	5.15 pH	23.96 °C	505.10 µS/cm	0.07 mg/L	36.70 NTU	44.2 mV	10.60 ft	200.00 ml/min
8/19/2020 11:13 AM	01:06:24	5.14 pH	23.91 °C	515.49 µS/cm	0.07 mg/L	35.10 NTU	42.9 mV	10.60 ft	200.00 ml/min

8/19/2020 11:18 AM	01:11:24	5.14 pH	23.96 °C	520.17 µS/cm	0.07 mg/L	36.40 NTU	41.3 mV	10.60 ft	200.00 ml/min
8/19/2020 11:23 AM	01:16:24	5.15 pH	23.97 °C	513.97 µS/cm	0.06 mg/L	34.80 NTU	40.3 mV	10.60 ft	200.00 ml/min
8/19/2020 11:28 AM	01:21:24	5.14 pH	24.01 °C	506.27 µS/cm	0.06 mg/L	34.60 NTU	39.2 mV	10.60 ft	200.00 ml/min
8/19/2020 11:33 AM	01:26:24	5.14 pH	24.07 °C	503.85 µS/cm	0.06 mg/L	38.20 NTU	36.3 mV	10.60 ft	200.00 ml/min
8/19/2020 11:38 AM	01:31:24	5.14 pH	24.03 °C	506.77 µS/cm	0.06 mg/L	42.90 NTU	37.2 mV	10.60 ft	200.00 ml/min
8/19/2020 11:43 AM	01:36:24	5.14 pH	24.15 °C	503.36 µS/cm	0.06 mg/L	44.50 NTU	34.4 mV	10.60 ft	200.00 ml/min
8/19/2020 11:48 AM	01:41:24	5.15 pH	24.24 °C	509.68 µS/cm	0.05 mg/L	38.00 NTU	35.5 mV	10.60 ft	200.00 ml/min
8/19/2020 11:53 AM	01:46:24	5.13 pH	24.33 °C	511.71 µS/cm	0.05 mg/L	37.50 NTU	35.0 mV	10.60 ft	200.00 ml/min
8/19/2020 11:58 AM	01:51:24	5.13 pH	24.28 °C	514.32 µS/cm	0.05 mg/L	39.60 NTU	35.0 mV	10.60 ft	200.00 ml/min

## Samples

Sample ID:	Description:
GWB-5R	Collected at 1158.



# Low-Flow Test Report:

**Test Date / Time:** 8/19/2020 11:20:16 AM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWB-6R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 17.7 ft</b> <b>Total Depth: 22.7 ft</b> <b>Initial Depth to Water: 7.81 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 20 ft</b> <b>Estimated Total Volume Pumped: 32 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 2.3 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, sample time-1400

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/19/2020 11:20 AM	00:00	6.27 pH	37.54 °C	1.74 µS/cm	5.69 mg/L		117.6 mV	7.81 ft	200.00 ml/min
8/19/2020 11:25 AM	05:00	5.19 pH	28.02 °C	638.69 µS/cm	0.46 mg/L	15.00 NTU	67.4 mV	8.00 ft	200.00 ml/min
8/19/2020 11:30 AM	10:00	5.18 pH	26.87 °C	650.44 µS/cm	0.26 mg/L	11.00 NTU	69.8 mV	8.00 ft	200.00 ml/min
8/19/2020 11:35 AM	15:00	5.19 pH	27.10 °C	650.87 µS/cm	0.19 mg/L	10.00 NTU	72.4 mV	8.00 ft	200.00 ml/min
8/19/2020 11:40 AM	20:00	5.18 pH	27.17 °C	648.81 µS/cm	0.19 mg/L	13.00 NTU	74.9 mV	8.00 ft	200.00 ml/min
8/19/2020 11:45 AM	25:00	5.19 pH	27.20 °C	645.87 µS/cm	0.12 mg/L	13.00 NTU	77.1 mV	8.00 ft	200.00 ml/min
8/19/2020 11:50 AM	30:00	5.19 pH	27.35 °C	647.15 µS/cm	0.10 mg/L	11.00 NTU	79.0 mV	8.00 ft	200.00 ml/min
8/19/2020 11:55 AM	35:00	5.18 pH	27.38 °C	646.67 µS/cm	0.10 mg/L	14.00 NTU	81.3 mV	8.00 ft	200.00 ml/min
8/19/2020 12:00 PM	40:00	5.19 pH	27.74 °C	648.69 µS/cm	0.10 mg/L	11.00 NTU	83.0 mV	8.00 ft	200.00 ml/min
8/19/2020 12:05 PM	45:00	5.19 pH	28.07 °C	645.70 µS/cm	0.10 mg/L	14.00 NTU	84.4 mV	8.00 ft	200.00 ml/min
8/19/2020 12:10 PM	50:00	5.19 pH	28.12 °C	647.03 µS/cm	0.10 mg/L	13.00 NTU	86.2 mV	8.00 ft	200.00 ml/min
8/19/2020 12:15 PM	55:00	5.21 pH	28.06 °C	641.88 µS/cm	0.09 mg/L	11.00 NTU	88.0 mV	8.00 ft	200.00 ml/min
8/19/2020 12:20 PM	01:00:00	5.21 pH	27.93 °C	642.58 µS/cm	0.09 mg/L	12.00 NTU	89.6 mV	8.00 ft	200.00 ml/min
8/19/2020 12:25 PM	01:05:00	5.21 pH	27.99 °C	644.10 µS/cm	0.09 mg/L	10.00 NTU	91.0 mV	8.00 ft	200.00 ml/min
8/19/2020 12:30 PM	01:10:00	5.21 pH	27.91 °C	643.08 µS/cm	0.09 mg/L	11.00 NTU	92.4 mV	8.00 ft	200.00 ml/min

8/19/2020 12:35 PM	01:15:00	5.21 pH	27.85 °C	646.26 µS/cm	0.10 mg/L	10.00 NTU	93.4 mV	8.00 ft	200.00 ml/min
8/19/2020 12:40 PM	01:20:00	5.21 pH	28.03 °C	647.87 µS/cm	0.09 mg/L	9.72 NTU	94.4 mV	8.00 ft	200.00 ml/min
8/19/2020 12:45 PM	01:25:00	5.21 pH	28.31 °C	649.50 µS/cm	0.09 mg/L	9.25 NTU	95.1 mV	8.00 ft	200.00 ml/min
8/19/2020 12:50 PM	01:30:00	5.22 pH	28.44 °C	650.97 µS/cm	0.08 mg/L	8.91 NTU	96.3 mV	8.00 ft	200.00 ml/min
8/19/2020 12:55 PM	01:35:00	5.21 pH	28.49 °C	650.37 µS/cm	0.08 mg/L	8.49 NTU	96.8 mV	8.00 ft	200.00 ml/min
8/19/2020 1:00 PM	01:40:00	5.21 pH	27.80 °C	644.91 µS/cm	0.09 mg/L	8.55 NTU	96.9 mV	8.00 ft	200.00 ml/min
8/19/2020 1:05 PM	01:45:00	5.21 pH	27.46 °C	655.86 µS/cm	0.10 mg/L	8.21 NTU	96.7 mV	8.00 ft	200.00 ml/min
8/19/2020 1:10 PM	01:50:00	5.21 pH	27.52 °C	653.64 µS/cm	0.09 mg/L	7.99 NTU	96.8 mV	8.00 ft	200.00 ml/min
8/19/2020 1:15 PM	01:55:00	5.20 pH	27.38 °C	658.25 µS/cm	0.09 mg/L	7.46 NTU	96.3 mV	8.00 ft	200.00 ml/min
8/19/2020 1:20 PM	02:00:00	5.21 pH	27.56 °C	658.74 µS/cm	0.08 mg/L	7.78 NTU	96.0 mV	8.00 ft	200.00 ml/min
8/19/2020 1:25 PM	02:05:00	5.21 pH	26.93 °C	664.18 µS/cm	0.10 mg/L	6.14 NTU	95.4 mV	8.00 ft	200.00 ml/min
8/19/2020 1:30 PM	02:10:00	5.19 pH	26.85 °C	667.24 µS/cm	0.10 mg/L	6.66 NTU	95.2 mV	8.00 ft	200.00 ml/min
8/19/2020 1:35 PM	02:15:00	5.19 pH	26.69 °C	673.55 µS/cm	0.10 mg/L	6.12 NTU	94.6 mV	8.00 ft	200.00 ml/min
8/19/2020 1:40 PM	02:20:00	5.19 pH	26.77 °C	678.25 µS/cm	0.10 mg/L	5.82 NTU	93.9 mV	8.00 ft	200.00 ml/min
8/19/2020 1:45 PM	02:25:00	5.20 pH	26.93 °C	678.35 µS/cm	0.11 mg/L	5.51 NTU	93.2 mV	8.00 ft	200.00 ml/min
8/19/2020 1:50 PM	02:30:00	5.20 pH	26.63 °C	683.59 µS/cm	0.11 mg/L	5.22 NTU	92.0 mV	8.00 ft	200.00 ml/min
8/19/2020 1:55 PM	02:35:00	5.19 pH	26.81 °C	688.37 µS/cm	0.10 mg/L	5.02 NTU	91.2 mV	8.00 ft	200.00 ml/min
8/19/2020 2:00 PM	02:40:00	5.21 pH	27.68 °C	687.67 µS/cm	0.07 mg/L	4.58 NTU	90.9 mV	8.00 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 8/19/2020 9:05:54 AM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-1</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 23.1 ft</b> <b>Total Depth: 28.1 ft</b> <b>Initial Depth to Water: 19.23 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 25.6 ft</b> <b>Estimated Total Volume Pumped: 9 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/19/2020 9:05 AM	00:00	5.21 pH	22.84 °C	302.78 µS/cm	0.25 mg/L		110.2 mV	19.23 ft	200.00 ml/min
8/19/2020 9:10 AM	05:00	5.60 pH	22.62 °C	433.59 µS/cm	0.16 mg/L	0.66 NTU	112.3 mV	19.23 ft	200.00 ml/min
8/19/2020 9:15 AM	10:00	5.69 pH	22.53 °C	455.81 µS/cm	0.13 mg/L	0.67 NTU	112.7 mV	19.23 ft	200.00 ml/min
8/19/2020 9:20 AM	15:00	5.71 pH	22.44 °C	459.31 µS/cm	0.11 mg/L	0.68 NTU	112.8 mV	19.23 ft	200.00 ml/min
8/19/2020 9:25 AM	20:00	5.72 pH	22.40 °C	461.25 µS/cm	0.11 mg/L	0.58 NTU	112.9 mV	19.23 ft	200.00 ml/min
8/19/2020 9:30 AM	25:00	5.72 pH	22.38 °C	459.89 µS/cm	0.10 mg/L	0.68 NTU	112.8 mV	19.23 ft	200.00 ml/min
8/19/2020 9:35 AM	30:00	5.73 pH	22.39 °C	462.54 µS/cm	0.09 mg/L	0.56 NTU	112.7 mV	19.23 ft	200.00 ml/min

## Samples

Sample ID:	Description:
GWC-1	Collected at 0935

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 2:52:39 PM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC 2</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 26.4 ft</b> <b>Total Depth: 31.4 ft</b> <b>Initial Depth to Water: 19.21 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 28.9 ft</b> <b>Estimated Total Volume Pumped: 6126.667 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.09 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

92F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 2:52 PM	00:00	4.81 pH	24.60 °C	54.05 µS/cm	0.73 mg/L		71.4 mV	19.21 ft	200.00 ml/min
8/18/2020 2:53 PM	00:38	4.74 pH	24.35 °C	53.74 µS/cm	0.51 mg/L		73.5 mV	19.21 ft	200.00 ml/min
8/18/2020 2:58 PM	05:38	4.60 pH	23.52 °C	53.62 µS/cm	0.16 mg/L	2.89 NTU	81.0 mV	19.21 ft	200.00 ml/min
8/18/2020 3:03 PM	10:38	4.60 pH	23.11 °C	53.24 µS/cm	0.11 mg/L	2.03 NTU	82.9 mV	19.21 ft	200.00 ml/min
8/18/2020 3:08 PM	15:38	4.61 pH	23.16 °C	53.00 µS/cm	0.10 mg/L	1.56 NTU	80.2 mV	19.21 ft	200.00 ml/min
8/18/2020 3:13 PM	20:38	4.61 pH	23.07 °C	52.86 µS/cm	0.09 mg/L	0.51 NTU	79.0 mV	19.30 ft	200.00 ml/min
8/18/2020 3:18 PM	25:38	4.59 pH	23.02 °C	53.21 µS/cm	0.08 mg/L	0.50 NTU	90.2 mV	19.30 ft	200.00 ml/min
8/18/2020 3:23 PM	30:38	4.60 pH	22.99 °C	53.00 µS/cm	0.08 mg/L	1.48 NTU	79.2 mV	19.30 ft	200.00 ml/min

## Samples

Sample ID:	Description:
GWC-2	Collected at 1523.

# Low-Flow Test Report:

**Test Date / Time:** 8/18/2020 3:50:30 PM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWC-9</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 20.7 ft</b> <b>Total Depth: 25.7 ft</b> <b>Initial Depth to Water: 8.73 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 23 ft</b> <b>Estimated Total Volume Pumped: 7800 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 130 ml/min</b> <b>Final Draw Down: 15.87 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Purged well dry

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/18/2020 3:50 PM	00:00	4.89 pH	34.25 °C	155.31 µS/cm	2.45 mg/L	3.33 NTU	117.9 mV	8.73 ft	130.00 ml/min
8/18/2020 3:55 PM	05:00	4.78 pH	25.78 °C	173.54 µS/cm	0.34 mg/L	4.49 NTU	109.6 mV	9.60 ft	130.00 ml/min
8/18/2020 4:00 PM	10:00	4.74 pH	25.41 °C	175.30 µS/cm	0.28 mg/L	4.96 NTU	104.6 mV	10.60 ft	130.00 ml/min
8/18/2020 4:05 PM	15:00	4.69 pH	25.34 °C	175.68 µS/cm	0.25 mg/L	5.21 NTU	102.0 mV	12.80 ft	130.00 ml/min
8/18/2020 4:10 PM	20:00	4.69 pH	24.35 °C	173.71 µS/cm	0.17 mg/L	11.00 NTU	100.2 mV	14.50 ft	130.00 ml/min
8/18/2020 4:15 PM	25:00	4.69 pH	23.88 °C	175.21 µS/cm	0.17 mg/L	14.00 NTU	98.7 mV	16.20 ft	130.00 ml/min
8/18/2020 4:20 PM	30:00	4.71 pH	23.83 °C	173.06 µS/cm	0.17 mg/L	15.00 NTU	96.4 mV	17.50 ft	130.00 ml/min
8/18/2020 4:25 PM	35:00	4.72 pH	24.13 °C	175.92 µS/cm	0.19 mg/L	13.00 NTU	94.4 mV	18.90 ft	130.00 ml/min
8/18/2020 4:30 PM	40:00	4.74 pH	24.19 °C	175.11 µS/cm	0.19 mg/L	9.53 NTU	93.0 mV	20.00 ft	130.00 ml/min
8/18/2020 4:35 PM	45:00	4.75 pH	23.49 °C	174.42 µS/cm	0.16 mg/L	8.49 NTU	92.6 mV	21.20 ft	130.00 ml/min
8/18/2020 4:40 PM	50:00	4.76 pH	23.33 °C	174.33 µS/cm	0.17 mg/L	13.00 NTU	92.1 mV	22.50 ft	130.00 ml/min
8/18/2020 4:45 PM	55:00	4.76 pH	23.16 °C	173.38 µS/cm	0.23 mg/L	12.00 NTU	91.7 mV	23.80 ft	130.00 ml/min
8/18/2020 4:50 PM	01:00:00	4.76 pH	22.80 °C	168.93 µS/cm	0.74 mg/L	11.00 NTU	92.5 mV	24.60 ft	130.00 ml/min

## Samples

# Low-Flow Test Report:

Test Date / Time: 8/19/2020 9:00:23 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-9</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 20.7 ft</b> <b>Total Depth: 25.7 ft</b> <b>Initial Depth to Water: 9.63 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 23 ft</b> <b>Estimated Total Volume Pumped: 2.6 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 130 ml/min</b> <b>Final Draw Down: 4.44 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, sample time 0920

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/19/2020 9:00 AM	00:00	8.21 pH	25.44 °C	2.39 µS/cm	8.24 mg/L		183.5 mV	9.63 ft	130.00 ml/min
8/19/2020 9:05 AM	05:00	4.55 pH	24.28 °C	168.57 µS/cm	1.24 mg/L	6.51 NTU	86.2 mV	10.3 ft	130.00 ml/min
8/19/2020 9:10 AM	10:00	4.56 pH	24.60 °C	167.87 µS/cm	0.81 mg/L	4.05 NTU	85.1 mV	10.9 ft	130.00 ml/min
8/19/2020 9:15 AM	15:00	4.58 pH	24.28 °C	166.87 µS/cm	0.53 mg/L	4.44 NTU	83.3 mV	11.40ft	130.00 ml/min
8/19/2020 9:20 AM	20:00	4.58 pH	24.17 °C	167.21 µS/cm	0.39 mg/L	3.45 NTU	83.5 mV	11.8 ft	130.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 8/18/2020 9:15:38 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-11</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 17.55 ft</b> <b>Total Depth: 22.55 ft</b> <b>Initial Depth to Water: 12.64 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 20 ft</b> <b>Estimated Total Volume Pumped: 11.7 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 130 ml/min</b> <b>Final Draw Down: 35.5 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, sample time-1045

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/18/2020 9:15 AM	00:00	8.46 pH	28.04 °C	12.83 µS/cm	7.91 mg/L		257.0 mV	12.64 ft	130.00 ml/min
8/18/2020 9:20 AM	05:00	5.02 pH	26.23 °C	146.42 µS/cm	0.85 mg/L	12.00 NTU	96.9 mV	13.40 ft	130.00 ml/min
8/18/2020 9:25 AM	10:00	5.01 pH	26.19 °C	138.76 µS/cm	0.73 mg/L	2.14 NTU	88.8 mV	13.80 ft	130.00 ml/min
8/18/2020 9:30 AM	15:00	5.01 pH	27.10 °C	137.77 µS/cm	0.68 mg/L	2.11 NTU	84.1 mV	14.40 ft	130.00 ml/min
8/18/2020 9:35 AM	20:00	5.01 pH	26.51 °C	139.35 µS/cm	0.50 mg/L	2.07 NTU	84.0 mV	14.90 ft	130.00 ml/min
8/18/2020 9:40 AM	25:00	4.99 pH	26.23 °C	152.95 µS/cm	0.58 mg/L	1.97 NTU	86.0 mV	15.20 ft	130.00 ml/min
8/18/2020 9:45 AM	30:00	4.94 pH	26.39 °C	202.76 µS/cm	0.42 mg/L	2.05 NTU	89.5 mV	15.30 ft	130.00 ml/min
8/18/2020 9:50 AM	35:00	4.90 pH	25.86 °C	362.61 µS/cm	0.40 mg/L	1.99 NTU	97.1 mV	15.30 ft	130.00 ml/min
8/18/2020 9:55 AM	40:00	4.86 pH	25.64 °C	548.27 µS/cm	0.46 mg/L	1.87 NTU	101.8 mV	15.30 ft	130.00 ml/min
8/18/2020 10:00 AM	45:00	4.85 pH	25.69 °C	626.83 µS/cm	0.44 mg/L	2.08 NTU	103.9 mV	15.40 ft	130.00 ml/min
8/18/2020 10:05 AM	50:00	4.85 pH	25.76 °C	694.91 µS/cm	0.38 mg/L	5.43 NTU	104.0 mV	15.50 ft	130.00 ml/min
8/18/2020 10:10 AM	55:00	4.85 pH	25.59 °C	733.26 µS/cm	0.44 mg/L	10.00 NTU	106.2 mV	15.60 ft	130.00 ml/min
8/18/2020 10:15 AM	01:00:00	4.82 pH	25.87 °C	861.13 µS/cm	0.46 mg/L	9.51 NTU	108.9 mV	15.60 ft	130.00 ml/min
8/18/2020 10:20 AM	01:05:00	4.82 pH	25.87 °C	945.67 µS/cm	0.31 mg/L	9.22 NTU	110.5 mV	15.60 ft	130.00 ml/min
8/18/2020 10:25 AM	01:10:00	4.82 pH	26.30 °C	988.83 µS/cm	0.31 mg/L	8.97 NTU	110.5 mV	15.60 ft	130.00 ml/min

8/18/2020 10:30 AM	01:15:00	4.83 pH	27.04 °C	1,056.8 μS/cm	0.31 mg/L	7.92 NTU	112.4 mV	15.60 ft	130.00 ml/min
8/18/2020 10:35 AM	01:20:00	4.82 pH	26.70 °C	1,109.6 μS/cm	0.35 mg/L	6.55 NTU	112.3 mV	15.60 ft	130.00 ml/min
8/18/2020 10:40 AM	01:25:00	4.83 pH	26.87 °C	1,124.8 μS/cm	0.29 mg/L	4.95 NTU	114.3 mV	15.60 ft	130.00 ml/min
8/18/2020 10:45 AM	01:30:00	4.84 pH	26.33 °C	1,078.5 μS/cm	0.35 mg/L	4.41 NTU	113.2 mV	15.60 ft	130.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 5/27/2020 2:56:36 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-12</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 21.7 ft</b> <b>Total Depth: 26.7 ft</b> <b>Initial Depth to Water: 12.45 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 23 ft</b> <b>Estimated Total Volume Pumped: 6 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 6.6 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Cloudy, sample time-1725

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
5/27/2020 2:56 PM	00:00	7.57 pH	38.00 °C	6.84 µS/cm	6.83 mg/L		290.7 mV	12.45 ft	200.00 ml/min
5/27/2020 3:00 PM	03:48	3.97 pH	26.96 °C	481.66 µS/cm	0.43 mg/L	2.22 NTU	95.6 mV	12.80 ft	200.00 ml/min
8/17/2020 4:57 PM	02:00:57	3.97 pH	25.51 °C	496.52 µS/cm	0.29 mg/L	2.45 NTU	93.1 mV	13.00 ft	200.00 ml/min
8/17/2020 5:00 PM	02:03:27	3.96 pH	24.87 °C	489.56 µS/cm	0.23 mg/L	2.15 NTU	91.0 mV	13.00 ft	200.00 ml/min
8/17/2020 5:05 PM	02:08:27	3.96 pH	24.41 °C	493.45 µS/cm	0.19 mg/L	2.08 NTU	88.5 mV	13.00 ft	200.00 ml/min
8/17/2020 5:10 PM	02:13:27	3.95 pH	24.44 °C	489.64 µS/cm	0.19 mg/L	2.19 NTU	87.1 mV	13.00 ft	200.00 ml/min
8/17/2020 5:15 PM	02:18:27	3.95 pH	24.28 °C	473.38 µS/cm	0.17 mg/L	1.55 NTU	86.5 mV	13.00 ft	200.00 ml/min
8/17/2020 5:20 PM	02:23:27	3.94 pH	24.19 °C	483.61 µS/cm	0.17 mg/L	0.95 NTU	86.6 mV	13.00 ft	200.00 ml/min
8/17/2020 5:25 PM	02:28:27	3.94 pH	24.12 °C	475.85 µS/cm	0.16 mg/L	0.86 NTU	86.2 mV	13.00 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 8/17/2020 3:41:32 PM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-13</b> <b>Well Diameter: 2 in</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 19.1 ft</b> <b>Total Depth: 24.1 ft</b> <b>Initial Depth to Water: 13.91 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 22 ft</b> <b>Estimated Total Volume Pumped: 8750 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 0.59 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

91F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/17/2020 3:41 PM	00:00	4.68 pH	26.28 °C	127.93 µS/cm	0.25 mg/L		134.3 mV	13.91 ft	250.00 ml/min
8/17/2020 3:46 PM	05:00	4.66 pH	24.40 °C	109.20 µS/cm	0.16 mg/L	9.43 NTU	124.6 mV	14.40 ft	250.00 ml/min
8/17/2020 3:51 PM	10:00	4.66 pH	24.15 °C	97.77 µS/cm	0.14 mg/L	6.56 NTU	115.7 mV	14.40 ft	250.00 ml/min
8/17/2020 3:56 PM	15:00	4.66 pH	23.54 °C	94.21 µS/cm	0.13 mg/L	2.89 NTU	110.8 mV	14.50 ft	250.00 ml/min
8/17/2020 4:01 PM	20:00	4.65 pH	23.27 °C	91.28 µS/cm	0.13 mg/L	2.18 NTU	110.6 mV	14.50 ft	250.00 ml/min
8/17/2020 4:06 PM	25:00	4.65 pH	23.35 °C	88.18 µS/cm	0.12 mg/L	2.01 NTU	103.0 mV	14.50 ft	250.00 ml/min
8/17/2020 4:11 PM	30:00	4.65 pH	23.51 °C	85.75 µS/cm	0.12 mg/L	1.42 NTU	99.1 mV	14.50 ft	250.00 ml/min
8/17/2020 4:16 PM	35:00	4.65 pH	23.58 °C	85.52 µS/cm	0.13 mg/L	1.09 NTU	96.1 mV	14.50 ft	250.00 ml/min

## Samples

Sample ID:	Description:
GWC-13	Collect at 1616

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 1:34:30 PM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-14</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 22 ft</b> <b>Total Depth: 27 ft</b> <b>Initial Depth to Water: 19.51 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 24.5 ft</b> <b>Estimated Total Volume Pumped: 10000 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.49 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

91F cloudy

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 1:34 PM	00:00	6.28 pH	24.96 °C	315.50 µS/cm	0.93 mg/L		65.6 mV	19.51 ft	200.00 ml/min
8/18/2020 1:39 PM	05:00	5.76 pH	22.39 °C	327.80 µS/cm	0.59 mg/L	85.30 NTU	74.7 mV	19.90 ft	200.00 ml/min
8/18/2020 1:44 PM	10:00	5.69 pH	21.99 °C	329.72 µS/cm	0.78 mg/L	47.60 NTU	78.2 mV	19.90 ft	200.00 ml/min
8/18/2020 1:49 PM	15:00	5.69 pH	21.90 °C	336.95 µS/cm	0.64 mg/L	25.40 NTU	78.2 mV	20.00 ft	200.00 ml/min
8/18/2020 1:54 PM	20:00	5.69 pH	21.74 °C	339.25 µS/cm	0.57 mg/L	21.50 NTU	81.5 mV	20.00 ft	200.00 ml/min
8/18/2020 1:59 PM	25:00	5.68 pH	21.72 °C	344.44 µS/cm	0.52 mg/L	20.70 NTU	80.4 mV	20.00 ft	200.00 ml/min
8/18/2020 2:04 PM	30:00	5.65 pH	21.59 °C	350.04 µS/cm	0.46 mg/L	42.70 NTU	83.3 mV	20.00 ft	200.00 ml/min
8/18/2020 2:09 PM	35:00	5.61 pH	21.59 °C	356.76 µS/cm	0.47 mg/L	38.10 NTU	80.8 mV	20.00 ft	200.00 ml/min
8/18/2020 2:14 PM	40:00	5.60 pH	21.53 °C	359.83 µS/cm	0.42 mg/L	16.60 NTU	82.9 mV	20.00 ft	200.00 ml/min
8/18/2020 2:19 PM	45:00	5.57 pH	21.56 °C	368.27 µS/cm	0.44 mg/L	6.98 NTU	80.2 mV	20.00 ft	200.00 ml/min
8/18/2020 2:24 PM	50:00	5.56 pH	21.42 °C	367.45 µS/cm	0.44 mg/L	4.71 NTU	82.1 mV	20.00 ft	200.00 ml/min

## Samples

Sample ID:	Description:
GWC-14	Collected at 1424

Created using VuSitu from In-Situ, Inc.

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 12:27:02 PM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-15</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 21.8 ft</b> <b>Total Depth: 26.8 ft</b> <b>Initial Depth to Water: 19.32 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 24.0 ft</b> <b>Estimated Total Volume Pumped: 4425 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.28 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

89F cloudy

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 12:27 PM	00:00	6.39 pH	25.05 °C	584.39 µS/cm	0.47 mg/L		80.2 mV	19.32 ft	150.00 ml/min
8/18/2020 12:31 PM	04:30	6.41 pH	24.27 °C	604.42 µS/cm	0.24 mg/L	5.87 NTU	72.4 mV	19.60 ft	150.00 ml/min
8/18/2020 12:36 PM	09:30	6.41 pH	24.01 °C	597.33 µS/cm	0.17 mg/L	4.41 NTU	70.2 mV	19.60 ft	150.00 ml/min
8/18/2020 12:41 PM	14:30	6.41 pH	23.65 °C	602.36 µS/cm	0.11 mg/L	4.47 NTU	69.3 mV	19.60 ft	150.00 ml/min
8/18/2020 12:46 PM	19:30	6.40 pH	23.61 °C	604.37 µS/cm	0.10 mg/L	5.47 NTU	67.4 mV	19.60 ft	150.00 ml/min
8/18/2020 12:51 PM	24:30	6.40 pH	23.61 °C	598.71 µS/cm	0.10 mg/L	5.62 NTU	66.1 mV	19.60 ft	150.00 ml/min
8/18/2020 12:56 PM	29:30	6.39 pH	23.59 °C	603.22 µS/cm	0.09 mg/L	4.32 NTU	65.0 mV	19.60 ft	150.00 ml/min

## Samples

Sample ID:	Description:
GWC-15	Collected at 1256.

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 9:07:24 AM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-16</b> <b>Well Diameter: 2 in</b> <b>Casing Type: pvc</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 23.2 ft</b> <b>Total Depth: 28.2 ft</b> <b>Initial Depth to Water: 20.9 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 25 ft</b> <b>Estimated Total Volume Pumped: 13 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.1 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

**Weather Conditions:**  
80F OVERCAST

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 9:07 AM	00:00	5.46 pH	23.51 °C	2,122.2 µS/cm	0.28 mg/L		124.6 mV	20.90 ft	150.00 ml/min
8/18/2020 9:12 AM	05:00	5.46 pH	23.35 °C	2,064.6 µS/cm	0.31 mg/L	11.90 NTU	113.2 mV	21.00 ft	150.00 ml/min
8/18/2020 9:17 AM	10:00	5.50 pH	23.42 °C	2,022.5 µS/cm	0.37 mg/L	11.40 NTU	115.3 mV	21.00 ft	150.00 ml/min
8/18/2020 9:22 AM	15:00	5.51 pH	23.41 °C	2,037.2 µS/cm	0.38 mg/L	7.80 NTU	103.8 mV	21.00 ft	150.00 ml/min
8/18/2020 9:27 AM	20:00	5.51 pH	23.52 °C	2,038.4 µS/cm	0.39 mg/L	6.21 NTU	100.7 mV	21.00 ft	150.00 ml/min
8/18/2020 9:32 AM	25:00	5.52 pH	23.43 °C	2,046.7 µS/cm	0.39 mg/L	4.54 NTU	103.0 mV	21.00 ft	150.00 ml/min

## Samples

Sample ID:	Description:
GWC-16	Collected at 0932

Product Name: Low-Flow System

Date: 2020-08-18 14:49:20

Project Information:

Operator Name Zack Davis  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

Pump Information:

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter .17 in  
Tubing Length 20.98 ft

Pump placement from TOC 20 ft

Well Information:

Well ID GWC-17  
Well diameter 2 in  
Well Total Depth 22.98 ft  
Screen Length 5 ft  
Depth to Water 7.70 ft

Pumping Information:

Final Pumping Rate 185 mL/min  
Total System Volume 0.1836426 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 0 in  
Total Volume Pumped 5.55 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C +/- 100%	pH +/- 0.1	SpCond $\mu$ S/cm +/- 5%	Turb NTU +/- 10	DTW ft	RDO mg/L +/- 10%	ORP mV +/- 100%
Stabilization									
Last 5	14:18:59	899.97	25.19	4.28	1613.22	2.67	9.00	0.11	142.76
Last 5	14:28:59	1499.97	25.32	4.30	1597.85	2.14	9.10	0.11	139.50
Last 5	14:33:59	1799.97	25.48	4.30	1600.38	1.68	9.10	0.09	137.37
Last 5	14:38:59	2099.97	25.78	4.31	1595.96	1.50	9.10	0.08	137.50
Last 5	14:43:59	2399.97	25.69	4.32	1589.99	2.11	9.10	0.08	138.37
Variance 0			0.16	-0.00	2.53			-0.03	-2.13
Variance 1			0.30	0.01	-4.43			-0.00	0.13
Variance 2			-0.09	0.01	-5.96			-0.01	0.87

Notes Sampled at 1450, sunny 80s

Grab Samples

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 3:56:44 PM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-20</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 19.9 ft</b> <b>Total Depth: 24.9 ft</b> <b>Initial Depth to Water: 21.31 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 22.9 ft</b> <b>Estimated Total Volume Pumped: 10 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0.29 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

92F clear

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 3:56 PM	00:00	5.90 pH	26.51 °C	2,074.2 µS/cm	0.35 mg/L		91.1 mV	21.31 ft	150.00 ml/min
8/18/2020 4:01 PM	05:00	5.89 pH	24.78 °C	2,091.1 µS/cm	0.19 mg/L	0.89 NTU	79.1 mV	21.60 ft	150.00 ml/min
8/18/2020 4:06 PM	10:00	5.90 pH	24.51 °C	2,067.9 µS/cm	0.16 mg/L	0.76 NTU	73.4 mV	21.60 ft	150.00 ml/min
8/18/2020 4:11 PM	15:00	5.90 pH	23.96 °C	2,070.4 µS/cm	0.15 mg/L	0.74 NTU	68.8 mV	21.60 ft	150.00 ml/min
8/18/2020 4:16 PM	20:00	5.90 pH	23.72 °C	2,057.9 µS/cm	0.15 mg/L	0.60 NTU	65.1 mV	21.60 ft	150.00 ml/min
8/18/2020 4:21 PM	25:00	5.89 pH	23.52 °C	2,049.7 µS/cm	0.13 mg/L	0.63 NTU	61.7 mV	21.60 ft	150.00 ml/min
8/18/2020 4:26 PM	30:00	5.89 pH	23.88 °C	2,073.5 µS/cm	0.13 mg/L	0.77 NTU	57.5 mV	21.60 ft	150.00 ml/min
8/18/2020 4:31 PM	35:00	5.90 pH	23.73 °C	2,046.7 µS/cm	0.14 mg/L	0.60 NTU	55.4 mV	21.60 ft	150.00 ml/min
8/18/2020 4:36 PM	40:00	5.89 pH	23.40 °C	2,050.5 µS/cm	0.12 mg/L	0.83 NTU	51.7 mV	21.60 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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GWC-20

Collected at 1636

Created using VuSitu from In-Situ, Inc.

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 10:03:22 AM

Project: Grumman Road

Operator Name: O. Fuquea

<b>Location Name: GWC-21</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 18.8 ft</b> <b>Total Depth: 23.8 ft</b> <b>Initial Depth to Water: 20.6 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 23.2 ft</b> <b>Estimated Total Volume Pumped: 13 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714344</b>
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## Test Notes:

## Weather Conditions:

84 Cloudy.

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 10	+/- 10	+/- 0.3	
8/18/2020 10:03 AM	00:00	5.09 pH	24.24 °C	106.65 µS/cm	4.65 mg/L		85.3 mV	20.6 ft	150.00 ml/min
8/18/2020 10:08 AM	05:00	5.05 pH	24.05 °C	109.68 µS/cm	3.99 mg/L	29.70 NTU	90.6 mV	20.6 ft	150.00 ml/min
8/18/2020 10:13 AM	10:00	5.12 pH	24.02 °C	121.61 µS/cm	3.55 mg/L	29.00 NTU	94.3 mV	20.6 ft	150.00 ml/min
8/18/2020 10:18 AM	15:00	5.35 pH	23.89 °C	169.30 µS/cm	2.84 mg/L	34.10 NTU	97.3 mV	20.6 ft	150.00 ml/min
8/18/2020 10:23 AM	20:00	5.57 pH	24.03 °C	280.73 µS/cm	2.05 mg/L	33.80 NTU	109.7 mV	20.6 ft	150.00 ml/min
8/18/2020 10:28 AM	25:00	5.70 pH	24.24 °C	434.95 µS/cm	1.79 mg/L	12.20 NTU	112.4 mV	20.6 ft	150.00 ml/min
8/18/2020 10:33 AM	30:00	5.76 pH	24.10 °C	553.67 µS/cm	1.61 mg/L	12.50 NTU	114.5 mV	20.6 ft	150.00 ml/min
8/18/2020 10:38 AM	35:00	5.78 pH	24.17 °C	653.06 µS/cm	1.64 mg/L	2.88 NTU	103.6 mV	20.6 ft	150.00 ml/min
8/18/2020 10:43 AM	40:00	5.80 pH	24.23 °C	711.65 µS/cm	1.58 mg/L	2.94 NTU	111.4 mV	20.6 ft	150.00 ml/min
8/18/2020 10:48 AM	45:00	5.81 pH	24.19 °C	766.93 µS/cm	1.51 mg/L	1.47 NTU	101.6 mV	20.6 ft	150.00 ml/min
8/18/2020 10:53 AM	50:00	5.82 pH	24.23 °C	780.09 µS/cm	1.49 mg/L	1.38 NTU	107.3 mV	20.6 ft	150.00 ml/min
8/18/2020 10:58 AM	55:00	5.82 pH	24.37 °C	781.02 µS/cm	1.46 mg/L	1.44 NTU	98.5 mV	20.6 ft	150.00 ml/min

**Samples**

Sample ID:	Description:
GWC-21	Collected at 1058.

# Low-Flow Test Report:

Test Date / Time: 8/18/2020 12:20:54 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-22</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 13.3 ft</b> <b>Total Depth: 18.6 ft</b> <b>Initial Depth to Water: 8.42 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 16 ft</b> <b>Estimated Total Volume Pumped: 21.45 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 165 ml/min</b> <b>Final Draw Down: 2.16 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, sample time-1430, DUP-2 here

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/18/2020 12:20 PM	00:00	4.93 pH	40.60 °C	178.28 µS/cm	5.36 mg/L		86.5 mV	8.42 ft	165.00 ml/min
8/18/2020 12:25 PM	05:00	4.70 pH	30.54 °C	153.75 µS/cm	0.59 mg/L	25.00 NTU	90.6 mV	8.50 ft	165.00 ml/min
8/18/2020 12:30 PM	10:00	4.65 pH	29.93 °C	181.95 µS/cm	0.35 mg/L	22.00 NTU	94.8 mV	8.60 ft	165.00 ml/min
8/18/2020 12:35 PM	15:00	4.64 pH	29.23 °C	201.81 µS/cm	0.27 mg/L	25.00 NTU	97.0 mV	8.60 ft	165.00 ml/min
8/18/2020 12:40 PM	20:00	4.63 pH	28.69 °C	218.92 µS/cm	0.23 mg/L	27.00 NTU	99.2 mV	8.60 ft	165.00 ml/min
8/18/2020 12:45 PM	25:00	4.62 pH	29.00 °C	218.09 µS/cm	0.22 mg/L	17.00 NTU	99.2 mV	8.60 ft	165.00 ml/min
8/18/2020 12:50 PM	30:00	4.82 pH	29.71 °C	120.95 µS/cm	0.42 mg/L	10.00 NTU	92.4 mV	8.60 ft	165.00 ml/min
8/18/2020 12:55 PM	35:00	4.66 pH	29.85 °C	166.68 µS/cm	0.32 mg/L	10.00 NTU	99.7 mV	8.60 ft	165.00 ml/min
8/18/2020 1:00 PM	40:00	4.64 pH	29.48 °C	216.15 µS/cm	0.21 mg/L	15.00 NTU	102.9 mV	8.60 ft	165.00 ml/min
8/18/2020 1:05 PM	45:00	4.63 pH	29.89 °C	221.10 µS/cm	0.19 mg/L	14.00 NTU	103.4 mV	8.60 ft	165.00 ml/min
8/18/2020 1:10 PM	50:00	4.63 pH	29.47 °C	228.81 µS/cm	0.19 mg/L	13.00 NTU	105.4 mV	8.60 ft	165.00 ml/min
8/18/2020 1:15 PM	55:00	4.63 pH	29.85 °C	237.45 µS/cm	0.17 mg/L	11.00 NTU	108.8 mV	8.60 ft	165.00 ml/min
8/18/2020 1:20 PM	01:00:00	4.62 pH	29.76 °C	257.88 µS/cm	0.17 mg/L	9.70 NTU	110.9 mV	8.60 ft	165.00 ml/min
8/18/2020 1:25 PM	01:05:00	4.61 pH	29.76 °C	298.84 µS/cm	0.18 mg/L	6.69 NTU	115.8 mV	8.60 ft	165.00 ml/min
8/18/2020 1:30 PM	01:10:00	4.61 pH	30.19 °C	379.31 µS/cm	0.17 mg/L	4.87 NTU	122.1 mV	8.60 ft	165.00 ml/min

8/18/2020 1:35 PM	01:15:00	4.61 pH	29.52 °C	476.46 µS/cm	0.18 mg/L	4.44 NTU	125.8 mV	8.60 ft	165.00 ml/min
8/18/2020 1:40 PM	01:20:00	4.60 pH	29.96 °C	564.87 µS/cm	0.17 mg/L	3.91 NTU	130.6 mV	8.60 ft	165.00 ml/min
8/18/2020 1:45 PM	01:25:00	4.57 pH	29.38 °C	624.67 µS/cm	0.17 mg/L	2.22 NTU	136.1 mV	8.60 ft	165.00 ml/min
8/18/2020 1:50 PM	01:30:00	4.58 pH	29.11 °C	693.79 µS/cm	0.16 mg/L	1.85 NTU	137.8 mV	8.60 ft	165.00 ml/min
8/18/2020 1:55 PM	01:35:00	4.57 pH	28.98 °C	752.00 µS/cm	0.16 mg/L	1.94 NTU	143.2 mV	8.60 ft	165.00 ml/min
8/18/2020 2:00 PM	01:40:00	4.57 pH	28.71 °C	816.64 µS/cm	0.15 mg/L	1.38 NTU	144.6 mV	8.60 ft	165.00 ml/min
8/18/2020 2:05 PM	01:45:00	4.55 pH	28.63 °C	872.93 µS/cm	0.15 mg/L	1.53 NTU	147.5 mV	8.60 ft	165.00 ml/min
8/18/2020 2:10 PM	01:50:00	4.55 pH	29.76 °C	918.91 µS/cm	0.15 mg/L	2.00 NTU	153.1 mV	8.60 ft	165.00 ml/min
8/18/2020 2:15 PM	01:55:00	4.55 pH	29.28 °C	959.18 µS/cm	0.15 mg/L	1.28 NTU	153.6 mV	8.60 ft	165.00 ml/min
8/18/2020 2:20 PM	02:00:00	4.53 pH	29.90 °C	998.49 µS/cm	0.16 mg/L	1.79 NTU	156.3 mV	8.60 ft	165.00 ml/min
8/18/2020 2:25 PM	02:05:00	4.53 pH	30.57 °C	1,028.6 µS/cm	0.18 mg/L	2.22 NTU	162.2 mV	8.60 ft	165.00 ml/min
8/18/2020 2:30 PM	02:10:00	4.52 pH	31.57 °C	1,047.1 µS/cm	0.26 mg/L	2.49 NTU	164.9 mV	8.60 ft	165.00 ml/min

## Samples

Sample ID:	Description:
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### Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: OFUCWEA

WATER LEVEL: Solast MID  
WATER LEVEL S/N: 322814

INSTRUMENT S/N: 714344  
INSTRUMENT TYPE: Smartroll 322814 Hoqua Troll  
CAL. SOLUTIONS:  
ID: COND. LOT #: 06E438 EXP. DATE: 5/21  
ID: pH4 LOT #: 06D046 EXP. DATE: 4/22  
ID: pH7 LOT #: 96K721 EXP. DATE: 11/21  
ID: pH10 LOT #: 96K48 EXP. DATE: 12/21  
ID: ORP LOT #: 06D570 EXP. DATE: 1/21  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_

Calibration Date: 8-17-20  
RDO: 100% sat. = 96.98%  
PH: 4.00 = 4.34 7.00 = 7.10 10.00 = 9.97  
CONDUCTIVITY: 1449.8  
ORP (mV) 243

Calibration Date: 8-18-20  
RDO: 100% sat. = 111.07%  
PH: 4.00 = 4.00 7.00 = 7.14 10.00 = 9.98  
CONDUCTIVITY: 1440.1  
ORP (mV) 225.5

Calibration Date: 8-19-20  
RDO: 100% sat. = 95.56  
PH: 4.00 = 4.03 7.00 = 6.92 10.00 = 9.69 98  
CONDUCTIVITY: 1424.6  
ORP (mV) 232.5

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_



## Daily Instrument Calibration Log

SITE: Grumman Rd.  
TECHNICIAN: G. FUQUEA

INSTRUMENT S/N: 17120C063431  
INSTRUMENT TYPE:

CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water  
10 NTU - LOT # EXP. DATE:  
20 NTU - LOT # EXP. DATE:

\* LOT # NOT READABLE

Calibration Date: 8-17-20

Calibration Solution	Instrument Reading	
0.0	0.0	NTU
10.0	9.9	NTU
20.0	19.7	NTU

Calibration Date: 8-18-20

Calibration Solution	Instrument Reading	
0.0	0.1	NTU
10.0	9.91	NTU
20.0	20.0	NTU

Calibration Date: 8-19-20

Calibration Solution	Instrument Reading	
0.0	0.02	NTU
10.0	9.94	NTU
20.0	20.06	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU



## Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: J. Benson

WATER LEVEL: 501.527  
WATER LEVEL S/N: 267304

INSTRUMENT S/N: 714362  
INSTRUMENT TYPE: Smartroll  
CAL. SOLUTIONS/S: 

ID: <u>PH 4</u>	LOT #: <u>962804</u>	EXP. DATE: <u>12/21</u>
ID: <u>PH 7</u>	LOT #: <u>962721</u>	EXP. DATE: <u>11/21</u>
ID: <u>PH 10</u>	LOT #: <u>962648</u>	EXP. DATE: <u>12/21</u>
ID: <u>ORP</u>	LOT #: <u>962592</u>	EXP. DATE: <u>9/20</u>
ID: <u>COND</u>	LOT #: <u>062438</u>	EXP. DATE: <u>5/21</u>
ID:	LOT #:	EXP. DATE:
ID:	LOT #:	EXP. DATE:

Calibration Date: 8/17/20  
RDO: 100% sat. = 96.53  
PH: 4.00 = 4.01      7.00 = 7.01      10.00 = 9.92  
CONDUCTIVITY: 1464  
ORP (mV) 228.1

Calibration Date: 8/18/20  
RDO: 100% sat. = 104.28  
PH: 4.00 = 4.10      7.00 = 7.13      10.00 = 10.00  
CONDUCTIVITY: 1031  
ORP (mV) 229.3

Calibration Date: 8/19/20  
RDO: 100% sat. = 100.41  
PH: 4.00 = 3.98      7.00 = 6.98      10.00 = 10.00  
CONDUCTIVITY: 1419  
ORP (mV) 232.6

Calibration Date:  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_      7.00 = \_\_\_\_\_      10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_

Calibration Date:  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_      7.00 = \_\_\_\_\_      10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_





## Daily Instrument Calibration Log

SITE: Grumman Rd.  
 TECHNICIAN: W. Bersted

INSTRUMENT S/N: .... 44967  
 INSTRUMENT TYPE: HACH 2100 Q  
 CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water  
 10 NTU - LOT # A0136 EXP. DATE: 8/21  
 20 NTU - LOT # A0134 EXP. DATE: 8/21

Calibration Date: 8/17/20

Calibration Solution	Instrument Reading	
0.0	0.23	NTU
10.0	9.98	NTU
20.0	19.9	NTU

Calibration Date: 8/18

Calibration Solution	Instrument Reading	
0.0	0.24	NTU
10.0	10.3	NTU
20.0	24.3	NTU

Calibration Date: 8/19

Calibration Solution	Instrument Reading	
0.0	0.42	NTU
10.0	10.5	NTU
20.0	20.9	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU



### Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: ZDus

WATER LEVEL: Solinst  
WATER LEVEL S/N: 337343

INSTRUMENT S/N: \_\_\_\_\_  
INSTRUMENT TYPE: Smartroll

CAL. SOLUTIONS:	ID:	LOT #:	EXP. DATE:
	<u>pH 4.0</u>	<u>06D046</u>	<u>04/22</u>
	<u>pH 7.0</u>	<u>964721</u>	
	<u>pH 10.0</u>	<u>964646</u>	<u>12/21</u>
	<u>Cond</u>	<u>064358</u>	<u>5/21</u>
	<u>ORP</u>	<u>06D570</u>	<u>1/21</u>
	ID:	LOT #:	EXP. DATE:
	ID:	LOT #:	EXP. DATE:

Calibration Date: 6/17/20  
RDO: 100% sat. = 7.91 at 96.8%  
PH: 4.00 = 4.80      7.00 = 7.01      10.00 = 10.78  
CONDUCTIVITY: 1413 = 1413  
ORP (mV) 240 = 187.8

Calibration Date: 8/14/20  
RDO: 100% sat. = 92.2 % 7.84 mg/L  
PH: 4.00 = 4.79      7.00 = 7.65      10.00 = 10.63  
CONDUCTIVITY: 1413 = 1455  
ORP (mV) 240 = 192.7

Calibration Date: 8/19/20  
RDO: 100% sat. = 7.86 mg/L at 92.0%  
PH: 4.00 = 4.79 4.90      7.00 = 7.65      10.00 = 10.55  
CONDUCTIVITY: 1413 = 1342  
ORP (mV) 240 =

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_      7.00 = \_\_\_\_\_      10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_      7.00 = \_\_\_\_\_      10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_



## Daily Instrument Calibration Log

SITE: Grumman Rd.  
 TECHNICIAN: Z. Davis

INSTRUMENT S/N: 171200063767  
 INSTRUMENT TYPE: HACH 2100 G  
 CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water  
 10 NTU - LOT # A0136 EXP. DATE: 8/21  
 20 NTU - LOT # A0139 EXP. DATE: 8/21

Calibration Date: 8/17/20

Calibration Solution	Instrument Reading	
0.0	0.12	NTU
10.0	9.71	NTU
20.0	20.9	NTU

Calibration Date: 8/18/20

Calibration Solution	Instrument Reading	
0.0	0.12	NTU
10.0	9.41	NTU
20.0	23.2	NTU

Calibration Date: 8/19/20

Calibration Solution	Instrument Reading	
0.0	8.16	NTU
10.0	9.81	NTU
20.0	20.7	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

October 19, 2020

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 30, 2020 and October 02, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,



Tyler Forney for  
Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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### **Pace Analytical Services Asheville**

2225 Riverside Drive, Asheville, NC 28804  
Florida/NELAP Certification #: E87648  
Massachusetts Certification #: M-NC030  
North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40  
South Carolina Certification #: 99030001  
Virginia/VELAP Certification #: 460222

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### **Pace Analytical Services Peachtree Corners**

110 Technology Pkwy, Peachtree Corners, GA 30092  
Florida DOH Certification #: E87315  
Georgia DW Inorganics Certification #: 812  
Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381  
South Carolina Certification #: 98011001  
Virginia Certification #: 460204

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92498084001	GWA-7	Water	09/28/20 15:20	09/30/20 11:47
92498084002	GWC-13	Water	09/28/20 16:40	09/30/20 11:47
92498084003	GWA-8	Water	09/28/20 16:04	09/30/20 11:47
92498084004	GWC-1	Water	09/28/20 17:08	09/30/20 11:47
92498084005	FB-1-9-28-20	Water	09/28/20 16:55	09/30/20 11:47
92498084006	GWC-12	Water	09/29/20 09:35	09/30/20 11:47
92498084007	GWC-11	Water	09/29/20 12:20	09/30/20 11:47
92498084008	GWC-14	Water	09/29/20 14:42	09/30/20 11:47
92498084009	GWC-2	Water	09/29/20 15:05	09/30/20 11:47
92498084010	EB-1-9-29-20	Water	09/29/20 16:20	09/30/20 11:47
92498084011	DUP-1	Water	09/29/20 00:00	09/30/20 11:47
92498084012	GWC-21	Water	09/30/20 10:49	10/02/20 12:22
92498084013	GWC-15	Water	09/30/20 12:30	10/02/20 12:22
92498084014	GWC-16	Water	09/30/20 14:00	10/02/20 12:22
92498084015	GWC-20	Water	09/30/20 16:31	10/02/20 12:22
92498084016	GWB-4R	Water	10/01/20 08:50	10/02/20 12:22
92498084017	EB-2-9-30-20	Water	09/30/20 14:30	10/02/20 12:22
92498084018	DUP-2	Water	09/30/20 00:00	10/02/20 12:22
92498084019	GWC-17	Water	09/30/20 12:00	10/02/20 12:22
92498084020	GWC-22	Water	09/30/20 14:05	10/02/20 12:22
92498084021	GWB-6R	Water	09/30/20 15:35	10/02/20 12:22
92498084022	GWB-5R	Water	09/30/20 17:30	10/02/20 12:22
92498084023	FB-2-9-30-20	Water	09/30/20 15:25	10/02/20 12:22
92498084024	GWC-9	Water	10/01/20 08:21	10/02/20 12:22

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92498084001	GWA-7	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084002	GWC-13	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084003	GWA-8	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084004	GWC-1	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084005	FB-1-9-28-20	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084006	GWC-12	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084007	GWC-11	EPA 6010D	DRB	1
		EPA 6020B	KH	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084008	GWC-14	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084009	GWC-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084010	EB-1-9-29-20	EPA 6010D	DRB	1

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92498084011	DUP-1	EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084012	GWC-21	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
92498084013	GWC-15	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084014	GWC-16	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92498084015	GWC-20	EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084016	GWB-4R	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
92498084017	EB-2-9-30-20	EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084018	DUP-2	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
92498084019	GWC-17	EPA 6020B	CW1	15

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92498084020	GWC-22	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084021	GWB-6R	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084022	GWB-5R	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084023	FB-2-9-30-20	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498084024	GWC-9	SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
		EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3

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

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084001</b>	<b>GWA-7</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.86	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	3.3	mg/L	1.0	10/05/20 22:02	
EPA 6020B	Barium	0.095	mg/L	0.050	10/06/20 19:16	
EPA 6020B	Boron	4.6	mg/L	0.20	10/06/20 19:16	
EPA 6020B	Chromium	0.014J	mg/L	0.050	10/06/20 19:16	D3
EPA 6020B	Lead	0.0043J	mg/L	0.025	10/06/20 19:16	D3
EPA 6020B	Selenium	0.010J	mg/L	0.050	10/06/20 19:16	D3
EPA 6020B	Vanadium	0.10	mg/L	0.050	10/06/20 19:16	
EPA 6020B	Zinc	0.16	mg/L	0.050	10/06/20 19:16	
SM 2450C-2011	Total Dissolved Solids	1450	mg/L	50.0	10/02/20 17:27	
EPA 300.0 Rev 2.1 1993	Chloride	113	mg/L	2.0	10/02/20 06:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.069J	mg/L	0.10	10/01/20 21:43	
EPA 300.0 Rev 2.1 1993	Sulfate	20.0	mg/L	1.0	10/01/20 21:43	
<b>92498084002</b>	<b>GWC-13</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	4.76	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	2.9	mg/L	1.0	10/05/20 22:07	
EPA 6020B	Barium	0.029	mg/L	0.010	10/06/20 19:22	
EPA 6020B	Boron	0.24	mg/L	0.040	10/06/20 19:22	
EPA 6020B	Chromium	0.00062J	mg/L	0.010	10/06/20 19:22	
EPA 6020B	Lead	0.000064J	mg/L	0.0050	10/06/20 19:22	
EPA 6020B	Zinc	0.016	mg/L	0.010	10/06/20 19:22	
SM 2450C-2011	Total Dissolved Solids	60.0	mg/L	10.0	10/02/20 17:27	
EPA 300.0 Rev 2.1 1993	Chloride	4.3	mg/L	1.0	10/01/20 21:58	
EPA 300.0 Rev 2.1 1993	Sulfate	25.6	mg/L	1.0	10/01/20 21:58	
<b>92498084003</b>	<b>GWA-8</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	4.41	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	25.6	mg/L	1.0	10/05/20 22:11	
EPA 6020B	Barium	0.050	mg/L	0.010	10/06/20 19:39	
EPA 6020B	Beryllium	0.00021J	mg/L	0.0030	10/06/20 19:39	
EPA 6020B	Boron	0.15	mg/L	0.040	10/06/20 19:39	
EPA 6020B	Chromium	0.00071J	mg/L	0.010	10/06/20 19:39	
EPA 6020B	Lithium	0.0010J	mg/L	0.030	10/06/20 19:39	
EPA 6020B	Zinc	0.0092J	mg/L	0.010	10/06/20 19:39	
SM 2450C-2011	Total Dissolved Solids	175	mg/L	10.0	10/02/20 17:27	
EPA 300.0 Rev 2.1 1993	Chloride	13.7	mg/L	1.0	10/01/20 22:12	
EPA 300.0 Rev 2.1 1993	Sulfate	93.6	mg/L	2.0	10/02/20 06:55	
<b>92498084004</b>	<b>GWC-1</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.79	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	70.7	mg/L	1.0	10/05/20 22:24	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084004</b>	<b>GWC-1</b>					
EPA 6020B	Antimony	0.00035J	mg/L	0.0030	10/06/20 19:45	
EPA 6020B	Arsenic	0.0058	mg/L	0.0050	10/06/20 19:45	
EPA 6020B	Barium	0.051	mg/L	0.010	10/06/20 19:45	
EPA 6020B	Boron	0.69	mg/L	0.040	10/06/20 19:45	
EPA 6020B	Chromium	0.0024J	mg/L	0.010	10/06/20 19:45	
EPA 6020B	Lead	0.000043J	mg/L	0.0050	10/06/20 19:45	
EPA 6020B	Molybdenum	0.059	mg/L	0.010	10/06/20 19:45	
EPA 6020B	Vanadium	0.0042J	mg/L	0.010	10/06/20 19:45	
EPA 6020B	Zinc	0.0092J	mg/L	0.010	10/06/20 19:45	
SM 2450C-2011	Total Dissolved Solids	373	mg/L	10.0	10/02/20 17:27	
EPA 300.0 Rev 2.1 1993	Chloride	13.8	mg/L	1.0	10/01/20 22:27	
EPA 300.0 Rev 2.1 1993	Sulfate	71.6	mg/L	1.0	10/01/20 22:27	
<b>92498084006</b>	<b>GWC-12</b>					
	Performed by	CUSTOMER			10/12/20 16:37	
	pH	3.95	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	42.0	mg/L	1.0	10/05/20 22:33	
EPA 6020B	Barium	0.018	mg/L	0.010	10/06/20 19:56	
EPA 6020B	Beryllium	0.00043J	mg/L	0.0030	10/06/20 19:56	
EPA 6020B	Boron	4.7	mg/L	0.040	10/06/20 19:56	
EPA 6020B	Chromium	0.00085J	mg/L	0.010	10/06/20 19:56	
EPA 6020B	Cobalt	0.00057J	mg/L	0.0050	10/06/20 19:56	
EPA 6020B	Lead	0.000037J	mg/L	0.0050	10/06/20 19:56	
EPA 6020B	Lithium	0.00086J	mg/L	0.030	10/06/20 19:56	
EPA 6020B	Vanadium	0.0046J	mg/L	0.010	10/06/20 19:56	
EPA 6020B	Zinc	0.0074J	mg/L	0.010	10/06/20 19:56	
SM 2450C-2011	Total Dissolved Solids	440	mg/L	10.0	10/02/20 17:28	
EPA 300.0 Rev 2.1 1993	Chloride	24.3	mg/L	1.0	10/01/20 22:56	
EPA 300.0 Rev 2.1 1993	Fluoride	0.16	mg/L	0.10	10/01/20 22:56	
EPA 300.0 Rev 2.1 1993	Sulfate	237	mg/L	5.0	10/02/20 07:09	
<b>92498084007</b>	<b>GWC-11</b>					
	Performed by	CUSTOMER			10/12/20 16:37	
	pH	4.77	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	123	mg/L	1.0	10/05/20 22:37	
EPA 6020B	Antimony	0.00051J	mg/L	0.0030	10/06/20 20:02	
EPA 6020B	Barium	0.14	mg/L	0.010	10/06/20 20:02	
EPA 6020B	Boron	1.2	mg/L	0.040	10/06/20 20:02	
EPA 6020B	Cadmium	0.00077J	mg/L	0.0025	10/06/20 20:02	
EPA 6020B	Chromium	0.0011J	mg/L	0.010	10/06/20 20:02	
EPA 6020B	Cobalt	0.00055J	mg/L	0.0050	10/06/20 20:02	
EPA 6020B	Lead	0.00032J	mg/L	0.0050	10/06/20 20:02	
EPA 6020B	Selenium	0.0024J	mg/L	0.010	10/06/20 20:02	
EPA 6020B	Thallium	0.00017J	mg/L	0.0010	10/06/20 20:02	
EPA 6020B	Vanadium	0.0023J	mg/L	0.010	10/06/20 20:02	
EPA 6020B	Zinc	0.0031J	mg/L	0.010	10/06/20 20:02	
SM 2450C-2011	Total Dissolved Solids	1100	mg/L	50.0	10/02/20 17:28	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084007</b>	<b>GWC-11</b>					
EPA 300.0 Rev 2.1 1993	Chloride	143	mg/L	11.0	10/02/20 07:23	
EPA 300.0 Rev 2.1 1993	Sulfate	516	mg/L	11.0	10/02/20 07:23	
<b>92498084008</b>	<b>GWC-14</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.69	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	30.8	mg/L	1.0	10/05/20 22:41	
EPA 6020B	Barium	0.026	mg/L	0.010	10/05/20 18:40	
EPA 6020B	Boron	0.053	mg/L	0.040	10/07/20 10:37	
EPA 6020B	Cadmium	0.00012J	mg/L	0.0025	10/05/20 18:40	
EPA 6020B	Molybdenum	0.0089J	mg/L	0.010	10/05/20 18:40	
EPA 6020B	Selenium	0.0051J	mg/L	0.010	10/05/20 18:40	
SM 2450C-2011	Total Dissolved Solids	187	mg/L	10.0	10/02/20 17:28	
EPA 300.0 Rev 2.1 1993	Chloride	10.6	mg/L	1.0	10/01/20 23:25	
EPA 300.0 Rev 2.1 1993	Sulfate	93.5	mg/L	1.0	10/01/20 23:25	M1
<b>92498084009</b>	<b>GWC-2</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	4.60	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	0.18J	mg/L	1.0	10/05/20 22:46	
EPA 6020B	Antimony	0.0016J	mg/L	0.0030	10/05/20 19:03	
EPA 6020B	Barium	0.049	mg/L	0.010	10/05/20 19:03	
EPA 6020B	Beryllium	0.000075J	mg/L	0.0030	10/05/20 19:03	
EPA 6020B	Boron	0.024J	mg/L	0.040	10/05/20 19:03	
EPA 6020B	Zinc	0.056	mg/L	0.010	10/05/20 19:03	
SM 2450C-2011	Total Dissolved Solids	33.0	mg/L	10.0	10/02/20 17:28	
EPA 300.0 Rev 2.1 1993	Chloride	5.4	mg/L	1.0	10/02/20 00:37	
EPA 300.0 Rev 2.1 1993	Sulfate	8.6	mg/L	1.0	10/02/20 00:37	
<b>92498084010</b>	<b>EB-1-9-29-20</b>					
EPA 6020B	Antimony	0.00049J	mg/L	0.0030	10/05/20 19:09	
EPA 300.0 Rev 2.1 1993	Sulfate	1.6	mg/L	1.0	10/02/20 00:51	
<b>92498084011</b>	<b>DUP-1</b>					
EPA 6010D	Calcium	43.1	mg/L	1.0	10/05/20 22:55	
EPA 6020B	Barium	0.017	mg/L	0.010	10/05/20 19:14	
EPA 6020B	Beryllium	0.00040J	mg/L	0.0030	10/05/20 19:14	
EPA 6020B	Boron	4.6	mg/L	0.20	10/07/20 12:11	
EPA 6020B	Chromium	0.00090J	mg/L	0.010	10/05/20 19:14	
EPA 6020B	Cobalt	0.00056J	mg/L	0.0050	10/05/20 19:14	
EPA 6020B	Lead	0.000040J	mg/L	0.0050	10/05/20 19:14	
EPA 6020B	Lithium	0.00088J	mg/L	0.030	10/05/20 19:14	
EPA 6020B	Vanadium	0.0049J	mg/L	0.010	10/05/20 19:14	
SM 2450C-2011	Total Dissolved Solids	434	mg/L	10.0	10/02/20 17:28	
EPA 300.0 Rev 2.1 1993	Chloride	24.4	mg/L	1.0	10/02/20 01:06	
EPA 300.0 Rev 2.1 1993	Fluoride	0.16	mg/L	0.10	10/02/20 01:06	
EPA 300.0 Rev 2.1 1993	Sulfate	241	mg/L	5.0	10/02/20 08:06	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084012</b>	<b>GWC-21</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.82	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	98.4	mg/L	1.0	10/08/20 01:13	
EPA 6020B	Antimony	0.00033J	mg/L	0.0030	10/07/20 17:11	B
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	10/07/20 17:11	
EPA 6020B	Barium	0.19	mg/L	0.010	10/07/20 17:11	
EPA 6020B	Boron	2.3	mg/L	0.040	10/07/20 17:11	
EPA 6020B	Chromium	0.00067J	mg/L	0.010	10/07/20 17:11	
EPA 6020B	Lead	0.000054J	mg/L	0.0050	10/07/20 17:11	
EPA 6020B	Molybdenum	0.028	mg/L	0.010	10/07/20 17:11	
EPA 6020B	Selenium	0.0061J	mg/L	0.010	10/07/20 17:11	
EPA 6020B	Vanadium	0.0029J	mg/L	0.010	10/07/20 17:11	
EPA 6020B	Zinc	0.0096J	mg/L	0.010	10/07/20 17:11	
SM 2450C-2011	Total Dissolved Solids	634	mg/L	20.0	10/03/20 16:26	
EPA 300.0 Rev 2.1 1993	Chloride	23.7	mg/L	1.0	10/06/20 22:58	
EPA 300.0 Rev 2.1 1993	Sulfate	306	mg/L	7.0	10/07/20 09:18	
<b>92498084013</b>	<b>GWC-15</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	6.71	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	109	mg/L	1.0	10/08/20 01:17	
EPA 6020B	Arsenic	0.24	mg/L	0.0050	10/07/20 17:17	
EPA 6020B	Barium	0.034	mg/L	0.010	10/07/20 17:17	
EPA 6020B	Boron	0.86	mg/L	0.040	10/07/20 17:17	
EPA 6020B	Chromium	0.0016J	mg/L	0.010	10/07/20 17:17	
EPA 6020B	Lead	0.000047J	mg/L	0.0050	10/07/20 17:17	
EPA 6020B	Molybdenum	0.11	mg/L	0.010	10/07/20 17:17	
EPA 6020B	Vanadium	0.0028J	mg/L	0.010	10/07/20 17:17	
EPA 6020B	Zinc	0.032	mg/L	0.010	10/07/20 17:17	
SM 2450C-2011	Total Dissolved Solids	434	mg/L	10.0	10/03/20 16:26	
EPA 300.0 Rev 2.1 1993	Chloride	1.7	mg/L	1.0	10/06/20 23:41	
EPA 300.0 Rev 2.1 1993	Sulfate	18.5	mg/L	1.0	10/06/20 23:41	
<b>92498084014</b>	<b>GWC-16</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.47	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	177	mg/L	1.0	10/08/20 01:31	
EPA 6020B	Arsenic	0.044	mg/L	0.0050	10/07/20 17:22	
EPA 6020B	Barium	0.14	mg/L	0.010	10/07/20 17:22	
EPA 6020B	Beryllium	0.000089J	mg/L	0.0030	10/07/20 17:22	
EPA 6020B	Boron	8.1	mg/L	0.040	10/07/20 17:22	
EPA 6020B	Chromium	0.00098J	mg/L	0.010	10/07/20 17:22	
EPA 6020B	Lead	0.000091J	mg/L	0.0050	10/07/20 17:22	
EPA 6020B	Molybdenum	0.15	mg/L	0.010	10/07/20 17:22	
EPA 6020B	Selenium	0.0037J	mg/L	0.010	10/07/20 17:22	
EPA 6020B	Vanadium	0.0028J	mg/L	0.010	10/07/20 17:22	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084014</b>	<b>GWC-16</b>					
EPA 6020B	Zinc	0.0051J	mg/L	0.010	10/07/20 17:22	
SM 2450C-2011	Total Dissolved Solids	1140	mg/L	50.0	10/03/20 16:26	
EPA 300.0 Rev 2.1 1993	Chloride	39.6	mg/L	1.0	10/07/20 00:24	
EPA 300.0 Rev 2.1 1993	Sulfate	736	mg/L	16.0	10/07/20 09:32	
<b>92498084015</b>	<b>GWC-20</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	6.04	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	292	mg/L	1.0	10/08/20 01:35	
EPA 6020B	Arsenic	0.31	mg/L	0.0050	10/07/20 17:28	
EPA 6020B	Barium	0.35	mg/L	0.010	10/07/20 17:28	
EPA 6020B	Boron	9.9	mg/L	0.040	10/07/20 17:28	
EPA 6020B	Chromium	0.0013J	mg/L	0.010	10/07/20 17:28	
EPA 6020B	Molybdenum	0.33	mg/L	0.010	10/07/20 17:28	
EPA 6020B	Vanadium	0.0029J	mg/L	0.010	10/07/20 17:28	
EPA 6020B	Zinc	0.031	mg/L	0.010	10/07/20 17:28	
SM 2450C-2011	Total Dissolved Solids	1860	mg/L	50.0	10/03/20 16:26	
EPA 300.0 Rev 2.1 1993	Chloride	34.9	mg/L	1.0	10/07/20 00:39	
EPA 300.0 Rev 2.1 1993	Sulfate	956	mg/L	20.0	10/07/20 09:47	
<b>92498084016</b>	<b>GWB-4R</b>					
	Performed by	CUSTOME			10/12/20 16:37	
		R				
	pH	5.75	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	48.4	mg/L	1.0	10/08/20 01:40	
EPA 6020B	Arsenic	0.0027J	mg/L	0.0050	10/07/20 17:34	
EPA 6020B	Barium	0.077	mg/L	0.010	10/07/20 17:34	
EPA 6020B	Boron	5.2	mg/L	0.040	10/07/20 17:34	
EPA 6020B	Chromium	0.0020J	mg/L	0.010	10/07/20 17:34	
EPA 6020B	Cobalt	0.00050J	mg/L	0.0050	10/07/20 17:34	
EPA 6020B	Lead	0.00026J	mg/L	0.0050	10/07/20 17:34	
EPA 6020B	Lithium	0.013J	mg/L	0.030	10/07/20 17:34	
EPA 6020B	Molybdenum	0.15	mg/L	0.010	10/07/20 17:34	
EPA 6020B	Vanadium	0.0047J	mg/L	0.010	10/07/20 17:34	
EPA 6020B	Zinc	0.0064J	mg/L	0.010	10/07/20 17:34	
SM 2450C-2011	Total Dissolved Solids	424	mg/L	10.0	10/03/20 16:28	
EPA 300.0 Rev 2.1 1993	Chloride	15.7	mg/L	1.0	10/07/20 00:53	
EPA 300.0 Rev 2.1 1993	Sulfate	178	mg/L	4.0	10/07/20 10:01	
<b>92498084017</b>	<b>EB-2-9-30-20</b>					
EPA 6010D	Calcium	0.30J	mg/L	1.0	10/08/20 01:44	
EPA 6020B	Boron	0.061	mg/L	0.040	10/07/20 17:39	
EPA 6020B	Zinc	0.0027J	mg/L	0.010	10/07/20 17:39	
<b>92498084018</b>	<b>DUP-2</b>					
EPA 6010D	Calcium	294	mg/L	1.0	10/08/20 01:49	
EPA 6020B	Arsenic	0.29	mg/L	0.0050	10/07/20 17:45	
EPA 6020B	Barium	0.33	mg/L	0.010	10/07/20 17:45	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92498084018</b>	<b>DUP-2</b>					
EPA 6020B	Boron	9.8	mg/L	0.040	10/07/20 17:45	
EPA 6020B	Chromium	0.0013J	mg/L	0.010	10/07/20 17:45	
EPA 6020B	Molybdenum	0.31	mg/L	0.010	10/07/20 17:45	
EPA 6020B	Vanadium	0.0030J	mg/L	0.010	10/07/20 17:45	
EPA 6020B	Zinc	0.0062J	mg/L	0.010	10/07/20 17:45	
SM 2450C-2011	Total Dissolved Solids	1720	mg/L	50.0	10/03/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	35.4	mg/L	1.0	10/07/20 01:22	
EPA 300.0 Rev 2.1 1993	Fluoride	0.32	mg/L	0.10	10/07/20 01:22	
EPA 300.0 Rev 2.1 1993	Sulfate	969	mg/L	20.0	10/07/20 10:15	
<b>92498084019</b>	<b>GWC-17</b>					
	Performed by	CUSTOMER			10/12/20 16:37	
	pH	4.08	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	53.5	mg/L	1.0	10/08/20 01:53	
EPA 6020B	Arsenic	0.0012J	mg/L	0.0050	10/07/20 17:51	
EPA 6020B	Barium	0.035	mg/L	0.010	10/07/20 17:51	
EPA 6020B	Beryllium	0.0013J	mg/L	0.0030	10/07/20 17:51	
EPA 6020B	Boron	0.86	mg/L	0.040	10/07/20 17:51	
EPA 6020B	Chromium	0.00096J	mg/L	0.010	10/07/20 17:51	
EPA 6020B	Cobalt	0.0018J	mg/L	0.0050	10/07/20 17:51	
EPA 6020B	Lead	0.000060J	mg/L	0.0050	10/07/20 17:51	
EPA 6020B	Lithium	0.0041J	mg/L	0.030	10/07/20 17:51	
EPA 6020B	Molybdenum	0.0041J	mg/L	0.010	10/07/20 17:51	
EPA 6020B	Zinc	0.0043J	mg/L	0.010	10/07/20 17:51	
SM 2450C-2011	Total Dissolved Solids	752	mg/L	20.0	10/03/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	257	mg/L	6.0	10/07/20 10:29	
EPA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	10/07/20 01:37	
EPA 300.0 Rev 2.1 1993	Sulfate	193	mg/L	6.0	10/07/20 10:29	
<b>92498084020</b>	<b>GWC-22</b>					
	Performed by	CUSTOMER			10/12/20 16:37	
	pH	4.63	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	20.9	mg/L	1.0	10/08/20 01:58	
EPA 6020B	Antimony	0.0016J	mg/L	0.0030	10/07/20 18:14	B
EPA 6020B	Barium	0.045	mg/L	0.010	10/07/20 18:14	
EPA 6020B	Boron	0.25	mg/L	0.040	10/07/20 18:14	
EPA 6020B	Cadmium	0.00024J	mg/L	0.0025	10/07/20 18:14	
EPA 6020B	Chromium	0.00064J	mg/L	0.010	10/07/20 18:14	
EPA 6020B	Lead	0.00023J	mg/L	0.0050	10/07/20 18:14	
SM 2450C-2011	Total Dissolved Solids	113	mg/L	10.0	10/03/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	8.5	mg/L	1.0	10/07/20 01:51	
EPA 300.0 Rev 2.1 1993	Sulfate	65.5	mg/L	1.0	10/07/20 01:51	
<b>92498084021</b>	<b>GWB-6R</b>					
	Performed by	CUSTOMER			10/12/20 16:37	
	pH	5.39	Std. Units		10/12/20 16:37	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498084021</b>	<b>GWB-6R</b>					
EPA 6010D	Calcium	27.5	mg/L	1.0	10/08/20 02:02	
EPA 6020B	Antimony	0.00059J	mg/L	0.0030	10/07/20 18:20	B
EPA 6020B	Arsenic	0.0040J	mg/L	0.0050	10/07/20 18:20	
EPA 6020B	Barium	0.092	mg/L	0.010	10/07/20 18:20	
EPA 6020B	Beryllium	0.000046J	mg/L	0.0030	10/07/20 18:20	
EPA 6020B	Boron	4.2	mg/L	0.040	10/07/20 18:20	
EPA 6020B	Chromium	0.0045J	mg/L	0.010	10/07/20 18:20	
EPA 6020B	Lead	0.000080J	mg/L	0.0050	10/07/20 18:20	
EPA 6020B	Molybdenum	0.00097J	mg/L	0.010	10/07/20 18:20	
EPA 6020B	Selenium	0.0023J	mg/L	0.010	10/07/20 18:20	
EPA 6020B	Vanadium	0.018	mg/L	0.010	10/07/20 18:20	
SM 2450C-2011	Total Dissolved Solids	816	mg/L	20.0	10/03/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	53.9	mg/L	1.0	10/07/20 02:35	
EPA 300.0 Rev 2.1 1993	Sulfate	339	mg/L	7.0	10/07/20 10:43	
<b>92498084022</b>	<b>GWB-5R</b>					
	Performed by	CUSTOME R			10/12/20 16:37	
	pH	4.99	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	70.4	mg/L	1.0	10/08/20 02:07	
EPA 6020B	Antimony	0.00030J	mg/L	0.0030	10/07/20 18:25	B
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	10/07/20 18:25	
EPA 6020B	Barium	0.16	mg/L	0.010	10/07/20 18:25	
EPA 6020B	Beryllium	0.000065J	mg/L	0.0030	10/07/20 18:25	
EPA 6020B	Boron	4.0	mg/L	0.040	10/07/20 18:25	
EPA 6020B	Chromium	0.0018J	mg/L	0.010	10/07/20 18:25	
EPA 6020B	Cobalt	0.00056J	mg/L	0.0050	10/07/20 18:25	
EPA 6020B	Lead	0.0012J	mg/L	0.0050	10/07/20 18:25	
EPA 6020B	Vanadium	0.0037J	mg/L	0.010	10/07/20 18:25	
SM 2450C-2011	Total Dissolved Solids	652	mg/L	20.0	10/03/20 16:27	
EPA 300.0 Rev 2.1 1993	Chloride	24.1	mg/L	1.0	10/07/20 02:49	
EPA 300.0 Rev 2.1 1993	Sulfate	339	mg/L	7.0	10/07/20 11:26	
<b>92498084023</b>	<b>FB-2-9-30-20</b>					
EPA 6020B	Boron	0.030J	mg/L	0.040	10/07/20 18:31	
<b>92498084024</b>	<b>GWC-9</b>					
	Performed by	CUSTOME R			10/12/20 16:37	
	pH	4.42	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	5.5	mg/L	1.0	10/08/20 02:29	
EPA 6020B	Barium	0.15	mg/L	0.010	10/07/20 18:37	
EPA 6020B	Beryllium	0.00020J	mg/L	0.0030	10/07/20 18:37	
EPA 6020B	Boron	0.028J	mg/L	0.040	10/07/20 18:37	
EPA 6020B	Chromium	0.0012J	mg/L	0.010	10/07/20 18:37	
EPA 6020B	Cobalt	0.00099J	mg/L	0.0050	10/07/20 18:37	
EPA 6020B	Lead	0.000038J	mg/L	0.0050	10/07/20 18:37	
EPA 6020B	Lithium	0.0019J	mg/L	0.030	10/07/20 18:37	
EPA 6020B	Zinc	0.025	mg/L	0.010	10/07/20 18:37	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498084024</b>	<b>GWC-9</b>					
SM 2450C-2011	Total Dissolved Solids	111	mg/L	10.0	10/03/20 16:28	
EPA 300.0 Rev 2.1 1993	Chloride	16.8	mg/L	1.0	10/07/20 04:16	
EPA 300.0 Rev 2.1 1993	Sulfate	35.0	mg/L	1.0	10/07/20 04:16	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWA-7      Lab ID: 92498084001      Collected: 09/28/20 15:20      Received: 09/30/20 11:47      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.86</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>3.3</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:02	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.015	0.0014	5	10/02/20 15:00	10/06/20 19:16	7440-36-0	D3
Arsenic	ND	mg/L	0.025	0.0039	5	10/02/20 15:00	10/06/20 19:16	7440-38-2	D3
Barium	<b>0.095</b>	mg/L	0.050	0.0036	5	10/02/20 15:00	10/06/20 19:16	7440-39-3	
Beryllium	ND	mg/L	0.015	0.00023	5	10/02/20 15:00	10/06/20 19:16	7440-41-7	D3
Boron	<b>4.6</b>	mg/L	0.20	0.026	5	10/02/20 15:00	10/06/20 19:16	7440-42-8	
Cadmium	ND	mg/L	0.012	0.00059	5	10/02/20 15:00	10/06/20 19:16	7440-43-9	D3
Chromium	<b>0.014J</b>	mg/L	0.050	0.0028	5	10/02/20 15:00	10/06/20 19:16	7440-47-3	D3
Cobalt	ND	mg/L	0.025	0.0019	5	10/02/20 15:00	10/06/20 19:16	7440-48-4	D3
Lead	<b>0.0043J</b>	mg/L	0.025	0.00018	5	10/02/20 15:00	10/06/20 19:16	7439-92-1	D3
Lithium	ND	mg/L	0.15	0.0040	5	10/02/20 15:00	10/06/20 19:16	7439-93-2	D3
Molybdenum	ND	mg/L	0.050	0.0034	5	10/02/20 15:00	10/06/20 19:16	7439-98-7	D3
Selenium	<b>0.010J</b>	mg/L	0.050	0.0078	5	10/02/20 15:00	10/06/20 19:16	7782-49-2	D3
Thallium	ND	mg/L	0.0050	0.00072	5	10/02/20 15:00	10/06/20 19:16	7440-28-0	D3
Vanadium	<b>0.10</b>	mg/L	0.050	0.011	5	10/02/20 15:00	10/06/20 19:16	7440-62-2	
Zinc	<b>0.16</b>	mg/L	0.050	0.011	5	10/02/20 15:00	10/06/20 19:16	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>1450</b>	mg/L	50.0	50.0	1		10/02/20 17:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>113</b>	mg/L	2.0	1.2	2		10/02/20 06:40	16887-00-6	
Fluoride	<b>0.069J</b>	mg/L	0.10	0.050	1		10/01/20 21:43	16984-48-8	
Sulfate	<b>20.0</b>	mg/L	1.0	0.50	1		10/01/20 21:43	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-13</b>	Lab ID: <b>92498084002</b>	Collected: 09/28/20 16:40	Received: 09/30/20 11:47	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.76</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>2.9</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:07	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:22	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:22	7440-38-2	
Barium	<b>0.029</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:22	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 19:22	7440-41-7	
Boron	<b>0.24</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 19:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 19:22	7440-43-9	
Chromium	<b>0.00062J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:22	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:22	7440-48-4	
Lead	<b>0.000064J</b>	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:22	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 19:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 19:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:22	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:22	7440-62-2	
Zinc	<b>0.016</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:22	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>60.0</b>	mg/L	10.0	10.0	1		10/02/20 17:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>4.3</b>	mg/L	1.0	0.60	1		10/01/20 21:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 21:58	16984-48-8	
Sulfate	<b>25.6</b>	mg/L	1.0	0.50	1		10/01/20 21:58	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWA-8		Lab ID: 92498084003		Collected: 09/28/20 16:04		Received: 09/30/20 11:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.41</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>25.6</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:11	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:39	7440-38-2	
Barium	<b>0.050</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:39	7440-39-3	
Beryllium	<b>0.00021J</b>	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 19:39	7440-41-7	
Boron	<b>0.15</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 19:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 19:39	7440-43-9	
Chromium	<b>0.00071J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:39	7439-92-1	
Lithium	<b>0.0010J</b>	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 19:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 19:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:39	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:39	7440-62-2	
Zinc	<b>0.0092J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:39	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>175</b>	mg/L	10.0	10.0	1		10/02/20 17:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>13.7</b>	mg/L	1.0	0.60	1		10/01/20 22:12	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 22:12	16984-48-8	
Sulfate	<b>93.6</b>	mg/L	2.0	1.0	2		10/02/20 06:55	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWC-1		Lab ID: 92498084004		Collected: 09/28/20 17:08		Received: 09/30/20 11:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.79</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>70.7</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:24	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.00035J</b>	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:45	7440-36-0	
Arsenic	<b>0.0058</b>	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:45	7440-38-2	
Barium	<b>0.051</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:45	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 19:45	7440-41-7	
Boron	<b>0.69</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 19:45	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 19:45	7440-43-9	
Chromium	<b>0.0024J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:45	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:45	7440-48-4	
Lead	<b>0.000043J</b>	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:45	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:45	7439-93-2	
Molybdenum	<b>0.059</b>	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 19:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 19:45	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:45	7440-28-0	
Vanadium	<b>0.0042J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:45	7440-62-2	
Zinc	<b>0.0092J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:45	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>373</b>	mg/L	10.0	10.0	1		10/02/20 17:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>13.8</b>	mg/L	1.0	0.60	1		10/01/20 22:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 22:27	16984-48-8	
Sulfate	<b>71.6</b>	mg/L	1.0	0.50	1		10/01/20 22:27	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>FB-1-9-28-20</b>		Lab ID: <b>92498084005</b>		Collected: 09/28/20 16:55	Received: 09/30/20 11:47	Matrix: Water				
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:28	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:51	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:51	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:51	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 19:51	7440-41-7		
Boron	ND	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 19:51	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 19:51	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:51	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:51	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:51	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:51	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 19:51	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 19:51	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:51	7440-28-0		
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:51	7440-62-2		
Zinc	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:51	7440-66-6		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/02/20 17:27			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		10/01/20 22:41	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 22:41	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		10/01/20 22:41	14808-79-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-12</b>		Lab ID: <b>92498084006</b>		Collected: 09/29/20 09:35		Received: 09/30/20 11:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>3.95</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>42.0</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:33	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:56	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:56	7440-38-2	
Barium	<b>0.018</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:56	7440-39-3	
Beryllium	<b>0.00043J</b>	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 19:56	7440-41-7	
Boron	<b>4.7</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 19:56	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 19:56	7440-43-9	
Chromium	<b>0.00085J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:56	7440-47-3	
Cobalt	<b>0.00057J</b>	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:56	7440-48-4	
Lead	<b>0.000037J</b>	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:56	7439-92-1	
Lithium	<b>0.00086J</b>	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:56	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 19:56	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 19:56	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:56	7440-28-0	
Vanadium	<b>0.0046J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:56	7440-62-2	
Zinc	<b>0.0074J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:56	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>440</b>	mg/L	10.0	10.0	1		10/02/20 17:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>24.3</b>	mg/L	1.0	0.60	1		10/01/20 22:56	16887-00-6	
Fluoride	<b>0.16</b>	mg/L	0.10	0.050	1		10/01/20 22:56	16984-48-8	
Sulfate	<b>237</b>	mg/L	5.0	2.5	5		10/02/20 07:09	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWC-11		Lab ID: 92498084007		Collected: 09/29/20 12:20		Received: 09/30/20 11:47		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.77</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>123</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:37	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.00051J</b>	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 20:02	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 20:02	7440-38-2	
Barium	<b>0.14</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 20:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/06/20 20:02	7440-41-7	
Boron	<b>1.2</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 20:02	7440-42-8	
Cadmium	<b>0.00077J</b>	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 20:02	7440-43-9	
Chromium	<b>0.0011J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 20:02	7440-47-3	
Cobalt	<b>0.00055J</b>	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 20:02	7440-48-4	
Lead	<b>0.00032J</b>	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 20:02	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 20:02	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 20:02	7439-98-7	
Selenium	<b>0.0024J</b>	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 20:02	7782-49-2	
Thallium	<b>0.00017J</b>	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 20:02	7440-28-0	
Vanadium	<b>0.0023J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 20:02	7440-62-2	
Zinc	<b>0.0031J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 20:02	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>1100</b>	mg/L	50.0	50.0	1		10/02/20 17:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>143</b>	mg/L	11.0	6.6	11		10/02/20 07:23	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 23:10	16984-48-8	
Sulfate	<b>516</b>	mg/L	11.0	5.5	11		10/02/20 07:23	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-14</b>		Lab ID: <b>92498084008</b>		Collected: 09/29/20 14:42	Received: 09/30/20 11:47	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.69</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>30.8</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:41	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 18:40	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 18:40	7440-38-2	
Barium	<b>0.026</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 18:40	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 18:40	7440-41-7	
Boron	<b>0.053</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/07/20 10:37	7440-42-8	
Cadmium	<b>0.00012J</b>	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 18:40	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 18:40	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 18:40	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 18:40	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 18:40	7439-93-2	
Molybdenum	<b>0.0089J</b>	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 18:40	7439-98-7	
Selenium	<b>0.0051J</b>	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 18:40	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 18:40	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 18:40	7440-62-2	
Zinc	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 18:40	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>187</b>	mg/L	10.0	10.0	1		10/02/20 17:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>10.6</b>	mg/L	1.0	0.60	1		10/01/20 23:25	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/01/20 23:25	16984-48-8	
Sulfate	<b>93.5</b>	mg/L	1.0	0.50	1		10/01/20 23:25	14808-79-8	M1

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-2</b>	Lab ID: <b>92498084009</b>	Collected: 09/29/20 15:05	Received: 09/30/20 11:47	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.60</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>0.18J</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:46	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.0016J</b>	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 19:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 19:03	7440-38-2	
Barium	<b>0.049</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 19:03	7440-39-3	
Beryllium	<b>0.000075J</b>	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 19:03	7440-41-7	
Boron	<b>0.024J</b>	mg/L	0.040	0.0052	1	10/02/20 15:00	10/05/20 19:03	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 19:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 19:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 19:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:03	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 19:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 19:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 19:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 19:03	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:03	7440-62-2	
Zinc	<b>0.056</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:03	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>33.0</b>	mg/L	10.0	10.0	1		10/02/20 17:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>5.4</b>	mg/L	1.0	0.60	1		10/02/20 00:37	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/02/20 00:37	16984-48-8	
Sulfate	<b>8.6</b>	mg/L	1.0	0.50	1		10/02/20 00:37	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: EB-1-9-29-20		Lab ID: 92498084010		Collected: 09/29/20 16:20		Received: 09/30/20 11:47		Matrix: Water		
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:50	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	<b>0.00049J</b>	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 19:09	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 19:09	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 19:09	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 19:09	7440-41-7		
Boron	ND	mg/L	0.040	0.0052	1	10/02/20 15:00	10/05/20 19:09	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 19:09	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 19:09	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 19:09	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:09	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 19:09	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 19:09	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 19:09	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 19:09	7440-28-0		
Vanadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:09	7440-62-2		
Zinc	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:09	7440-66-6		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/02/20 17:28			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		10/02/20 00:51	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/02/20 00:51	16984-48-8		
Sulfate	<b>1.6</b>	mg/L	1.0	0.50	1		10/02/20 00:51	14808-79-8		

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## ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: DUP-1		Lab ID: 92498084011		Collected: 09/29/20 00:00	Received: 09/30/20 11:47	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	<b>43.1</b>	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:55	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/05/20 19:14	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/05/20 19:14	7440-38-2		
Barium	<b>0.017</b>	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 19:14	7440-39-3		
Beryllium	<b>0.00040J</b>	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 19:14	7440-41-7		
Boron	<b>4.6</b>	mg/L	0.20	0.026	5	10/02/20 15:00	10/07/20 12:11	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/05/20 19:14	7440-43-9		
Chromium	<b>0.00090J</b>	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 19:14	7440-47-3		
Cobalt	<b>0.00056J</b>	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 19:14	7440-48-4		
Lead	<b>0.000040J</b>	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:14	7439-92-1		
Lithium	<b>0.00088J</b>	mg/L	0.030	0.00081	1	10/02/20 15:00	10/05/20 19:14	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 19:14	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 19:14	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 19:14	7440-28-0		
Vanadium	<b>0.0049J</b>	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:14	7440-62-2		
Zinc	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:14	7440-66-6		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	<b>434</b>	mg/L	10.0	10.0	1		10/02/20 17:28			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	<b>24.4</b>	mg/L	1.0	0.60	1		10/02/20 01:06	16887-00-6		
Fluoride	<b>0.16</b>	mg/L	0.10	0.050	1		10/02/20 01:06	16984-48-8		
Sulfate	<b>241</b>	mg/L	5.0	2.5	5		10/02/20 08:06	14808-79-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-21</b> Lab ID: <b>92498084012</b> Collected: 09/30/20 10:49 Received: 10/02/20 12:22 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.82</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>98.4</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:13	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.00033J</b>	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:11	7440-36-0	B
Arsenic	<b>0.0029J</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:11	7440-38-2	
Barium	<b>0.19</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:11	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:11	7440-41-7	
Boron	<b>2.3</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:11	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:11	7440-43-9	
Chromium	<b>0.00067J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:11	7440-48-4	
Lead	<b>0.000054J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:11	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:11	7439-93-2	
Molybdenum	<b>0.028</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:11	7439-98-7	
Selenium	<b>0.0061J</b>	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:11	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:11	7440-28-0	
Vanadium	<b>0.0029J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:11	7440-62-2	
Zinc	<b>0.0096J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:11	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>634</b>	mg/L	20.0	20.0	1		10/03/20 16:26		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>23.7</b>	mg/L	1.0	0.60	1		10/06/20 22:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/06/20 22:58	16984-48-8	
Sulfate	<b>306</b>	mg/L	7.0	3.5	7		10/07/20 09:18	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWC-15		Lab ID: 92498084013		Collected: 09/30/20 12:30		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>6.71</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>109</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:17	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:17	7440-36-0	
Arsenic	<b>0.24</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:17	7440-38-2	
Barium	<b>0.034</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:17	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:17	7440-41-7	
Boron	<b>0.86</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:17	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:17	7440-43-9	
Chromium	<b>0.0016J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:17	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:17	7440-48-4	
Lead	<b>0.000047J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:17	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:17	7439-93-2	
Molybdenum	<b>0.11</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:17	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:17	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:17	7440-28-0	
Vanadium	<b>0.0028J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:17	7440-62-2	
Zinc	<b>0.032</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:17	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>434</b>	mg/L	10.0	10.0	1		10/03/20 16:26		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>1.7</b>	mg/L	1.0	0.60	1		10/06/20 23:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/06/20 23:41	16984-48-8	
Sulfate	<b>18.5</b>	mg/L	1.0	0.50	1		10/06/20 23:41	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWC-16</b>		Lab ID: <b>92498084014</b>		Collected: 09/30/20 14:00	Received: 10/02/20 12:22	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.47</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>177</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:31	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:22	7440-36-0	
Arsenic	<b>0.044</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:22	7440-38-2	
Barium	<b>0.14</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:22	7440-39-3	
Beryllium	<b>0.000089J</b>	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:22	7440-41-7	
Boron	<b>8.1</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:22	7440-43-9	
Chromium	<b>0.00098J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:22	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:22	7440-48-4	
Lead	<b>0.000091J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:22	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:22	7439-93-2	
Molybdenum	<b>0.15</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:22	7439-98-7	
Selenium	<b>0.0037J</b>	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:22	7440-28-0	
Vanadium	<b>0.0028J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:22	7440-62-2	
Zinc	<b>0.0051J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:22	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>1140</b>	mg/L	50.0	50.0	1		10/03/20 16:26		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>39.6</b>	mg/L	1.0	0.60	1		10/07/20 00:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 00:24	16984-48-8	
Sulfate	<b>736</b>	mg/L	16.0	8.0	16		10/07/20 09:32	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWC-20		Lab ID: 92498084015		Collected: 09/30/20 16:31		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>6.04</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>292</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:35	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:28	7440-36-0	
Arsenic	<b>0.31</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:28	7440-38-2	
Barium	<b>0.35</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:28	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:28	7440-41-7	
Boron	<b>9.9</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:28	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:28	7440-43-9	
Chromium	<b>0.0013J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:28	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:28	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:28	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:28	7439-93-2	
Molybdenum	<b>0.33</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:28	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:28	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:28	7440-28-0	
Vanadium	<b>0.0029J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:28	7440-62-2	
Zinc	<b>0.031</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:28	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>1860</b>	mg/L	50.0	50.0	1		10/03/20 16:26		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>34.9</b>	mg/L	1.0	0.60	1		10/07/20 00:39	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 00:39	16984-48-8	
Sulfate	<b>956</b>	mg/L	20.0	10.0	20		10/07/20 09:47	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Sample: <b>GWB-4R</b>		Lab ID: <b>92498084016</b>		Collected: 10/01/20 08:50	Received: 10/02/20 12:22	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.75</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>48.4</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:40	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:34	7440-36-0	
Arsenic	<b>0.0027J</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:34	7440-38-2	
Barium	<b>0.077</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:34	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:34	7440-41-7	
Boron	<b>5.2</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:34	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:34	7440-43-9	
Chromium	<b>0.0020J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:34	7440-47-3	
Cobalt	<b>0.00050J</b>	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:34	7440-48-4	
Lead	<b>0.00026J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:34	7439-92-1	
Lithium	<b>0.013J</b>	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:34	7439-93-2	
Molybdenum	<b>0.15</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:34	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:34	7440-28-0	
Vanadium	<b>0.0047J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:34	7440-62-2	
Zinc	<b>0.0064J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:34	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>424</b>	mg/L	10.0	10.0	1		10/03/20 16:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>15.7</b>	mg/L	1.0	0.60	1		10/07/20 00:53	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 00:53	16984-48-8	
Sulfate	<b>178</b>	mg/L	4.0	2.0	4		10/07/20 10:01	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Sample: EB-2-9-30-20		Lab ID: 92498084017		Collected: 09/30/20 14:30	Received: 10/02/20 12:22	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA							
Calcium	<b>0.30J</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:44	7440-70-2	
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA							
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:39	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:39	7440-38-2	
Barium	ND	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:39	7440-41-7	
Boron	<b>0.061</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:39	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:39	7440-43-9	
Chromium	ND	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:39	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:39	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:39	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:39	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:39	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:39	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:39	7440-62-2	
Zinc	<b>0.0027J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:39	7440-66-6	
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA							
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/03/20 16:26		
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	ND	mg/L	1.0	0.60	1		10/07/20 01:08	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 01:08	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/07/20 01:08	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: DUP-2		Lab ID: 92498084018		Collected: 09/30/20 00:00	Received: 10/02/20 12:22	Matrix: Water				
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	<b>294</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:49	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:45	7440-36-0		
Arsenic	<b>0.29</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:45	7440-38-2		
Barium	<b>0.33</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:45	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:45	7440-41-7		
Boron	<b>9.8</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:45	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:45	7440-43-9		
Chromium	<b>0.0013J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:45	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:45	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:45	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:45	7439-93-2		
Molybdenum	<b>0.31</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:45	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:45	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:45	7440-28-0		
Vanadium	<b>0.0030J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:45	7440-62-2		
Zinc	<b>0.0062J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:45	7440-66-6		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	<b>1720</b>	mg/L	50.0	50.0	1		10/03/20 16:27			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	<b>35.4</b>	mg/L	1.0	0.60	1		10/07/20 01:22	16887-00-6		
Fluoride	<b>0.32</b>	mg/L	0.10	0.050	1		10/07/20 01:22	16984-48-8		
Sulfate	<b>969</b>	mg/L	20.0	10.0	20		10/07/20 10:15	14808-79-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: GWC-17</b>									
<b>Lab ID: 92498084019</b>									
Collected: 09/30/20 12:00 Received: 10/02/20 12:22 Matrix: Water									
Report									
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.08</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>53.5</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:53	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:51	7440-36-0	
Arsenic	<b>0.0012J</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:51	7440-38-2	
Barium	<b>0.035</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:51	7440-39-3	
Beryllium	<b>0.0013J</b>	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:51	7440-41-7	
Boron	<b>0.86</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 17:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 17:51	7440-43-9	
Chromium	<b>0.00096J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 17:51	7440-47-3	
Cobalt	<b>0.0018J</b>	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 17:51	7440-48-4	
Lead	<b>0.000060J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:51	7439-92-1	
Lithium	<b>0.0041J</b>	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:51	7439-93-2	
Molybdenum	<b>0.0041J</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 17:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:51	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:51	7440-62-2	
Zinc	<b>0.0043J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:51	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>752</b>	mg/L	20.0	20.0	1		10/03/20 16:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	<b>257</b>	mg/L	6.0	3.6	6		10/07/20 10:29	16887-00-6	
Fluoride	<b>0.15</b>	mg/L	0.10	0.050	1		10/07/20 01:37	16984-48-8	
Sulfate	<b>193</b>	mg/L	6.0	3.0	6		10/07/20 10:29	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Sample: <b>GWC-22</b>		Lab ID: <b>92498084020</b>		Collected: 09/30/20 14:05		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.63</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>20.9</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:58	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.0016J</b>	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:14	7440-36-0	B
Arsenic	ND	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:14	7440-38-2	
Barium	<b>0.045</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:14	7440-41-7	
Boron	<b>0.25</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 18:14	7440-42-8	
Cadmium	<b>0.00024J</b>	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 18:14	7440-43-9	
Chromium	<b>0.00064J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:14	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:14	7440-48-4	
Lead	<b>0.00023J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:14	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 18:14	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 18:14	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 18:14	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 18:14	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:14	7440-62-2	
Zinc	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:14	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>113</b>	mg/L	10.0	10.0	1		10/03/20 16:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>8.5</b>	mg/L	1.0	0.60	1		10/07/20 01:51	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 01:51	16984-48-8	
Sulfate	<b>65.5</b>	mg/L	1.0	0.50	1		10/07/20 01:51	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWB-6R</b>		Lab ID: <b>92498084021</b>		Collected: 09/30/20 15:35		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>5.39</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>27.5</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:02	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.00059J</b>	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:20	7440-36-0	B
Arsenic	<b>0.0040J</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:20	7440-38-2	
Barium	<b>0.092</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:20	7440-39-3	
Beryllium	<b>0.000046J</b>	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:20	7440-41-7	
Boron	<b>4.2</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 18:20	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 18:20	7440-43-9	
Chromium	<b>0.0045J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:20	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:20	7440-48-4	
Lead	<b>0.000080J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:20	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 18:20	7439-93-2	
Molybdenum	<b>0.00097J</b>	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 18:20	7439-98-7	
Selenium	<b>0.0023J</b>	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 18:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 18:20	7440-28-0	
Vanadium	<b>0.018</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:20	7440-62-2	
Zinc	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:20	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>816</b>	mg/L	20.0	20.0	1		10/03/20 16:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>53.9</b>	mg/L	1.0	0.60	1		10/07/20 02:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 02:35	16984-48-8	
Sulfate	<b>339</b>	mg/L	7.0	3.5	7		10/07/20 10:43	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: <b>GWB-5R</b>		Lab ID: <b>92498084022</b>		Collected: 09/30/20 17:30		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.99</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>70.4</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:07	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	<b>0.00030J</b>	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:25	7440-36-0	B
Arsenic	<b>0.0017J</b>	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:25	7440-38-2	
Barium	<b>0.16</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:25	7440-39-3	
Beryllium	<b>0.000065J</b>	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:25	7440-41-7	
Boron	<b>4.0</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 18:25	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 18:25	7440-43-9	
Chromium	<b>0.0018J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:25	7440-47-3	
Cobalt	<b>0.00056J</b>	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:25	7440-48-4	
Lead	<b>0.0012J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:25	7439-92-1	
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 18:25	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 18:25	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 18:25	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 18:25	7440-28-0	
Vanadium	<b>0.0037J</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:25	7440-62-2	
Zinc	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:25	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>652</b>	mg/L	20.0	20.0	1		10/03/20 16:27		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>24.1</b>	mg/L	1.0	0.60	1		10/07/20 02:49	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 02:49	16984-48-8	
Sulfate	<b>339</b>	mg/L	7.0	3.5	7		10/07/20 11:26	14808-79-8	

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Sample: <b>FB-2-9-30-20</b>		Lab ID: <b>92498084023</b>		Collected: 09/30/20 15:25	Received: 10/02/20 12:22	Matrix: Water				
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual	
			Limit	MDL	DF					
<b>6010D ATL ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	ND	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:11	7440-70-2		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:31	7440-36-0		
Arsenic	ND	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:31	7440-38-2		
Barium	ND	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:31	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:31	7440-41-7		
Boron	<b>0.030J</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 18:31	7440-42-8		
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 18:31	7440-43-9		
Chromium	ND	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:31	7440-47-3		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:31	7440-48-4		
Lead	ND	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:31	7439-92-1		
Lithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 18:31	7439-93-2		
Molybdenum	ND	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 18:31	7439-98-7		
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 18:31	7782-49-2		
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 18:31	7440-28-0		
Vanadium	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:31	7440-62-2		
Zinc	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:31	7440-66-6		
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/03/20 16:27			
<b>300.0 IC Anions 28 Days</b>		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		10/07/20 03:32	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 03:32	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		10/07/20 03:32	14808-79-8		

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Sample: GWC-9		Lab ID: 92498084024		Collected: 10/01/20 08:21		Received: 10/02/20 12:22		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/12/20 16:37		
pH	<b>4.42</b>	Std. Units			1		10/12/20 16:37		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>5.5</b>	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:29	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:37	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:37	7440-38-2	
Barium	<b>0.15</b>	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:37	7440-39-3	
Beryllium	<b>0.00020J</b>	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:37	7440-41-7	
Boron	<b>0.028J</b>	mg/L	0.040	0.0052	1	10/05/20 17:15	10/07/20 18:37	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.00012	1	10/05/20 17:15	10/07/20 18:37	7440-43-9	
Chromium	<b>0.0012J</b>	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:37	7440-47-3	
Cobalt	<b>0.00099J</b>	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:37	7440-48-4	
Lead	<b>0.000038J</b>	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:37	7439-92-1	
Lithium	<b>0.0019J</b>	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 18:37	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 18:37	7439-98-7	
Selenium	ND	mg/L	0.010	0.0016	1	10/05/20 17:15	10/07/20 18:37	7782-49-2	
Thallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 18:37	7440-28-0	
Vanadium	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:37	7440-62-2	
Zinc	<b>0.025</b>	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:37	7440-66-6	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>111</b>	mg/L	10.0	10.0	1		10/03/20 16:28		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>16.8</b>	mg/L	1.0	0.60	1		10/07/20 04:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/07/20 04:16	16984-48-8	
Sulfate	<b>35.0</b>	mg/L	1.0	0.50	1		10/07/20 04:16	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 570380

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

METHOD BLANK: 3021700

Matrix: Water

Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/05/20 20:52	

LABORATORY CONTROL SAMPLE: 3021701

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021764 3021765

Parameter	Units	92497532027 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Calcium	mg/L	50.1	1	52.4	1	50.7	224	54	75-125	3	20	M1

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 571010

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010D ATL

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

METHOD BLANK: 3024605

Matrix: Water

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	10/08/20 00:10	

LABORATORY CONTROL SAMPLE: 3024606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024607 3024608

Parameter	Units	92498544001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	162	1	1	165	163	305	111	75-125	1	20	M1

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

QC Batch: 570626 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007

METHOD BLANK: 3022872 Matrix: Water  
Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/06/20 17:21	
Arsenic	mg/L	ND	0.0050	0.00078	10/06/20 17:21	
Barium	mg/L	ND	0.010	0.00071	10/06/20 17:21	
Beryllium	mg/L	ND	0.0030	0.000046	10/06/20 17:21	
Boron	mg/L	ND	0.040	0.0052	10/06/20 17:21	
Cadmium	mg/L	ND	0.0025	0.00012	10/06/20 17:21	
Chromium	mg/L	ND	0.010	0.00055	10/06/20 17:21	
Cobalt	mg/L	ND	0.0050	0.00038	10/06/20 17:21	
Lead	mg/L	ND	0.0050	0.000036	10/06/20 17:21	
Lithium	mg/L	ND	0.030	0.00081	10/06/20 17:21	
Molybdenum	mg/L	ND	0.010	0.00069	10/06/20 17:21	
Selenium	mg/L	ND	0.010	0.0016	10/06/20 17:21	
Thallium	mg/L	ND	0.0010	0.00014	10/06/20 17:21	
Vanadium	mg/L	ND	0.010	0.0022	10/06/20 17:21	
Zinc	mg/L	ND	0.010	0.0022	10/06/20 17:21	

LABORATORY CONTROL SAMPLE: 3022873

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.12	116	80-120	
Arsenic	mg/L	0.1	0.097	97	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.10	100	80-120	
Boron	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.10	100	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	
Vanadium	mg/L	0.1	0.099	99	80-120	
Zinc	mg/L	0.1	0.096	96	80-120	

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**QUALITY CONTROL DATA**

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Parameter	Units	3022874		3022875		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92496914020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Antimony	mg/L	ND	0.1	0.1	0.12	0.12	115	116	75-125	0	20	
Arsenic	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	2	20	
Barium	mg/L	0.15	0.1	0.1	0.25	0.25	102	99	75-125	1	20	
Beryllium	mg/L	0.00010J	0.1	0.1	0.095	0.096	95	96	75-125	1	20	
Boron	mg/L	0.17	1	1	1.1	1.1	94	95	75-125	1	20	
Cadmium	mg/L	ND	0.1	0.1	0.095	0.097	95	97	75-125	2	20	
Chromium	mg/L	0.00063J	0.1	0.1	0.10	0.10	100	100	75-125	0	20	
Cobalt	mg/L	ND	0.1	0.1	0.097	0.099	97	98	75-125	1	20	
Lead	mg/L	0.00014J	0.1	0.1	0.094	0.096	94	96	75-125	2	20	
Lithium	mg/L	0.019J	0.1	0.1	0.11	0.11	92	96	75-125	3	20	
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	99	100	75-125	1	20	
Selenium	mg/L	ND	0.1	0.1	0.093	0.095	93	95	75-125	3	20	
Thallium	mg/L	ND	0.1	0.1	0.096	0.097	96	97	75-125	1	20	
Vanadium	mg/L	ND	0.1	0.1	0.10	0.10	101	102	75-125	1	20	
Zinc	mg/L	0.0033J	0.1	0.1	0.095	0.096	91	92	75-125	1	20	

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**REPORT OF LABORATORY ANALYSIS**

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

QC Batch: 570627 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92498084008, 92498084009, 92498084010, 92498084011

METHOD BLANK: 3022878 Matrix: Water  
Associated Lab Samples: 92498084008, 92498084009, 92498084010, 92498084011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00028	10/05/20 18:29	
Arsenic	mg/L	ND	0.0050	0.00078	10/05/20 18:29	
Barium	mg/L	ND	0.010	0.00071	10/05/20 18:29	
Beryllium	mg/L	ND	0.0030	0.000046	10/05/20 18:29	
Boron	mg/L	ND	0.040	0.0052	10/05/20 18:29	
Cadmium	mg/L	ND	0.0025	0.00012	10/05/20 18:29	
Chromium	mg/L	ND	0.010	0.00055	10/05/20 18:29	
Cobalt	mg/L	ND	0.0050	0.00038	10/05/20 18:29	
Lead	mg/L	ND	0.0050	0.000036	10/05/20 18:29	
Lithium	mg/L	ND	0.030	0.00081	10/05/20 18:29	
Molybdenum	mg/L	ND	0.010	0.00069	10/05/20 18:29	
Selenium	mg/L	ND	0.010	0.0016	10/05/20 18:29	
Thallium	mg/L	ND	0.0010	0.00014	10/05/20 18:29	
Vanadium	mg/L	ND	0.010	0.0022	10/05/20 18:29	
Zinc	mg/L	ND	0.010	0.0022	10/05/20 18:29	

LABORATORY CONTROL SAMPLE: 3022879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.10	100	80-120	
Arsenic	mg/L	0.1	0.096	96	80-120	
Barium	mg/L	0.1	0.096	96	80-120	
Beryllium	mg/L	0.1	0.10	100	80-120	
Boron	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	0.1	0.096	96	80-120	
Chromium	mg/L	0.1	0.10	100	80-120	
Cobalt	mg/L	0.1	0.097	97	80-120	
Lead	mg/L	0.1	0.097	97	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	
Molybdenum	mg/L	0.1	0.10	100	80-120	
Selenium	mg/L	0.1	0.10	101	80-120	
Thallium	mg/L	0.1	0.098	98	80-120	
Vanadium	mg/L	0.1	0.10	100	80-120	
Zinc	mg/L	0.1	0.10	100	80-120	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Parameter	Units	3022880		3022881		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92498084008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Antimony	mg/L	ND	0.1	0.1	0.10	0.095	102	95	75-125	7	20		
Arsenic	mg/L	ND	0.1	0.1	0.10	0.095	100	95	75-125	6	20		
Barium	mg/L	0.026	0.1	0.1	0.13	0.12	101	91	75-125	9	20		
Beryllium	mg/L	ND	0.1	0.1	0.099	0.096	99	96	75-125	4	20		
Boron	mg/L	0.053	1	1	1.1	1.1	105	103	75-125	2	20		
Cadmium	mg/L	0.00012J	0.1	0.1	0.10	0.094	99	94	75-125	6	20		
Chromium	mg/L	ND	0.1	0.1	0.10	0.096	103	95	75-125	8	20		
Cobalt	mg/L	ND	0.1	0.1	0.10	0.093	100	93	75-125	7	20		
Lead	mg/L	ND	0.1	0.1	0.099	0.094	99	94	75-125	5	20		
Lithium	mg/L	ND	0.1	0.1	0.10	0.096	100	96	75-125	4	20		
Molybdenum	mg/L	0.0089J	0.1	0.1	0.11	0.10	100	93	75-125	7	20		
Selenium	mg/L	0.0051J	0.1	0.1	0.11	0.099	101	94	75-125	6	20		
Thallium	mg/L	ND	0.1	0.1	0.10	0.094	100	93	75-125	6	20		
Vanadium	mg/L	ND	0.1	0.1	0.11	0.099	104	97	75-125	6	20		
Zinc	mg/L	ND	0.1	0.1	0.099	0.093	99	92	75-125	7	20		

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 571011 Analysis Method: EPA 6020B  
 QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
 Laboratory: Pace Analytical Services - Peachtree Corners, GA  
 Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018,  
 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

METHOD BLANK: 3024610 Matrix: Water  
 Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018,  
 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	0.00045J	0.0030	0.00028	10/07/20 15:45	
Arsenic	mg/L	ND	0.0050	0.00078	10/07/20 15:45	
Barium	mg/L	ND	0.010	0.00071	10/07/20 15:45	
Beryllium	mg/L	ND	0.0030	0.000046	10/07/20 15:45	
Boron	mg/L	ND	0.040	0.0052	10/07/20 15:45	
Cadmium	mg/L	ND	0.0025	0.00012	10/07/20 15:45	
Chromium	mg/L	ND	0.010	0.00055	10/07/20 15:45	
Cobalt	mg/L	ND	0.0050	0.00038	10/07/20 15:45	
Lead	mg/L	ND	0.0050	0.000036	10/07/20 15:45	
Lithium	mg/L	ND	0.030	0.00081	10/07/20 15:45	
Molybdenum	mg/L	ND	0.010	0.00069	10/07/20 15:45	
Selenium	mg/L	ND	0.010	0.0016	10/07/20 15:45	
Thallium	mg/L	ND	0.0010	0.00014	10/07/20 15:45	
Vanadium	mg/L	ND	0.010	0.0022	10/07/20 15:45	
Zinc	mg/L	ND	0.010	0.0022	10/07/20 15:45	

LABORATORY CONTROL SAMPLE: 3024611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.1	0.12	115	80-120	
Arsenic	mg/L	0.1	0.095	95	80-120	
Barium	mg/L	0.1	0.10	101	80-120	
Beryllium	mg/L	0.1	0.10	100	80-120	
Boron	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	0.1	0.098	98	80-120	
Chromium	mg/L	0.1	0.099	99	80-120	
Cobalt	mg/L	0.1	0.098	98	80-120	
Lead	mg/L	0.1	0.098	98	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	
Molybdenum	mg/L	0.1	0.10	101	80-120	
Selenium	mg/L	0.1	0.094	94	80-120	
Thallium	mg/L	0.1	0.099	99	80-120	
Vanadium	mg/L	0.1	0.099	99	80-120	
Zinc	mg/L	0.1	0.099	99	80-120	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Parameter	Units	3024612		3024613		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92498544002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Antimony	mg/L	0.00056J	0.1	0.1	0.11	0.11	114	111	75-125	2	20
Arsenic	mg/L	ND	0.1	0.1	0.096	0.096	95	96	75-125	0	20
Barium	mg/L	0.058	0.1	0.1	0.16	0.16	101	100	75-125	1	20
Beryllium	mg/L	ND	0.1	0.1	0.096	0.092	96	92	75-125	4	20
Boron	mg/L	0.025J	1	1	0.93	0.90	90	88	75-125	3	20
Cadmium	mg/L	ND	0.1	0.1	0.095	0.096	95	96	75-125	1	20
Chromium	mg/L	0.0014J	0.1	0.1	0.099	0.097	98	96	75-125	2	20
Cobalt	mg/L	ND	0.1	0.1	0.099	0.096	98	96	75-125	3	20
Lead	mg/L	0.00021J	0.1	0.1	0.097	0.096	97	96	75-125	1	20
Lithium	mg/L	ND	0.1	0.1	0.097	0.095	96	94	75-125	3	20
Molybdenum	mg/L	ND	0.1	0.1	0.10	0.10	102	99	75-125	3	20
Selenium	mg/L	0.0018J	0.1	0.1	0.092	0.094	90	92	75-125	2	20
Thallium	mg/L	ND	0.1	0.1	0.098	0.097	98	96	75-125	1	20
Vanadium	mg/L	ND	0.1	0.1	0.10	0.10	101	100	75-125	0	20
Zinc	mg/L	0.0023J	0.1	0.1	0.096	0.094	93	92	75-125	2	20

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch:	570638	Analysis Method:	SM 2450C-2011
QC Batch Method:	SM 2450C-2011	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005

METHOD BLANK: 3022933 Matrix: Water  
Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/02/20 17:24	

LABORATORY CONTROL SAMPLE: 3022934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	419	105	84-108	

SAMPLE DUPLICATE: 3022936

Parameter	Units	92497532034 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 3023295

Parameter	Units	92497532027 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	243	245	1	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch:	570640	Analysis Method:	SM 2450C-2011
QC Batch Method:	SM 2450C-2011	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

METHOD BLANK: 3022941 Matrix: Water  
Associated Lab Samples: 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/02/20 17:27	

LABORATORY CONTROL SAMPLE: 3022942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	430	108	84-108	

SAMPLE DUPLICATE: 3022943

Parameter	Units	92498367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	65.0	71.0	9	10	

SAMPLE DUPLICATE: 3022944

Parameter	Units	92497532037 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	908	862	5	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 570756

Analysis Method: SM 2450C-2011

QC Batch Method: SM 2450C-2011

Analysis Description: 2540C Total Dissolved Solids

Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

METHOD BLANK: 3023513

Matrix: Water

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	10/03/20 16:26	

LABORATORY CONTROL SAMPLE: 3023514

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	430	108	84-108	

SAMPLE DUPLICATE: 3023515

Parameter	Units	92498084012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	634	636	0	10	

SAMPLE DUPLICATE: 3023516

Parameter	Units	92498084023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

QC Batch: 570217 Analysis Method: EPA 300.0 Rev 2.1 1993  
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

METHOD BLANK: 3020447 Matrix: Water  
Associated Lab Samples: 92498084001, 92498084002, 92498084003, 92498084004, 92498084005, 92498084006, 92498084007, 92498084008, 92498084009, 92498084010, 92498084011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/01/20 19:33	
Fluoride	mg/L	ND	0.10	0.050	10/01/20 19:33	
Sulfate	mg/L	ND	1.0	0.50	10/01/20 19:33	

LABORATORY CONTROL SAMPLE: 3020448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.6	103	90-110	
Fluoride	mg/L	2.5	2.7	110	90-110	
Sulfate	mg/L	50	50.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020449 3020450

Parameter	Units	92497532033		3020450		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	8.1	50	50	62.3	61.6	108	107	90-110	1	10
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	107	106	90-110	1	10
Sulfate	mg/L	66.2	50	50	111	110	89	88	90-110	0	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020451 3020452

Parameter	Units	92498084008		3020452		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	10.6	50	50	64.0	64.3	107	107	90-110	0	10
Fluoride	mg/L	ND	2.5	2.5	2.3	2.3	91	93	90-110	3	10
Sulfate	mg/L	93.5	50	50	134	134	82	81	90-110	0	10 M1

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch:	571106	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022

METHOD BLANK:	3024838	Matrix:	Water
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Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, 92498084019, 92498084020, 92498084021, 92498084022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/06/20 19:21	
Fluoride	mg/L	ND	0.10	0.050	10/06/20 19:21	
Sulfate	mg/L	ND	1.0	0.50	10/06/20 19:21	

LABORATORY CONTROL SAMPLE: 3024839						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	50	49.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024840												3024841	
Parameter	Units	92498545001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	265	50	50	309	313	87	96	90-110	1	10	M6	
Fluoride	mg/L	8.8	2.5	2.5	13.4	13.5	182	185	90-110	1	10	M6	
Sulfate	mg/L	28.4	50	50	78.6	79.5	100	102	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024842												3024843	
Parameter	Units	92498084013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	1.7	50	50	53.9	54.3	104	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	102	103	90-110	1	10		
Sulfate	mg/L	18.5	50	50	69.7	70.2	102	103	90-110	1	10		

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 571109

Analysis Method: EPA 300.0 Rev 2.1 1993

QC Batch Method: EPA 300.0 Rev 2.1 1993

Analysis Description: 300.0 IC Anions

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92498084023, 92498084024

METHOD BLANK: 3024847

Matrix: Water

Associated Lab Samples: 92498084023, 92498084024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/07/20 03:04	
Fluoride	mg/L	ND	0.10	0.050	10/07/20 03:04	
Sulfate	mg/L	ND	1.0	0.50	10/07/20 03:04	

LABORATORY CONTROL SAMPLE: 3024848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.1	98	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	48.5	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024849 3024850

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92498084023	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	ND	50	50	52.3	52.3	105	105	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	100	101	90-110	1	10		
Sulfate	mg/L	ND	50	50	51.4	51.4	103	103	90-110	0	10		

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

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

---

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498084001	GWA-7				
92498084002	GWC-13				
92498084003	GWA-8				
92498084004	GWC-1				
92498084006	GWC-12				
92498084007	GWC-11				
92498084008	GWC-14				
92498084009	GWC-2				
92498084012	GWC-21				
92498084013	GWC-15				
92498084014	GWC-16				
92498084015	GWC-20				
92498084016	GWB-4R				
92498084019	GWC-17				
92498084020	GWC-22				
92498084021	GWB-6R				
92498084022	GWB-5R				
92498084024	GWC-9				
92498084001	GWA-7	EPA 3010A	570380	EPA 6010D	570413
92498084002	GWC-13	EPA 3010A	570380	EPA 6010D	570413
92498084003	GWA-8	EPA 3010A	570380	EPA 6010D	570413
92498084004	GWC-1	EPA 3010A	570380	EPA 6010D	570413
92498084005	FB-1-9-28-20	EPA 3010A	570380	EPA 6010D	570413
92498084006	GWC-12	EPA 3010A	570380	EPA 6010D	570413
92498084007	GWC-11	EPA 3010A	570380	EPA 6010D	570413
92498084008	GWC-14	EPA 3010A	570380	EPA 6010D	570413
92498084009	GWC-2	EPA 3010A	570380	EPA 6010D	570413
92498084010	EB-1-9-29-20	EPA 3010A	570380	EPA 6010D	570413
92498084011	DUP-1	EPA 3010A	570380	EPA 6010D	570413
92498084012	GWC-21	EPA 3010A	571010	EPA 6010D	571031
92498084013	GWC-15	EPA 3010A	571010	EPA 6010D	571031
92498084014	GWC-16	EPA 3010A	571010	EPA 6010D	571031
92498084015	GWC-20	EPA 3010A	571010	EPA 6010D	571031
92498084016	GWB-4R	EPA 3010A	571010	EPA 6010D	571031
92498084017	EB-2-9-30-20	EPA 3010A	571010	EPA 6010D	571031
92498084018	DUP-2	EPA 3010A	571010	EPA 6010D	571031
92498084019	GWC-17	EPA 3010A	571010	EPA 6010D	571031
92498084020	GWC-22	EPA 3010A	571010	EPA 6010D	571031
92498084021	GWB-6R	EPA 3010A	571010	EPA 6010D	571031
92498084022	GWB-5R	EPA 3010A	571010	EPA 6010D	571031
92498084023	FB-2-9-30-20	EPA 3010A	571010	EPA 6010D	571031
92498084024	GWC-9	EPA 3010A	571010	EPA 6010D	571031
92498084001	GWA-7	EPA 3005A	570626	EPA 6020B	570683
92498084002	GWC-13	EPA 3005A	570626	EPA 6020B	570683
92498084003	GWA-8	EPA 3005A	570626	EPA 6020B	570683
92498084004	GWC-1	EPA 3005A	570626	EPA 6020B	570683
92498084005	FB-1-9-28-20	EPA 3005A	570626	EPA 6020B	570683

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498084006	GWC-12	EPA 3005A	570626	EPA 6020B	570683
92498084007	GWC-11	EPA 3005A	570626	EPA 6020B	570683
92498084008	GWC-14	EPA 3005A	570627	EPA 6020B	570682
92498084009	GWC-2	EPA 3005A	570627	EPA 6020B	570682
92498084010	EB-1-9-29-20	EPA 3005A	570627	EPA 6020B	570682
92498084011	DUP-1	EPA 3005A	570627	EPA 6020B	570682
92498084012	GWC-21	EPA 3005A	571011	EPA 6020B	571032
92498084013	GWC-15	EPA 3005A	571011	EPA 6020B	571032
92498084014	GWC-16	EPA 3005A	571011	EPA 6020B	571032
92498084015	GWC-20	EPA 3005A	571011	EPA 6020B	571032
92498084016	GWB-4R	EPA 3005A	571011	EPA 6020B	571032
92498084017	EB-2-9-30-20	EPA 3005A	571011	EPA 6020B	571032
92498084018	DUP-2	EPA 3005A	571011	EPA 6020B	571032
92498084019	GWC-17	EPA 3005A	571011	EPA 6020B	571032
92498084020	GWC-22	EPA 3005A	571011	EPA 6020B	571032
92498084021	GWB-6R	EPA 3005A	571011	EPA 6020B	571032
92498084022	GWB-5R	EPA 3005A	571011	EPA 6020B	571032
92498084023	FB-2-9-30-20	EPA 3005A	571011	EPA 6020B	571032
92498084024	GWC-9	EPA 3005A	571011	EPA 6020B	571032
92498084001	GWA-7	SM 2450C-2011	570638		
92498084002	GWC-13	SM 2450C-2011	570638		
92498084003	GWA-8	SM 2450C-2011	570638		
92498084004	GWC-1	SM 2450C-2011	570638		
92498084005	FB-1-9-28-20	SM 2450C-2011	570638		
92498084006	GWC-12	SM 2450C-2011	570640		
92498084007	GWC-11	SM 2450C-2011	570640		
92498084008	GWC-14	SM 2450C-2011	570640		
92498084009	GWC-2	SM 2450C-2011	570640		
92498084010	EB-1-9-29-20	SM 2450C-2011	570640		
92498084011	DUP-1	SM 2450C-2011	570640		
92498084012	GWC-21	SM 2450C-2011	570756		
92498084013	GWC-15	SM 2450C-2011	570756		
92498084014	GWC-16	SM 2450C-2011	570756		
92498084015	GWC-20	SM 2450C-2011	570756		
92498084016	GWB-4R	SM 2450C-2011	570756		
92498084017	EB-2-9-30-20	SM 2450C-2011	570756		
92498084018	DUP-2	SM 2450C-2011	570756		
92498084019	GWC-17	SM 2450C-2011	570756		
92498084020	GWC-22	SM 2450C-2011	570756		
92498084021	GWB-6R	SM 2450C-2011	570756		
92498084022	GWB-5R	SM 2450C-2011	570756		
92498084023	FB-2-9-30-20	SM 2450C-2011	570756		
92498084024	GWC-9	SM 2450C-2011	570756		
92498084001	GWA-7	EPA 300.0 Rev 2.1 1993	570217		
92498084002	GWC-13	EPA 300.0 Rev 2.1 1993	570217		
92498084003	GWA-8	EPA 300.0 Rev 2.1 1993	570217		

### REPORT OF LABORATORY ANALYSIS

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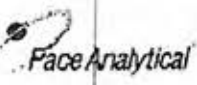
### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SEMI ANNUAL  
Pace Project No.: 92498084

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498084004	GWC-1	EPA 300.0 Rev 2.1 1993	570217		
92498084005	FB-1-9-28-20	EPA 300.0 Rev 2.1 1993	570217		
92498084006	GWC-12	EPA 300.0 Rev 2.1 1993	570217		
92498084007	GWC-11	EPA 300.0 Rev 2.1 1993	570217		
92498084008	GWC-14	EPA 300.0 Rev 2.1 1993	570217		
92498084009	GWC-2	EPA 300.0 Rev 2.1 1993	570217		
92498084010	EB-1-9-29-20	EPA 300.0 Rev 2.1 1993	570217		
92498084011	DUP-1	EPA 300.0 Rev 2.1 1993	570217		
92498084012	GWC-21	EPA 300.0 Rev 2.1 1993	571106		
92498084013	GWC-15	EPA 300.0 Rev 2.1 1993	571106		
92498084014	GWC-16	EPA 300.0 Rev 2.1 1993	571106		
92498084015	GWC-20	EPA 300.0 Rev 2.1 1993	571106		
92498084016	GWB-4R	EPA 300.0 Rev 2.1 1993	571106		
92498084017	EB-2-9-30-20	EPA 300.0 Rev 2.1 1993	571106		
92498084018	DUP-2	EPA 300.0 Rev 2.1 1993	571106		
92498084019	GWC-17	EPA 300.0 Rev 2.1 1993	571106		
92498084020	GWC-22	EPA 300.0 Rev 2.1 1993	571106		
92498084021	GWB-6R	EPA 300.0 Rev 2.1 1993	571106		
92498084022	GWB-5R	EPA 300.0 Rev 2.1 1993	571106		
92498084023	FB-2-9-30-20	EPA 300.0 Rev 2.1 1993	571109		
92498084024	GWC-9	EPA 300.0 Rev 2.1 1993	571109		

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Client Name: BA Power

WO#: 92498084



Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Othr  
Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no Proj. Name: \_\_\_\_\_

Packing Material:  Bubble Wrap  Bubble Bags  None  Other PE Ziplock

Thermometer Used 230 Type of Ice:  Wet  Blue  None  Samples on ice, cooling process has begun

Cooler Temperature 3.7 Biological Tissue is Frozen: Yes No Date and Initials of person examining contents: CO  
Temp should be above freezing to 6°C Comments: \_\_\_\_\_

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



Document Name:  
Bottle Identification Form (BIF)  
Document No.:  
F-CAR-CS-043-Rev.00

Document issued: March 14, 2019  
Page 1 of 1  
Issuing Authority:

WO#: 92498084

Project #

PM: KLH1

Due Date: 10/14/20

CLIENT: GA-GA Power

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

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

Bottom half of box is to list number of bottle

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (C-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (C-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic Zn Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (C-)	WGJU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (C-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (C-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(C-)	AG3H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Nr-25203 (N/A)	VG9U-40 mL VOA Uno (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-SO3S kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	RADS	BP9A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG8U-100 mL Amber Unpreserved vials (N/A)	VS9U-20 mL Scintillation vials (N/A)	
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Of Out of hold, Incorrect preservative, out of temp, incorrect containers





# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

<b>Section A</b> Requesting Client Information: Company: GA Power Address: Atlanta, GA		<b>Section B</b> Required Project Information: Report To: SCS Contacts Copy To: ACC Contacts		<b>Section C</b> Analytical Information: Location: Southern Co. Company Name: Address: Site Name: Site Address: Site City: Site State: GA	
Email To: SCS Contacts Phone: Fax Requested Due Date/TAT: 10 day		Purchase Order No.: Project Name: Gurneian Road - Semi-Annual Project Number:		Price Quote Reference: Price Project Manager: Kevin Herring Price Profile #: 2928-1	
<b>REGULATORY AGENCY</b> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/>		Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	

ITEM #	Valid Matrix Codes Required Client Information MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOLID AIR OTHER Tissue	CODE DW WW P SL W AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (N/A)
					DATE	TIME									
1	GWA-7	WT 6			9-28-20	15:20	9								
2	GWA-13	WT 6			9-28-20	16:40	9								
3	GWA-8	WT 6			9-28-20	16:04	9								
4	GWC-1	WT 6			9-28-20	17:08	9								
5	FB-1-9-28-20	WT 6			9-28-20	16:55	9								
6	GWC-12	WT 6			9-29-20	09:35	9								
7	GWC-11	WT 6			9-29-20	12:20	9								
8	GWC-14	WT 6			9-29-20	14:42	9								
9	GWC-2	WT 6			9-29-20	15:25	9								
10	FB-1-9-24-20	WT 6			9-28-20	16:20	9								
11	DVP-1	WT 6			9-29-20		9								
12															

**ADDITIONAL COMMENTS**  
Please note when the last sample for the event has been taken.

RELINQUISHED BY / AFFILIATION <i>ACC</i>	DATE 9-30-20	TIME 0745	ACCEPTED BY / AFFILIATION <i>Mike Sherman</i>	DATE 9-30-20	TIME 0745
---	-----------------	--------------	--	-----------------	--------------

<b>SAMPLER NAME AND SIGNATURE</b>	
PRINT NAME OF SAMPLER: <i>Jordan Beisford</i>	DATE Signed (MM/DD/YYYY): 09/30/20
SIGNATURE OF SAMPLER: <i>Jordan Beisford</i>	

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

F-ALL-Q-020REV.07.15-Feb-2007



# CHAIN-OF-CUSTODY / Analytical Request Document

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

<b>Section A</b> Required Client Information Company: GA Power Address: Atlanta, GA	<b>Section B</b> Requested Project Information: Report To: SCS Contacts Copy To: ACC Contacts	<b>Section C</b> Invoice Information: Attention: Southern Co. Company Name: Address:	Page: 2 of 3
--	--	--	--------------

Email To: SCS Contacts Phone: Requested Due Date/TAT: 10 Day	Purchase Order No.: Project Name: Gunman Road - Semi-Annual Project Number:	Site Location: GA STATE:	REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/> CCR
--	---	-----------------------------	---

ITEM #	Section D Required Client Information  Valid Matrix Codes MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other Analysis Test TDS Chloride/Fluoride/Sulfate 300.0 App. III + IV + State Metals * RAD 226/228 Residual Chlorine (Y/N)	Section D Required Client Information Valid Matrix Codes MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP) DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION # OF CONTAINERS Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other Analysis Test TDS Chloride/Fluoride/Sulfate 300.0 App. III + IV + State Metals * RAD 226/228 Residual Chlorine (Y/N)	COLLECTED		PRESERVED		REQUESTED ANALYSIS FILTERED (Y/N)		SAMPLE CONDITIONS												
			COMPOSITE	COMPOSITE	Y/N	Y/N	Y/N	Y/N	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)									
1	GWC-21	GWC-21	9-30-20	1049	5	✓	✓	✓	✓	5.82											
2	GWC-15	GWC-15	9-30-20	1230	5	✓	✓	✓	✓	6.71											
3	GWC-16	GWC-16	9-30-20	1400	5	✓	✓	✓	✓	5.47											
4	GWC-20	GWC-20	9-30-20	1631	5	✓	✓	✓	✓	6.04											
5	GWB-4R	GWB-4R	10-1-20	0850	5	✓	✓	✓	✓	5.75											
6	GB-2-9-30-20	GB-2-9-30-20	9-30-20	1430	5	✓	✓	✓	✓	NA											
7	DWP-2	DWP-2	9-30-20		5	✓	✓	✓	✓	-4R											

ADDITIONAL COMMENTS Please note when the last sample for this event has been taken.	RELINQUISHED BY / AFFILIATION Tara Bell HCC	DATE 10-2-20	TIME 1222	ACCEPTED BY / AFFILIATION K. Murphy Pace	DATE 10/2/20	TIME 1200
--	--	-----------------	--------------	---	-----------------	--------------

SAMPLER NAME AND SIGNATURE		DATE SIGNED (MM/DD/YYYY)	
PRINT Name of SAMPLER:	Tara Bell	DATE SIGNED	10-2-20
SIGNATURE of SAMPLER:	<i>Tara Bell</i>	DATE SIGNED	10-2-20





October 26, 2020

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 30, 2020 and October 02, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Greensburg

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

Sincerely,



Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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### **Pace Analytical Services Pennsylvania**

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92498068001	GWA-7	Water	09/28/20 15:20	09/30/20 11:47
92498068002	GWC-13	Water	09/28/20 16:40	09/30/20 11:47
92498068003	GWA-8	Water	09/28/20 16:04	09/30/20 11:47
92498068004	GWC-1	Water	09/28/20 17:08	09/30/20 11:47
92498068005	FB-1-9-28-20	Water	09/28/20 16:55	09/30/20 11:47
92498068006	GWC-12	Water	09/29/20 09:35	09/30/20 11:47
92498068007	GWC-11	Water	09/29/20 12:20	09/30/20 11:47
92498068008	GWC-14	Water	09/29/20 14:42	09/30/20 11:47
92498068009	GWC-2	Water	09/29/20 15:05	09/30/20 11:47
92498068010	EB-1-9-29-20	Water	09/29/20 16:20	09/30/20 11:47
92498068011	DUP-1	Water	09/29/20 00:00	09/30/20 11:47
92498068012	GWC-21	Water	09/30/20 10:49	10/02/20 12:22
92498068013	GWC-15	Water	09/30/20 12:30	10/02/20 12:22
92498068014	GWC-16	Water	09/30/20 14:00	10/02/20 12:22
92498068015	GWC-20	Water	09/30/20 16:31	10/02/20 12:22
92498068016	GWB-4R	Water	10/01/20 08:50	10/02/20 12:22
92498068017	EB-2-9-30-20	Water	09/30/20 14:30	10/02/20 12:22
92498068018	DUP-2	Water	09/30/20 00:00	10/02/20 12:22
92498068019	GWC-17	Water	09/30/20 12:00	10/02/20 12:22
92498068020	GWC-22	Water	09/30/20 14:05	10/02/20 12:22
92498068021	GWB-6R	Water	09/30/20 15:35	10/02/20 12:22
92498068022	GWB-5R	Water	09/30/20 17:30	10/02/20 12:22
92498068023	FB-2-9-30-20	Water	09/30/20 15:25	10/02/20 12:22
92498068024	GWC-9	Water	10/01/20 08:21	10/02/20 12:22

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92498068001	GWA-7	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068002	GWC-13	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068003	GWA-8	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068004	GWC-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068005	FB-1-9-28-20	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068006	GWC-12	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068007	GWC-11	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068008	GWC-14	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068009	GWC-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068010	EB-1-9-29-20	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068011	DUP-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068012	GWC-21	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068013	GWC-15	EPA 9315	LAL	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92498068014	GWC-16	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068015	GWC-20	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068016	GWB-4R	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068017	EB-2-9-30-20	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068018	DUP-2	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068019	GWC-17	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068020	GWC-22	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068021	GWB-6R	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068022	GWB-5R	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068023	FB-2-9-30-20	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92498068024	GWC-9	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068001</b>	<b>GWA-7</b>					
EPA 9315	Radium-226	22.2 ± 4.27 (0.964)	pCi/L		10/15/20 06:56	
EPA 9320	Radium-228	C:93% T:NA 0.156 ± 0.471 (1.06)	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	C:71% T:81% 22.4 ± 4.74 (2.02)	pCi/L		10/21/20 12:22	
<b>92498068002</b>	<b>GWC-13</b>					
EPA 9315	Radium-226	0.676 ± 0.337 (0.373)	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	C:85% T:NA 0.606 ± 0.395 (0.737)	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	C:71% T:79% 1.28 ± 0.732 (1.11)	pCi/L		10/21/20 12:22	
<b>92498068003</b>	<b>GWA-8</b>					
EPA 9315	Radium-226	0.929 ± 0.400 (0.425)	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	C:85% T:NA 1.15 ± 0.522 (0.868)	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	C:70% T:78% 2.08 ± 0.922 (1.29)	pCi/L		10/21/20 12:22	
<b>92498068004</b>	<b>GWC-1</b>					
EPA 9315	Radium-226	0.727 ± 0.357 (0.460)	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	C:89% T:NA 0.564 ± 0.409 (0.795)	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	C:75% T:78% 1.29 ± 0.766 (1.26)	pCi/L		10/21/20 12:22	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068005</b>	<b>FB-1-9-28-20</b>					
EPA 9315	Radium-226	-0.0334 ± 0.133 (0.422) C:90% T:NA	pCi/L		10/15/20 06:55	
EPA 9320	Radium-228	0.886 ± 0.502 (0.919) C:68% T:78%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	0.886 ± 0.635 (1.34)	pCi/L		10/22/20 10:20	
<b>92498068006</b>	<b>GWC-12</b>					
EPA 9315	Radium-226	0.494 ± 0.318 (0.495) C:84% T:NA	pCi/L		10/15/20 06:58	
EPA 9320	Radium-228	0.351 ± 0.443 (0.942) C:73% T:78%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	0.845 ± 0.761 (1.44)	pCi/L		10/22/20 10:20	
<b>92498068007</b>	<b>GWC-11</b>					
EPA 9315	Radium-226	3.84 ± 0.898 (0.428) C:88% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	4.46 ± 1.05 (0.851) C:68% T:81%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	8.30 ± 1.95 (1.28)	pCi/L		10/22/20 10:20	
<b>92498068008</b>	<b>GWC-14</b>					
EPA 9315	Radium-226	0.331 ± 0.258 (0.431) C:83% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	-0.233 ± 0.396 (0.960) C:69% T:80%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	0.331 ± 0.654 (1.39)	pCi/L		10/22/20 10:20	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
 Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068009</b>	<b>GWC-2</b>					
EPA 9315	Radium-226	0.553 ± 0.323 (0.494) C:88% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	0.450 ± 0.417 (0.853) C:73% T:84%	pCi/L		10/21/20 11:44	
Total Radium Calculation	Total Radium	1.00 ± 0.740 (1.35)	pCi/L		10/22/20 10:20	
<b>92498068010</b>	<b>EB-1-9-29-20</b>					
EPA 9315	Radium-226	0.00561 ± 0.156 (0.435) C:92% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	0.149 ± 0.376 (0.838) C:73% T:83%	pCi/L		10/21/20 11:34	
Total Radium Calculation	Total Radium	0.155 ± 0.532 (1.27)	pCi/L		10/22/20 10:20	
<b>92498068011</b>	<b>DUP-1</b>					
EPA 9315	Radium-226	0.259 ± 0.219 (0.372) C:92% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	1.42 ± 0.529 (0.789) C:69% T:84%	pCi/L		10/21/20 11:34	
Total Radium Calculation	Total Radium	1.68 ± 0.748 (1.16)	pCi/L		10/22/20 10:20	
<b>92498068012</b>	<b>GWC-21</b>					
EPA 9315	Radium-226	2.88 ± 0.770 (0.501) C:76% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	0.945 ± 0.535 (0.993) C:69% T:79%	pCi/L		10/21/20 11:35	
Total Radium Calculation	Total Radium	3.83 ± 1.31 (1.49)	pCi/L		10/22/20 10:20	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068013</b>	<b>GWC-15</b>					
EPA 9315	Radium-226	0.709 ± 0.358 (0.518) C:97% T:NA	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	1.43 ± 0.547 (0.848) C:71% T:86%	pCi/L		10/21/20 11:45	
Total Radium Calculation	Total Radium	2.14 ± 0.905 (1.37)	pCi/L		10/22/20 10:20	
<b>92498068014</b>	<b>GWC-16</b>					
EPA 9315	Radium-226	1.69 ± 0.552 (0.449) C:86% T:NA	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	0.781 ± 0.435 (0.789) C:74% T:82%	pCi/L		10/21/20 11:45	
Total Radium Calculation	Total Radium	2.47 ± 0.987 (1.24)	pCi/L		10/22/20 10:20	
<b>92498068015</b>	<b>GWC-20</b>					
EPA 9315	Radium-226	3.50 ± 0.843 (0.419) C:93% T:NA	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	2.12 ± 0.638 (0.795) C:66% T:93%	pCi/L		10/21/20 11:35	
Total Radium Calculation	Total Radium	5.62 ± 1.48 (1.21)	pCi/L		10/22/20 10:20	
<b>92498068016</b>	<b>GWB-4R</b>					
EPA 9315	Radium-226	1.57 ± 0.530 (0.422) C:84% T:NA	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	1.03 ± 0.451 (0.721) C:68% T:81%	pCi/L		10/21/20 11:30	
Total Radium Calculation	Total Radium	2.60 ± 0.981 (1.14)	pCi/L		10/22/20 10:20	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068017</b>	<b>EB-2-9-30-20</b>					
EPA 9315	Radium-226	0.132 ± 0.292 (0.685) C:88% T:NA	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	0.612 ± 0.386 (0.710) C:71% T:75%	pCi/L		10/21/20 11:30	
Total Radium Calculation	Total Radium	0.744 ± 0.678 (1.40)	pCi/L		10/22/20 10:20	
<b>92498068018</b>	<b>DUP-2</b>					
EPA 9315	Radium-226	3.50 ± 0.853 (0.441) C:96% T:NA	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	3.29 ± 0.864 (0.988) C:77% T:84%	pCi/L		10/21/20 11:36	
Total Radium Calculation	Total Radium	6.79 ± 1.72 (1.43)	pCi/L		10/22/20 10:20	
<b>92498068019</b>	<b>GWC-17</b>					
EPA 9315	Radium-226	1.06 ± 0.448 (0.493) C:83% T:NA	pCi/L		10/16/20 06:45	
EPA 9320	Radium-228	2.03 ± 0.646 (0.909) C:75% T:88%	pCi/L		10/21/20 11:36	
Total Radium Calculation	Total Radium	3.09 ± 1.09 (1.40)	pCi/L		10/22/20 10:20	
<b>92498068020</b>	<b>GWC-22</b>					
EPA 9315	Radium-226	0.820 ± 0.408 (0.485) C:78% T:NA	pCi/L		10/16/20 06:45	
EPA 9320	Radium-228	1.97 ± 0.700 (1.08) C:74% T:79%	pCi/L		10/21/20 11:36	
Total Radium Calculation	Total Radium	2.79 ± 1.11 (1.57)	pCi/L		10/22/20 10:20	

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498068021</b>	<b>GWB-6R</b>					
EPA 9315	Radium-226	3.02 ± 0.796 (0.521) C:90% T:NA	pCi/L		10/16/20 07:29	
EPA 9320	Radium-228	3.37 ± 0.979 (1.28) C:73% T:70%	pCi/L		10/21/20 11:36	
Total Radium Calculation	Total Radium	6.39 ± 1.78 (1.80)	pCi/L		10/22/20 10:20	
<b>92498068022</b>	<b>GWB-5R</b>					
EPA 9315	Radium-226	2.69 ± 0.719 (0.494) C:89% T:NA	pCi/L		10/16/20 08:56	
EPA 9320	Radium-228	1.76 ± 0.671 (1.03) C:70% T:85%	pCi/L		10/21/20 13:22	
Total Radium Calculation	Total Radium	4.45 ± 1.39 (1.52)	pCi/L		10/22/20 10:20	
<b>92498068023</b>	<b>FB-2-9-30-20</b>					
EPA 9315	Radium-226	0.0614 ± 0.242 (0.609) C:79% T:NA	pCi/L		10/16/20 06:51	
EPA 9320	Radium-228	0.534 ± 0.477 (0.974) C:71% T:83%	pCi/L		10/21/20 12:17	
Total Radium Calculation	Total Radium	0.595 ± 0.719 (1.58)	pCi/L		10/22/20 10:20	
<b>92498068024</b>	<b>GWC-9</b>					
EPA 9315	Radium-226	1.20 ± 0.475 (0.488) C:83% T:NA	pCi/L		10/16/20 06:51	
EPA 9320	Radium-228	2.10 ± 0.972 (1.72) C:68% T:77%	pCi/L		10/21/20 14:38	
Total Radium Calculation	Total Radium	3.30 ± 1.45 (2.21)	pCi/L		10/22/20 10:25	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWA-7**      **Lab ID: 92498068001**      Collected: 09/28/20 15:20      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>22.2 ± 4.27 (0.964)</b> <b>C:93% T:NA</b>	pCi/L	10/15/20 06:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.156 ± 0.471 (1.06)</b> <b>C:71% T:81%</b>	pCi/L	10/16/20 14:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>22.4 ± 4.74 (2.02)</b>	pCi/L	10/21/20 12:22	7440-14-4	

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**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: GWC-13</b> <b>Lab ID: 92498068002</b> Collected: 09/28/20 16:40      Received: 09/30/20 11:47      Matrix: Water PWS:      Site ID:      Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.676 ± 0.337 (0.373)</b> <b>C:85% T:NA</b>	pCi/L	10/15/20 06:57	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.606 ± 0.395 (0.737)</b> <b>C:71% T:79%</b>	pCi/L	10/16/20 14:43	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.28 ± 0.732 (1.11)</b>	pCi/L	10/21/20 12:22	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWA-8**      **Lab ID: 92498068003**      Collected: 09/28/20 16:04      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.929 ± 0.400 (0.425)</b> <b>C:85% T:NA</b>	pCi/L	10/15/20 06:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.15 ± 0.522 (0.868)</b> <b>C:70% T:78%</b>	pCi/L	10/16/20 14:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.08 ± 0.922 (1.29)</b>	pCi/L	10/21/20 12:22	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-1**      **Lab ID: 92498068004**      Collected: 09/28/20 17:08      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.727 ± 0.357 (0.460)</b> <b>C:89% T:NA</b>	pCi/L	10/15/20 06:57	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.564 ± 0.409 (0.795)</b> <b>C:75% T:78%</b>	pCi/L	10/16/20 14:43	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>1.29 ± 0.766 (1.26)</b>	pCi/L	10/21/20 12:22	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: FB-1-9-28-20**      **Lab ID: 92498068005**      Collected: 09/28/20 16:55      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>-0.0334 ± 0.133 (0.422)</b> <b>C:90% T:NA</b>	pCi/L	10/15/20 06:55	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.886 ± 0.502 (0.919)</b> <b>C:68% T:78%</b>	pCi/L	10/21/20 11:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.886 ± 0.635 (1.34)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-12**      **Lab ID: 92498068006**      Collected: 09/29/20 09:35      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.494 ± 0.318 (0.495)</b> <b>C:84% T:NA</b>	pCi/L	10/15/20 06:58	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.351 ± 0.443 (0.942)</b> <b>C:73% T:78%</b>	pCi/L	10/21/20 11:33	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.845 ± 0.761 (1.44)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-11**      **Lab ID: 92498068007**      Collected: 09/29/20 12:20      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.84 ± 0.898 (0.428)</b> <b>C:88% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>4.46 ± 1.05 (0.851)</b> <b>C:68% T:81%</b>	pCi/L	10/21/20 11:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>8.30 ± 1.95 (1.28)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-14**      **Lab ID: 92498068008**      Collected: 09/29/20 14:42      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.331 ± 0.258 (0.431)</b> <b>C:83% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>-0.233 ± 0.396 (0.960)</b> <b>C:69% T:80%</b>	pCi/L	10/21/20 11:33	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.331 ± 0.654 (1.39)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-2**      **Lab ID: 92498068009**      Collected: 09/29/20 15:05      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.553 ± 0.323 (0.494)</b> <b>C:88% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.450 ± 0.417 (0.853)</b> <b>C:73% T:84%</b>	pCi/L	10/21/20 11:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.00 ± 0.740 (1.35)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: EB-1-9-29-20**      **Lab ID: 92498068010**      Collected: 09/29/20 16:20      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.00561 ± 0.156 (0.435)</b> <b>C:92% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.149 ± 0.376 (0.838)</b> <b>C:73% T:83%</b>	pCi/L	10/21/20 11:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.155 ± 0.532 (1.27)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: DUP-1**      **Lab ID: 92498068011**      Collected: 09/29/20 00:00      Received: 09/30/20 11:47      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.259 ± 0.219 (0.372)</b> <b>C:92% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.42 ± 0.529 (0.789)</b> <b>C:69% T:84%</b>	pCi/L	10/21/20 11:34	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.68 ± 0.748 (1.16)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-21**      **Lab ID: 92498068012**      Collected: 09/30/20 10:49      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>2.88 ± 0.770 (0.501)</b> C:76% T:NA	pCi/L	10/15/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.945 ± 0.535 (0.993)</b> C:69% T:79%	pCi/L	10/21/20 11:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.83 ± 1.31 (1.49)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-15**      **Lab ID: 92498068013**      Collected: 09/30/20 12:30      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	<b>0.709 ± 0.358 (0.518)</b> <b>C:97% T:NA</b>	pCi/L	10/15/20 07:57	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>1.43 ± 0.547 (0.848)</b> <b>C:71% T:86%</b>	pCi/L	10/21/20 11:45	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>2.14 ± 0.905 (1.37)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-16**      **Lab ID: 92498068014**      Collected: 09/30/20 14:00      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.69 ± 0.552 (0.449)</b> <b>C:86% T:NA</b>	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.781 ± 0.435 (0.789)</b> <b>C:74% T:82%</b>	pCi/L	10/21/20 11:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.47 ± 0.987 (1.24)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-20**      **Lab ID: 92498068015**      Collected: 09/30/20 16:31      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.50 ± 0.843 (0.419)</b> <b>C:93% T:NA</b>	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>2.12 ± 0.638 (0.795)</b> <b>C:66% T:93%</b>	pCi/L	10/21/20 11:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>5.62 ± 1.48 (1.21)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWB-4R**      **Lab ID: 92498068016**      Collected: 10/01/20 08:50      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.57 ± 0.530 (0.422)</b> <b>C:84% T:NA</b>	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.03 ± 0.451 (0.721)</b> <b>C:68% T:81%</b>	pCi/L	10/21/20 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.60 ± 0.981 (1.14)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: EB-2-9-30-20</b> <b>Lab ID: 92498068017</b> Collected: 09/30/20 14:30      Received: 10/02/20 12:22      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.132 ± 0.292 (0.685)</b> <b>C:88% T:NA</b>	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.612 ± 0.386 (0.710)</b> <b>C:71% T:75%</b>	pCi/L	10/21/20 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.744 ± 0.678 (1.40)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: DUP-2**      **Lab ID: 92498068018**      Collected: 09/30/20 00:00      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.50 ± 0.853 (0.441)</b> <b>C:96% T:NA</b>	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>3.29 ± 0.864 (0.988)</b> <b>C:77% T:84%</b>	pCi/L	10/21/20 11:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>6.79 ± 1.72 (1.43)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-17**      **Lab ID: 92498068019**      Collected: 09/30/20 12:00      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.06 ± 0.448 (0.493)</b> <b>C:83% T:NA</b>	pCi/L	10/16/20 06:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>2.03 ± 0.646 (0.909)</b> <b>C:75% T:88%</b>	pCi/L	10/21/20 11:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.09 ± 1.09 (1.40)</b>	pCi/L	10/22/20 10:20	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-22**      **Lab ID: 92498068020**      Collected: 09/30/20 14:05      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.820 ± 0.408 (0.485)</b> <b>C:78% T:NA</b>	pCi/L	10/16/20 06:45	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.97 ± 0.700 (1.08)</b> <b>C:74% T:79%</b>	pCi/L	10/21/20 11:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>2.79 ± 1.11 (1.57)</b>	pCi/L	10/22/20 10:20	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWB-6R**      **Lab ID: 92498068021**      Collected: 09/30/20 15:35      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>3.02 ± 0.796 (0.521)</b> <b>C:90% T:NA</b>	pCi/L	10/16/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>3.37 ± 0.979 (1.28)</b> <b>C:73% T:70%</b>	pCi/L	10/21/20 11:36	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>6.39 ± 1.78 (1.80)</b>	pCi/L	10/22/20 10:20	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWB-5R**      **Lab ID: 92498068022**      Collected: 09/30/20 17:30      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>2.69 ± 0.719 (0.494)</b> <b>C:89% T:NA</b>	pCi/L	10/16/20 08:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>1.76 ± 0.671 (1.03)</b> <b>C:70% T:85%</b>	pCi/L	10/21/20 13:22	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>4.45 ± 1.39 (1.52)</b>	pCi/L	10/22/20 10:20	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: FB-2-9-30-20**      **Lab ID: 92498068023**      Collected: 09/30/20 15:25      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0614 ± 0.242 (0.609)</b> <b>C:79% T:NA</b>	pCi/L	10/16/20 06:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.534 ± 0.477 (0.974)</b> <b>C:71% T:83%</b>	pCi/L	10/21/20 12:17	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.595 ± 0.719 (1.58)</b>	pCi/L	10/22/20 10:20	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

**Sample: GWC-9**      **Lab ID: 92498068024**      Collected: 10/01/20 08:21      Received: 10/02/20 12:22      Matrix: Water  
PWS:      Site ID:      Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>1.20 ± 0.475 (0.488)</b> <b>C:83% T:NA</b>	pCi/L	10/16/20 06:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>2.10 ± 0.972 (1.72)</b> <b>C:68% T:77%</b>	pCi/L	10/21/20 14:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>3.30 ± 1.45 (2.21)</b>	pCi/L	10/22/20 10:25	7440-14-4	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

QC Batch:	418039	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92498068024

METHOD BLANK: 2021122 Matrix: Water

Associated Lab Samples: 92498068024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.318 ± 0.365 (0.768) C:69% T:89%	pCi/L	10/21/20 11:32	

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

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

QC Batch: 418038

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92498068005, 92498068006, 92498068007, 92498068008, 92498068009, 92498068010, 92498068011, 92498068012, 92498068013, 92498068014, 92498068015, 92498068016, 92498068017, 92498068018, 92498068019, 92498068020, 92498068021, 92498068022, 92498068023

METHOD BLANK: 2021121

Matrix: Water

Associated Lab Samples: 92498068005, 92498068006, 92498068007, 92498068008, 92498068009, 92498068010, 92498068011, 92498068012, 92498068013, 92498068014, 92498068015, 92498068016, 92498068017, 92498068018, 92498068019, 92498068020, 92498068021, 92498068022, 92498068023

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.180 ± 0.316 (0.690) C:70% T:90%	pCi/L	10/21/20 11:33	

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

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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QC Batch:	418033	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92498068014, 92498068015, 92498068016, 92498068017, 92498068018, 92498068019, 92498068020, 92498068021, 92498068022, 92498068023, 92498068024

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METHOD BLANK: 2021110 Matrix: Water

Associated Lab Samples: 92498068014, 92498068015, 92498068016, 92498068017, 92498068018, 92498068019, 92498068020, 92498068021, 92498068022, 92498068023, 92498068024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0872 ± 0.193 (0.458) C:76% T:NA	pCi/L	10/16/20 06:43	

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

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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QC Batch:	418037	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92498068001, 92498068002, 92498068003, 92498068004

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METHOD BLANK: 2021120 Matrix: Water

Associated Lab Samples: 92498068001, 92498068002, 92498068003, 92498068004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.335 ± 0.463 (0.993) C:71% T:73%	pCi/L	10/16/20 14:41	

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

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## QUALIFIERS

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498068001	GWA-7	EPA 9315	418032		
92498068002	GWC-13	EPA 9315	418032		
92498068003	GWA-8	EPA 9315	418032		
92498068004	GWC-1	EPA 9315	418032		
92498068005	FB-1-9-28-20	EPA 9315	418032		
92498068006	GWC-12	EPA 9315	418032		
92498068007	GWC-11	EPA 9315	418032		
92498068008	GWC-14	EPA 9315	418032		
92498068009	GWC-2	EPA 9315	418032		
92498068010	EB-1-9-29-20	EPA 9315	418032		
92498068011	DUP-1	EPA 9315	418032		
92498068012	GWC-21	EPA 9315	418032		
92498068013	GWC-15	EPA 9315	418032		
92498068014	GWC-16	EPA 9315	418033		
92498068015	GWC-20	EPA 9315	418033		
92498068016	GWB-4R	EPA 9315	418033		
92498068017	EB-2-9-30-20	EPA 9315	418033		
92498068018	DUP-2	EPA 9315	418033		
92498068019	GWC-17	EPA 9315	418033		
92498068020	GWC-22	EPA 9315	418033		
92498068021	GWB-6R	EPA 9315	418033		
92498068022	GWB-5R	EPA 9315	418033		
92498068023	FB-2-9-30-20	EPA 9315	418033		
92498068024	GWC-9	EPA 9315	418033		
92498068001	GWA-7	EPA 9320	418037		
92498068002	GWC-13	EPA 9320	418037		
92498068003	GWA-8	EPA 9320	418037		
92498068004	GWC-1	EPA 9320	418037		
92498068005	FB-1-9-28-20	EPA 9320	418038		
92498068006	GWC-12	EPA 9320	418038		
92498068007	GWC-11	EPA 9320	418038		
92498068008	GWC-14	EPA 9320	418038		
92498068009	GWC-2	EPA 9320	418038		
92498068010	EB-1-9-29-20	EPA 9320	418038		
92498068011	DUP-1	EPA 9320	418038		
92498068012	GWC-21	EPA 9320	418038		
92498068013	GWC-15	EPA 9320	418038		
92498068014	GWC-16	EPA 9320	418038		
92498068015	GWC-20	EPA 9320	418038		
92498068016	GWB-4R	EPA 9320	418038		
92498068017	EB-2-9-30-20	EPA 9320	418038		
92498068018	DUP-2	EPA 9320	418038		
92498068019	GWC-17	EPA 9320	418038		
92498068020	GWC-22	EPA 9320	418038		
92498068021	GWB-6R	EPA 9320	418038		
92498068022	GWB-5R	EPA 9320	418038		
92498068023	FB-2-9-30-20	EPA 9320	418038		

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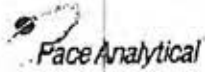
### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD SEMI ANNUAL RADS  
Pace Project No.: 92498068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498068024	GWC-9	EPA 9320	418039		
92498068001	GWA-7	Total Radium Calculation	419547		
92498068002	GWC-13	Total Radium Calculation	419547		
92498068003	GWA-8	Total Radium Calculation	419547		
92498068004	GWC-1	Total Radium Calculation	419547		
92498068005	FB-1-9-28-20	Total Radium Calculation	419736		
92498068006	GWC-12	Total Radium Calculation	419736		
92498068007	GWC-11	Total Radium Calculation	419736		
92498068008	GWC-14	Total Radium Calculation	419736		
92498068009	GWC-2	Total Radium Calculation	419736		
92498068010	EB-1-9-29-20	Total Radium Calculation	419736		
92498068011	DUP-1	Total Radium Calculation	419736		
92498068012	GWC-21	Total Radium Calculation	419736		
92498068013	GWC-15	Total Radium Calculation	419736		
92498068014	GWC-16	Total Radium Calculation	419736		
92498068015	GWC-20	Total Radium Calculation	419736		
92498068016	GWB-4R	Total Radium Calculation	419736		
92498068017	EB-2-9-30-20	Total Radium Calculation	419736		
92498068018	DUP-2	Total Radium Calculation	419736		
92498068019	GWC-17	Total Radium Calculation	419736		
92498068020	GWC-22	Total Radium Calculation	419736		
92498068021	GWB-6R	Total Radium Calculation	419736		
92498068022	GWB-5R	Total Radium Calculation	419736		
92498068023	FB-2-9-30-20	Total Radium Calculation	419736		
92498068024	GWC-9	Total Radium Calculation	419738		

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Re

WO#: 92498068

Client Name: BA Power



92498068

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace C

Tracking #: \_\_\_\_\_

Proj. Due Date: \_\_\_\_\_  
Proj. Name: \_\_\_\_\_

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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other PEZ: lock

Thermometer Used 230 Type of Ice:  Wet  Blue  None  Samples on ice, cooling process has begun

Cooler Temperature 3.7

Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: CO

Temp should be above freezing to 6°C

Comments:

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

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

Project Manager Review: \_\_\_\_\_

Date: \_\_\_\_\_

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

F-ALLC003rev 3, 11September2006



Document Name:  
Bottle Identification Form (BIF)  
Document No.:  
F-CAR-CS-043-Rev.00

Document issued: March 14, 2019  
Page 1 of 1  
Issuing Authority:  
Pace Carolinas Quality Office

Project #

WO#: 92498068

PM: KLH1

Due Date: 10/21/20

CLIENT: GR-GA Power

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

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/BOIS (water) DOC, LHMg

Bottom half of box is to list number of bottle

Matrix	Item#	BP4U-125 mL Plastic Unpreserved (N/A) (C-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (C-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic 2N Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (C-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (C-)	AG1H-1 liter Amber HCl (pH < 2)	AG1I-1 liter Amber Unpreserved (N/A) (C-)	AG3U-250 mL Amber H2SO4 (pH < 2)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(C-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-S035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	
	1																												
	2																												
	3																												
	4																												
	5																												
	6																												
	7																												
	8																												
	9																												
	10																												
	11																												
	12																												

pH Adjustment Log for Preserved Samples

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

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







# CHAIN-OF-CUSTODY / Analytical Request Document

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

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

**Section B** Required Project Information:  
 Report To: SCS Contacts  
 Copy To: ACC Contacts  
 Purchase Order No.: \_\_\_\_\_  
 Project Name: Guntman Road - Semi-Annual  
 Project Number: \_\_\_\_\_

**Section C** Invoice Information:  
 Attention: Southern Co.  
 Company Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Invoice Date: \_\_\_\_\_  
 Reference: Kevin Herring  
 Price Project Manager: \_\_\_\_\_  
 Price Project # 2926-1

REGULATORY AGENCY:  NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER    
 Site Location STATE: GA

Page: 2 of 3

ITEM #	Section B Required Client Information	Valid Matrix Codes MATERIALS: CHILLED WATER, WATER, WASTE WATER, PRODUCT, SOLENOID, WASTE, AIR, OTHER, TISSUE CODES: DW, WW, P, SL, DL, WP, AP, AT, CT, TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	pH=
					DATE	TIME							
1					9-30-20	1049	5	Unpreserved	TDS				
2					9-30-20	1230	5	H <sub>2</sub> SO <sub>4</sub>	Chloride/Fluoride/Sulfate 300.0				
3					9-30-20	1400	5	HNO <sub>3</sub>	App. III + IV + State Metals *				
4					9-30-20	1631	5	HCl	RAD 226/228				
5					10-1-20	0650	5	NaOH					
6					9-30-20	1430	5	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					
7					9-30-20		5	Methanol					
8							5	Other					
9													
10													
11													
12													

Additional Comments: \_\_\_\_\_

Requested by / Affiliation: \_\_\_\_\_ DATE: 10-2-20 TIME: 1222

Accepted by / Affiliation: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

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

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

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



# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 3 of 3

Section A Required Client Information: Company: GA Power Address: Atlanta, GA		Section B Required Project Information: Report To: SCS Contacts Copy To: ACC Contacts		Section C Invoice Information: Attention: Southern Co.	
Email To: SCS Contacts		Purchase Order No.:		Address:	
Phone: Fax:		Project Name: Guinnan Road - Semi-Annual		Pace Code Reference Manager: Kevin Herring	
Requested Due Date/AT: 10 Day		Project Number:		Pace Profile #: 2926-1	
REGULATORY AGENCY			REGULATORY AGENCY		
<input type="checkbox"/> NPDES <input type="checkbox"/> UST STATE: GA			<input type="checkbox"/> GROUND WATER <input type="checkbox"/> RCRA <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> OTHER COP:		

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 /, ) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE Groundwater WATER WATER WASTE WATER PRODUCT SOLVENT Other AS OTHER TSS	Section E Codes OW WT WW P L OC VW AP OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	SAMPLE CONDITIONS
						COMPOSITE	COMPOSITE							
						DATE	TIME	DATE	TIME	Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	TDS Chloride/Fluoride/Sulfate 300.0 App. III + IV + State Metals * RAD 226/228		Temp in °C Received on ice (Y/N) Custody Sealed Cooler (Y/N) Samples intact (Y/N)	
1	GW-C-17			WT G	G	9-30-20	1200	9-30-20	1405					PH= 4.08
2	GW-C-22			WT G	G	9-30-20	1535	9-30-20	1730					PH= 4.63
3	GW-B-6R			WT G	G	9-30-20	1535	9-30-20	1730					PH= 5.39
4	GW-B-5R			WT G	G	9-30-20	1525	9-30-20	1525					PH= 4.49
5	FB-2-9-30-20			WT G	G	9-30-20	1525	9-30-20	1525					PH= 4.49
6	GW-C-9			WT G	G	10-1-20	0821	10-1-20	0821					PH= 4.42
7														PH=
8														PH=
9														PH=
10														PH=
11														PH=
12														PH=

ADDITIONAL COMMENTS: *1st sample taken*

RELINQUISHED BY / AFFILIATION: *Kevin Herring / ACC* DATE: *10-1-20* TIME: *1222*

ACCEPTED BY / AFFILIATION: *Kevin Herring / Pace* DATE: *10/1/20* TIME: *1200*

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: *Sandra Beckford Taylor / Gwyne*

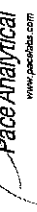
SIGNATURE OF SAMPLER: *Sandra Beckford Taylor* DATE SIGNED (MM/DD/YY): *10-2-20*

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

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



# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-226  
Analyst: LAL  
Date: 10/14/2020  
Worklist: 56676  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2021109
MB Concentration:	0.106
MB Counting Uncertainty:	0.161
MB MDC:	0.345
MB Numerical Performance Indicator:	1.28
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
LCSID (Y or N)?	N
LCS56676	LCS56676
Count Date:	10/15/2020
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.516
Target Conc. (pCi/L, g, F):	4.655
Uncertainty (Calculated):	0.056
Result (pCi/L, g, F):	4.795
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.767
Numerical Performance Indicator:	0.36
Percent Recovery:	103.01%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	Pass
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

Duplicate Sample Assessment	
Sample I.D.:	92497524034
Duplicate Sample I.D.:	92497524034DUP
Sample Result (pCi/L, g, F):	0.130
Sample Duplicate Result (pCi/L, g, F):	0.179
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.326
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.264
Ave. sample and/or duplicate results below RL?	See Below ##
Duplicate Numerical Performance Indicator:	-1.205
Duplicate RPD:	85.93%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail**
% RPD Limit:	25%

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

Comments:

\*\*\*Batch must be re-prepped due to unacceptable precision.

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

Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D. Sample MS I.D. Sample MSD I.D. Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result: Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F): Duplicate Numerical Performance Indicator: Duplicate Percent Recoveries MS/MSD Duplicate RPD: MS/MSD Duplicate Status vs Numerical Indicator: MS/MSD Duplicate Status vs RPD: % RPD Limit:

Handwritten notes: TAM 10/15/2020  
TAR-Alpha Radium (R104-3 11Feb2019).xls  
Signature: [Handwritten]

# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: LAL  
Date: 10/15/2020  
Worklist: 56677  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2021110
MB concentration:	0.087
M/B Counting Uncertainty:	0.193
MB MDC:	0.456
MB Numerical Performance Indicator:	0.89
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	
LCSD (Y or N)?	N
LCSD56677	LCSD56677
Count Date:	10/16/2020
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.524
Target Conc. (pCi/L, g, F):	4.586
Uncertainty (Calculated):	0.055
Result (pCi/L, g, F):	3.940
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.731
Numerical Performance Indicator:	-1.73
Percent Recovery:	85.91%
Status vs Numerical Indicator:	N/A
Upper % Recovery Limits:	Pass
Lower % Recovery Limits:	125%
	75%

Duplicate Sample Assessment	
Sample I.D.:	92498068019
Duplicate Sample I.D.:	92498068019DUP
Sample Result (pCi/L, g, F):	1.060
Sample Duplicate Result (pCi/L, g, F):	0.421
Sample Duplicate Counting Uncertainty (pCi/L, g, F):	0.947
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.373
Are sample and/or duplicate results below RL?	See Below ##
Duplicate Numerical Performance Indicator:	0.393
Duplicate RPD:	11.23%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D. Sample MS I.D. Sample MSD I.D. Sample Matrix Spike Result: Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result: Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F): Matrix Spike Duplicate Numerical Performance Indicator: Duplicate Numerical Performance Indicator: Duplicate Status vs Numerical Indicator: MS/MSD Duplicate Status vs Numerical Indicator: MS/MSD Duplicate Status vs RPD: % RPD Limit:

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

Comments:

VAM 10/16/2020

Chm  
10/16/2020

# Quality Control Sample Performance Assessment



Test: Ra-226  
 Analyst: LAL  
 Date: 10/15/2020  
 Worklist: 56677  
 Matrix: DW

**Method Blank Assessment**

MB Sample ID	2021110
MB concentration:	0.087
M/B Counting Uncertainty:	0.193
MB MDC:	0.468
MB Numerical Performance Indicator:	0.89
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

**Laboratory Control Sample Assessment**

LCSD (Y or N)?	N
LCS56677	LCS056677
Count Date:	10/16/2020
Spike I.D.:	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.044
Volume Used (mL):	0.10
Aliquot Volume (L, g, F):	0.524
Target Conc. (pCi/L, g, F):	4.586
Uncertainty (Calculated):	0.055
Result (pCi/L, g, F):	3.940
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.731
Numerical Performance Indicator:	-1.73
Percent Recovery:	85.91%
Status vs Numerical Indicator:	N/A
Status vs Recovery:	Pass
Upper % Recovery Limits:	125%
Lower % Recovery Limits:	75%

**Duplicate Sample Assessment**

Sample I.D.:	92498068014	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	92498068014DUP	92498068014 92498068014DUP
Sample Result (pCi/L, g, F):	1.691	
Sample Result Counting Uncertainty (pCi/L, g, F):	0.495	
Sample Duplicate Result (pCi/L, g, F):	1.375	
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.433	
Are sample and/or duplicate results below RL?	See Below ##	
Duplicate Numerical Performance Indicator:	0.942	
Duplicate RPD:	20.61%	
Duplicate Status vs Numerical Indicator:	N/A	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	25%	

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

Comments:

Analyst Must Manually Enter All Fields Highlighted in Yellow.

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

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

Sample I.D. Sample MS I.D. Sample MSD I.D. Matrix Spike Result: Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Duplicate Result: Sample Matrix Spike Duplicate Counting Uncertainty (pCi/L, g, F): Duplicate Numerical Performance Indicator: Duplicate Numerical Performance Indicator: (Based on the Percent Recoveries) MS/MSD Duplicate RPD: MS/MSD Duplicate Status vs Numerical Indicator: MS/MSD Duplicate Status vs RPD: % RPD Limit:		
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*Chlorine  
10/16/2020*

NAM 10/16/2020

# Quality Control Sample Performance Assessment



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

Test: Ra-228  
Analyst: VAL  
Date: 10/14/2020  
Worklist: 56680  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2021120
MB concentration:	0.336
MB 2 Sigma CSU:	0.463
MB MDC:	0.993
MB Numerical Performance Indicator:	1.42
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	Y
Count Date:	10/16/2020	LCSD56680	10/16/2020
Spike I.D.:	20-030	20-030	20-030
Decay Corrected Spike Concentration (pCi/mL):	38.004	38.004	38.004
Volume Used (mL):	0.10	0.10	0.10
Aliquot Volume (L, g, F):	0.814	0.821	0.821
Target Conc. (pCi/L, g, F):	4.668	4.627	4.627
Uncertainty (Calculated):	0.229	0.227	0.227
Result (pCi/L, g, F):	3.950	4.745	4.745
LCSD/LCSD 2 Sigma CSU (pCi/L, g, F):	0.924	1.105	1.105
Numerical Performance Indicator:	-1.48	102.54%	102.54%
Percent Recovery:	84.63%	N/A	N/A
Status vs Numerical Indicator:	N/A	Pass	Pass
Status vs Recovery:	Pass	135%	135%
Upper % Recovery Limits:	135%	60%	60%
Lower % Recovery Limits:	60%		

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.	
Sample I.D.:	LCS56680		
Duplicate Sample I.D.:	LCSD56680		
Sample Result (pCi/L, g, F):	3.950		
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.924		
Sample Duplicate Result (pCi/L, g, F):	4.745		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.105		
Are sample and/or duplicate results below RL?	NO		
Duplicate Numerical Performance Indicator:	-1.082		
Duplicate Percent Recoveries:	19.14%		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

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

Comments:

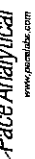
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Sample Matrix Spike Control Assessment	MS/MSD 1	MS/MSD 2
Sample Collection Date: Sample I.D. Sample MS I.D. Sample MSD I.D. Spike I.D.:		
MS/MSD Decay Corrected Spike Concentration (pCi/mL): Spike Volume Used in MS (mL): Spike Volume Used in MSD (mL):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

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

*Handwritten date: 10/16/2020*

# Quality Control Sample Performance Assessment



Test: Ra-228  
Analyst: VAL  
Date: 10/14/2020  
Worklist: 56681  
Matrix: WT

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

Method Blank Assessment	
MB Sample ID	2021121
MB concentration:	0.180
M/B 2 Sigma CSU:	0.316
MB MDC:	0.690
MB Numerical Performance Indicator:	1.12
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCS/D (Y or N)?	N
Count Date:		LCS56681	LCS56681
Spike I.D.:		10/21/2020	
Decay Corrected Spike Concentration (pCi/mL):		20-030	
Volume Used (mL):		37.943	
Aliquot Volume (L, g, F):		0.10	
Target Conc. (pCi/L, g, F):		0.812	
Uncertainty (Calculated):		4.670	
Result (pCi/L, g, F):		0.229	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):		4.367	
Numerical Performance Indicator:		1.004	
Percent Recovery:		-0.58	
Status vs Numerical Indicator:		93.51%	
Upper % Recovery Limits:		N/A	
Lower % Recovery Limits:		Pass	
		135%	
		60%	

Duplicate Sample Assessment	
Sample I.D.:	92498068019
Duplicate Sample I.D.:	92498068019DUP
Sample Result (pCi/L, g, F):	2.028
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.646
Sample Duplicate Result (pCi/L, g, F):	2.044
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	0.603
Are sample and/or duplicate results below RL?	
Duplicate Numerical Performance Indicator:	See Below #
Duplicate RPD:	-0.036
Duplicate Status vs Numerical Indicator:	0.80%
Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

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

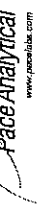
Comments:

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

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

# Quality Control Sample Performance Assessment



Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test: Ra-228  
Analyst: VAL  
Date: 10/14/2020  
Worklist: 56682  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2021122
MB Concentration:	0.318
MB 2 Sigma CSU:	0.365
MB MDC:	0.768
MB Numerical Performance Indicator:	1.70
MB Status vs. Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSID (Y or N)?	
	LCS56682	Y
Count Date:	10/21/2020	LCS56682
Spike I.D.:	20-030	10/21/2020
Decay Corrected Spike Concentration (pCi/mL):	37.943	37.943
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.813	0.813
Target Conc. (pCi/L, g, F):	4.669	4.670
Uncertainty (Calculated):	0.229	0.229
Result (pCi/L, g, F):	4.756	5.987
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.070	1.314
Numerical Performance Indicator:	0.16	1.93
Percent Recovery:	101.86%	128.20%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	LCS56682
Duplicate Sample I.D.:	LCS56682
Sample Result (pCi/L, g, F):	4.756
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.070
Sample Duplicate Result (pCi/L, g, F):	5.987
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.314
Ave sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-1.424
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	22.90%
Duplicate Status vs Numerical Indicator:	Pass
Duplicate Status vs RPD:	Pass
% RPD Limit:	36%

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

Comments:

*Handwritten signature/initials*

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

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

October 19, 2020

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
Pace Project No.: 92498079

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 30, 2020 and October 02, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

This report was revised 10/15/20 to change the reportable units for Ca to mg/L per client request.

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

Sincerely,



Tyler Forney for  
Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078  
Louisiana/NELAP Certification # LA170028  
North Carolina Drinking Water Certification #: 37706  
North Carolina Field Services Certification #: 5342  
North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001  
Florida/NELAP Certification #: E87627  
Kentucky UST Certification #: 84  
Virginia/VELAP Certification #: 460221

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### **Pace Analytical Services Peachtree Corners**

110 Technology Pkwy, Peachtree Corners, GA 30092  
Florida DOH Certification #: E87315  
Georgia DW Inorganics Certification #: 812  
Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381  
South Carolina Certification #: 98011001  
Virginia Certification #: 460204

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92498079001	GWA-7 FILTERED	Water	09/28/20 15:20	09/30/20 11:47
92498079002	GWB-5R FILTERED	Water	09/30/20 17:30	10/02/20 12:22

## REPORT OF LABORATORY ANALYSIS

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**SAMPLE ANALYTE COUNT**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
Pace Project No.: 92498079

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92498079001	GWA-7 FILTERED	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
92498079002	GWB-5R FILTERED	EPA 6010D	DRB	1
		EPA 6020B	CW1	15

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

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
Pace Project No.: 92498079

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92498079001</b>	<b>GWA-7 FILTERED</b>					
	Performed by	CUSTOME			09/30/20 15:08	
		R				
	pH	5.86	Std. Units		09/30/20 15:08	
EPA 6010D	Calcium, Dissolved	3.0	mg/L	1.0	10/06/20 18:57	
EPA 6020B	Antimony, Dissolved	0.0020J	mg/L	0.015	10/02/20 16:41	D3
EPA 6020B	Barium, Dissolved	0.079	mg/L	0.050	10/02/20 16:41	
EPA 6020B	Boron, Dissolved	4.6	mg/L	0.20	10/02/20 16:41	
EPA 6020B	Chromium, Dissolved	0.010J	mg/L	0.050	10/02/20 16:41	D3
EPA 6020B	Lead, Dissolved	0.00019J	mg/L	0.025	10/02/20 16:41	D3
EPA 6020B	Selenium, Dissolved	0.014J	mg/L	0.050	10/02/20 16:41	D3
EPA 6020B	Vanadium, Dissolved	0.10	mg/L	0.050	10/02/20 16:41	
EPA 6020B	Zinc, Dissolved	0.084	mg/L	0.050	10/02/20 16:41	
<b>92498079002</b>	<b>GWB-5R FILTERED</b>					
	Performed by	CUSTOME			10/02/20 15:06	
		R				
	pH	4.99	Std. Units		10/02/20 15:06	
EPA 6010D	Calcium, Dissolved	66.3	mg/L	1.0	10/06/20 19:16	
EPA 6020B	Arsenic, Dissolved	0.0014J	mg/L	0.0050	10/07/20 20:12	
EPA 6020B	Barium, Dissolved	0.15	mg/L	0.010	10/07/20 20:12	
EPA 6020B	Boron, Dissolved	3.9	mg/L	0.040	10/07/20 20:12	
EPA 6020B	Chromium, Dissolved	0.00085J	mg/L	0.010	10/07/20 20:12	
EPA 6020B	Cobalt, Dissolved	0.00047J	mg/L	0.0050	10/07/20 20:12	
EPA 6020B	Vanadium, Dissolved	0.0025J	mg/L	0.010	10/07/20 20:12	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
Pace Project No.: 92498079

Sample: <b>GWA-7 FILTERED</b> Lab ID: <b>92498079001</b> Collected: 09/28/20 15:20      Received: 09/30/20 11:47      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		09/30/20 15:08		
pH	<b>5.86</b>	Std. Units			1		09/30/20 15:08		
<b>6010 MET ICP, Dissolved</b>									
Analytical Method: EPA 6010D    Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium, Dissolved	<b>3.0</b>	mg/L	1.0	0.070	1	10/05/20 15:44	10/06/20 18:57	7440-70-2	
<b>6020 MET ICPMS, Dissolved</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony, Dissolved	<b>0.0020J</b>	mg/L	0.015	0.0014	5	10/01/20 14:57	10/02/20 16:41	7440-36-0	D3
Arsenic, Dissolved	ND	mg/L	0.025	0.0039	5	10/01/20 14:57	10/02/20 16:41	7440-38-2	D3
Barium, Dissolved	<b>0.079</b>	mg/L	0.050	0.0036	5	10/01/20 14:57	10/02/20 16:41	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.015	0.00023	5	10/01/20 14:57	10/02/20 16:41	7440-41-7	D3
Boron, Dissolved	<b>4.6</b>	mg/L	0.20	0.026	5	10/01/20 14:57	10/02/20 16:41	7440-42-8	
Cadmium, Dissolved	ND	mg/L	0.012	0.00059	5	10/01/20 14:57	10/02/20 16:41	7440-43-9	D3
Chromium, Dissolved	<b>0.010J</b>	mg/L	0.050	0.0028	5	10/01/20 14:57	10/02/20 16:41	7440-47-3	D3
Cobalt, Dissolved	ND	mg/L	0.025	0.0019	5	10/01/20 14:57	10/02/20 16:41	7440-48-4	D3
Lead, Dissolved	<b>0.00019J</b>	mg/L	0.025	0.00018	5	10/01/20 14:57	10/02/20 16:41	7439-92-1	D3
Lithium, Dissolved	ND	mg/L	0.15	0.0040	5	10/01/20 14:57	10/02/20 16:41	7439-93-2	D3
Molybdenum, Dissolved	ND	mg/L	0.050	0.0034	5	10/01/20 14:57	10/02/20 16:41	7439-98-7	D3
Selenium, Dissolved	<b>0.014J</b>	mg/L	0.050	0.0078	5	10/01/20 14:57	10/02/20 16:41	7782-49-2	D3
Thallium, Dissolved	ND	mg/L	0.0050	0.00072	5	10/01/20 14:57	10/02/20 16:41	7440-28-0	D3
Vanadium, Dissolved	<b>0.10</b>	mg/L	0.050	0.011	5	10/01/20 14:57	10/02/20 16:41	7440-62-2	
Zinc, Dissolved	<b>0.084</b>	mg/L	0.050	0.011	5	10/01/20 14:57	10/02/20 16:41	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

**Sample: GWB-5R FILTERED**      **Lab ID: 92498079002**      Collected: 09/30/20 17:30      Received: 10/02/20 12:22      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		10/02/20 15:06		
pH	<b>4.99</b>	Std. Units			1		10/02/20 15:06		
<b>6010 MET ICP, Dissolved</b>									
Analytical Method: EPA 6010D    Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium, Dissolved	<b>66.3</b>	mg/L	1.0	0.070	1	10/05/20 15:44	10/06/20 19:16	7440-70-2	
<b>6020 MET ICPMS, Dissolved</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Antimony, Dissolved	ND	mg/L	0.0030	0.00028	1	10/07/20 15:26	10/07/20 20:12	7440-36-0	
Arsenic, Dissolved	<b>0.0014J</b>	mg/L	0.0050	0.00078	1	10/07/20 15:26	10/07/20 20:12	7440-38-2	
Barium, Dissolved	<b>0.15</b>	mg/L	0.010	0.00071	1	10/07/20 15:26	10/07/20 20:12	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.0030	0.000046	1	10/07/20 15:26	10/07/20 20:12	7440-41-7	
Boron, Dissolved	<b>3.9</b>	mg/L	0.040	0.0052	1	10/07/20 15:26	10/07/20 20:12	7440-42-8	
Cadmium, Dissolved	ND	mg/L	0.0025	0.00012	1	10/07/20 15:26	10/07/20 20:12	7440-43-9	
Chromium, Dissolved	<b>0.00085J</b>	mg/L	0.010	0.00055	1	10/07/20 15:26	10/07/20 20:12	7440-47-3	
Cobalt, Dissolved	<b>0.00047J</b>	mg/L	0.0050	0.00038	1	10/07/20 15:26	10/07/20 20:12	7440-48-4	
Lead, Dissolved	ND	mg/L	0.0050	0.000036	1	10/07/20 15:26	10/07/20 20:12	7439-92-1	
Lithium, Dissolved	ND	mg/L	0.030	0.00081	1	10/07/20 15:26	10/07/20 20:12	7439-93-2	
Molybdenum, Dissolved	ND	mg/L	0.010	0.00069	1	10/07/20 15:26	10/07/20 20:12	7439-98-7	
Selenium, Dissolved	ND	mg/L	0.010	0.0016	1	10/07/20 15:26	10/07/20 20:12	7782-49-2	
Thallium, Dissolved	ND	mg/L	0.0010	0.00014	1	10/07/20 15:26	10/07/20 20:12	7440-28-0	
Vanadium, Dissolved	<b>0.0025J</b>	mg/L	0.010	0.0022	1	10/07/20 15:26	10/07/20 20:12	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.010	0.0022	1	10/07/20 15:26	10/07/20 20:12	7440-66-6	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

QC Batch: 570950	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010 MET Filtered Diss.
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498079001, 92498079002

METHOD BLANK: 3024402 Matrix: Water

Associated Lab Samples: 92498079001, 92498079002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	1.0	0.070	10/06/20 18:48	

LABORATORY CONTROL SAMPLE: 3024403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	1	0.96J	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024456 3024457

Parameter	Units	3024456		3024457		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium, Dissolved	mg/L	66.3	1	67.3	67.3	97	102	75-125	0	20	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

QC Batch: 570318	Analysis Method: EPA 6020B
QC Batch Method: EPA 3005A	Analysis Description: 6020 MET Dissolved
	Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498079001

METHOD BLANK: 3021080 Matrix: Water

Associated Lab Samples: 92498079001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.0030	0.00028	10/02/20 16:01	
Arsenic, Dissolved	mg/L	ND	0.0050	0.00078	10/02/20 16:01	
Barium, Dissolved	mg/L	ND	0.010	0.00071	10/02/20 16:01	
Beryllium, Dissolved	mg/L	ND	0.0030	0.000046	10/02/20 16:01	
Boron, Dissolved	mg/L	ND	0.040	0.0052	10/02/20 16:01	
Cadmium, Dissolved	mg/L	ND	0.0025	0.00012	10/02/20 16:01	
Chromium, Dissolved	mg/L	ND	0.010	0.00055	10/02/20 16:01	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00038	10/02/20 16:01	
Lead, Dissolved	mg/L	ND	0.0050	0.000036	10/02/20 16:01	
Lithium, Dissolved	mg/L	ND	0.030	0.00081	10/02/20 16:01	
Molybdenum, Dissolved	mg/L	ND	0.010	0.00069	10/02/20 16:01	
Selenium, Dissolved	mg/L	ND	0.010	0.0016	10/02/20 16:01	
Thallium, Dissolved	mg/L	ND	0.0010	0.00014	10/02/20 16:01	
Vanadium, Dissolved	mg/L	ND	0.010	0.0022	10/02/20 16:01	
Zinc, Dissolved	mg/L	ND	0.010	0.0022	10/02/20 16:01	

LABORATORY CONTROL SAMPLE: 3021081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.1	0.098	98	80-120	
Arsenic, Dissolved	mg/L	0.1	0.096	96	80-120	
Barium, Dissolved	mg/L	0.1	0.098	98	80-120	
Beryllium, Dissolved	mg/L	0.1	0.096	96	80-120	
Boron, Dissolved	mg/L	1	0.96	96	80-120	
Cadmium, Dissolved	mg/L	0.1	0.097	97	80-120	
Chromium, Dissolved	mg/L	0.1	0.099	99	80-120	
Cobalt, Dissolved	mg/L	0.1	0.099	99	80-120	
Lead, Dissolved	mg/L	0.1	0.097	97	80-120	
Lithium, Dissolved	mg/L	0.1	0.098	98	80-120	
Molybdenum, Dissolved	mg/L	0.1	0.096	96	80-120	
Selenium, Dissolved	mg/L	0.1	0.090	90	80-120	
Thallium, Dissolved	mg/L	0.1	0.099	99	80-120	
Vanadium, Dissolved	mg/L	0.1	0.10	100	80-120	
Zinc, Dissolved	mg/L	0.1	0.098	98	80-120	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Parameter	Units	3021082		3021083		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92497893001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Antimony, Dissolved	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Arsenic, Dissolved	mg/L	ND	0.1	0.1	0.094	0.097	94	97	75-125	3	20	
Barium, Dissolved	mg/L	30.4 ug/L	0.1	0.1	0.13	0.13	100	100	75-125	0	20	
Beryllium, Dissolved	mg/L	ND	0.1	0.1	0.096	0.098	95	98	75-125	2	20	
Boron, Dissolved	mg/L	ND	1	1	0.95	0.98	94	97	75-125	3	20	
Cadmium, Dissolved	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	0	20	
Chromium, Dissolved	mg/L	ND	0.1	0.1	0.10	0.10	102	102	75-125	0	20	
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	1	20	
Lead, Dissolved	mg/L	ND	0.1	0.1	0.096	0.095	96	95	75-125	1	20	
Lithium, Dissolved	mg/L	ND	0.1	0.1	0.11	0.11	96	100	75-125	3	20	
Molybdenum, Dissolved	mg/L	ND	0.1	0.1	0.099	0.099	99	99	75-125	0	20	
Selenium, Dissolved	mg/L	ND	0.1	0.1	0.091	0.095	90	93	75-125	4	20	
Thallium, Dissolved	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
Vanadium, Dissolved	mg/L	ND	0.1	0.1	0.10	0.10	102	103	75-125	1	20	
Zinc, Dissolved	mg/L	ND	0.1	0.1	0.11	0.11	98	100	75-125	1	20	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
 Pace Project No.: 92498079

QC Batch: 571522      Analysis Method: EPA 6020B  
 QC Batch Method: EPA 3005A      Analysis Description: 6020 MET Dissolved  
 Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498079002

METHOD BLANK: 3026976      Matrix: Water  
 Associated Lab Samples: 92498079002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	0.00029J	0.0030	0.00028	10/07/20 17:53	
Arsenic, Dissolved	mg/L	ND	0.0050	0.00078	10/07/20 17:53	
Barium, Dissolved	mg/L	ND	0.010	0.00071	10/07/20 17:53	
Beryllium, Dissolved	mg/L	ND	0.0030	0.000046	10/07/20 17:53	
Boron, Dissolved	mg/L	ND	0.040	0.0052	10/07/20 17:53	
Cadmium, Dissolved	mg/L	ND	0.0025	0.00012	10/07/20 17:53	
Chromium, Dissolved	mg/L	ND	0.010	0.00055	10/07/20 17:53	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00038	10/07/20 17:53	
Lead, Dissolved	mg/L	ND	0.0050	0.000036	10/07/20 17:53	
Lithium, Dissolved	mg/L	ND	0.030	0.00081	10/07/20 17:53	
Molybdenum, Dissolved	mg/L	ND	0.010	0.00069	10/07/20 17:53	
Selenium, Dissolved	mg/L	ND	0.010	0.0016	10/07/20 17:53	
Thallium, Dissolved	mg/L	ND	0.0010	0.00014	10/07/20 17:53	
Vanadium, Dissolved	mg/L	ND	0.010	0.0022	10/07/20 17:53	
Zinc, Dissolved	mg/L	ND	0.010	0.0022	10/07/20 17:53	

METHOD BLANK: 3026985      Matrix: Water  
 Associated Lab Samples: 92498079002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.0030	0.00028	10/07/20 17:59	
Arsenic, Dissolved	mg/L	ND	0.0050	0.00078	10/07/20 17:59	
Barium, Dissolved	mg/L	ND	0.010	0.00071	10/07/20 17:59	
Beryllium, Dissolved	mg/L	ND	0.0030	0.000046	10/07/20 17:59	
Boron, Dissolved	mg/L	ND	0.040	0.0052	10/07/20 17:59	
Cadmium, Dissolved	mg/L	ND	0.0025	0.00012	10/07/20 17:59	
Chromium, Dissolved	mg/L	ND	0.010	0.00055	10/07/20 17:59	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00038	10/07/20 17:59	
Lead, Dissolved	mg/L	ND	0.0050	0.000036	10/07/20 17:59	
Lithium, Dissolved	mg/L	ND	0.030	0.00081	10/07/20 17:59	
Molybdenum, Dissolved	mg/L	ND	0.010	0.00069	10/07/20 17:59	
Selenium, Dissolved	mg/L	ND	0.010	0.0016	10/07/20 17:59	
Thallium, Dissolved	mg/L	ND	0.0010	0.00014	10/07/20 17:59	
Vanadium, Dissolved	mg/L	ND	0.010	0.0022	10/07/20 17:59	
Zinc, Dissolved	mg/L	ND	0.010	0.0022	10/07/20 17:59	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.  
Pace Project No.: 92498079

LABORATORY CONTROL SAMPLE: 3026977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.1	0.11	109	80-120	
Arsenic, Dissolved	mg/L	0.1	0.099	99	80-120	
Barium, Dissolved	mg/L	0.1	0.097	97	80-120	
Beryllium, Dissolved	mg/L	0.1	0.099	99	80-120	
Boron, Dissolved	mg/L	1	0.97	97	80-120	
Cadmium, Dissolved	mg/L	0.1	0.098	98	80-120	
Chromium, Dissolved	mg/L	0.1	0.090	90	80-120	
Cobalt, Dissolved	mg/L	0.1	0.094	94	80-120	
Lead, Dissolved	mg/L	0.1	0.098	98	80-120	
Lithium, Dissolved	mg/L	0.1	0.099	99	80-120	
Molybdenum, Dissolved	mg/L	0.1	0.096	96	80-120	
Selenium, Dissolved	mg/L	0.1	0.097	97	80-120	
Thallium, Dissolved	mg/L	0.1	0.097	97	80-120	
Vanadium, Dissolved	mg/L	0.1	0.094	94	80-120	
Zinc, Dissolved	mg/L	0.1	0.096	96	80-120	

LABORATORY CONTROL SAMPLE: 3026986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.1	0.11	111	80-120	
Arsenic, Dissolved	mg/L	0.1	0.10	100	80-120	
Barium, Dissolved	mg/L	0.1	0.10	100	80-120	
Beryllium, Dissolved	mg/L	0.1	0.10	102	80-120	
Boron, Dissolved	mg/L	1	1.0	103	80-120	
Cadmium, Dissolved	mg/L	0.1	0.099	99	80-120	
Chromium, Dissolved	mg/L	0.1	0.097	97	80-120	
Cobalt, Dissolved	mg/L	0.1	0.097	97	80-120	
Lead, Dissolved	mg/L	0.1	0.10	101	80-120	
Lithium, Dissolved	mg/L	0.1	0.10	100	80-120	
Molybdenum, Dissolved	mg/L	0.1	0.10	101	80-120	
Selenium, Dissolved	mg/L	0.1	0.098	98	80-120	
Thallium, Dissolved	mg/L	0.1	0.099	99	80-120	
Vanadium, Dissolved	mg/L	0.1	0.098	98	80-120	
Zinc, Dissolved	mg/L	0.1	0.095	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3026978 3026979

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92498079002 Result	Spike Conc.	Spike Conc.	MS Result							
Antimony, Dissolved	mg/L	ND	0.1	0.1	0.11	0.11	114	113	75-125	1	20	
Arsenic, Dissolved	mg/L	0.0014J	0.1	0.1	0.10	0.10	102	101	75-125	2	20	
Barium, Dissolved	mg/L	0.15	0.1	0.1	0.26	0.26	114	109	75-125	2	20	
Beryllium, Dissolved	mg/L	ND	0.1	0.1	0.096	0.094	96	94	75-125	2	20	
Boron, Dissolved	mg/L	3.9	1	1	5.0	4.9	110	99	75-125	2	20	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3026978												3026979	
Parameter	Units	92498079002 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
Cadmium, Dissolved	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	1	20		
Chromium, Dissolved	mg/L	0.00085J	0.1	0.1	0.099	0.10	98	102	75-125	4	20		
Cobalt, Dissolved	mg/L	0.00047J	0.1	0.1	0.098	0.097	98	96	75-125	2	20		
Lead, Dissolved	mg/L	ND	0.1	0.1	0.10	0.099	100	99	75-125	2	20		
Lithium, Dissolved	mg/L	ND	0.1	0.1	0.097	0.098	97	98	75-125	1	20		
Molybdenum, Dissolved	mg/L	ND	0.1	0.1	0.11	0.11	108	105	75-125	2	20		
Selenium, Dissolved	mg/L	ND	0.1	0.1	0.096	0.095	96	94	75-125	1	20		
Thallium, Dissolved	mg/L	ND	0.1	0.1	0.098	0.098	98	98	75-125	0	20		
Vanadium, Dissolved	mg/L	0.0025J	0.1	0.1	0.10	0.11	100	106	75-125	6	20		
Zinc, Dissolved	mg/L	ND	0.1	0.1	0.096	0.097	95	96	75-125	1	20		

SAMPLE DUPLICATE: 3026987

Parameter	Units	92497981005	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
Antimony, Dissolved	mg/L		ND		20	
Arsenic, Dissolved	mg/L	67.2 ug/L	0.068	1	20	
Barium, Dissolved	mg/L	100 ug/L	0.091		20	
Beryllium, Dissolved	mg/L		ND		20	
Boron, Dissolved	mg/L		0.96		20	
Cadmium, Dissolved	mg/L	ND	ND		20	
Chromium, Dissolved	mg/L	ND	ND		20	
Cobalt, Dissolved	mg/L		0.0029J		20	
Lead, Dissolved	mg/L	ND	ND		20	
Lithium, Dissolved	mg/L		0.0040J		20	
Molybdenum, Dissolved	mg/L		0.015		20	
Selenium, Dissolved	mg/L	ND	ND		20	
Thallium, Dissolved	mg/L		ND		20	
Vanadium, Dissolved	mg/L		ND		20	
Zinc, Dissolved	mg/L		0.0074J		20	

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498079001	GWA-7 FILTERED				
92498079002	GWB-5R FILTERED				
92498079001	GWA-7 FILTERED	EPA 3010A	570950	EPA 6010D	570976
92498079002	GWB-5R FILTERED	EPA 3010A	570950	EPA 6010D	570976
92498079001	GWA-7 FILTERED	EPA 3005A	570318	EPA 6020B	570369
92498079002	GWB-5R FILTERED	EPA 3005A	571522	EPA 6020B	571615

**REPORT OF LABORATORY ANALYSIS**

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**Sample Condition Upon Receipt**

Face Analytical

Client Name: BA Power

WO#: **92498079**

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Oth:

Tracking #: \_\_\_\_\_



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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other EZ:lock

Thermometer Used 230 Type of Ice:  (Ice) Blue None  Samples on ice, cooling process has begun

Cooler Temperature 3.7 Biological Tissue is Frozen: Yes No

Tamp should be above freezing to 6°C

Date and initials of person examining contents: CO

Comments:

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





# CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

**Section A** Required Client Information: Company: GA Power Address: Atlanta, GA

**Section B** Required Project Information: Report To: SCS Contacts Copy To: ACC Contacts

**Section C** Invoice Information: Attention: Southern Co. Company Name: Address: Regulatory Agency: NIDES  GROUND WATER  DRINKING WATER  UST  RCRA  OTHER

Requested Due Date/TAT: 10 Day

Project Name: Gunman Road - Semi-Annual

Project Number: [Blank]

Address: [Blank]

Company Name: Kevin Herring

Site Location: GA

Requested Analyte Filtered (Y/N): [Blank]

Temp in °C: [Blank]

Received on Ice (Y/N): [Blank]

Custody Sealed Cooler (Y/N): [Blank]

Samples Intact (Y/N): [Blank]

ITEM #	Section D Required Client Information	VALID Matrix Codes MATRIX CODE	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analyte Filtered (Y/N)	Residual Chlorine (Y/N)	pH=	
			COMPOSITE	COMPOSITE										
1	SAMPLE ID (A-Z, 0-9, /, ) Sample IDs MUST BE UNIQUE	6065R Filtered	✓	✓	9-20	1730	1	Unpreserved	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub> Methanol Other	IDS Chloride/Fluoride/Sulfate 300.0 App. III + IV + State Metals * RAD 226/228	✓		pH= 4.97	
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

Additional Comments: lost sample tube

Requested Note: when the last sample for the event has been taken

Relinquished by / Affiliation: [Signature] DATE: 10-2-20 TIME: 12:22

Accepted by / Affiliation: [Signature] DATE: 10-2-20 TIME: 12:22

Sampler Name and Signature: [Signature] DATE Signed: 10-2-20

Print Name of Sampler: [Signature]

Signature of Sampler: [Signature]

Temp in °C: [Blank]

Received on Ice (Y/N): [Blank]

Custody Sealed Cooler (Y/N): [Blank]

Samples Intact (Y/N): [Blank]



**LEVEL 2A LABORATORY DATA VALIDATIONS**

**Grumman Road**

**2<sup>nd</sup> Semi-Annual Event**

**September 2020**

## **Georgia Power Company – Grumman Road**

### **Quality Control Review of Analytical Data – September 2020**

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Pace Analytical Services, Asheville, Atlanta, Charlotte, and Pittsburgh for groundwater samples collected at Grumman Road between September 28, 2020 and October 1, 2020. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision-making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1 of this Appendix.

In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detected monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma (USEPA 6010D), Inductively Coupled Plasma – Mass Spectrometry (USEPA Method 6020B), Determination of Inorganic Anions (USEPA Method 300.0), Solids in Water (Standard Methods 2540C), Radium-226 (USEPA 9315), and Radium-228 (USEPA Method 9320).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0)<sup>1</sup> and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)<sup>2</sup>. The review included an assessment of the results for completeness, precision (laboratory duplicate recoveries and matrix spike/matrix spike duplicate recoveries), accuracy (laboratory control samples and matrix spike samples), and blank contamination (field, equipment, and laboratory blanks). Sample receipt conditions, holding times, and chains of custody (COCs) were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytical methodology, method-specific criteria or professional judgment were used.

## DATA QUALITY OBJECTIVES

**Laboratory Precision:** Laboratory goals for precision were met.

**Field Precision:** Field goals for precision were met, with the exceptions of Zinc on GWC-20 (92498084015) and Radium on GWC-12 (92498068006) and GWC-20 (92498068015) as described in the qualifications section below.

**Accuracy:** Laboratory goals for accuracy were met, with the exception of Fluoride in SDG 92498084. The Fluoride matrix spike (MS) and matrix spike duplicate (MSD) recoveries on GWC-14 (92498084008) that were outside criteria are described in the qualifications section below.

**Detection Limits:** Project goals for detection limits were met. Certain samples were diluted due to the concentration of target or non-target analyte interferences. Dilutions do not require qualifications based on USEPA guidelines. Reporting limits (RLs) of non-detect compounds are elevated proportional to the dilution when undiluted sample results were not provided by the laboratory. The data usability of diluted results was evaluated by the data user in the context of site-wide characterization.

**Completeness:** There were no rejected analytical results for this event, resulting in a completion of 100%.

**Holding Times:** Holding time requirements were met.

## QUALIFICATIONS

In general, chemical results for the samples collected at the site were qualified on the basis of low precision or low accuracy or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the validation process:

**J:** The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample

**ND:** The analyte was not detected above the method detection limit

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines except as specified below. The applied qualifications may not have been required for all samples collected at the site. A summary of sample qualifications can be found in Table 2 of this Appendix.

- Sample GWC-14 (92498084008) was qualified as estimated (J) for Fluoride as the associated MS and MSD recoveries were below QC criteria (82% and 81% below the range of 90-110).
- Samples GWC-12 (92498088006) and DUP-1 (92498086011) were qualified as estimated (J) for Radium-226 and Radium-228 as the field relative percent differences (RPD) exceeded QC criteria (62.42% and 120.72%, respectively, above limit of 20).
- Samples GWC-20 (92498084015) and DUP-2 (92498084018) were qualified as estimated (J) for Zinc as the field RPD exceeded QC criteria (113.33% above limit of 20).
- Samples GWC-20 (92498086015) and DUP-2 (92498086018) were qualified as estimated (J) for Radium-228 as the field RPD exceeded QC criteria (43.25% above limit of 20).
- Certain Antimony results in SDG 92498084 were qualified as non-detect (ND) due to the analyte(s) being detected at a similar concentration in an associated blank sample. As shown in Table 2, when the original sample result was below the RL, the method detection limit (MDL) was raised to the sample result as part of the qualification process.
- Certain Radium results in SDG 92498068 were qualified as non-detect (ND) due to the analyte being detected at a similar concentration in an associated blank sample. As shown in Table 2, the minimum detectable concentration (MDC) was raised to the sample result as part of the qualification process.

Atlantic Coast Consulting, Inc. reviewed the laboratory data from Grumman Road sampled between September 28, 2020 and October 1, 2020 in accordance with the analytical methods, the laboratory-specified QC criteria, and the guidelines. As described above, the results were acceptable for project use.

## **REFERENCES**

<sup>1</sup>USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0

<sup>2</sup>USEPA, January 2017, National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0

TABLE 1

Georgia Power Company – Grumman Road

Sample Summary Table – September 2020

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses			
						Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)
498084	GWA-7	9/28/2020	92498084001	GW		X	X	X	
498068	GWA-7	9/28/2020	92498068001	GW					X
498084	GWC-13	9/28/2020	92498084002	GW		X	X	X	
498068	GWC-13	9/28/2020	92498068002	GW					X
498084	GWA-8	9/28/2020	92498084003	GW		X	X	X	
498068	GWA-8	9/28/2020	92498068003	GW					X
498084	GWC-1	9/28/2020	92498084004	GW		X	X	X	
498068	GWC-1	9/28/2020	92498068004	GW					X
498084	FB-1-9-28-20	9/28/2020	92498084005	WQ	FB	X	X	X	
498068	FB-1-9-28-20	9/28/2020	92498068005	WQ	FB				X
498084	GWC-12	9/29/2020	92498084006	GW		X	X	X	
498068	GWC-12	9/29/2020	92498068006	GW					X
498084	GWC-11	9/29/2020	92498084007	GW		X	X	X	
498068	GWC-11	9/29/2020	92498068007	GW					X
498084	GWC-14	9/29/2020	92498084008	GW		X	X	X	
498068	GWC-14	9/29/2020	92498068008	GW					X
498084	GWC-2	9/29/2020	92498084009	GW		X	X	X	
498068	GWC-2	9/29/2020	92498068009	GW					X
498084	EB-1-9-29-20	9/29/2020	92498084010	WQ	EB	X	X	X	
498068	EB-1-9-29-20	9/29/2020	92498068010	WQ	EB				X
498084	DUP-1	9/29/2020	92498084011	GW	FD (GWC-12)	X	X	X	
498068	DUP-1	9/29/2020	92498074011	GW	FD (GWC-12)				X
498084	GWC-21	9/30/2020	92498084012	GW		X	X	X	
498068	GWC-21	9/30/2020	92498068012	GW					X

Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

GW – Groundwater

QC – Quality Control

TDS – Total Dissolved Solids

WQ – Water Quality Control

TABLE 1 (continued)

Georgia Power Company – Grumman Road

Sample Summary Table – September 2020

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses			
						Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)
498084	GWC-15	9/30/2020	92498084013	GW		X	X	X	
498068	GWC-15	9/30/2020	92498068013	GW					X
498084	GWC-16	9/30/2020	92498084014	GW		X	X	X	
498068	GWC-16	9/30/2020	92498068014	GW					X
498084	GWC-20	9/30/2020	92498084015	GW		X	X	X	
498068	GWC-20	9/30/2020	92498068015	GW					X
498084	GWB-4R	10/1/2020	92498084016	GW		X	X	X	
498068	GWB-4R	10/1/2020	92498068016	GW					X
498084	EB-2-9-30-20	9/30/2020	92498084017	WQ	EB	X	X	X	
498068	EB-2-9-30-20	9/30/2020	92498068017	WQ	EB				X
498084	DUP-2	9/30/2020	92498084018	GW	FD (GWC-20)	X	X	X	
498068	DUP-2	9/30/2020	92498068018	GW	FD (GWC-20)				X
498084	GWC-17	9/30/2020	92498084019	GW		X	X	X	
498068	GWC-17	9/30/2020	92498068019	GW					X
498084	GWC-22	9/30/2020	92498084020	GW		X	X	X	
498068	GWC-22	9/30/2020	92498068020	GW					X
498084	GWB-6R	9/30/2020	92498084021	GW		X	X	X	
498068	GWB-6R	9/30/2020	92498068021	GW					X
498084	GWB-5R	9/30/2020	92498084022	GW		X	X	X	
498068	GWB-5R	9/30/2020	92498068022	GW					X
498084	FB-2-9-30-20	9/30/2020	92498084023	WQ	FB	X	X	X	
498068	FB-2-9-30-20	9/30/2020	92498068023	WQ	FB				X
498084	GWC-9	10/1/2020	92498084024	GW		X	X	X	
498068	GWC-9	10/1/2020	92498068024	GW					X
498079	GWA-7 Filtered	9/28/2020	92498079001	GW		X			
498079	GWB-5R Filtered	9/30/2020	92498079002	GW		X			

Abbreviations:  
 EB – Equipment Blank  
 FB – Field Blank  
 FD – Field Duplicate  
 GW – Groundwater  
 QC – Quality Control  
 TDS – Total Dissolved Solids  
 WQ – Water Quality Control

TABLE 2

## Georgia Power Company – Grumman Road

## Qualifier Summary Table – September 2020

SDG	Field Identification	Constituent	New RL	New MDL or MDC	Qualifier	Reason
498084	GWC-14	Fluoride			J	MS/MSD outside QC criteria
498084	GWC-21	Antimony		0.00033	ND	Blank detection
498084	GWC-22	Antimony		0.0016	ND	Blank detection
498084	GWB-6R	Antimony		0.00059	ND	Blank detection
498084	GWB-5R	Antimony		0.0003	ND	Blank detection
498084	GWC-20	Zinc			J	RPD exceeds field goal
498084	DUP-2	Zinc			J	RPD exceeds field goal
498086	GWC-12	Radium-226			J	RPD exceeds field goal
498086	DUP-1	Radium-226			J	RPD exceeds field goal
498086	GWC-12	Radium-228			J	RPD exceeds field goal
498086	DUP-1	Radium-228			J	RPD exceeds field goal
498086	GWC-20	Radium-228			J	RPD exceeds field goal
498086	DUP-2	Radium-228			J	RPD exceeds field goal
498086	GWA-7	Radium-226		0.964	ND	Blank detection
498086	GWA-7	Radium-228		1.06	ND	Blank detection
498086	GWC-13	Radium-226		0.373	ND	Blank detection
498086	GWA-8	Radium-226		0.425	ND	Blank detection
498086	GWC-1	Radium-226		0.460	ND	Blank detection
498086	GWC-12	Radium-226		0.495	ND	Blank detection
498086	GWC-12	Radium-228		0.942	ND	Blank detection
498086	GWC-11	Radium-226		0.428	ND	Blank detection
498086	GWC-11	Radium-228		0.851	ND	Blank detection
498086	GWC-14	Radium-226		0.431	ND	Blank detection
498086	GWC-14	Radium-228		0.960	ND	Blank detection
498086	GWC-2	Radium-226		0.494	ND	Blank detection
498086	GWC-2	Radium-228		0.853	ND	Blank detection
498086	GWC-21	Radium-226		0.501	ND	Blank detection
498086	GWC-21	Radium-228		0.993	ND	Blank detection
498086	GWC-15	Radium-226		0.518	ND	Blank detection
498086	GWC-15	Radium-228		0.848	ND	Blank detection
498086	GWC-16	Radium-228		0.789	ND	Blank detection
498086	GWC-20	Radium-228		0.795	ND	Blank detection
498086	GWB-4R	Radium-228		0.721	ND	Blank detection

## Abbreviations:

MDC – Minimum Detectable Concentration  
MS/MSD – Matrix Spike / Matrix Spike Duplicate  
MDL – Method Detection Limit  
RL – Reporting Limit  
RPD – Relative Percent Difference  
SDG – Sample Delivery Group  
TDS – Total Dissolved Solids

## Qualifiers:

J – Estimated Result  
ND – Non-Detect Result



TABLE 2 (continued)

Georgia Power Company – Grumman Road

Qualifier Summary Table – September 2020

SDG	Field Identification	Constituent	New RL	New MDL or MDC	Qualifier	Reason
498086	GWC-17	Radium-226		0.493	ND	Blank detection
498086	GWC-17	Radium-228		0.939	ND	Blank detection
498086	GWC-22	Radium-226		0.485	ND	Blank detection
498086	GWC-22	Radium-226		1.08	ND	Blank detection
498086	GWB-6R	Radium-226		0.521	ND	Blank detection
498086	GWB-6R	Radium-226		1.28	ND	Blank detection
498086	GWB-5R	Radium-228		0.494	ND	Blank detection
498086	GWB-5R	Radium-226		1.03	ND	Blank detection
498086	GWC-9	Radium-226		0.488	ND	Blank detection
498086	GWC-9	Radium-228		1.72	ND	Blank detection

Abbreviations:

MDC – Minimum Detectable Concentration  
 MS/MSD – Matrix Spike / Matrix Spike Duplicate  
 MDL – Method Detection Limit  
 RL – Reporting Limit  
 RPD – Relative Percent Difference  
 SDG – Sample Delivery Group  
 TDS – Total Dissolved Solids

Qualifiers:

J – Estimated Result  
 ND – Non-Detect Result

# Low-Flow Test Report:

Test Date / Time: 9/28/2020 2:55:11 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWA-7</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 16.1 ft</b> <b>Total Depth: 21.1 ft</b> <b>Initial Depth to Water: 5.16 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 19 ft</b> <b>Estimated Total Volume Pumped: 5.625 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 225 ml/min</b> <b>Final Draw Down: 4.5 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Cloudy, 70s, sample time- 1520

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/28/2020 2:55 PM	00:00	5.97 pH	21.37 °C	0.69 µS/cm	9.05 mg/L		140.0 mV	5.16 ft	225.00 ml/min
9/28/2020 3:00 PM	05:00	5.85 pH	25.38 °C	1,544.8 µS/cm	0.15 mg/L	28.00 NTU	95.8 mV	5.50 ft	225.00 ml/min
9/28/2020 3:05 PM	10:00	5.86 pH	25.81 °C	1,558.7 µS/cm	0.07 mg/L	49.00 NTU	79.6 mV	5.50 ft	225.00 ml/min
9/28/2020 3:10 PM	15:00	5.86 pH	25.90 °C	1,567.3 µS/cm	0.05 mg/L	66.00 NTU	69.2 mV	5.50 ft	225.00 ml/min
9/28/2020 3:15 PM	20:00	5.86 pH	26.04 °C	1,583.9 µS/cm	0.05 mg/L	72.00 NTU	61.2 mV	5.50 ft	225.00 ml/min
9/28/2020 3:20 PM	25:00	5.86 pH	25.88 °C	1,586.5 µS/cm	0.05 mg/L	129.00 NTU	54.4 mV	5.50 ft	225.00 ml/min

## Samples

Sample ID:	Description:
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Product Name: Low-Flow System

Date: 2020-09-28 16:05:04

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 21 ft  
Pump placement from TOC 19 ft

**Well Information:**

Well ID GWA-8  
Well diameter 2 in  
Well Total Depth 20.90 ft  
Screen Length 5 ft  
Depth to Water 6.14 ft

**Pumping Information:**

Final Pumping Rate 230 mL/min  
Total System Volume 0.1233332 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 24 in  
Total Volume Pumped 9.2 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Last 5	15:44:06	1200.03	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 20
Last 5	15:49:06	1500.03	4.65	273.44	1.19	7.87	0.28	77.87
Last 5	15:54:06	1800.03	4.50	295.02	1.61	7.92	0.18	77.70
Last 5	15:59:08	2102.03	4.43	305.44	1.33	8.03	0.13	75.19
Last 5	16:04:08	2402.03	4.41	312.21	0.99	8.19	0.18	72.55
Variance 0			4.40	314.39	1.23	8.30	0.19	70.36
Variance 1		-0.04	-0.07	10.42			-0.05	-2.50
Variance 2		-0.22	-0.02	6.77			0.05	-2.64
		-0.22	-0.01	2.18			0.01	-2.19

**Notes**

Sampled at 1604. Mostly cloudy 83 degrees

**Grab Samples**

Product Name: Low-Flow System

Date: 2020-10-01 08:51:03

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 27 ft  
Pump placement from TOC 22 ft

**Well Information:**

Well ID GWB-4R  
Well diameter 2 in  
Well Total Depth 26.95 ft  
Screen Length 10 ft  
Depth to Water 14.11 ft

**Pumping Information:**

Final Pumping Rate 130 mL/min  
Total System Volume 0.1325998 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 4 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
		+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 20
Last 5	08:30:18	21.76	5.74	627.13	3.74	14.37	0.11	67.89
Last 5	08:35:18	21.77	5.74	625.33	3.67	14.37	0.11	64.29
Last 5	08:40:18	21.84	5.74	622.02	3.60	14.37	0.11	62.54
Last 5	08:45:18	21.86	5.74	622.84	3.51	14.37	0.11	60.46
Last 5	08:50:18	21.99	5.75	621.71	3.55	14.37	0.11	58.38
Variance 0		0.07	0.00	-3.31			-0.01	-1.75
Variance 1		0.02	0.00	0.81			0.00	-2.08
Variance 2		0.13	0.00	-1.13			0.00	-2.09

**Notes**

Sampled at 0850. Sunny 60 degrees. Extended purge

**Grab Samples**

# Low-Flow Test Report:

**Test Date / Time:** 9/30/2020 4:20:06 PM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWB-5R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 21.5 ft</b> <b>Total Depth: 26.5 ft</b> <b>Initial Depth to Water: 8.67 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 24 ft</b> <b>Estimated Total Volume Pumped: 14 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 6.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time-1730

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/30/2020 4:20 PM	00:00	5.80 pH	39.87 °C	2.86 µS/cm	5.98 mg/L		100.1 mV	8.67 ft	200.00 ml/min
9/30/2020 4:25 PM	05:00	5.09 pH	27.00 °C	826.44 µS/cm	0.27 mg/L	44.00 NTU	36.7 mV	8.90 ft	200.00 ml/min
9/30/2020 4:30 PM	10:00	5.06 pH	26.24 °C	843.85 µS/cm	0.16 mg/L	32.00 NTU	39.7 mV	9.10 ft	200.00 ml/min
9/30/2020 4:35 PM	15:00	5.03 pH	26.15 °C	843.90 µS/cm	0.13 mg/L	36.00 NTU	40.8 mV	9.10 ft	200.00 ml/min
9/30/2020 4:40 PM	20:00	5.11 pH	26.14 °C	806.15 µS/cm	0.12 mg/L	38.00 NTU	40.5 mV	9.20 ft	200.00 ml/min
9/30/2020 4:45 PM	25:00	5.07 pH	26.07 °C	811.49 µS/cm	0.11 mg/L	35.00 NTU	41.0 mV	9.20 ft	200.00 ml/min
9/30/2020 4:50 PM	30:00	5.05 pH	26.04 °C	817.67 µS/cm	0.10 mg/L	39.00 NTU	41.2 mV	9.20 ft	200.00 ml/min
9/30/2020 4:55 PM	35:00	5.04 pH	26.06 °C	818.14 µS/cm	0.10 mg/L	41.00 NTU	41.2 mV	9.20 ft	200.00 ml/min
9/30/2020 5:00 PM	40:00	5.03 pH	26.03 °C	816.32 µS/cm	0.09 mg/L	44.00 NTU	41.2 mV	9.20 ft	200.00 ml/min
9/30/2020 5:05 PM	45:00	5.03 pH	25.99 °C	816.98 µS/cm	0.09 mg/L	45.00 NTU	41.1 mV	9.20 ft	200.00 ml/min
9/30/2020 5:10 PM	50:00	5.02 pH	25.91 °C	819.10 µS/cm	0.08 mg/L	47.00 NTU	41.2 mV	9.20 ft	200.00 ml/min
9/30/2020 5:15 PM	55:00	5.01 pH	25.79 °C	818.21 µS/cm	0.08 mg/L	49.00 NTU	41.3 mV	9.20 ft	200.00 ml/min
9/30/2020 5:20 PM	01:00:00	5.00 pH	25.79 °C	820.56 µS/cm	0.07 mg/L	48.00 NTU	41.3 mV	9.20 ft	200.00 ml/min
9/30/2020 5:25 PM	01:05:00	5.00 pH	25.70 °C	820.62 µS/cm	0.07 mg/L	45.00 NTU	41.2 mV	9.20 ft	200.00 ml/min
9/30/2020 5:30 PM	01:10:00	4.99 pH	25.62 °C	819.01 µS/cm	0.07 mg/L	47.00 NTU	41.2 mV	9.20 ft	200.00 ml/min

# Low-Flow Test Report:

Test Date / Time: 9/30/2020 3:05:08 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWB-6R</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 10 ft</b> <b>Top of Screen: 17.7 ft</b> <b>Total Depth: 22.7 ft</b> <b>Initial Depth to Water: 6 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 20 ft</b> <b>Estimated Total Volume Pumped: 6 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 2.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time- 1535, FB-2-9-30-20 at 1525

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/30/2020 3:05 PM	00:00	5.41 pH	27.43 °C	1,093.3 µS/cm	0.20 mg/L		15.3 mV	6.00 ft	200.00 ml/min
9/30/2020 3:10 PM	05:00	5.40 pH	26.61 °C	1,123.8 µS/cm	0.08 mg/L	20.00 NTU	14.8 mV	6.20 ft	200.00 ml/min
9/30/2020 3:15 PM	10:00	5.41 pH	26.68 °C	1,130.1 µS/cm	0.06 mg/L	5.47 NTU	15.4 mV	6.20 ft	200.00 ml/min
9/30/2020 3:20 PM	15:00	5.39 pH	26.70 °C	1,093.2 µS/cm	0.04 mg/L	4.12 NTU	13.6 mV	6.20 ft	200.00 ml/min
9/30/2020 3:25 PM	20:00	5.38 pH	26.73 °C	1,085.5 µS/cm	0.04 mg/L	3.55 NTU	13.7 mV	6.20 ft	200.00 ml/min
9/30/2020 3:30 PM	25:00	5.39 pH	26.79 °C	1,096.2 µS/cm	0.03 mg/L	2.83 NTU	14.7 mV	6.20 ft	200.00 ml/min
9/30/2020 3:35 PM	30:00	5.39 pH	26.76 °C	1,096.2 µS/cm	0.03 mg/L	1.88 NTU	15.7 mV	6.20 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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Product Name: Low-Flow System

Date: 2020-09-28 17:10:44

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 28 ft  
Pump placement from TOC 26 ft

**Well Information:**

Well ID GWC-1  
Well diameter 2 in  
Well Total Depth 28.10 ft  
Screen Length 5 ft  
Depth to Water 18.28 ft

**Pumping Information:**

Final Pumping Rate 200 mL/min  
Total System Volume 0.1341442 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 6 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Last 5	16:48:56	24.01	5.66	501.60	1.12	18.38	0.18	99.06
Last 5	16:53:56	23.97	5.77	523.12	0.67	18.39	0.15	93.88
Last 5	16:58:56	24.01	5.78	524.76	0.61	18.41	0.13	92.40
Last 5	17:03:56	24.39	5.78	537.82	0.50	18.43	0.17	92.44
Last 5	17:08:56	24.24	5.79	519.74	0.55	18.44	0.15	90.40
Variance 0		0.04	0.01	1.64			-0.02	-1.48
Variance 1		0.37	0.00	13.05			0.04	0.03
Variance 2		-0.15	0.01	-18.08			-0.02	-2.03

**Notes**

Sampled at 1708. Mostly cloudy 82 degrees

**Grab Samples**

# Low-Flow Test Report:

Test Date / Time: 9/29/2020 3:25:30 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-2</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 26.4 ft</b> <b>Total Depth: 31.4 ft</b> <b>Initial Depth to Water: 18 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 28 ft</b> <b>Estimated Total Volume Pumped: 6 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 2.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Cloudy, 70s, sample time -1555

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/29/2020 3:25 PM	00:00	6.01 pH	32.11 °C	0.48 µS/cm	7.16 mg/L		146.5 mV	18.00 ft	200.00 ml/min
9/29/2020 3:30 PM	05:00	4.66 pH	26.65 °C	50.98 µS/cm	0.52 mg/L	1.14 NTU	114.8 mV	18.20 ft	200.00 ml/min
9/29/2020 3:35 PM	10:00	4.60 pH	24.67 °C	51.25 µS/cm	0.22 mg/L	1.22 NTU	120.2 mV	18.20 ft	200.00 ml/min
9/29/2020 3:40 PM	15:00	4.60 pH	24.34 °C	51.96 µS/cm	0.14 mg/L	0.98 NTU	122.3 mV	18.20 ft	200.00 ml/min
9/29/2020 3:45 PM	20:00	4.59 pH	24.15 °C	51.73 µS/cm	0.12 mg/L	1.02 NTU	121.4 mV	18.20 ft	200.00 ml/min
9/29/2020 3:50 PM	25:00	4.60 pH	23.71 °C	51.67 µS/cm	0.11 mg/L	1.07 NTU	119.7 mV	18.20 ft	200.00 ml/min
9/29/2020 3:55 PM	30:00	4.60 pH	23.54 °C	51.44 µS/cm	0.11 mg/L	1.11 NTU	118.2 mV	18.20 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 9/30/2020 6:06:02 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-9</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 20.7 ft</b> <b>Total Depth: 25.7 ft</b> <b>Initial Depth to Water: 7.07 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 25 ft</b> <b>Estimated Total Volume Pumped: 12.5 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 18.43 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Purged dry, allow for overnight recharge

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/30/2020 6:06 PM	00:00	5.40 pH	32.41 °C	3.44 µS/cm	6.65 mg/L		132.5 mV	7.07 ft	250.00 ml/min
9/30/2020 6:11 PM	05:00	4.53 pH	23.21 °C	170.05 µS/cm	0.45 mg/L	14.00 NTU	26.2 mV	9.20 ft	250.00 ml/min
9/30/2020 6:16 PM	10:00	4.46 pH	22.71 °C	170.99 µS/cm	0.17 mg/L	11.00 NTU	25.8 mV	11.80 ft	250.00 ml/min
9/30/2020 6:21 PM	15:00	4.51 pH	22.59 °C	168.24 µS/cm	0.13 mg/L	5.21 NTU	25.9 mV	13.40 ft	250.00 ml/min
9/30/2020 6:26 PM	20:00	4.56 pH	22.45 °C	167.33 µS/cm	0.12 mg/L	4.28 NTU	26.2 mV	15.00 ft	250.00 ml/min
9/30/2020 6:31 PM	25:00	4.60 pH	22.40 °C	167.20 µS/cm	0.11 mg/L	6.93 NTU	26.1 mV	16.50 ft	250.00 ml/min
9/30/2020 6:36 PM	30:00	4.62 pH	22.36 °C	167.59 µS/cm	0.11 mg/L	5.12 NTU	26.5 mV	18.00 ft	250.00 ml/min
9/30/2020 6:41 PM	35:00	4.63 pH	22.33 °C	167.65 µS/cm	0.11 mg/L	4.98 NTU	26.7 mV	20.20 ft	250.00 ml/min
9/30/2020 6:46 PM	40:00	4.63 pH	22.33 °C	167.54 µS/cm	0.16 mg/L	4.44 NTU	26.8 mV	22.30 ft	250.00 ml/min
9/30/2020 6:51 PM	45:00	4.59 pH	22.36 °C	166.55 µS/cm	0.30 mg/L	4.95 NTU	27.8 mV	24.00 ft	250.00 ml/min
9/30/2020 6:56 PM	50:00	4.60 pH	22.30 °C	165.69 µS/cm	1.01 mg/L	4.47 NTU	30.0 mV	25.50 ft	250.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

**Test Date / Time:** 10/1/2020 8:01:07 AM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWC-9</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 20.7 ft</b> <b>Total Depth: 25.7 ft</b> <b>Initial Depth to Water: 7.86 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 25 ft</b> <b>Estimated Total Volume Pumped: 2.7 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 135 ml/min</b> <b>Final Draw Down: 36.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time-0821.

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
10/1/2020 8:01 AM	00:00	7.73 pH	16.65 °C	13.66 µS/cm	9.56 mg/L		243.2 mV	7.86 ft	135.00 ml/min
10/1/2020 8:06 AM	05:00	4.64 pH	18.17 °C	157.19 µS/cm	1.47 mg/L	15.00 NTU	104.9 mV	9.10 ft	135.00 ml/min
10/1/2020 8:11 AM	10:00	4.43 pH	19.02 °C	154.20 µS/cm	0.43 mg/L	4.81 NTU	95.8 mV	9.70 ft	135.00 ml/min
10/1/2020 8:16 AM	15:00	4.40 pH	19.24 °C	153.40 µS/cm	0.30 mg/L	2.22 NTU	94.8 mV	10.30 ft	135.00 ml/min
10/1/2020 8:21 AM	20:00	4.42 pH	19.68 °C	153.50 µS/cm	0.25 mg/L	1.60 NTU	93.7 mV	10.90 ft	135.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 9/29/2020 10:30:16 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-11</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 17.55 ft</b> <b>Total Depth: 22.55 ft</b> <b>Initial Depth to Water: 11.2 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 20 ft</b> <b>Estimated Total Volume Pumped: 14.3 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 130 ml/min</b> <b>Final Draw Down: 39.6 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 80s, sample time-1220

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/29/2020 10:30 AM	00:00	3.96 pH	29.58 °C	1.72 µS/cm	7.33 mg/L		133.4 mV	11.20 ft	130.00 ml/min
9/29/2020 10:35 AM	05:00	4.99 pH	26.40 °C	129.76 µS/cm	1.24 mg/L	1.15 NTU	78.5 mV	11.90 ft	130.00 ml/min
9/29/2020 10:40 AM	10:00	5.00 pH	25.00 °C	133.58 µS/cm	0.37 mg/L	1.18 NTU	81.8 mV	12.40 ft	130.00 ml/min
9/29/2020 10:45 AM	15:00	5.00 pH	24.86 °C	134.42 µS/cm	0.34 mg/L	1.31 NTU	83.7 mV	12.70 ft	130.00 ml/min
9/29/2020 10:50 AM	20:00	5.00 pH	24.68 °C	135.97 µS/cm	0.30 mg/L	1.20 NTU	84.5 mV	13.20 ft	130.00 ml/min
9/29/2020 10:55 AM	25:00	4.96 pH	24.61 °C	166.88 µS/cm	0.27 mg/L	1.22 NTU	91.8 mV	13.50 ft	130.00 ml/min
9/29/2020 11:00 AM	30:00	4.88 pH	24.72 °C	344.99 µS/cm	0.23 mg/L	1.47 NTU	103.5 mV	13.70 ft	130.00 ml/min
9/29/2020 11:05 AM	35:00	4.84 pH	24.68 °C	584.64 µS/cm	0.21 mg/L	1.80 NTU	115.7 mV	14.00 ft	130.00 ml/min
9/29/2020 11:10 AM	40:00	4.83 pH	24.62 °C	677.53 µS/cm	0.21 mg/L	1.75 NTU	119.2 mV	14.10 ft	130.00 ml/min
9/29/2020 11:15 AM	45:00	4.80 pH	24.61 °C	849.21 µS/cm	0.18 mg/L	1.97 NTU	125.0 mV	14.10 ft	130.00 ml/min
9/29/2020 11:20 AM	50:00	4.82 pH	24.49 °C	886.12 µS/cm	0.22 mg/L	1.88 NTU	125.1 mV	14.20 ft	130.00 ml/min
9/29/2020 11:25 AM	55:00	4.81 pH	24.34 °C	941.80 µS/cm	0.21 mg/L	1.73 NTU	127.5 mV	14.20 ft	130.00 ml/min
9/29/2020 11:30 AM	01:00:00	4.80 pH	24.29 °C	1,035.9 µS/cm	0.20 mg/L	1.43 NTU	129.8 mV	14.30 ft	130.00 ml/min
9/29/2020 11:35 AM	01:05:00	4.79 pH	24.25 °C	1,110.0 µS/cm	0.20 mg/L	1.59 NTU	131.7 mV	14.40 ft	130.00 ml/min
9/29/2020 11:40 AM	01:10:00	4.79 pH	24.16 °C	1,174.8 µS/cm	0.19 mg/L	1.32 NTU	133.8 mV	14.40 ft	130.00 ml/min

9/29/2020 11:45 AM	01:15:00	4.78 pH	24.29 °C	1,257.3 µS/cm	0.19 mg/L	1.30 NTU	135.9 mV	14.50 ft	130.00 ml/min
9/29/2020 11:50 AM	01:20:00	4.80 pH	24.68 °C	1,185.2 µS/cm	0.23 mg/L	1.29 NTU	134.7 mV	14.50 ft	130.00 ml/min
9/29/2020 11:55 AM	01:25:00	4.79 pH	25.26 °C	1,330.1 µS/cm	0.20 mg/L	1.49 NTU	136.7 mV	14.50 ft	130.00 ml/min
9/29/2020 12:00 PM	01:30:00	4.77 pH	25.76 °C	1,557.3 µS/cm	0.14 mg/L	1.51 NTU	140.9 mV	14.50 ft	130.00 ml/min
9/29/2020 12:05 PM	01:35:00	4.78 pH	25.72 °C	1,561.7 µS/cm	0.15 mg/L	1.22 NTU	141.4 mV	14.50 ft	130.00 ml/min
9/29/2020 12:10 PM	01:40:00	4.77 pH	25.39 °C	1,712.2 µS/cm	0.17 mg/L	1.20 NTU	144.0 mV	14.50 ft	130.00 ml/min
9/29/2020 12:15 PM	01:45:00	4.77 pH	25.41 °C	1,734.4 µS/cm	0.14 mg/L	1.19 NTU	145.2 mV	14.50 ft	130.00 ml/min
9/29/2020 12:20 PM	01:50:00	4.77 pH	25.76 °C	1,727.7 µS/cm	0.15 mg/L	1.29 NTU	145.3 mV	14.50 ft	130.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

**Test Date / Time:** 9/29/2020 9:11:16 AM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name:</b> GWC-12 <b>Well Diameter:</b> 2 in <b>Casing Type:</b> PVC <b>Screen Length:</b> 5 ft <b>Top of Screen:</b> 21.7 ft <b>Total Depth:</b> 26.7 ft <b>Initial Depth to Water:</b> 11.08 ft	<b>Pump Type:</b> Peri Pump <b>Tubing Type:</b> Poly <b>Pump Intake From TOC:</b> 23 ft <b>Estimated Total Volume Pumped:</b> 5 liter <b>Flow Cell Volume:</b> 90 ml <b>Final Flow Rate:</b> 200 ml/min <b>Final Draw Down:</b> 5 in	<b>Instrument Used:</b> Aqua TROLL 400 <b>Serial Number:</b> 714293
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## Test Notes:

Sunny, 70s, sample time-0935, DUP-1 here

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/29/2020 9:11 AM	00:00	7.28 pH	24.56 °C	24.71 µS/cm	8.32 mg/L		221.2 mV	11.08 ft	200.00 ml/min
9/29/2020 9:16 AM	05:00	3.90 pH	24.51 °C	623.29 µS/cm	0.31 mg/L	1.92 NTU	83.5 mV	11.40 ft	200.00 ml/min
9/29/2020 9:20 AM	09:19	3.94 pH	24.38 °C	615.16 µS/cm	0.18 mg/L	1.35 NTU	81.2 mV	11.50 ft	200.00 ml/min
9/29/2020 9:25 AM	14:19	3.96 pH	24.41 °C	611.93 µS/cm	0.13 mg/L	0.96 NTU	81.9 mV	11.50 ft	200.00 ml/min
9/29/2020 9:30 AM	19:19	3.96 pH	24.15 °C	613.44 µS/cm	0.11 mg/L	0.72 NTU	82.9 mV	11.50 ft	200.00 ml/min
9/29/2020 9:35 AM	24:19	3.95 pH	23.99 °C	615.46 µS/cm	0.10 mg/L	0.45 NTU	83.4 mV	11.50 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

**Test Date / Time:** 9/28/2020 4:00:30 PM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWC-13</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 19.1 ft</b> <b>Total Depth: 24.1 ft</b> <b>Initial Depth to Water: 12.43 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 22 ft</b> <b>Estimated Total Volume Pumped: 10 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 5.6 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Cloudy, 70s, sample time-1640

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/28/2020 4:00 PM	00:00	6.90 pH	25.42 °C	5.39 µS/cm	7.58 mg/L		82.0 mV	12.43 ft	250.00 ml/min
9/28/2020 4:05 PM	05:00	5.74 pH	25.79 °C	54.87 µS/cm	3.76 mg/L	4.38 NTU	53.9 mV	12.90 ft	250.00 ml/min
9/28/2020 4:10 PM	10:00	5.70 pH	25.33 °C	54.32 µS/cm	3.14 mg/L	2.89 NTU	61.8 mV	12.90 ft	250.00 ml/min
9/28/2020 4:15 PM	15:00	5.69 pH	24.99 °C	53.93 µS/cm	2.66 mg/L	3.02 NTU	65.3 mV	12.90 ft	250.00 ml/min
9/28/2020 4:20 PM	20:00	5.66 pH	24.89 °C	55.70 µS/cm	2.28 mg/L	3.28 NTU	67.1 mV	12.90 ft	250.00 ml/min
9/28/2020 4:25 PM	25:00	5.09 pH	24.90 °C	84.90 µS/cm	1.05 mg/L	3.33 NTU	55.8 mV	12.90 ft	250.00 ml/min
9/28/2020 4:30 PM	30:00	4.84 pH	24.93 °C	101.58 µS/cm	0.39 mg/L	3.29 NTU	42.1 mV	12.90 ft	250.00 ml/min
9/28/2020 4:35 PM	35:00	4.79 pH	24.83 °C	104.61 µS/cm	0.24 mg/L	1.22 NTU	36.7 mV	12.90 ft	250.00 ml/min
9/28/2020 4:40 PM	40:00	4.76 pH	24.70 °C	101.87 µS/cm	0.16 mg/L	0.97 NTU	34.5 mV	12.90 ft	250.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 9/29/2020 2:06:59 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-14</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 22 ft</b> <b>Total Depth: 27 ft</b> <b>Initial Depth to Water: 18.44 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 25 ft</b> <b>Estimated Total Volume Pumped: 7 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 4.3 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time-1442

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/29/2020 2:06 PM	00:00	5.53 pH	25.97 °C	262.19 µS/cm	1.34 mg/L		122.1 mV	18.44 ft	200.00 ml/min
9/29/2020 2:11 PM	05:00	5.66 pH	23.84 °C	275.20 µS/cm	1.26 mg/L	1.49 NTU	124.9 mV	18.80 ft	200.00 ml/min
9/29/2020 2:16 PM	10:00	5.68 pH	23.52 °C	279.00 µS/cm	1.04 mg/L	1.52 NTU	126.2 mV	18.80 ft	200.00 ml/min
9/29/2020 2:21 PM	15:00	5.68 pH	23.61 °C	281.55 µS/cm	0.89 mg/L	1.39 NTU	126.5 mV	18.80 ft	200.00 ml/min
9/29/2020 2:26 PM	20:00	5.69 pH	23.53 °C	282.09 µS/cm	0.78 mg/L	1.11 NTU	126.6 mV	18.80 ft	200.00 ml/min
9/29/2020 2:31 PM	25:00	5.68 pH	23.39 °C	282.60 µS/cm	0.72 mg/L	1.25 NTU	126.9 mV	18.80 ft	200.00 ml/min
9/29/2020 2:36 PM	30:00	5.69 pH	23.35 °C	284.52 µS/cm	0.68 mg/L	0.89 NTU	127.1 mV	18.80 ft	200.00 ml/min
9/29/2020 2:41 PM	35:00	5.69 pH	23.37 °C	283.94 µS/cm	0.67 mg/L	0.74 NTU	127.2 mV	18.80 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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Product Name: Low-Flow System

Date: 2020-09-30 12:31:23

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 27 ft  
Pump placement from TOC 25 ft

**Well Information:**

Well ID GWC-15  
Well diameter 2 in  
Well Total Depth 26.80 ft  
Screen Length 5 ft  
Depth to Water 18.64 ft

**Pumping Information:**

Final Pumping Rate 150 mL/min  
Total System Volume 0.1325998 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 4.5 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Last 5	12:10:15	25.24	6.72	642.28	2.33	18.85	0.16	76.25
Last 5	12:15:15	25.13	6.72	642.26	1.79	18.85	0.11	78.63
Last 5	12:20:15	25.19	6.71	643.30	1.61	18.85	0.10	80.88
Last 5	12:25:15	25.22	6.71	642.98	1.33	18.85	0.09	83.21
Last 5	12:30:15	25.14	6.71	642.36	3.03	18.85	0.08	85.03
Variance 0		0.06	-0.01	1.04			-0.01	2.25
Variance 1		0.03	-0.00	-0.32			-0.01	2.33
Variance 2		-0.07	0.00	-0.62			-0.01	1.81

**Notes**

Sampled at 1230. Sunny 72 degrees

**Grab Samples**



Product Name: Low-Flow System

Date: 2020-09-30 14:01:45

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 28 ft  
Pump placement from TOC 26 ft

**Well Information:**

Well ID GWC-16  
Well diameter 2 in  
Well Total Depth 28.20 ft  
Screen Length 5 ft  
Depth to Water 19.87 ft

**Pumping Information:**

Final Pumping Rate 125 mL/min  
Total System Volume 0.1341442 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2 in  
Total Volume Pumped 5.6 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
		+/- 0.5	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 20
Last 5	13:40:29	24.87	5.32	1377.38	4.88	20.07	1.80	109.53
Last 5	13:45:29	25.00	5.37	1430.80	4.65	20.07	1.55	107.17
Last 5	13:50:29	24.89	5.41	1466.64	5.40	20.07	1.41	106.62
Last 5	13:55:29	24.73	5.44	1497.73	4.88	20.07	1.33	106.20
Last 5	14:00:29	24.64	5.47	1519.11	4.44	20.07	1.27	105.64
Variance 0		-0.10	0.04	35.84			-0.14	-0.55
Variance 1		-0.16	0.03	31.09			-0.08	-0.42
Variance 2		-0.09	0.02	21.37			-0.05	-0.55

**Notes**

Sampled at 1400. Sunny 75 degrees

**Grab Samples**

# Low-Flow Test Report:

**Test Date / Time:** 9/30/2020 8:56:05 AM

**Project:** Grumman Road

**Operator Name:** Jordan Berisford

<b>Location Name: GWC-17</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 17.98 ft</b> <b>Total Depth: 22.98 ft</b> <b>Initial Depth to Water: 4.48 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 20 ft</b> <b>Estimated Total Volume Pumped: 34.2 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 185 ml/min</b> <b>Final Draw Down: 19.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time-1200

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/30/2020 8:56 AM	00:00	7.57 pH	20.59 °C	17.62 µS/cm	3.37 mg/L		219.5 mV	4.48 ft	185.00 ml/min
9/30/2020 9:00 AM	04:29	6.85 pH	22.17 °C	13.81 µS/cm	3.25 mg/L	35.00 NTU	208.6 mV	5.50 ft	185.00 ml/min
9/30/2020 9:05 AM	09:29	6.57 pH	23.42 °C	12.47 µS/cm	4.52 mg/L	11.00 NTU	203.6 mV	5.80 ft	185.00 ml/min
9/30/2020 9:10 AM	14:29	6.49 pH	23.99 °C	10.12 µS/cm	5.42 mg/L	3.75 NTU	195.2 mV	6.00 ft	185.00 ml/min
9/30/2020 9:15 AM	19:29	6.54 pH	24.74 °C	9.38 µS/cm	5.80 mg/L	2.37 NTU	196.7 mV	6.10 ft	185.00 ml/min
9/30/2020 9:20 AM	24:29	6.56 pH	25.47 °C	9.17 µS/cm	5.88 mg/L	3.98 NTU	197.0 mV	6.10 ft	185.00 ml/min
9/30/2020 9:25 AM	29:29	6.55 pH	26.08 °C	8.63 µS/cm	5.95 mg/L	15.00 NTU	197.8 mV	6.10 ft	185.00 ml/min
9/30/2020 9:30 AM	34:29	6.37 pH	26.56 °C	9.60 µS/cm	5.95 mg/L	30.00 NTU	202.8 mV	6.10 ft	185.00 ml/min
9/30/2020 9:35 AM	39:29	6.31 pH	27.12 °C	7.90 µS/cm	5.71 mg/L	3.61 NTU	189.8 mV	6.10 ft	185.00 ml/min
9/30/2020 9:40 AM	44:29	6.22 pH	27.58 °C	8.51 µS/cm	5.46 mg/L	5.11 NTU	195.3 mV	6.10 ft	185.00 ml/min
9/30/2020 9:45 AM	49:29	6.05 pH	27.99 °C	8.51 µS/cm	5.21 mg/L	4.09 NTU	185.4 mV	6.10 ft	185.00 ml/min
9/30/2020 9:50 AM	54:29	6.09 pH	28.29 °C	6.42 µS/cm	4.94 mg/L	5.03 NTU	167.3 mV	6.10 ft	185.00 ml/min
9/30/2020 9:55 AM	59:29	6.05 pH	28.69 °C	6.47 µS/cm	4.74 mg/L	4.96 NTU	158.4 mV	6.10 ft	185.00 ml/min
9/30/2020 10:00 AM	01:04:29	5.94 pH	29.12 °C	6.30 µS/cm	4.55 mg/L	4.70 NTU	124.2 mV	6.10 ft	185.00 ml/min
9/30/2020 10:05 AM	01:09:29	5.78 pH	29.42 °C	6.42 µS/cm	4.32 mg/L	4.88 NTU	90.7 mV	6.10 ft	185.00 ml/min

9/30/2020 10:10 AM	01:14:29	5.76 pH	29.77 °C	6.46 µS/cm	4.04 mg/L	5.21 NTU	69.1 mV	6.10 ft	185.00 ml/min
9/30/2020 10:15 AM	01:19:29	5.67 pH	30.01 °C	6.60 µS/cm	3.80 mg/L	5.05 NTU	56.7 mV	6.10 ft	185.00 ml/min
9/30/2020 10:20 AM	01:24:29	5.58 pH	30.26 °C	6.50 µS/cm	3.58 mg/L	4.99 NTU	50.3 mV	6.10 ft	185.00 ml/min
9/30/2020 10:25 AM	01:29:29	5.25 pH	30.46 °C	6.46 µS/cm	3.37 mg/L	6.21 NTU	47.1 mV	6.10 ft	185.00 ml/min
9/30/2020 10:30 AM	01:34:29	5.00 pH	30.61 °C	6.58 µS/cm	3.20 mg/L	5.39 NTU	45.3 mV	6.10 ft	185.00 ml/min
9/30/2020 10:35 AM	01:39:29	4.80 pH	30.78 °C	6.40 µS/cm	3.03 mg/L	5.21 NTU	43.9 mV	6.10 ft	185.00 ml/min
9/30/2020 10:40 AM	01:44:29	4.66 pH	31.01 °C	6.41 µS/cm	2.87 mg/L	5.11 NTU	44.5 mV	6.10 ft	185.00 ml/min
9/30/2020 10:45 AM	01:49:29	4.54 pH	31.25 °C	6.26 µS/cm	2.72 mg/L	7.21 NTU	41.1 mV	6.10 ft	185.00 ml/min
9/30/2020 10:50 AM	01:54:29	4.47 pH	31.50 °C	6.19 µS/cm	2.57 mg/L	13.00 NTU	38.8 mV	6.10 ft	185.00 ml/min
9/30/2020 10:55 AM	01:59:29	4.39 pH	31.64 °C	6.24 µS/cm	2.42 mg/L	14.00 NTU	39.4 mV	6.10 ft	185.00 ml/min
9/30/2020 11:00 AM	02:04:29	4.33 pH	31.78 °C	6.52 µS/cm	2.29 mg/L	4.33 NTU	40.5 mV	6.10 ft	185.00 ml/min
9/30/2020 11:05 AM	02:09:29	4.26 pH	31.92 °C	8.25 µS/cm	2.16 mg/L	18.00 NTU	42.8 mV	6.10 ft	185.00 ml/min
9/30/2020 11:10 AM	02:14:29	4.20 pH	31.97 °C	8.24 µS/cm	2.04 mg/L	16.00 NTU	43.7 mV	6.10 ft	185.00 ml/min
9/30/2020 11:15 AM	02:19:29	4.14 pH	31.80 °C	8.48 µS/cm	1.93 mg/L	15.00 NTU	45.0 mV	6.10 ft	185.00 ml/min
9/30/2020 11:20 AM	02:24:29	4.09 pH	31.50 °C	8.99 µS/cm	1.82 mg/L	14.00 NTU	46.6 mV	6.10 ft	185.00 ml/min
9/30/2020 11:25 AM	02:29:29	4.06 pH	31.00 °C	9.94 µS/cm	1.73 mg/L	11.00 NTU	48.1 mV	6.10 ft	185.00 ml/min
9/30/2020 11:30 AM	02:34:29	4.04 pH	30.53 °C	11.48 µS/cm	1.66 mg/L	9.89 NTU	50.8 mV	6.10 ft	185.00 ml/min
9/30/2020 11:35 AM	02:39:29	4.10 pH	30.24 °C	11.95 µS/cm	1.60 mg/L	9.91 NTU	50.9 mV	6.10 ft	185.00 ml/min
9/30/2020 11:40 AM	02:44:29	4.10 pH	30.11 °C	12.15 µS/cm	1.53 mg/L	9.65 NTU	50.4 mV	6.10 ft	185.00 ml/min
9/30/2020 11:45 AM	02:49:29	4.12 pH	30.17 °C	12.29 µS/cm	1.47 mg/L	9.55 NTU	49.5 mV	6.10 ft	185.00 ml/min
9/30/2020 11:50 AM	02:54:29	4.15 pH	30.47 °C	12.47 µS/cm	1.40 mg/L	9.22 NTU	48.7 mV	6.10 ft	185.00 ml/min
9/30/2020 11:55 AM	02:59:29	4.10 pH	31.00 °C	12.31 µS/cm	1.30 mg/L	7.94 NTU	47.6 mV	6.10 ft	185.00 ml/min
9/30/2020 12:00 PM	03:04:29	4.08 pH	31.44 °C	12.33 µS/cm	1.21 mg/L	8.23 NTU	46.2 mV	6.10 ft	185.00 ml/min

## Samples

<b>Sample ID:</b>	<b>Description:</b>
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Product Name: Low-Flow System

Date: 2020-09-30 16:32:08

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 25 ft  
Pump placement from TOC 23 ft

**Well Information:**

Well ID GWC-20  
Well diameter 2 in  
Well Total Depth 24.90 ft  
Screen Length 5 ft  
Depth to Water 20.50 ft

**Pumping Information:**

Final Pumping Rate 200 mL/min  
Total System Volume 0.1295109 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 5.7 in  
Total Volume Pumped 8 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Last 5	16:11:08	1200.03	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 20
Last 5	16:16:08	1500.03	6.04	2147.67	1.15	20.87	0.11	63.89
Last 5	16:21:08	1800.03	6.04	2144.27	1.01	20.90	0.09	60.91
Last 5	16:26:08	2100.03	6.04	2148.95	0.97	20.92	0.08	58.93
Last 5	16:31:09	2400.84	6.04	2149.68	0.88	20.95	0.08	57.32
Variance 0		-0.13	0.00	2147.17	0.75	20.98	0.08	56.65
Variance 1		0.01	-0.00	4.68			-0.01	-1.98
Variance 2		0.02	0.00	0.73			-0.00	-1.61
				-2.52			0.00	-0.67

**Notes**

Sampled at 1631. Sunny 76 degrees

**Grab Samples**

Product Name: Low-Flow System

Date: 2020-09-30 10:50:02

**Project Information:**

Operator Name Taylor Goble  
Company Name Atlantic Coast Consulting  
Project Name Grumman Road  
Site Name Grumman Road  
Latitude 0° 0' 0"  
Longitude 0° 0' 0"  
Sonde SN 601533  
Turbidity Make/Model HACH 2100Q

**Pump Information:**

Pump Model/Type Peristaltic Pump  
Tubing Type poly  
Tubing Diameter 0.10 in  
Tubing Length 24 ft  
Pump placement from TOC 22 ft

**Well Information:**

Well ID GWC-21  
Well diameter 2 in  
Well Total Depth 23.80 ft  
Screen Length 5 ft  
Depth to Water 19.83 ft

**Pumping Information:**

Final Pumping Rate 180 mL/min  
Total System Volume 0.1279665 L  
Calculated Sample Rate 300 sec  
Stabilization Drawdown 2.5 in  
Total Volume Pumped 21.6 L

**Low-Flow Sampling Stabilization Summary**

Stabilization Time	Elapsed	Temp C	pH	SpCond $\mu$ S/cm	Turb NTU	DTW ft	RDO mg/L	ORP mV
Last 5	10:29:16	23.00	5.76	706.60	0.38	20.04	3.79	52.98
Last 5	10:34:16	22.86	5.79	736.35	0.46	20.04	3.76	50.96
Last 5	10:39:16	22.89	5.80	771.73	0.55	20.04	3.68	52.04
Last 5	10:44:16	23.08	5.80	786.52	0.76	20.04	3.61	55.70
Last 5	10:49:20	23.34	5.82	803.81	0.43	20.04	3.50	58.67
Variance 0		0.03	0.01	35.38			-0.08	1.08
Variance 1		0.19	-0.00	14.79			-0.08	3.66
Variance 2		0.26	0.02	17.29			-0.11	2.97

**Notes**

Sampled at 1049. Sunny 66 degrees

**Grab Samples**

# Low-Flow Test Report:

Test Date / Time: 9/30/2020 1:35:21 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: GWC-22</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 13.6 ft</b> <b>Total Depth: 18.6 ft</b> <b>Initial Depth to Water: 6.95 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 15 ft</b> <b>Estimated Total Volume Pumped: 4.95 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 165 ml/min</b> <b>Final Draw Down: 3 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

Sunny, 70s, sample time-1405

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3	
9/30/2020 1:35 PM	00:00	4.91 pH	36.98 °C	5.82 µS/cm	5.38 mg/L		97.2 mV	6.95 ft	165.00 ml/min
9/30/2020 1:40 PM	05:00	4.81 pH	27.45 °C	172.76 µS/cm	0.34 mg/L	17.00 NTU	-47.1 mV	7.10 ft	165.00 ml/min
9/30/2020 1:45 PM	10:00	4.71 pH	26.79 °C	173.55 µS/cm	0.20 mg/L	11.00 NTU	-29.7 mV	7.20 ft	165.00 ml/min
9/30/2020 1:50 PM	15:00	4.68 pH	26.65 °C	182.78 µS/cm	0.17 mg/L	7.21 NTU	-19.8 mV	7.20 ft	165.00 ml/min
9/30/2020 1:55 PM	20:00	4.65 pH	26.63 °C	187.99 µS/cm	0.15 mg/L	5.05 NTU	-13.1 mV	7.20 ft	165.00 ml/min
9/30/2020 2:00 PM	25:00	4.64 pH	26.42 °C	191.55 µS/cm	0.13 mg/L	4.44 NTU	-8.7 mV	7.20 ft	165.00 ml/min
9/30/2020 2:05 PM	30:00	4.63 pH	26.50 °C	192.92 µS/cm	0.12 mg/L	4.03 NTU	-5.7 mV	7.20 ft	165.00 ml/min

## Samples

Sample ID:	Description:
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## Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: T. Groble

WATER LEVEL: Soilmat  
WATER LEVEL S/N: 236986

INSTRUMENT S/N: 040821  
INSTRUMENT TYPE: Smartroll  
CAL. SOLUTIONS:  
ID: pH 7 LOT #: 06D808 EXP. DATE: 4/22  
ID: pH 4 LOT #: 06E141 EXP. DATE: 5/22  
ID: pH 10 LOT #: 9GL648 EXP. DATE: 12/21  
ID: ORP LOT #: 06D520 EXP. DATE: 1/21  
ID: Cond LOT #: 06E438 EXP. DATE: 5/21  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_

Calibration Date: 9-28-20  
RDO: 100% sat. = 95.4%  
PH: 4.00 = 4.90 7.00 = 7.61 10.00 = 10.60  
CONDUCTIVITY: 1413 = 1342  
ORP (mV) 240 = 197.3

Calibration Date: 9-29-20  
RDO: 100% sat. = 92.2  
PH: 4.00 = 4.92 7.00 = 7.75 10.00 = 10.71  
CONDUCTIVITY: 1413 = 1382  
ORP (mV) 240 = 189.1

Calibration Date: 9-30-20  
RDO: 100% sat. = 91.2  
PH: 4.00 = 4.96 7.00 = 7.66 10.00 = 10.54  
CONDUCTIVITY: 1413 = 1408  
ORP (mV) 240 =

Calibration Date: 10-1-20  
RDO: 100% sat. = 91.2  
PH: 4.00 = 4.99 7.00 = 7.64 10.00 = 10.55  
CONDUCTIVITY: 1413 = 1427  
ORP (mV) 240 = 203.0

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_



## Daily Instrument Calibration Log

SITE: Grumman Rd.  
TECHNICIAN: T. Goble

INSTRUMENT S/N: 18090C069299  
INSTRUMENT TYPE: HACH 2100Q

CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water  
10 NTU - LOT # A9268 EXP. DATE: 1/21  
20 NTU - LOT # A9235 EXP. DATE: 12/26

Calibration Date: 9-26-20

Calibration Solution	Instrument Reading	
0.0	0.26	NTU
10.0	9.6	NTU
20.0	19.4	NTU

100 = 98.1  
800 = 810

Calibration Date: 9-29-20

Calibration Solution	Instrument Reading	
0.0	0.31	NTU
10.0	9.7	NTU
20.0	19.5	NTU

100 = 101  
800 = 807

Calibration Date: 9-30-20

Calibration Solution	Instrument Reading	
0.0	0.22	NTU
10.0	9.5	NTU
20.0	19.6	NTU

100 = 102  
800 = 807

Calibration Date: 10-1-20

Calibration Solution	Instrument Reading	
0.0	0.27	NTU
10.0	9.6	NTU
20.0	19.4	NTU

100 = 104  
800 = 810

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU





## Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: Jordan Beardsall

WATER LEVEL: Seaford  
WATER LEVEL S/N: 267304

INSTRUMENT S/N: 714293  
INSTRUMENT TYPE: Smartroll  
CAL. SOLUTIONS/ID: pH 4 LOT #: 060046 EXP. DATE: 4/22  
ID: pH 7 LOT #: 060808 EXP. DATE: 4/22  
ID: pH 10 LOT #: 962648 EXP. DATE: 12/21  
ID: CaCl2 LOT #: 061538 EXP. DATE: 5/21  
ID: ORP LOT #: 060520 EXP. DATE: 1/21  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_

Calibration Date: 9/28/20  
RDO: 100% sat. = 93.95  
PH: 4.00 = 3.94 7.00 = 6.96 10.00 = 9.95  
CONDUCTIVITY: 1447  
ORP (mV) 229.3

Calibration Date: 9/29/20  
RDO: 100% sat. = 105.8  
PH: 4.00 = 4.15 7.00 = 7.09 10.00 = 10.06  
CONDUCTIVITY: 1390  
ORP (mV) 226.1

Calibration Date: 9/30/20  
RDO: 100% sat. = 104.0  
PH: 4.00 = 3.97 7.00 = 6.96 10.00 = 10.06  
CONDUCTIVITY: 1371  
ORP (mV) 243.6

Calibration Date: 10/1/20  
RDO: 100% sat. = 99.09  
PH: 4.00 = 4.01 7.00 = 7.05 10.00 = 10.06  
CONDUCTIVITY: 1527  
ORP (mV) 237.3

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_



## Daily Instrument Calibration Log

SITE: Grumman Rd.  
TECHNICIAN: J. Bensford

INSTRUMENT S/N: 63767  
INSTRUMENT TYPE: Htc4 2100

CAL. SOLUTION: 0 NTU - LOT # NA EXP. DATE: New DI water  
10 NTU - LOT # A0136 EXP. DATE: Aug-21  
20 NTU - LOT # A0139 EXP. DATE: Aug-21

Calibration Date: 9/18/20

Calibration Solution	Instrument Reading	
0.0	0.39	NTU
10.0	9.71	NTU
20.0	20.4	NTU

Calibration Date: 9/29/20

Calibration Solution	Instrument Reading	
0.0	0.29	NTU
10.0	9.68	NTU
20.0	19.9	NTU

Calibration Date: 9/30/20

Calibration Solution	Instrument Reading	
0.0	0.22	NTU
10.0	9.74	NTU
20.0	19.9	NTU

Calibration Date: 10/1/20

Calibration Solution	Instrument Reading	
0.0	0.23	NTU
10.0	9.62	NTU
20.0	19.7	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

1 - Location/Identification		GWA-7	GWA-8	GWB-4R	GWB-5R	GWC-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
a	Is the well visible and accessible?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the well properly identified with the correct well ID?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the well require protection from traffic?	No	No	No	No	No	No	No	No	No	No
d	Is the drainage around the well acceptable? (No standing water, nor is well located in obvious drainage flow path)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

2 - Protective Outer Casing		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
a	Is the protective casing free from apparent damage?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the casing free of degradation or deterioration?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the casing have a functioning weep hole?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the annular space between casings filled with pea gravel or sand?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the well locked, and is the lock in good working condition?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

3 - Surface Pad		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
a	Is the well pad in good condition? (Not cracked or broken)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Does the well pad provide adequate surface seal and stability to the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Is the well pad in complete contact with the protective casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the well pad in complete contact with the ground surface? (Not undermined by erosion, animal burrows, and does not move when stepped on)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the pad surface clean? (Not covered by soil or debris)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

4 - Internal Well Casing		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
a	Does the well cap prevent entry of foreign material into the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the casing free of kinks or bends, or any obstruction from foreign objects (such as bailers) ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the well have a venting hole near the top of casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the survey point clearly marked on the inner casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the depth of the well consistent with the original well log?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
f	Does the PVC casing move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction?	No	No	No	No	No	No	No	No	No	No



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

5 - Sampling (Groundwater Monitoring Wells Only):

	GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
a	Does the well recharge adequately when purged? Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	If dedicated sampling equipment is installed, is it in good condition? N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
c	Does the well require redevelopment due to slow recharge or turbidity > 10 NTUs? No	No	No	No	No	No	No	No	No	No

Note: N/A - Not Applicable

6 - Based on your professional judgment, is the well construction / location appropriate to:

	GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
1) achieve the objectives of the facility Groundwater Monitoring Program, and 2) comply with the applicable regulatory requirements? Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

7 - Corrective actions completed and Notes:

- 1) GWC-9: Corner of pad damaged; minimal, small repair done
- 2) GWC-12 and GWC-13 : Standing water around well due to very heavy rains; usually not an issue
- 3) GWC-14: Well pad has small movement if stepped on: will keep monitoring for future developments or repair needs.
- 4) GWC-17: Crack in middle of well pad; small repair done, will monitor and consider if future replacement could be needed.



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

1 - Location/Identification		GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
a	Is the well visible and accessible?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the well properly identified with the correct well ID?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the well require protection from traffic?	No	No	No	No	No	No	No	No	No
d	Is the drainage around the well acceptable? (No standing water, nor is well located in obvious drainage flow path)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes





Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

2 - Protective Outer Casing		GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
a	Is the protective casing free from apparent damage?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the casing free of degradation or deterioration?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the casing have a functioning weep hole?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the annular space between casings filled with pea gravel or sand?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the well locked, and is the lock in good working condition?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

3 - Surface Pad		GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
a	Is the well pad in good condition? (Not cracked or broken)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Does the well pad provide adequate surface seal and stability to the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Is the well pad in complete contact with the protective casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the well pad in complete contact with the ground surface? (Not undermined by erosion, animal burrows, and does not move when stepped on)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the pad surface clean? (Not covered by soil or debris)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

4 - Internal Well Casing		GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
a	Does the well cap prevent entry of foreign material into the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	Is the casing free of kinks or bends, or any obstruction from foreign objects (such as ballers) ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c	Does the well have a venting hole near the top of casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d	Is the survey point clearly marked on the inner casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
e	Is the depth of the well consistent with the original well log?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
f	Does the PVC casing move easily when touched or can it be taken apart by hand due to lack of grout or use of slip couplings in construction?	No	No	No	No	No	No	No	No	No



Facility Name: Grumman Rd Landfill  
 Staff: J. Berisford, T. Goble  
 Date: 9/22/2020

Permit No.: 025-061D(LI)

5 - Sampling (Groundwater Monitoring Wells Only):

	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20	GWC-21	GWC-22
a	Does the well recharge adequately when purged?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
b	If dedicated sampling equipment is installed, is it in good condition?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
c	Does the well require redevelopment due to slow recharge or turbidity > 10 NTUs?	No	No	No	No	No	No	No	No

Note: N/A - Not Applicable

6 - Based on your professional judgment, is the well construction / location appropriate to:

	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20	GWC-21	GWC-22
1) achieve the objectives of the facility Groundwater Monitoring Program, and 2) comply with the applicable regulatory requirements?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

7 - Corrective actions completed and Notes:

- 1) GWC-9: Corner of pad damaged; repaired.
- 2) GWC-12 and GWC-13 : Standing water around well due to very heavy rains; usually not an issue.
- 3) GWC-14: Well pad has slight movement if stepped on; stabilized. Continue to monitor for future developments or repair needs.
- 4) GWC-17: Crack in middle of well pad; resealed. Consider future pad replacement.

January 27, 2021

Joju Abraham  
Georgia Power-CCR  
2480 Maner Road  
Atlanta, GA 30339

RE: Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on January 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

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

Sincerely,



Kevin Herring  
kevin.herring@pacelabs.com  
1(704)875-9092  
HORIZON Database Administrator

Enclosures

cc: Owens Fuquea, ACC  
Kristen Jurinko  
Matt Malone, Atlantic Coast Consulting  
Betsy McDaniel, Atlantic Coast Consulting  
Evan Perry, Atlantic Coast Consulting  
Ms. Lauren Petty, Southern Co. Services



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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### **Pace Analytical Services Charlotte**

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

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### **Pace Analytical Services Asheville**

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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### **Pace Analytical Services Peachtree Corners**

110 Technology Pkwy, Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92517999001	MW-23D	Water	01/21/21 09:45	01/22/21 09:41
92517999002	MW-24D	Water	01/21/21 13:10	01/22/21 09:41
92517999003	MW-25D	Water	01/20/21 10:50	01/22/21 09:41
92517999004	MW-26D	Water	01/20/21 09:50	01/22/21 09:41
92517999005	MW-27D	Water	01/20/21 14:20	01/22/21 09:41

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92517999001	MW-23D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999002	MW-24D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999003	MW-25D	EPA 6010D	DRB	1
		EPA 6020B	CW1	3
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999004	MW-26D	EPA 6010D	DRB	1
		EPA 6020B	CW1	2
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3
92517999005	MW-27D	EPA 6010D	DRB	1
		EPA 6020B	CW1	2
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	JLH	3

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

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

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92517999001</b>	<b>MW-23D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.75	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.4	mg/L	1.0	01/25/21 16:10	
EPA 6020B	Boron	0.018J	mg/L	0.040	01/22/21 18:27	
SM 2450C-2011	Total Dissolved Solids	41.0	mg/L	10.0	01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 18:55	
EPA 300.0 Rev 2.1 1993	Sulfate	5.0	mg/L	1.0	01/26/21 18:55	
<b>92517999002</b>	<b>MW-24D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	6.13	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	2.8	mg/L	1.0	01/25/21 16:15	
EPA 6020B	Boron	0.014J	mg/L	0.040	01/22/21 18:33	
EPA 6020B	Molybdenum	0.0014J	mg/L	0.010	01/22/21 18:33	
SM 2450C-2011	Total Dissolved Solids	50.0	mg/L	10.0	01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 19:40	
EPA 300.0 Rev 2.1 1993	Sulfate	0.79J	mg/L	1.0	01/26/21 19:40	
<b>92517999003</b>	<b>MW-25D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	6.25	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.9	mg/L	1.0	01/25/21 16:20	
EPA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:39	
EPA 6020B	Molybdenum	0.0011J	mg/L	0.010	01/22/21 18:39	
SM 2450C-2011	Total Dissolved Solids	58.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Sulfate	1.6	mg/L	1.0	01/26/21 19:55	
<b>92517999004</b>	<b>MW-26D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.66	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.1	mg/L	1.0	01/25/21 16:24	
EPA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:44	
SM 2450C-2011	Total Dissolved Solids	54.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.9	mg/L	1.0	01/26/21 20:10	
EPA 300.0 Rev 2.1 1993	Sulfate	1.0	mg/L	1.0	01/26/21 20:10	
<b>92517999005</b>	<b>MW-27D</b>					
	Performed by	CUSTOME			01/25/21 09:36	
		R				
	pH	5.68	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	3.0	mg/L	1.0	01/25/21 17:15	
EPA 6020B	Boron	0.011J	mg/L	0.040	01/22/21 19:02	
SM 2450C-2011	Total Dissolved Solids	43.0	mg/L	10.0	01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0	01/26/21 20:24	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92517999005</b>	<b>MW-27D</b>					
EPA 300.0 Rev 2.1 1993	Sulfate	0.88J	mg/L	1.0	01/26/21 20:24	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Sample: MW-23D		Lab ID: 92517999001		Collected: 01/21/21 09:45	Received: 01/22/21 09:41	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>5.75</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA								
Calcium	<b>4.4</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:10	7440-70-2	
<b>6020 MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA								
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:27	7440-38-2	
Boron	<b>0.018J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:27	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:27	7439-98-7	
<b>2540C Total Dissolved Solids</b>	Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA								
Total Dissolved Solids	<b>41.0</b>	mg/L	10.0	10.0	1		01/22/21 16:42		
<b>300.0 IC Anions 28 Days</b>	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 18:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 18:55	16984-48-8	
Sulfate	<b>5.0</b>	mg/L	1.0	0.50	1		01/26/21 18:55	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: MW-24D</b>									
<b>Lab ID: 92517999002</b>									
Collected: 01/21/21 13:10 Received: 01/22/21 09:41 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>6.13</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>2.8</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:15	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:33	7440-38-2	
Boron	<b>0.014J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:33	7440-42-8	
Molybdenum	<b>0.0014J</b>	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:33	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>50.0</b>	mg/L	10.0	10.0	1		01/22/21 16:42		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 19:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 19:40	16984-48-8	
Sulfate	<b>0.79J</b>	mg/L	1.0	0.50	1		01/26/21 19:40	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: MW-25D</b>									
<b>Lab ID: 92517999003</b>									
Collected: 01/20/21 10:50 Received: 01/22/21 09:41 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>6.25</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>4.9</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:20	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Pace Analytical Services - Peachtree Corners, GA									
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:39	7440-38-2	
Boron	<b>0.013J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:39	7440-42-8	
Molybdenum	<b>0.0011J</b>	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:39	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011									
Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>58.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 19:55	16887-00-6	
Fluoride	<b>0.11</b>	mg/L	0.10	0.050	1		01/26/21 19:55	16984-48-8	
Sulfate	<b>1.6</b>	mg/L	1.0	0.50	1		01/26/21 19:55	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Sample: MW-26D		Lab ID: 92517999004		Collected: 01/20/21 09:50	Received: 01/22/21 09:41	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>5.66</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>4.1</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:24	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Boron	<b>0.013J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:44	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:44	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>54.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>6.9</b>	mg/L	1.0	0.60	1		01/26/21 20:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 20:10	16984-48-8	
Sulfate	<b>1.0</b>	mg/L	1.0	0.50	1		01/26/21 20:10	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Sample: MW-27D		Lab ID: 92517999005		Collected: 01/20/21 14:20		Received: 01/22/21 09:41		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>Field Data</b>									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	<b>CUSTOMER</b>				1		01/25/21 09:36		
pH	<b>5.68</b>	Std. Units			1		01/25/21 09:36		
<b>6010D ATL ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Peachtree Corners, GA									
Calcium	<b>3.0</b>	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 17:15	7440-70-2	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A Pace Analytical Services - Peachtree Corners, GA									
Boron	<b>0.011J</b>	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 19:02	7440-42-8	
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 19:02	7439-98-7	
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2450C-2011 Pace Analytical Services - Peachtree Corners, GA									
Total Dissolved Solids	<b>43.0</b>	mg/L	10.0	10.0	1		01/22/21 16:43		
<b>300.0 IC Anions 28 Days</b>									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	<b>6.1</b>	mg/L	1.0	0.60	1		01/26/21 20:24	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/26/21 20:24	16984-48-8	
Sulfate	<b>0.88J</b>	mg/L	1.0	0.50	1		01/26/21 20:24	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 594973 Analysis Method: EPA 6010D  
QC Batch Method: EPA 3010A Analysis Description: 6010D ATL  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3138783 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	1.0	0.070	01/25/21 15:41	

LABORATORY CONTROL SAMPLE: 3138784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	1	1.1	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3138785 3138786

Parameter	Units	92517417001		3138786		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	6.7	1	1	7.7	7.6	98	91	75-125	1	20

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 594723 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3005A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Peachtree Corners, GA  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3137728 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00078	01/22/21 17:53	
Boron	mg/L	ND	0.040	0.0052	01/22/21 17:53	
Molybdenum	mg/L	ND	0.010	0.00069	01/22/21 17:53	

LABORATORY CONTROL SAMPLE: 3137729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.090	90	80-120	
Boron	mg/L	1	0.98	98	80-120	
Molybdenum	mg/L	0.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3137730 3137731

Parameter	Units	92517846001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Arsenic	mg/L	ND	0.1	0.094	0.1	0.095	89	91	75-125	1	20	
Boron	mg/L	ND	1	0.89	1	0.90	88	89	75-125	1	20	
Molybdenum	mg/L	ND	0.1	0.097	0.1	0.10	93	96	75-125	2	20	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD

Pace Project No.: 92517999

QC Batch:	594779	Analysis Method:	SM 2450C-2011
QC Batch Method:	SM 2450C-2011	Analysis Description:	2540C Total Dissolved Solids
		Laboratory:	Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3137995 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	01/22/21 16:40	

LABORATORY CONTROL SAMPLE: 3137996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	400	394	98	84-108	

SAMPLE DUPLICATE: 3137997

Parameter	Units	92517969001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 3138171

Parameter	Units	92517909004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	289	270	7	10	

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### QUALITY CONTROL DATA

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

QC Batch: 595172 Analysis Method: EPA 300.0 Rev 2.1 1993  
QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

METHOD BLANK: 3139608 Matrix: Water  
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	01/26/21 18:25	
Fluoride	mg/L	ND	0.10	0.050	01/26/21 18:25	
Sulfate	mg/L	ND	1.0	0.50	01/26/21 18:25	

LABORATORY CONTROL SAMPLE: 3139609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.7	99	90-110	
Fluoride	mg/L	2.5	2.3	93	90-110	
Sulfate	mg/L	50	51.5	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139610 3139611

Parameter	Units	92517999001		3139610		3139611		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Chloride	mg/L	6.1	50	50	58.6	58.9	105	106	90-110	1	10
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	102	102	90-110	0	10
Sulfate	mg/L	5.0	50	50	59.1	59.4	108	109	90-110	1	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139612 3139613

Parameter	Units	92517909004		3139612		3139613		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Chloride	mg/L	3.5	50	50	56.5	56.6	106	106	90-110	0	10
Fluoride	mg/L	0.22	2.5	2.5	2.5	2.5	92	93	90-110	0	10
Sulfate	mg/L	14.2	50	50	67.4	67.7	106	107	90-110	1	10

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD  
Pace Project No.: 92517999

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92517999001	MW-23D				
92517999002	MW-24D				
92517999003	MW-25D				
92517999004	MW-26D				
92517999005	MW-27D				
92517999001	MW-23D	EPA 3010A	594973	EPA 6010D	595039
92517999002	MW-24D	EPA 3010A	594973	EPA 6010D	595039
92517999003	MW-25D	EPA 3010A	594973	EPA 6010D	595039
92517999004	MW-26D	EPA 3010A	594973	EPA 6010D	595039
92517999005	MW-27D	EPA 3010A	594973	EPA 6010D	595039
92517999001	MW-23D	EPA 3005A	594723	EPA 6020B	594790
92517999002	MW-24D	EPA 3005A	594723	EPA 6020B	594790
92517999003	MW-25D	EPA 3005A	594723	EPA 6020B	594790
92517999004	MW-26D	EPA 3005A	594723	EPA 6020B	594790
92517999005	MW-27D	EPA 3005A	594723	EPA 6020B	594790
92517999001	MW-23D	SM 2450C-2011	594779		
92517999002	MW-24D	SM 2450C-2011	594779		
92517999003	MW-25D	SM 2450C-2011	594779		
92517999004	MW-26D	SM 2450C-2011	594779		
92517999005	MW-27D	SM 2450C-2011	594779		
92517999001	MW-23D	EPA 300.0 Rev 2.1 1993	595172		
92517999002	MW-24D	EPA 300.0 Rev 2.1 1993	595172		
92517999003	MW-25D	EPA 300.0 Rev 2.1 1993	595172		
92517999004	MW-26D	EPA 300.0 Rev 2.1 1993	595172		
92517999005	MW-27D	EPA 300.0 Rev 2.1 1993	595172		

### REPORT OF LABORATORY ANALYSIS

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Document Name: <b>Sample Condition Upon Receipt(SCUR)</b>	Document Revised: October 28, 2020 Page 1 of 2
Document No.: <b>F-CAR-CS-033-Rev.07</b>	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition Upon Receipt

Client Name: GA Power

Project #: **WO# : 92517999**



92517999

Courier:  Fed Ex  UPS  USPS  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Custody Seal Present?  Yes  No    Seals Intact?  Yes  No

Date/Initials Person Examining Contents: 11/22/21

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Biological Tissue Frozen?

Thermometer:  IR Gun ID: 233    Type of Ice:  Wet  Blue  None

Yes  No  N/A

Cooler Temp: 31    Correction Factor: Add/Subtract (°C) -0.2

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C): 29

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

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

Yes  No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_

Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_

Date: \_\_\_\_\_



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

Project # **WO# : 92517999**  
 PM: KLH1 Due Date: 01/27/21  
 CLIENT: GA-GA Power

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg  
 \*\*Bottom half of box is to list number of bottles

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFW-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2SO3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-S035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

**pH Adjustment Log for Preserved Samples**

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

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







**LEVEL 2A LABORATORY DATA VALIDATIONS**

**Grumman Road**

**Vertical Delineation**

**January 2021**

## **Georgia Power Company – Grumman Road**

### **Quality Control Review of Analytical Data – January 2021**

This narrative presents results of the Quality Control (QC) data review performed on analytical data submitted by Pace Analytical Services, Asheville, Atlanta, and Charlotte for groundwater samples collected at Grumman Road between January 20, 2021 and January 21, 2021. The chemical data were reviewed to identify quality issues which could affect the use of the data for decision-making purposes.

Information regarding the primary sample locations, analytical parameters, QC samples, sampling dates, and laboratory sample delivery group (SDG) designations is summarized in Table 1 of this Appendix.

In accordance with groundwater monitoring and corrective action procedures discussed in Title 40 CFR, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, the samples were analyzed for detected monitoring constituents listed in 40 CFR, Part 257, Appendix III and assessment monitoring constituents listed in 40 CFR, Part 257, Appendix IV. Test methods included Inductively Coupled Plasma (USEPA 6010D), Inductively Coupled Plasma – Mass Spectrometry (USEPA Method 6020B), Determination of Inorganic Anions (USEPA Method 300.0), and Solids in Water (Standard Methods 2540C).

Data were reviewed in accordance with the US EPA Region IV Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy (September 2011, Rev. 2.0)<sup>1</sup> and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)<sup>2</sup>. The review included an assessment of the results for completeness, precision (laboratory duplicate recoveries and matrix spike/matrix spike duplicate recoveries), accuracy (laboratory control samples and matrix spike samples), and blank contamination (laboratory blanks). Sample receipt conditions, holding times, and chains of custody (COCs) were reviewed. Where there was a discrepancy between the QC criteria in the guidelines and the QC criterion established in the analytical methodology, method-specific criteria or professional judgment were used.

## DATA QUALITY OBJECTIVES

**Laboratory Precision:** Laboratory goals for precision were met.

**Field Precision:** Field goals for precision were not applicable to this scope.

**Accuracy:** Laboratory goals for accuracy were met.

**Detection Limits:** Project goals for detection limits were met.

**Completeness:** There were no rejected analytical results for this event, resulting in a completion of 100%.

**Holding Times:** Holding time requirements were met.

## QUALIFICATIONS

In general, chemical results for the samples collected at the site were qualified on the basis of low precision or low accuracy or on the basis of professional judgment. The following definitions provide brief explanations of the qualifiers which may have been assigned to data by the laboratory during the validation process:

**J:** The analyte was positively identified above the method detection limit; however, the associated numerical value is the approximate concentration of the analyte in the sample

**ND:** The analyte was not detected above the method detection limit

The data generated as part of this sampling event met the QC criteria established in the respective analytical methods and data validation guidelines.

Atlantic Coast Consulting, Inc. reviewed the laboratory data from Grumman Road sampled between January 20, 2021 and January 21, 2021 in accordance with the analytical methods, the laboratory-specified QC criteria, and the guidelines. As described above, the results were acceptable for project use.

## REFERENCES

<sup>1</sup>USEPA, September 2011, Region 4, Science and Ecosystem Support Division, Quality Assurance Section, MTSB, Data Validation Standard Operating Procedures for Contract Laboratory Program Inorganic Data by Inductively Coupled Plasma – Atomic Emission Spectroscopy and Inductively Coupled Plasma – Mass Spectroscopy, Revision 2.0

<sup>2</sup>USEPA, January 2017, National Office of Superfund Remediation and Technology Innovation, National Functional Guidelines for Inorganic Superfund Methods Data Review, Revision 0.0

TABLE 1

Georgia Power Company – Grumman Road

Sample Summary Table – January 2021

SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Analyses		
						Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)
517999	MW-23D	1/21/2021	92517999001	GW		X	X	X
517999	MW-24D	1/21/2021	92517999001	GW		X	X	X
517999	MW-25D	1/20/2021	92517999001	GW		X	X	X
517999	MW-26D	1/20/2021	92517999001	GW		X	X	X
517999	MW-27D	1/20/2021	92517999001	GW		X	X	X

Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

GW – Groundwater

QC – Quality Control

TDS – Total Dissolved Solids

WQ – Water Quality Control

# Low-Flow Test Report:

Test Date / Time: 1/21/2021 9:05:44 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: MW-23D</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 58.3 ft</b> <b>Total Depth: 63.3 ft</b> <b>Initial Depth to Water: 22.92 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 61 ft</b> <b>Estimated Total Volume Pumped: 10 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 15.4 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Cloudy, 50s, sample time-0945

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
1/21/2021 9:05 AM	00:00	5.79 pH	21.37 °C	68.36 µS/cm	0.13 mg/L		88.8 mV	22.92 ft	250.00 ml/min
1/21/2021 9:10 AM	05:00	5.85 pH	21.54 °C	72.45 µS/cm	0.08 mg/L	25.00 NTU	77.5 mV	23.50 ft	250.00 ml/min
1/21/2021 9:15 AM	10:00	5.84 pH	21.49 °C	68.88 µS/cm	0.07 mg/L	15.00 NTU	70.0 mV	23.80 ft	250.00 ml/min
1/21/2021 9:20 AM	15:00	5.83 pH	21.46 °C	67.25 µS/cm	0.06 mg/L	9.42 NTU	63.0 mV	24.00 ft	250.00 ml/min
1/21/2021 9:25 AM	20:00	5.80 pH	21.46 °C	63.78 µS/cm	0.05 mg/L	5.42 NTU	58.9 mV	24.10 ft	250.00 ml/min
1/21/2021 9:30 AM	25:00	5.77 pH	21.49 °C	61.56 µS/cm	0.04 mg/L	5.03 NTU	55.0 mV	24.20 ft	250.00 ml/min
1/21/2021 9:35 AM	30:00	5.78 pH	21.46 °C	62.41 µS/cm	0.04 mg/L	4.12 NTU	49.0 mV	24.20 ft	250.00 ml/min
1/21/2021 9:40 AM	35:00	5.76 pH	21.50 °C	59.85 µS/cm	0.03 mg/L	3.62 NTU	45.6 mV	24.20 ft	250.00 ml/min
1/21/2021 9:45 AM	40:00	5.75 pH	21.46 °C	60.80 µS/cm	0.03 mg/L	3.68 NTU	42.1 mV	24.20 ft	250.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 1/21/2021 12:29:32 PM

Project: Grumman Road

Operator Name: Z Davis

<b>Location Name: MW-24D</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 61 ft</b> <b>Total Depth: 66 ft</b> <b>Initial Depth to Water: 29.61 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 64.5 ft</b> <b>Estimated Total Volume Pumped: 8000 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 0.19 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Cloudy, 50s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 0.2	+/- 10	+/- 100	+/- 2	
1/21/2021 12:29 PM	00:00	6.14 pH	22.03 °C	67.37 µS/cm	0.10 mg/L	12.70 NTU	54.0 mV	29.61 ft	200.00 ml/min
1/21/2021 12:34 PM	05:00	6.13 pH	21.58 °C	68.66 µS/cm	0.08 mg/L	7.72 NTU	49.8 mV	29.61 ft	200.00 ml/min
1/21/2021 12:39 PM	10:00	6.10 pH	22.09 °C	68.94 µS/cm	0.07 mg/L	6.93 NTU	47.9 mV	29.70 ft	200.00 ml/min
1/21/2021 12:44 PM	15:00	6.11 pH	22.27 °C	71.79 µS/cm	0.03 mg/L	17.30 NTU	46.8 mV	29.80 ft	200.00 ml/min
1/21/2021 12:49 PM	20:00	6.18 pH	22.21 °C	72.48 µS/cm	0.03 mg/L	22.30 NTU	45.1 mV	29.80 ft	200.00 ml/min
1/21/2021 12:54 PM	25:00	6.18 pH	21.95 °C	69.85 µS/cm	0.10 mg/L	25.60 NTU	45.6 mV	29.80 ft	200.00 ml/min
1/21/2021 12:59 PM	30:00	6.16 pH	21.93 °C	67.79 µS/cm	0.03 mg/L	13.90 NTU	45.9 mV	29.80 ft	200.00 ml/min
1/21/2021 1:04 PM	35:00	6.14 pH	22.15 °C	66.32 µS/cm	0.03 mg/L	7.80 NTU	46.3 mV	29.80 ft	200.00 ml/min
1/21/2021 1:09 PM	40:00	6.13 pH	22.09 °C	65.56 µS/cm	0.03 mg/L	4.16 NTU	47.1 mV	29.80 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 1/20/2021 10:25:34 AM

Project: Grumman Road

Operator Name: Z Davis

<b>Location Name: MW-25D</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 65.2 ft</b> <b>Total Depth: 70.2 ft</b> <b>Initial Depth to Water: 20.91 ft</b>	<b>Pump Type: Peri</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 67.5 ft</b> <b>Estimated Total Volume Pumped: 3750 ml</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 150 ml/min</b> <b>Final Draw Down: 0 ft</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714293</b>
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## Test Notes:

## Weather Conditions:

Sunny, 60s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 0.2	+/- 5	+/- 100	+/- 1	
1/20/2021 10:25 AM	00:00	6.34 pH	19.33 °C	75.51 µS/cm	0.09 mg/L		35.5 mV	37.90 ft	150.00 ml/min
1/20/2021 10:29 AM	04:25	6.30 pH	19.33 °C	77.11 µS/cm	0.07 mg/L	5.27 NTU	34.7 mV	37.90 ft	150.00 ml/min
1/20/2021 10:30 AM	04:35	6.30 pH	19.40 °C	77.12 µS/cm	0.07 mg/L	4.76 NTU	34.9 mV	37.90 ft	150.00 ml/min
1/20/2021 10:35 AM	09:35	6.26 pH	20.00 °C	76.34 µS/cm	0.06 mg/L	4.71 NTU	37.0 mV	37.90 ft	150.00 ml/min
1/20/2021 10:40 AM	14:35	6.26 pH	20.32 °C	75.80 µS/cm	0.05 mg/L	5.20 NTU	36.8 mV	37.90 ft	150.00 ml/min
1/20/2021 10:45 AM	19:35	6.26 pH	20.43 °C	75.75 µS/cm	0.05 mg/L	5.02 NTU	37.8 mV	37.90 ft	150.00 ml/min
1/20/2021 10:50 AM	24:35	6.25 pH	20.44 °C	75.80 µS/cm	0.05 mg/L	4.93 NTU	39.0 mV	37.90 ft	150.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 1/20/2021 9:05:17 AM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: MW-26D</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 64.9 ft</b> <b>Total Depth: 69.9 ft</b> <b>Initial Depth to Water: 19.91 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 67 ft</b> <b>Estimated Total Volume Pumped: 9 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 200 ml/min</b> <b>Final Draw Down: 16.68 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, 50s sample time 0950

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
1/20/2021 9:05 AM	00:00	7.92 pH	10.82 °C	2.61 µS/cm	11.30 mg/L		150.1 mV	19.91 ft	200.00 ml/min
1/20/2021 9:07 AM	02:07	8.00 pH	11.65 °C	68.08 µS/cm	8.98 mg/L	17.00 NTU	146.6 mV	20.40 ft	200.00 ml/min
1/20/2021 9:10 AM	04:48	6.04 pH	16.57 °C	55.22 µS/cm	0.80 mg/L	12.00 NTU	115.7 mV	20.80 ft	200.00 ml/min
1/20/2021 9:15 AM	09:48	5.74 pH	18.96 °C	52.24 µS/cm	0.42 mg/L	16.00 NTU	105.8 mV	21.00 ft	200.00 ml/min
1/20/2021 9:20 AM	14:48	5.73 pH	19.12 °C	51.79 µS/cm	0.52 mg/L	17.00 NTU	100.0 mV	21.20 ft	200.00 ml/min
1/20/2021 9:25 AM	19:48	5.68 pH	19.60 °C	50.79 µS/cm	0.31 mg/L	13.00 NTU	101.1 mV	21.30 ft	200.00 ml/min
1/20/2021 9:30 AM	24:48	5.72 pH	18.92 °C	51.01 µS/cm	1.80 mg/L	10.00 NTU	97.0 mV	21.30 ft	200.00 ml/min
1/20/2021 9:35 AM	29:48	5.69 pH	18.96 °C	49.55 µS/cm	0.34 mg/L	9.12 NTU	95.4 mV	21.30 ft	200.00 ml/min
1/20/2021 9:40 AM	34:48	5.69 pH	18.82 °C	49.05 µS/cm	0.28 mg/L	7.33 NTU	94.0 mV	21.30 ft	200.00 ml/min
1/20/2021 9:45 AM	39:48	5.68 pH	18.84 °C	48.94 µS/cm	0.28 mg/L	5.95 NTU	93.9 mV	21.30 ft	200.00 ml/min
1/20/2021 9:50 AM	44:48	5.66 pH	18.90 °C	48.77 µS/cm	0.25 mg/L	3.22 NTU	91.6 mV	21.30 ft	200.00 ml/min

## Samples

Sample ID:	Description:
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# Low-Flow Test Report:

Test Date / Time: 1/20/2021 1:45:21 PM

Project: Grumman Road

Operator Name: Jordan Berisford

<b>Location Name: MW-27D</b> <b>Well Diameter: 2 in</b> <b>Casing Type: PVC</b> <b>Screen Length: 5 ft</b> <b>Top of Screen: 67.43 ft</b> <b>Total Depth: 72.43 ft</b> <b>Initial Depth to Water: 25.72 ft</b>	<b>Pump Type: Peri Pump</b> <b>Tubing Type: Poly</b> <b>Pump Intake From TOC: 70 ft</b> <b>Estimated Total Volume Pumped: 8.75 liter</b> <b>Flow Cell Volume: 90 ml</b> <b>Final Flow Rate: 250 ml/min</b> <b>Final Draw Down: 8.16 in</b>	<b>Instrument Used: Aqua TROLL 400</b> <b>Serial Number: 714302</b>
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## Test Notes:

Sunny, sample time-1420 60s

## Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
1/20/2021 1:45 PM	00:00	5.67 pH	21.65 °C	42.23 µS/cm	0.03 mg/L		68.5 mV	25.72 ft	250.00 ml/min
1/20/2021 1:50 PM	05:00	5.67 pH	21.64 °C	42.35 µS/cm	0.03 mg/L	3.85 NTU	65.7 mV	26.00 ft	250.00 ml/min
1/20/2021 1:55 PM	10:00	5.68 pH	21.59 °C	42.39 µS/cm	0.02 mg/L	4.02 NTU	63.3 mV	26.10 ft	250.00 ml/min
1/20/2021 2:00 PM	15:00	5.67 pH	21.59 °C	42.42 µS/cm	0.02 mg/L	3.69 NTU	61.9 mV	26.30 ft	250.00 ml/min
1/20/2021 2:05 PM	20:00	5.68 pH	21.64 °C	42.51 µS/cm	0.02 mg/L	4.84 NTU	59.9 mV	26.30 ft	250.00 ml/min
1/20/2021 2:10 PM	25:00	5.67 pH	21.65 °C	42.42 µS/cm	0.02 mg/L	4.32 NTU	58.2 mV	26.30 ft	250.00 ml/min
1/20/2021 2:15 PM	30:00	5.67 pH	21.65 °C	42.56 µS/cm	0.03 mg/L	3.99 NTU	57.5 mV	26.40 ft	250.00 ml/min
1/20/2021 2:20 PM	35:00	5.68 pH	21.66 °C	42.61 µS/cm	0.03 mg/L	3.85 NTU	55.3 mV	26.40 ft	250.00 ml/min

## Samples

Sample ID:	Description:
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## Daily Instrument Calibration Log

SITE: Grumman Rd  
TECHNICIAN: J Bradford  
WATER LEVEL: Sol. Ct  
WATER LEVEL S/N: 267304

INSTRUMENT S/N: 714302  
INSTRUMENT TYPE: AquaTroll  
CAL. SOLUTIONS:  
ID: pH 4 LOT #: 061407 EXP. DATE: 1/22  
ID: pH 7 LOT #: 061615 EXP. DATE: 1/22  
ID: pH 10 LOT #: 060851 EXP. DATE: 1/22  
ID: Cond LOT #: 061103 EXP. DATE: 1/21  
ID: ORP LOT #: 060520 EXP. DATE: 1/21  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_  
ID: \_\_\_\_\_ LOT #: \_\_\_\_\_ EXP. DATE: \_\_\_\_\_

Calibration Date: 1-19-21  
RDO: 100% sat. = 100.13%  
PH: 4.00 = 4.12 7.00 = 7.47 10.00 = 10.52  
CONDUCTIVITY: 1535  
ORP (mV) 277.5

Calibration Date: 1-20-21  
RDO: 100% sat. = 102.43  
PH: 4.00 = 3.93 7.00 = 7.12 10.00 = 10.09  
CONDUCTIVITY: 1552  
ORP (mV) 248.8

Calibration Date: 1-21-21  
RDO: 100% sat. = 100.28  
PH: 4.00 = 4.04 7.00 = 7.07 10.00 = 10.10  
CONDUCTIVITY: 1413  
ORP (mV) 244.2

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_

Calibration Date: \_\_\_\_\_  
RDO: 100% sat. = \_\_\_\_\_  
PH: 4.00 = \_\_\_\_\_ 7.00 = \_\_\_\_\_ 10.00 = \_\_\_\_\_  
CONDUCTIVITY: \_\_\_\_\_  
ORP (mV) \_\_\_\_\_



## Daily Instrument Calibration Log

SITE: Grumman Rd.  
 TECHNICIAN: J Bonford

INSTRUMENT S/N: 63767  
 INSTRUMENT TYPE: HACH 2100R

CAL. SOLUTION:	0 NTU - LOT #	NA	EXP. DATE:
	10 NTU - LOT #	A0136	Aug-21
	20 NTU - LOT #	A0139	Aug-21

Calibration Date: 1-19-21

Calibration Solution	Instrument Reading	
0.0	0.15	NTU
10.0	9.49	NTU
20.0	20.7	NTU

Calibration Date: 1-20-21

Calibration Solution	Instrument Reading	
0.0	0.17	NTU
10.0	10.4	NTU
20.0	20.3	NTU

Calibration Date: 1-21-21

Calibration Solution	Instrument Reading	
0.0	0.16	NTU
10.0	10.1	NTU
20.0	20.2	NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibration Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

# APPENDIX D

## Statistical Analyses

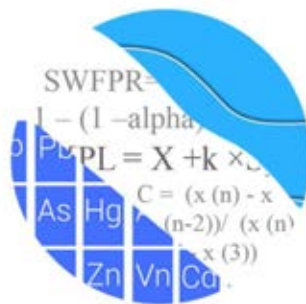
SEPTEMBER  
2020

SEMI-ANNUAL  
GROUNDWATER  
STATISTICAL  
ANALYSIS

FOR  
GRUMMAN ROAD  
LANDFILL

Prepared by:

Groundwater Stats Consulting LLC



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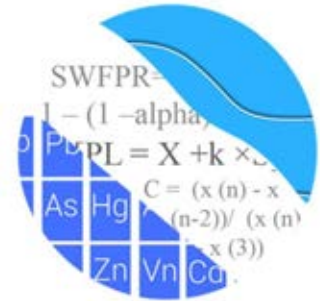
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## GROUNDWATER STATS CONSULTING



February 23, 2021

Southern Company Services  
Attn: Ms. Kristen Jurinko  
241 Ralph McGill Blvd NE, Bin 10160  
Atlanta, Georgia 30308

Re: Plant Kraft's Grumman Road Landfill  
Statistical Analysis – 1<sup>st</sup> Semi-Annual 2020 Sample Event

Dear Ms. Jurinko,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the groundwater statistical analysis of the 1<sup>st</sup> Semi-Annual 2020 sample event for Georgia Power Company's Plant Kraft's Grumman Road Landfill. The analysis complies with the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

Sampling began for the CCR program in 2016, and at least 8 background samples were collected at each of the groundwater monitoring wells. Semi-annual sampling of the majority of Appendix IV constituents has been performed at most wells for several years in accordance with the Georgia Department of Natural Resources, Environmental Protection Division groundwater monitoring regulations. The monitoring well network, as provided by Southern Company Services, consists of the following:

- **Upgradient wells:** GWA-7 and GWA-8
- **Downgradient wells:** GWB-4R, GWB-5R, GWB-6R, GWC-1, GWC-2, GWC-9, GWC-11, GWC-12, GWC-13, GWC-14, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21, and GWC-22

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Dr. Jim Loftis, Civil & Environmental Engineering professor emeritus at Colorado State University and Senior Advisor to Groundwater Stats Consulting.



The program monitors the constituents listed below. Georgia EPD Appendix II and CCR Appendix IV constituents overlap with the exception of vanadium and zinc which are Georgia EPD. However, the statistical analyses for the two sets of requirements are different and are discussed in separate sections of this report. The terms “parameters” and “constituents” are used interchangeably throughout.

- **Appendix I** (Detection Monitoring) – antimony, arsenic, barium, chromium, lead, selenium, and thallium
- **Appendix III** (Detection Monitoring) - boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix II/Appendix IV** (Assessment Monitoring) – antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, vanadium, and zinc

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A summary of well/constituent pairs with 100% nondetects follows this letter.

Time series plots for all parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. A summary of flagged outliers follows this report (Figure C).

Due to varying detection limits in background data sets as a result of improved laboratory practices, a substitution of the most recent reporting limit is used for all nondetects. Of particular note is the reporting limits for metals at upgradient well GWA-7. Due to higher dilutions needed for some metal analyses for this well, the reporting limits may vary between sampling events and are sometimes considerably higher than corresponding reporting limits for other wells. On the other hand, some detected observations are recorded at extremely low concentrations, below the MCL of 0.01 mg/L for arsenic, as an example. Therefore, the same reporting limit substitution is used for this well as for all other wells.

Data at all wells were evaluated during 2019 for the following: 1) outliers; 2) trends; 3) most appropriate statistical method for parameters based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods are recommended. However, interwell methods are currently constructed in accordance with the Georgia EPD regulations and are used to evaluate compliance samples in downgradient wells. Power curves are provided following this letter and demonstrate that the selected statistical methods comply with the USEPA Unified Guidance. The EPA suggests that the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

## **Summary of Statistical Methods – Detection Monitoring**

### **Georgia EPD Appendix I Constituents:**

Semi-Annual Sampling

Interwell Prediction Limits with 1 of 2 resample plan

# Constituents Downgradient: 8 (The remaining constituents are not recently detected.)

# Downgradient wells: 16

### **CCR Appendix III Constituents:**

Semi-Annual Sampling

Interwell Prediction Limits with 1 of 2 resample plan (boron, calcium, chloride, fluoride, pH, sulfate and TDS)

# Constituents Downgradient: 7

# Downgradient wells: 16

Parametric prediction limits are utilized when the screened historical data follow a normal or transformed-normal distribution. When data cannot be normalized or the majority of data are nondetects, a nonparametric test is utilized. While the false positive rate associated with the parametric limits is based on an annual rate of 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. After testing for normality and performing any adjustments as discussed below (US EPA, 2009), data are analyzed using either parametric or non-parametric prediction limits, along with the following methodology for handling nondetects:

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory. Due to varying detection limits, the following substitutions were made for nondetects: 0.003 mg/L for antimony; 0.005 mg/L for arsenic; 0.003 mg/L for beryllium; 0.01 mg/L for chromium; and 0.01 mg/L for selenium.
- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. In some cases, an earlier portion of data may require deselection prior to construction of limits to provide sensitive limits that will rapidly detect changes in groundwater quality. Even though the data are excluded from the calculation, the values will continue to be reported and shown in tables and graphs.

## **Summary of Background Screening – Georgia EPD Appendix I Constituents – Conducted in August 2019**

### Outlier Testing

Time series plots were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells and parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Using the Tukey's box plot method, several outliers were identified. A summary of those findings was submitted with the August 2019 report. As a general rule, when the most recent values are identified as outliers, values are not flagged in the database (except in cases where they would cause background limits to be elevated) as they may represent a

possible trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e. measurements reported by the laboratory between the Method Detection Limit and the Practical Quantitation Limit) and, therefore, were not flagged as outliers.

Additionally, values that were not identified by Tukey's test but that are much higher than the remaining measurements were flagged as appropriate in order to obtain conservative prediction limits that are capable of detecting future changes. A summary of flagged values follows this letter (Figure C). As mentioned above, when any values are flagged in the database as outliers, they are plotted in a disconnected and lighter symbol on the time series graph. The accompanying data pages display the flagged value in a lighter font as well. A substitution of the most recent reporting limit was applied when varying detection limits existed in data.

### Seasonality

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

### Trend Testing

While trends may be identified by visual inspection, a quantification of the trend and its significance is needed. The Sen's Slope/Mann Kendall trend test, which tests for statistically significant increasing or decreasing trends, was used to evaluate data at all upgradient wells and downgradient wells with detections.

In the absence of suspected contamination, significant trending data are typically not included as part of the background data used for construction of prediction limits. This step serves to eliminate the trend and, thus, reduce variation in background. When statistically significant decreasing trends are present, all available data are evaluated to determine whether earlier concentration levels are significantly different from current reported concentrations and will be deselected as necessary. This step would apply to upgradient wells GWA-7 and GWA-8 only since pooled data from these wells are used to construct interwell prediction limits. While this was not required, when any records of data are truncated for the reasons above, a summary report will be provided to show the date

ranges used in construction of the statistical limits. A summary of the trend analyses was submitted with the screening report.

### Determination of Spatial Variation

The Analysis of Variance (ANOVA) was used to statistically evaluate differences in average concentrations among upgradient wells for constituents detected in downgradient wells. The ANOVA assists in identifying the most appropriate statistical approach. Interwell tests, which compare downgradient well data to statistical limits constructed from pooled upgradient well data, are appropriate when average concentrations are similar across upgradient wells. Intrawell tests, which compare compliance data from a single well to screened historical data within the same well, are appropriate when upgradient wells exhibit spatial variation; when statistical limits constructed from upgradient wells are not representative of the current background data population; and when downgradient water quality is unimpacted compared to upgradient water quality for the same parameter.

The ANOVA identified significant differences among upgradient well data for all constituents which would suggest intrawell methods as the most appropriate statistical method. However, interwell methods are currently constructed in accordance with the Georgia EPD regulations and are used to evaluate compliance samples in downgradient wells.

## **Summary of Background Screening – CCR Parameters – Conducted in March 2019**

### Outlier and Trend Testing

Time series plots were used to identify suspected outliers, or extreme values that would result in limits that are not representative of the current background data population. Suspected outliers at all wells for Appendix III and Appendix IV parameters were formally tested using Tukey's box plot method and, when identified, flagged in the computer database with "o" and deselected prior to construction of statistical limits.

Using the Tukey box plot method, several outliers were identified. A summary of those findings was included with the screening report. When the most recent values are identified as outliers, values were not flagged in the database at this time (except in cases where they would cause background limits to be elevated) as they may represent a possible trend. If future values do not remain at similar concentrations, these values will be flagged as outliers and deselected. Several low values exist in the data sets and appear on the graphs as possible low outliers relative to the laboratory's Practical Quantitation Limit. However, these values are observed trace values (i.e. measurements reported by the

laboratory between the Method Detection Limit and the Practical Quantitation Limit) and, therefore, were not flagged as outliers.

Of the outliers identified by Tukey's method, several values were flagged in the database, and the remaining values were similar to other measurements within a given well or neighboring wells or were reported nondetects. A summary of all flagged values follows this report (Figure C).

No obvious seasonal patterns were observed on the time series plots for any of the detected data; therefore, no deseasonalizing adjustments were made to the data. When seasonal patterns are observed, data may be deseasonalized so that the resulting limits will correctly account for the seasonality as a predictable pattern rather than random variation or a release.

The results of the Sen's Slope/Mann Kendall trend analyses showed a number of statistically significant increasing and decreasing trends for the Appendix III parameters. Most of the statistically significant trends identified, particularly in upgradient wells GWA-7 and GWA-8 since those data are used in construction of the interwell prediction limits, were relatively low in magnitude when compared to average concentrations. Also, the background period is short, making it difficult to determine whether an apparent trend represents a long-term change or simply normal year-to-year variation; therefore, no adjustments were made to the data sets.

#### Appendix III – Determination of Spatial Variation

The ANOVA identified no variation among upgradient well data for fluoride, making interwell analyses the most appropriate statistical method for this constituent. Variation was noted for boron, calcium, chloride, pH, sulfate, and TDS which suggests the use of intrawell methods as the most appropriate statistical method. However, interwell methods are currently constructed in accordance with the Georgia EPD regulations and are used to evaluate compliance samples in downgradient wells.

#### **Statistical Analysis of Georgia EPD Appendix I Constituents – Fall 2020**

Interwell prediction limits, combined with a 1 of 2 resample plan, were constructed from carefully screened pooled upgradient well data through October 2020 for antimony, arsenic, barium, chromium, lead, selenium, vanadium, and zinc (Figure D). The most recent sample at each downgradient well is compared to these background limits.

In the event of an initial exceedance of compliance well data, the 1 of 2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no further action is necessary. If no resample is collected, the initial exceedance is automatically confirmed. A summary table of the interwell prediction limits follows this letter and includes a list of exceedances. Exceedances were identified for the following well/constituent pairs:

- Arsenic: GWC-15, GWC-16, and GWC-20
- Barium: GWC-20

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E). Upgradient well data are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. When trends are present in upgradient wells it is an indication of natural variability in groundwater quality unrelated to practices at the site. A summary of the trend test results follows this letter. Statistically significant trends were noted for the following well/constituent pairs:

Increasing Trends:

- Arsenic: GWC-15
- Barium: GWC-20

Decreasing Trends:

- Arsenic: GWA-7 (upgradient), GWA-8 (upgradient) and GWC-16
- Barium: GWA-8 (upgradient)
- Zinc: GWA-8 (upgradient) and GWC-9

When significant trends are noted upgradient of the facility, it is an indication that groundwater concentrations are naturally changing over time. Note that while the trend test identified a statistically significant decreasing trend for arsenic in upgradient well GWA-8, the slope is displayed as zero which represents the median slope of all the possible pairwise slopes. Both a summary and complete graphical presentation of the trend test results follow this letter.

## **Statistical Analysis of Appendix III Parameters – Fall 2020 Sample Event**

Interwell prediction limits, combined with a 1 of 2 resample plan, were constructed using pooled upgradient well data through October 2020 to develop background limits for boron, calcium, chloride, fluoride, pH, sulfate and TDS (Figure F). In the event of an initial exceedance of compliance well data, the 1 of 2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When the resample confirms the initial exceedance, a statistically significant increase (SSI) is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no further action is necessary. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs). Summary tables of the prediction limits follow this letter.

The following interwell prediction limit exceedances were noted:

- Calcium: GWC-1, GWC-11, GWC-12, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21, GWB-4R, and GWB-5R
- pH: Upper limit – GWC-15; Lower limit – GWC-12 and GWC-17
- Sulfate: GWC-11, GWC-12, GWC-16, GWC-17, GWC-20, GWC-21, GWB-4R, GWB-5R, and GWB-6R

### Trend Tests – Exceedances

Data from downgradient well/constituent pairs found to exceed their respective prediction limit were further evaluated using the Sen's Slope/Mann Kendall trend test along with upgradient wells for the same constituents (Figure G). Upgradient wells are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. Such patterns are an indication of natural variability in groundwater unrelated to practices at the site.

The following statistically significant increasing trends were noted:

- Calcium: GWA-8 (upgradient), GWC-1, GWC-11, and GWC-16
- Sulfate: GWC-11 and GWB-6R



The following statistically significant decreasing trends were noted:

- Calcium: GWA-7 (upgradient), GWC-12
- pH: GWA-7 (upgradient)
- Sulfate: GWC-12

### **Appendix II and IV – Assessment Monitoring Program**

In Assessment Monitoring, confidence intervals for each Appendix II and IV parameter at downgradient wells are compared against corresponding Groundwater Protection Standards (GWPS). The GWPS are based on state regulations or on site-specific background conditions as described below.

Data from all wells for Appendix II and IV parameters are first reassessed for outliers during each analysis. In some cases, previously flagged trace values and historical nondetect values were unflagged because the measurements were similar to other measurements within the same well or due to the nondetect substitution discussed earlier which resulted in lower reporting limits.

Next interwell upper tolerance limits (UTL's) are calculated using Sanitas software, from all historical pooled upgradient well data for Appendix II and IV constituents (Figure H). The UTLs serve as site-specific background limits for each constituent. Parametric tolerance limits are used when data follow a normal or transformed-normal distribution, i.e. fluoride. When data contain greater than 50% nondetects or do not follow a normal or transformed-normal distribution, non-parametric tolerance limits are used. In all cases, a nonparametric tolerance limit was constructed to provide the most conservative approach. Particularly in the case of combined radium 226 + 228, a nonparametric tolerance limit was selected due to the transformation required for the parametric limit which resulted in an extremely high upper tolerance limit.

The background limits are then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a). As described in 40 CFR §257.95(h) (1-3), the GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title;
- The background level where an MCL has not been established for a constituent (i.e. cobalt, lead, lithium, and molybdenum); and
- The respective background level for a constituent when the background level is higher than the MCL.

For the current analysis and evaluation of the Fall 2020 sampling data, GWPS were established following the above Georgia EPD Rule requirements (Figure I).

To complete the statistical comparison of current sampling data to GWPS, confidence intervals were constructed using Sanitas software using data from 2016 through the present for each of the Appendix II and IV constituents in each downgradient well (Figure J). The confidence intervals were then compared to the State GWPS (Georgia EPD rules). Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. The confidence intervals and graphical comparisons to State GWPS are presented in Figure J, with summary tables of exceedances.

The following confidence interval exceedances were noted:

- Arsenic: GWC-15, GWC-16, GWC-20
- Molybdenum: GWC-1, GWC-15, GWC-16, GWC-20, GWC-21, GWB-4R

## **SUMMARY**

Based on the statistical analyses described in this letter, the following statistical exceedances were noted:

### **Prediction Limits (Detection Monitoring Parameters):**

#### **Appendix I:**

- Arsenic: GWC-15, GWC-16, and GWC-20
- Barium: GWC-20

#### **Appendix III:**

- Calcium: GWC-1, GWC-11, GWC-12, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21, GWB-4R, and GWB-5R
- pH: Upper limit – GWC-15; Lower limit – GWC-12 and GWC-17
- Sulfate: GWC-11, GWC-12, GWC-16, GWC-17, GWC-20, GWC-21, GWB-4R, GWB-5R, and GWB-6R

**Confidence Intervals (Assessment Monitoring Parameters):**

- Arsenic: GWC-15, GWC-16, GWC-20
- Molybdenum: GWC-1, GWC-15, GWC-16, GWC-20, GWC-21, GWB-4R

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for Plant Kraft's Grumman Road Landfill. If you have any questions or comments, please feel free to contact me.

For Groundwater Stats Consulting,



Kristina L. Rayner  
Groundwater Statistician

# 100% Nondetects

Date: 12/8/2020 8:25 AM

Grumman Road Landfill Client: Southern Company Data: Grumman Road

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Antimony (mg/L)

GWA-8, GWC-12, GWC-15, GWC-17

Arsenic (mg/L)

GWC-11

Beryllium (mg/L)

GWC-1, GWC-11, GWC-15, GWC-20, GWC-21

Cadmium (mg/L)

GWA-8, GWC-12, GWC-13, GWC-15, GWC-16, GWC-17, GWC-2, GWC-20, GWC-21, GWC-9, GWB-5R, GWB-6R

Cobalt (mg/L)

GWC-1, GWC-13, GWC-15, GWC-16, GWC-20, GWC-21

Fluoride (mg/L)

GWC-11

Lithium (mg/L)

GWA-7, GWC-1, GWC-11, GWC-13, GWC-14, GWC-15, GWC-16, GWC-2, GWC-20, GWC-21, GWC-22, GWB-6R

Mercury (mg/L)

GWA-8, GWC-11, GWC-12, GWC-14, GWC-15, GWC-16, GWC-17, GWC-2, GWC-20, GWC-21, GWC-22, GWB-5R

Molybdenum (mg/L)

GWA-8, GWC-12, GWC-2, GWC-22, GWC-9

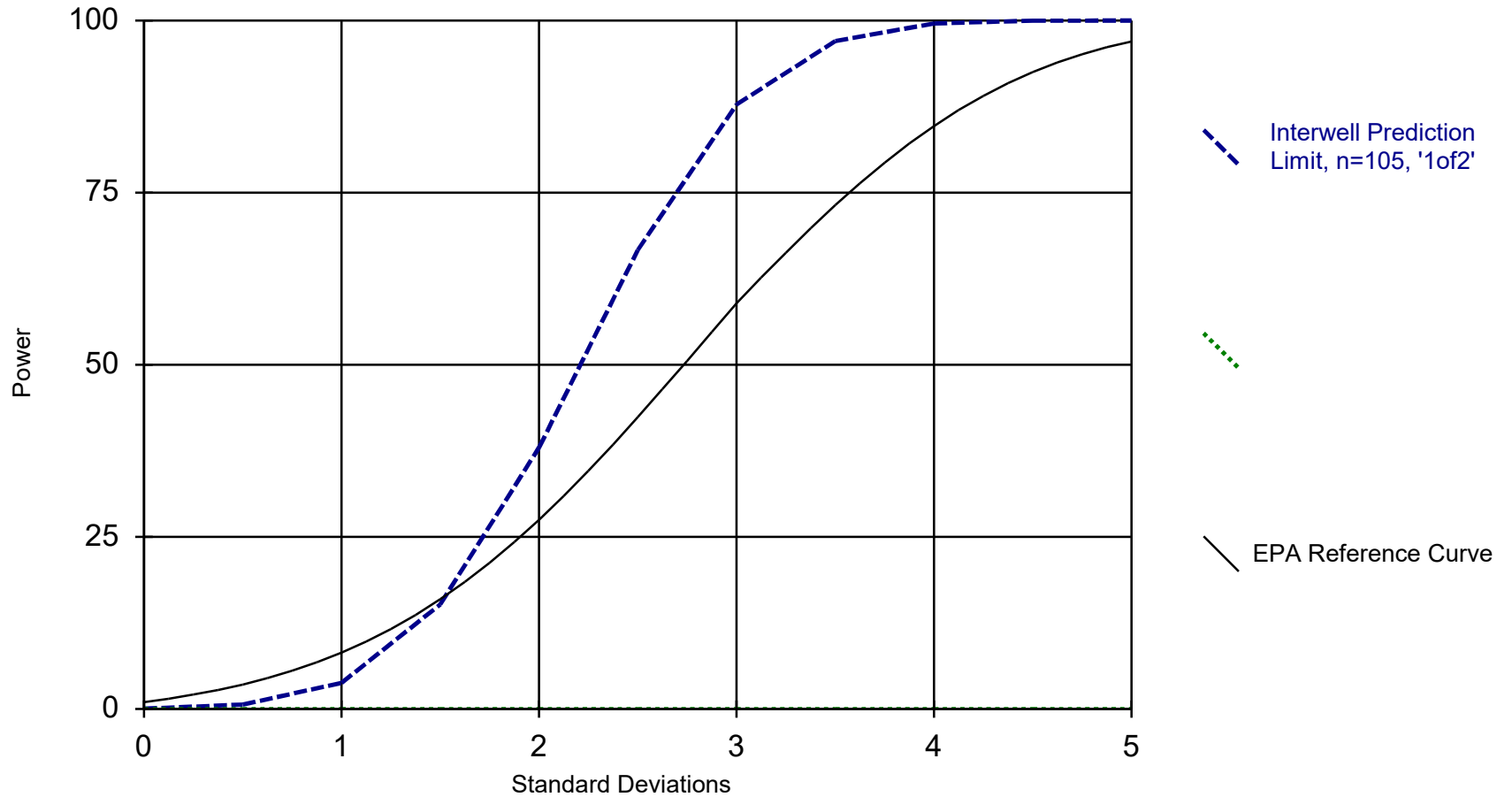
Selenium (mg/L)

GWC-13

Thallium (mg/L)

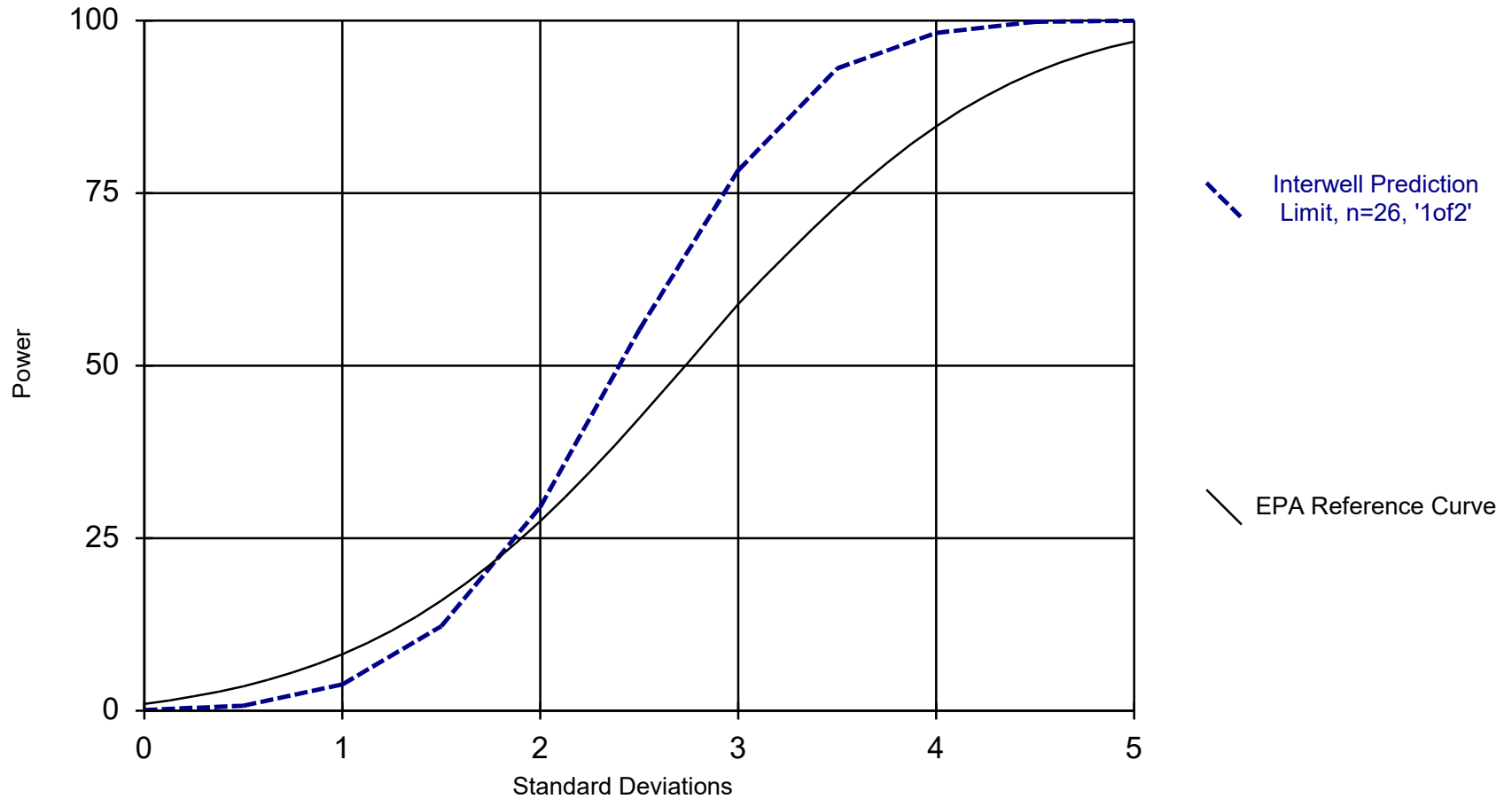
GWC-13, GWC-15, GWC-20, GWC-9, GWB-6R

### Power Curve - State



Analysis Run 2/17/2021 4:31 PM View: Trend Tests - State PL Exceedances  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Power Curve - Federal



Kappa = 2.309, based on 16 compliance wells and 7 constituents, evaluated semi-annually (this report reflects annual total).

Analysis Run 2/17/2021 4:32 PM View: Trend Tests - State PL Exceedances  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

# State Interwell Prediction Limits - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	GWC-15	0.0287	9/30/2020	0.24	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-16	0.0287	9/30/2020	0.044	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-20	0.0287	9/30/2020	0.31	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Barium (mg/L)	GWC-20	0.22	9/30/2020	0.35	Yes	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2

# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	GWC-1	0.003	9/28/2020	0.00035J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-11	0.003	9/29/2020	0.00051J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-13	0.003	9/28/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-14	0.003	9/29/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-16	0.003	9/30/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-2	0.003	9/29/2020	0.0016J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-20	0.003	9/30/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-21	0.003	9/30/2020	0.00033J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-22	0.003	9/30/2020	0.0016J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-9	0.003	10/1/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-4R	0.003	10/1/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-5R	0.003	9/30/2020	0.0003J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-6R	0.003	9/30/2020	0.00059J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-1	0.0287	9/28/2020	0.0058	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-12	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-13	0.0287	9/28/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-14	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.24</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.044</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
Arsenic (mg/L)	GWC-17	0.0287	9/30/2020	0.0012J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-2	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
<b>Arsenic (mg/L)</b>	<b>GWC-20</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.31</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
Arsenic (mg/L)	GWC-21	0.0287	9/30/2020	0.0029J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-22	0.0287	9/30/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-9	0.0287	10/1/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-4R	0.0287	10/1/2020	0.0027J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-5R	0.0287	9/30/2020	0.0017J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-6R	0.0287	9/30/2020	0.004J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Barium (mg/L)	GWC-1	0.22	9/28/2020	0.051	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-11	0.22	9/29/2020	0.14	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-12	0.22	9/29/2020	0.018	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-13	0.22	9/28/2020	0.029	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-14	0.22	9/29/2020	0.026	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-15	0.22	9/30/2020	0.034	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-16	0.22	9/30/2020	0.14	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-17	0.22	9/30/2020	0.035	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-2	0.22	9/29/2020	0.049	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
<b>Barium (mg/L)</b>	<b>GWC-20</b>	<b>0.22</b>	<b>9/30/2020</b>	<b>0.35</b>	<b>Yes</b>	<b>117</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001427</b>	<b>NP Inter (normality) 1 of 2</b>
Barium (mg/L)	GWC-21	0.22	9/30/2020	0.19	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-22	0.22	9/30/2020	0.045	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-9	0.22	10/1/2020	0.15	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-4R	0.22	10/1/2020	0.077	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-5R	0.22	9/30/2020	0.16	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-6R	0.22	9/30/2020	0.092	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Chromium (mg/L)	GWC-1	0.068	9/28/2020	0.0024J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-11	0.068	9/29/2020	0.0011J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-12	0.068	9/29/2020	0.00085J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-13	0.068	9/28/2020	0.00062J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-14	0.068	9/29/2020	0.01ND	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-15	0.068	9/30/2020	0.0016J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2



# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	GWC-16	0.068	9/30/2020	0.00098J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-17	0.068	9/30/2020	0.00096J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-2	0.068	9/29/2020	0.01ND	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-20	0.068	9/30/2020	0.0013J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-21	0.068	9/30/2020	0.00067J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-22	0.068	9/30/2020	0.00064J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-9	0.068	10/1/2020	0.0012J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-4R	0.068	10/1/2020	0.002J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-5R	0.068	9/30/2020	0.0018J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-6R	0.068	9/30/2020	0.0045J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-1	0.013	9/28/2020	0.000043J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-11	0.013	9/29/2020	0.00032J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-12	0.013	9/29/2020	0.000037J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-13	0.013	9/28/2020	0.000064J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-14	0.013	9/29/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-15	0.013	9/30/2020	0.000047J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-16	0.013	9/30/2020	0.000091J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-17	0.013	9/30/2020	0.00006J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-2	0.013	9/29/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-20	0.013	9/30/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-21	0.013	9/30/2020	0.000054J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-22	0.013	9/30/2020	0.00023J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-9	0.013	10/1/2020	0.000038J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-4R	0.013	10/1/2020	0.00026J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-5R	0.013	9/30/2020	0.0012J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-6R	0.013	9/30/2020	0.00008J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-1	0.0438	9/28/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-11	0.0438	9/29/2020	0.0024J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-12	0.0438	9/29/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-14	0.0438	9/29/2020	0.0051J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-15	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-16	0.0438	9/30/2020	0.0037J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-17	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-2	0.0438	9/29/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-20	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-21	0.0438	9/30/2020	0.0061J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-22	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-9	0.0438	10/1/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-4R	0.0438	10/1/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-5R	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-6R	0.0438	9/30/2020	0.0023J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-1	0.425	9/28/2020	0.0042J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-11	0.425	9/29/2020	0.0023J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-12	0.425	9/29/2020	0.0046J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-13	0.425	9/28/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-14	0.425	9/29/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-15	0.425	9/30/2020	0.0028J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-16	0.425	9/30/2020	0.0028J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-17	0.425	9/30/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-2	0.425	9/29/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2

# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Vanadium (mg/L)	GWC-20	0.425	9/30/2020	0.0029J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-21	0.425	9/30/2020	0.0029J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-22	0.425	9/30/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-9	0.425	10/1/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-4R	0.425	10/1/2020	0.0047J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-5R	0.425	9/30/2020	0.0037J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-6R	0.425	9/30/2020	0.018	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Zinc (mg/L)	GWC-1	0.16	9/28/2020	0.0092J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-11	0.16	9/29/2020	0.0031J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-12	0.16	9/29/2020	0.0074J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-13	0.16	9/28/2020	0.016	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-14	0.16	9/29/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-15	0.16	9/30/2020	0.032	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-16	0.16	9/30/2020	0.0051J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-17	0.16	9/30/2020	0.0043J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-2	0.16	9/29/2020	0.056	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-20	0.16	9/30/2020	0.031	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-21	0.16	9/30/2020	0.0096J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-22	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-9	0.16	10/1/2020	0.025	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-4R	0.16	10/1/2020	0.0064J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-5R	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-6R	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2

# State Trend Test Summary - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	GWA-7 (bg)	-0.000478	-4.1	-2.58	Yes	49	57.14	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWA-8 (bg)	0	-3.216	-2.58	Yes	70	91.43	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWC-15	0.003848	7.868	2.58	Yes	50	50	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWC-16	-0.001273	-2.969	-2.58	Yes	69	0	n/a	n/a	0.01	NP
Barium (mg/L)	GWA-8 (bg)	-0.0029	-8.428	-2.58	Yes	69	0	n/a	n/a	0.01	NP
Barium (mg/L)	GWC-20	0.008044	224	139	Yes	29	0	n/a	n/a	0.01	NP
Zinc (mg/L)	GWA-8 (bg)	-0.0002021	-3.834	-2.58	Yes	62	25.81	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-9	-0.0002436	-3.281	-2.58	Yes	42	42.86	n/a	n/a	0.01	NP

# State Trend Test Summary - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:28 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
<b>Arsenic (mg/L)</b>	<b>GWA-7 (bg)</b>	<b>-0.000478</b>	<b>-4.1</b>	<b>-2.58</b>	<b>Yes</b>	<b>49</b>	<b>57.14</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>0</b>	<b>-3.216</b>	<b>-2.58</b>	<b>Yes</b>	<b>70</b>	<b>91.43</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.003848</b>	<b>7.868</b>	<b>2.58</b>	<b>Yes</b>	<b>50</b>	<b>50</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>-0.001273</b>	<b>-2.969</b>	<b>-2.58</b>	<b>Yes</b>	<b>69</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Arsenic (mg/L)	GWC-20	0.01725	123	139	No	29	3.448	n/a	n/a	0.01	NP
Barium (mg/L)	GWA-7 (bg)	-0.0002048	-0.3474	-2.58	No	48	0	n/a	n/a	0.01	NP
<b>Barium (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>-0.0029</b>	<b>-8.428</b>	<b>-2.58</b>	<b>Yes</b>	<b>69</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Barium (mg/L)</b>	<b>GWC-20</b>	<b>0.008044</b>	<b>224</b>	<b>139</b>	<b>Yes</b>	<b>29</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Zinc (mg/L)	GWA-7 (bg)	0.001011	2.325	2.58	No	43	30.23	n/a	n/a	0.01	NP
<b>Zinc (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>-0.0002021</b>	<b>-3.834</b>	<b>-2.58</b>	<b>Yes</b>	<b>62</b>	<b>25.81</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Zinc (mg/L)	GWC-15	0	0.5524	2.58	No	46	86.96	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-2	0	-1.981	-2.58	No	42	76.19	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-20	0	16	111	No	25	80	n/a	n/a	0.01	NP
<b>Zinc (mg/L)</b>	<b>GWC-9</b>	<b>-0.0002436</b>	<b>-3.281</b>	<b>-2.58</b>	<b>Yes</b>	<b>42</b>	<b>42.86</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

# Federal Interwell Prediction Limits - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	GWC-1	35.8	9/28/2020	70.7	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-11	35.8	9/29/2020	123	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-12	35.8	9/29/2020	42	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-15	35.8	9/30/2020	109	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-16	35.8	9/30/2020	177	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-17	35.8	9/30/2020	53.5	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-20	35.8	9/30/2020	292	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-21	35.8	9/30/2020	98.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWB-4R	35.8	10/1/2020	48.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWB-5R	35.8	9/30/2020	70.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
pH (SU)	GWC-12	6.43	9/29/2020	3.95	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-15	6.43	9/30/2020	6.71	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-17	6.43	9/30/2020	4.08	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-11	160	9/29/2020	516	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-12	160	9/29/2020	237	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-16	160	9/30/2020	736	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-17	160	9/30/2020	193	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-20	160	9/30/2020	956	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-21	160	9/30/2020	306	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-4R	160	10/1/2020	178	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-5R	160	9/30/2020	339	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-6R	160	9/30/2020	339	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2

# Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GWC-1	21.8	9/28/2020	0.69	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-11	21.8	9/29/2020	1.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-12	21.8	9/29/2020	4.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-13	21.8	9/28/2020	0.24	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-14	21.8	9/29/2020	0.053	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-15	21.8	9/30/2020	0.86	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-16	21.8	9/30/2020	8.1	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-17	21.8	9/30/2020	0.86	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-2	21.8	9/29/2020	0.024J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-20	21.8	9/30/2020	9.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-21	21.8	9/30/2020	2.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-22	21.8	9/30/2020	0.25	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-9	21.8	10/1/2020	0.028J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-4R	21.8	10/1/2020	5.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-5R	21.8	9/30/2020	4	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-6R	21.8	9/30/2020	4.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-1</b>	<b>35.8</b>	<b>9/28/2020</b>	<b>70.7</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-11</b>	<b>35.8</b>	<b>9/29/2020</b>	<b>123</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-12</b>	<b>35.8</b>	<b>9/29/2020</b>	<b>42</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-13	35.8	9/28/2020	2.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-14	35.8	9/29/2020	30.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-15</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>109</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-16</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>177</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-17</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>53.5</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-2	35.8	9/29/2020	0.18J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-20</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>292</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-21</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>98.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-22	35.8	9/30/2020	20.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-9	35.8	10/1/2020	5.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWB-4R</b>	<b>35.8</b>	<b>10/1/2020</b>	<b>48.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWB-5R</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>70.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWB-6R	35.8	9/30/2020	27.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-1	260	9/28/2020	13.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-11	260	9/29/2020	143	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-12	260	9/29/2020	24.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-13	260	9/28/2020	4.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-14	260	9/29/2020	10.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-15	260	9/30/2020	1.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-16	260	9/30/2020	39.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-17	260	9/30/2020	257	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-2	260	9/29/2020	5.4	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-20	260	9/30/2020	34.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-21	260	9/30/2020	23.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-22	260	9/30/2020	8.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-9	260	10/1/2020	16.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-4R	260	10/1/2020	15.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-5R	260	9/30/2020	24.1	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-6R	260	9/30/2020	53.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GWC-1	0.5492	9/28/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-11	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2

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Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	GWC-12	0.5492	9/29/2020	0.16	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-13	0.5492	9/28/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-14	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-15	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-16	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-17	0.5492	9/30/2020	0.15	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-2	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-20	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-21	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-22	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-9	0.5492	10/1/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-4R	0.5492	10/1/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-5R	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-6R	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
pH (SU)	GWC-1	6.43	9/28/2020	5.79	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-11	6.43	9/29/2020	4.77	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-12</b>	<b>6.43</b>	<b>9/29/2020</b>	<b>3.95</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-13	6.43	9/28/2020	4.76	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-14	6.43	9/29/2020	5.69	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-15</b>	<b>6.43</b>	<b>9/30/2020</b>	<b>6.71</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-16	6.43	9/30/2020	5.47	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-17</b>	<b>6.43</b>	<b>9/30/2020</b>	<b>4.08</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-2	6.43	9/29/2020	4.6	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-20	6.43	9/30/2020	6.04	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-21	6.43	9/30/2020	5.82	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-22	6.43	9/30/2020	4.63	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-9	6.43	10/1/2020	4.42	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-4R	6.43	10/1/2020	5.75	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-5R	6.43	9/30/2020	4.99	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-6R	6.43	9/30/2020	5.39	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-1	160	9/28/2020	71.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-11</b>	<b>160</b>	<b>9/29/2020</b>	<b>516</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-12</b>	<b>160</b>	<b>9/29/2020</b>	<b>237</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-13	160	9/28/2020	25.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-14	160	9/29/2020	93.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-15	160	9/30/2020	18.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-16</b>	<b>160</b>	<b>9/30/2020</b>	<b>736</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-17</b>	<b>160</b>	<b>9/30/2020</b>	<b>193</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-2	160	9/29/2020	8.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-20</b>	<b>160</b>	<b>9/30/2020</b>	<b>956</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-21</b>	<b>160</b>	<b>9/30/2020</b>	<b>306</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-22	160	9/30/2020	65.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-9	160	10/1/2020	35	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWB-4R</b>	<b>160</b>	<b>10/1/2020</b>	<b>178</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWB-5R</b>	<b>160</b>	<b>9/30/2020</b>	<b>339</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWB-6R</b>	<b>160</b>	<b>9/30/2020</b>	<b>339</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Total Dissolved Solids (mg/L)	GWC-1	3660	9/28/2020	373	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-11	3660	9/29/2020	1100	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-12	3660	9/29/2020	440	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-13	3660	9/28/2020	60	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2

# Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Total Dissolved Solids (mg/L)	GWC-14	3660	9/29/2020	187	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-15	3660	9/30/2020	434	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-16	3660	9/30/2020	1140	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-17	3660	9/30/2020	752	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-2	3660	9/29/2020	33	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-20	3660	9/30/2020	1860	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-21	3660	9/30/2020	634	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-22	3660	9/30/2020	113	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-9	3660	10/1/2020	111	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-4R	3660	10/1/2020	424	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-5R	3660	9/30/2020	652	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-6R	3660	9/30/2020	816	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2



# Federal Trend Test Summary - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:25 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	2.404	45	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-1	7.096	46	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-11	18.54	52	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-12	-14.86	-76	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-16	33.97	47	43	Yes	13	0	n/a	n/a	0.01	NP
pH (SU)	GWA-7 (bg)	-0.09426	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-11	90.66	44	43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-12	-183.6	-62	-43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-6R	29.16	44	43	Yes	13	0	n/a	n/a	0.01	NP

# Federal Trend Test Summary - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:25 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	2.404	45	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-1	7.096	46	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-11	18.54	52	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-12	-14.86	-76	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-15	0	0	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-16	33.97	47	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-17	-7.952	-22	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-20	13.21	22	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-21	10.66	25	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWB-4R	11.14	38	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWB-5R	7.096	39	43	No	13	0	n/a	n/a	0.01	NP
pH (SU)	GWA-7 (bg)	-0.09426	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (SU)	GWA-8 (bg)	-0.00534	-6	-48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	GWC-12	-0.0104	-13	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	GWC-15	0.09104	43	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	GWC-17	-0.003342	-3	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-7 (bg)	-4.311	-28	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-8 (bg)	-5.525	-22	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-11	90.66	44	43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-12	-183.6	-62	-43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-16	104.4	36	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-17	-21.55	-9	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-20	8.539	4	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-21	7.935	19	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-4R	-8.849	-10	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-5R	24.49	24	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-6R	29.16	44	43	Yes	13	0	n/a	n/a	0.01	NP

# Tolerance Limit Summary Table

Grumman Road Landfill    Client: Southern Company    Data: Grumman Road    Printed 2/1/2021, 1:50 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.003	119	n/a	n/a	94.96	n/a	n/a	0.002234	NP Inter
Arsenic (mg/L)	n/a	0.0287	119	n/a	n/a	77.31	n/a	n/a	0.002234	NP Inter
Barium (mg/L)	n/a	0.22	117	n/a	n/a	0	n/a	n/a	0.002475	NP Inter
Beryllium (mg/L)	n/a	0.003	39	n/a	n/a	53.85	n/a	n/a	0.1353	NP Inter
Cadmium (mg/L)	n/a	0.0025	37	n/a	n/a	94.59	n/a	n/a	0.1499	NP Inter
Chromium (mg/L)	n/a	0.068	118	n/a	n/a	63.56	n/a	n/a	0.002352	NP Inter
Cobalt (mg/L)	n/a	0.0102	38	n/a	n/a	52.63	n/a	n/a	0.1424	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	33.8	26	n/a	n/a	0	n/a	n/a	0.2635	NP Inter
Fluoride (mg/L)	n/a	0.49	30	n/a	n/a	23.33	n/a	n/a	0.2146	NP Inter
Lead (mg/L)	n/a	0.013	115	n/a	n/a	76.52	n/a	n/a	0.002743	NP Inter
Lithium (mg/L)	n/a	0.03	26	n/a	n/a	76.92	n/a	n/a	0.2635	NP Inter
Mercury (mg/L)	n/a	0.0002	22	n/a	n/a	86.36	n/a	n/a	0.3235	NP Inter
Molybdenum (mg/L)	n/a	0.01	26	n/a	n/a	88.46	n/a	n/a	0.2635	NP Inter
Selenium (mg/L)	n/a	0.0438	119	n/a	n/a	83.19	n/a	n/a	0.002234	NP Inter
Thallium (mg/L)	n/a	0.001	58	n/a	n/a	93.1	n/a	n/a	0.05105	NP Inter
Vanadium (mg/L)	n/a	0.425	111	n/a	n/a	64.86	n/a	n/a	0.003368	NP Inter
Zinc (mg/L)	n/a	0.16	105	n/a	n/a	27.62	n/a	n/a	0.004581	NP Inter

<b>GRUMMAN ROAD LANDFILL GWPS</b>			
<b>Constituent Name</b>	<b>MCL</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006	0.003	0.006
Arsenic, Total (mg/L)	0.01	0.029	0.029
Barium, Total (mg/L)	2	0.22	2
Beryllium, Total (mg/L)	0.004	0.003	0.004
Cadmium, Total (mg/L)	0.005	0.0025	0.005
Chromium, Total (mg/L)	0.1	0.068	0.1
Cobalt, Total (mg/L)	n/a	0.01	0.01
Combined Radium, Total (pCi/L)	5	33.8	33.8
Fluoride, Total (mg/L)	4	0.49	4
Lead, Total (mg/L)	n/a	0.013	0.013
Lithium, Total (mg/L)	n/a	0.03	0.03
Mercury, Total (mg/L)	0.002	0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.01	0.01
Selenium, Total (mg/L)	0.05	0.044	0.05
Thallium, Total (mg/L)	0.002	0.001	0.002
Vanadium (mg/L)	n/a	0.43	0.43
Zinc (mg/L)	n/a	0.16	0.16

*\*Highlighted cells indicated Background is higher than MCLs.*

*\*MCL = Maximum Contaminant Level*

*\*GWPS - Groundwater Protection Standard*

# Appendix II and IV Confidence Interval Summary Table - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	GWC-15	0.1476	0.05755	0.029	Yes 17	0.1099	0.07879	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	GWC-16	0.089	0.0466	0.029	Yes 18	0.07044	0.01771	0	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-20	0.3663	0.2809	0.029	Yes 17	0.3236	0.06818	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-1	0.1716	0.07167	0.01	Yes 13	0.1216	0.06717	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-15	0.1145	0.0908	0.01	Yes 13	0.1026	0.01591	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-16	0.1953	0.1126	0.01	Yes 13	0.154	0.05558	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-20	0.2598	0.1032	0.01	Yes 13	0.1815	0.1053	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-21	0.06514	0.01913	0.01	Yes 13	0.04214	0.03094	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWB-4R	0.15	0.0209	0.01	Yes 13	0.06482	0.05453	0	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	GWA-7 (bg)	0.003	0.0017	0.006	No 17	0.002571	0.0008176	76.47	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-1	0.003	0.00061	0.006	No 17	0.002704	0.0008382	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-11	0.003	0.00051	0.006	No 17	0.001724	0.001246	47.06	None	No	0.01	NP (normality)
Antimony (mg/L)	GWC-13	0.003	0.0006	0.006	No 17	0.002859	0.0005821	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-14	0.003	0.003	0.006	No 18	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-16	0.003	0.003	0.006	No 18	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-2	0.003	0.0016	0.006	No 17	0.002818	0.0005175	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-20	0.003	0.0019	0.006	No 17	0.002935	0.0002668	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-21	0.003	0.00033	0.006	No 17	0.002843	0.0006476	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-22	0.003	0.0022	0.006	No 17	0.002573	0.0008769	76.47	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-9	0.003	0.0016	0.006	No 17	0.002761	0.0007121	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-4R	0.003	0.0003	0.006	No 17	0.002841	0.0006548	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-5R	0.003	0.00054	0.006	No 17	0.002696	0.0008579	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-6R	0.003	0.00059	0.006	No 17	0.002858	0.0005845	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWA-7 (bg)	0.01003	0.004246	0.029	No 17	0.008241	0.006088	23.53	Kaplan-Meierx^(1/3)		0.01	Param.
Arsenic (mg/L)	GWA-8 (bg)	0.005	0.0009	0.029	No 18	0.003569	0.002086	66.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-1	0.0058	0.0018	0.029	No 16	0.0046	0.006187	0	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-12	0.005	0.0009	0.029	No 17	0.004253	0.001664	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWC-13	0.005	0.0006	0.029	No 17	0.004481	0.001465	88.24	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWC-14	0.0026	0.0017	0.029	No 18	0.002363	0.001043	11.11	None	No	0.01	NP (normality)
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.1476</b>	<b>0.05755</b>	<b>0.029</b>	<b>Yes 17</b>	<b>0.1099</b>	<b>0.07879</b>	<b>0</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.01</b>	<b>Param.</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>0.089</b>	<b>0.0466</b>	<b>0.029</b>	<b>Yes 18</b>	<b>0.07044</b>	<b>0.01771</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Arsenic (mg/L)	GWC-17	0.005	0.0011	0.029	No 17	0.002589	0.001853	35.29	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-2	0.005	0.00094	0.029	No 17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
<b>Arsenic (mg/L)</b>	<b>GWC-20</b>	<b>0.3663</b>	<b>0.2809</b>	<b>0.029</b>	<b>Yes 17</b>	<b>0.3236</b>	<b>0.06818</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Arsenic (mg/L)	GWC-21	0.00419	0.002641	0.029	No 17	0.004106	0.001342	35.29	Kaplan-MeierNo		0.01	Param.
Arsenic (mg/L)	GWC-22	0.005	0.0006	0.029	No 17	0.002975	0.002038	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-9	0.005	0.00084	0.029	No 17	0.004755	0.001009	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWB-4R	0.003241	0.0018	0.029	No 17	0.002521	0.00115	11.76	None	No	0.01	Param.
Arsenic (mg/L)	GWB-5R	0.005	0.001	0.029	No 17	0.002406	0.001814	23.53	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWB-6R	0.00259	0.001237	0.029	No 17	0.002943	0.001663	29.41	Kaplan-Meierx^(1/3)		0.01	Param.
Barium (mg/L)	GWA-7 (bg)	0.147	0.08279	2	No 16	0.1149	0.04934	0	None	No	0.01	Param.
Barium (mg/L)	GWA-8 (bg)	0.06557	0.05823	2	No 18	0.0619	0.006073	0	None	No	0.01	Param.
Barium (mg/L)	GWC-1	0.05709	0.05031	2	No 17	0.0537	0.005409	0	None	No	0.01	Param.
Barium (mg/L)	GWC-11	0.116	0.06249	2	No 17	0.08923	0.04267	0	None	No	0.01	Param.
Barium (mg/L)	GWC-12	0.0191	0.017	2	No 17	0.01841	0.00374	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-13	0.02514	0.02028	2	No 17	0.02271	0.003874	0	None	No	0.01	Param.
Barium (mg/L)	GWC-14	0.038	0.0248	2	No 18	0.03612	0.01865	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-15	0.04776	0.03849	2	No 17	0.04312	0.007403	0	None	No	0.01	Param.
Barium (mg/L)	GWC-16	0.1226	0.05782	2	No 16	0.0999	0.0697	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWC-17	0.1149	0.04739	2	No 17	0.08628	0.05882	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	GWC-2	0.057	0.049	2	No 16	0.0535	0.007975	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-20	0.164	0.078	2	No 17	0.1374	0.09319	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-21	0.0927	0.04919	2	No 17	0.07652	0.04397	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWC-22	0.09837	0.06303	2	No 17	0.0807	0.0282	0	None	No	0.01	Param.
Barium (mg/L)	GWC-9	0.2639	0.1907	2	No 17	0.2273	0.05839	0	None	No	0.01	Param.
Barium (mg/L)	GWB-4R	0.09313	0.07851	2	No 17	0.08629	0.01261	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWB-5R	0.1569	0.09433	2	No 17	0.1295	0.05651	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	GWB-6R	0.107	0.013	2	No 17	0.07405	0.04251	0	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWA-7 (bg)	0.003	0.0003	0.004	No 13	0.001908	0.001288	53.85	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWA-8 (bg)	0.00024	0.00019	0.004	No 13	0.0004169	0.0007763	7.692	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-12	0.0008417	0.0005038	0.004	No 13	0.00068	0.000238	0	None	sqrt(x)	0.01	Param.
Beryllium (mg/L)	GWC-13	0.003	0.000058	0.004	No 13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	GWC-14	0.003	0.00009	0.004	No 13	0.002327	0.001279	76.92	None	No	0.01	NP (NDs)
Beryllium (mg/L)	GWC-16	0.003	0.000068	0.004	No 13	0.0009827	0.0014	30.77	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results Page 2

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Beryllium (mg/L)	GWC-17	0.002825	0.00159	0.004	No 13	0.002277	0.0009284	0	None	ln(x)	0.01	Param.
Beryllium (mg/L)	GWC-2	0.003	0.000088	0.004	No 14	0.001972	0.001433	64.29	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-22	0.003	0.000076	0.004	No 13	0.001449	0.001495	46.15	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-9	0.0003	0.0002	0.004	No 13	0.0002508	0.00004856	0	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-4R	0.003	0.0001	0.004	No 13	0.001685	0.001481	53.85	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-5R	0.003	0.000076	0.004	No 13	0.0008324	0.001238	23.08	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-6R	0.003	0.00005	0.004	No 13	0.002546	0.001109	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWA-7 (bg)	0.0025	0.0007	0.005	No 13	0.002177	0.0007981	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWC-1	0.0025	0.0001	0.005	No 13	0.002128	0.0009069	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWC-11	0.0007867	0.000195	0.005	No 13	0.0005485	0.0006203	7.692	None	x^(1/3)	0.01	Param.
Cadmium (mg/L)	GWC-14	0.0025	0.00012	0.005	No 13	0.001245	0.001209	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	GWC-22	0.0025	0.0001	0.005	No 13	0.0007346	0.001013	23.08	None	No	0.01	NP (normality)
Cadmium (mg/L)	GWB-4R	0.0025	0.00009	0.005	No 13	0.001775	0.001132	69.23	None	No	0.01	NP (normality)
Chromium (mg/L)	GWA-7 (bg)	0.04075	0.0199	0.1	No 16	0.03145	0.01716	0	None	sqrt(x)	0.01	Param.
Chromium (mg/L)	GWA-8 (bg)	0.01	0.00071	0.1	No 18	0.006892	0.004525	66.67	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-1	0.0024	0.0016	0.1	No 17	0.002647	0.002187	5.882	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-11	0.01	0.0007	0.1	No 17	0.004628	0.004614	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-12	0.0028	0.00085	0.1	No 17	0.002761	0.003484	17.65	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-13	0.01	0.0007	0.1	No 17	0.005192	0.004681	47.06	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-14	0.01	0.00074	0.1	No 18	0.003926	0.004425	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-15	0.01	0.0012	0.1	No 17	0.004424	0.004252	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-16	0.01	0.00098	0.1	No 18	0.004982	0.004621	38.89	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-17	0.01	0.0009	0.1	No 17	0.003953	0.004165	29.41	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-2	0.01	0.00069	0.1	No 17	0.006178	0.00471	58.82	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-20	0.01	0.00089	0.1	No 17	0.004694	0.004578	41.18	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-21	0.01	0.00065	0.1	No 17	0.005088	0.004776	41.18	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-22	0.01	0.00057	0.1	No 17	0.005022	0.004838	47.06	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-9	0.01	0.001	0.1	No 17	0.004376	0.004297	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWB-4R	0.0106	0.0022	0.1	No 17	0.007	0.004547	0	None	No	0.01	NP (normality)
Chromium (mg/L)	GWB-5R	0.004847	0.001087	0.1	No 17	0.008741	0.01682	23.53	Kaplan-Meier	ln(x)	0.01	Param.
Chromium (mg/L)	GWB-6R	0.006321	0.001915	0.1	No 17	0.005429	0.005535	0	None	ln(x)	0.01	Param.
Cobalt (mg/L)	GWA-7 (bg)	0.006264	0.002786	0.01	No 12	0.004525	0.002216	8.333	None	No	0.01	Param.
Cobalt (mg/L)	GWA-8 (bg)	0.005	0.0004	0.01	No 13	0.002542	0.002369	46.15	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-11	0.005	0.0004	0.01	No 13	0.003942	0.002011	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	GWC-12	0.001378	0.0008286	0.01	No 13	0.001103	0.0003691	0	None	No	0.01	Param.
Cobalt (mg/L)	GWC-14	0.005	0.0003	0.01	No 13	0.004638	0.001304	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	GWC-17	0.006347	0.003084	0.01	No 13	0.004715	0.002194	0	None	No	0.01	Param.
Cobalt (mg/L)	GWC-2	0.005	0.00032	0.01	No 14	0.003384	0.002258	64.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-22	0.005	0.0007	0.01	No 13	0.003034	0.002215	53.85	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-9	0.0021	0.00099	0.01	No 13	0.001444	0.0003785	0	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-4R	0.0024	0.00072	0.01	No 13	0.001371	0.001185	7.692	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-5R	0.005	0.00053	0.01	No 13	0.00343	0.001963	53.85	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-6R	0.005	0.00038	0.01	No 13	0.004645	0.001281	92.31	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GWA-7 (bg)	16.53	5.477	33.8	No 13	11.79	9.412	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWA-8 (bg)	2.796	1.947	33.8	No 13	2.372	0.5715	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-1	2.337	1.578	33.8	No 13	1.958	0.5104	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-11	6.68	2.756	33.8	No 13	4.718	2.638	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-12	3.043	1.816	33.8	No 13	2.43	0.8249	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-13	1.373	0.7793	33.8	No 13	1.076	0.3993	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-14	1.273	0.7216	33.8	No 13	0.9973	0.3707	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-15	1.87	1.103	33.8	No 13	1.486	0.5156	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-16	4.17	1.72	33.8	No 13	2.244	0.923	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWC-17	4.199	2.777	33.8	No 13	3.488	0.956	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-2	1.021	0.6234	33.8	No 13	0.8223	0.2675	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-20	4.25	1.613	33.8	No 13	2.932	1.773	0	None	No	0.01	Param.

# Appendix II and IV Confidence Interval Summary Table - All Results Page 3

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	GWC-21	2.454	1.093	33.8	No 13	1.774	0.9153	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-22	7.65	3	33.8	No 13	5.675	1.933	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWC-9	4.024	2.285	33.8	No 13	3.278	1.619	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWB-4R	5.1	2.32	33.8	No 13	3.512	1.207	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWB-5R	3.897	2.048	33.8	No 13	3.048	1.498	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWB-6R	4.892	2.351	33.8	No 13	3.622	1.708	0	None	No	0.01	Param.
Fluoride (mg/L)	GWA-7 (bg)	0.2394	0.0727	4	No 15	0.1826	0.1508	26.67	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	GWA-8 (bg)	0.162	0.07275	4	No 15	0.1347	0.08331	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	GWC-1	0.18	0.051	4	No 15	0.1061	0.0433	73.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-12	0.8352	0.2789	4	No 15	0.5571	0.4105	6.667	None	No	0.01	Param.
Fluoride (mg/L)	GWC-13	0.55	0.09	4	No 15	0.1261	0.1179	80	None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-14	0.41	0.1	4	No 15	0.1853	0.1346	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-15	0.15	0.06	4	No 15	0.1373	0.1064	66.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-16	0.36	0.1	4	No 15	0.2013	0.2248	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-17	1.383	0.577	4	No 15	0.98	0.5947	6.667	None	No	0.01	Param.
Fluoride (mg/L)	GWC-2	0.17	0.07	4	No 15	0.1295	0.1381	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-20	0.14	0.043	4	No 15	0.08953	0.03071	73.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-21	0.1	0.071	4	No 15	0.09807	0.007488	93.33	None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-22	0.12	0.06	4	No 15	0.09133	0.02642	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-9	0.289	0.1025	4	No 15	0.2357	0.2393	6.667	None	ln(x)	0.01	Param.
Fluoride (mg/L)	GWB-4R	0.17	0.064	4	No 15	0.185	0.292	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-5R	0.11	0.05	4	No 15	0.08887	0.04317	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-6R	0.1483	0.06391	4	No 15	0.1219	0.06612	40	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	GWA-7 (bg)	0.008665	0.003602	0.013	No 15	0.006133	0.003736	0	None	No	0.01	Param.
Lead (mg/L)	GWA-8 (bg)	0.005	0.0001	0.013	No 18	0.003372	0.002369	66.67	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-1	0.005	0.00012	0.013	No 17	0.004133	0.00193	82.35	None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-11	0.00035	0.0002	0.013	No 17	0.0008112	0.001578	11.76	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.000081	0.013	No 17	0.001755	0.002298	29.41	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-13	0.005	0.00013	0.013	No 17	0.001791	0.002165	29.41	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-14	0.005	0.00051	0.013	No 18	0.003933	0.002056	77.78	None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-15	0.005	0.0001	0.013	No 17	0.00244	0.002489	47.06	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-16	0.005	0.0001	0.013	No 18	0.002033	0.002436	38.89	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-17	0.005	0.0001	0.013	No 17	0.003031	0.002432	58.82	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-2	0.005	0.0002	0.013	No 17	0.003579	0.00227	70.59	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-20	0.005	0.00018	0.013	No 17	0.003566	0.002291	70.59	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-21	0.005	0.00009	0.013	No 17	0.002707	0.002508	52.94	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-22	0.001039	0.0003389	0.013	No 17	0.0009476	0.001238	5.882	None	ln(x)	0.01	Param.
Lead (mg/L)	GWC-9	0.005	0.000096	0.013	No 17	0.002735	0.00248	52.94	None	No	0.01	NP (normality)
Lead (mg/L)	GWB-4R	0.005914	0.002171	0.013	No 16	0.004042	0.002877	12.5	None	No	0.01	Param.
Lead (mg/L)	GWB-5R	0.005	0.0002	0.013	No 17	0.002211	0.002209	35.29	None	No	0.01	NP (normality)
Lead (mg/L)	GWB-6R	0.005	0.00014	0.013	No 17	0.002258	0.002376	41.18	None	No	0.01	NP (normality)
Lithium (mg/L)	GWA-8 (bg)	0.03	0.001	0.03	No 13	0.01664	0.01503	53.85	None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-12	0.03	0.00091	0.03	No 13	0.01438	0.01505	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-17	0.007059	0.005156	0.03	No 13	0.006108	0.00128	0	None	No	0.01	Param.
Lithium (mg/L)	GWC-9	0.002114	0.00182	0.03	No 12	0.001967	0.0001875	0	None	No	0.01	Param.
Lithium (mg/L)	GWB-4R	0.014	0.0039	0.03	No 13	0.008254	0.004467	0	None	No	0.01	NP (normality)
Lithium (mg/L)	GWB-5R	0.03	0.0027	0.03	No 13	0.01589	0.01362	46.15	None	No	0.01	NP (normality)
Mercury (mg/L)	GWA-7 (bg)	0.0002	0.0001	0.002	No 11	0.0001736	0.00005372	72.73	None	No	0.006	NP (normality)
Mercury (mg/L)	GWC-1	0.0002	0.0002	0.002	No 11	0.0001855	0.00004824	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWC-13	0.0002	0.0002	0.002	No 11	0.0001936	0.00002111	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWC-9	0.0002	0.0002	0.002	No 11	0.0001864	0.00004523	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWB-4R	0.0002	0.0002	0.002	No 11	0.0001863	0.00004553	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWB-6R	0.0002	0.0002	0.002	No 11	0.0001857	0.00004734	90.91	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	GWA-7 (bg)	0.01	0.0098	0.01	No 13	0.008646	0.003261	76.92	None	No	0.01	NP (NDs)
<b>Molybdenum (mg/L)</b>	<b>GWC-1</b>	<b>0.1716</b>	<b>0.07167</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1216</b>	<b>0.06717</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>



# Appendix II and IV Confidence Interval Summary Table - All Results Page 4

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	GWC-11	0.01	0.0018	0.01	No 13	0.008659	0.00328	84.62	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-13	0.01	0.0056	0.01	No 13	0.009662	0.00122	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-14	0.028	0.0024	0.01	No 13	0.01004	0.01059	0	None	No	0.01	NP (normality)
<b>Molybdenum (mg/L)</b>	<b>GWC-15</b>	<b>0.1145</b>	<b>0.0908</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1026</b>	<b>0.01591</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWC-16</b>	<b>0.1953</b>	<b>0.1126</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.154</b>	<b>0.05558</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Molybdenum (mg/L)	GWC-17	0.01	0.0024	0.01	No 13	0.007309	0.003627	61.54	None	No	0.01	NP (normality)
<b>Molybdenum (mg/L)</b>	<b>GWC-20</b>	<b>0.2598</b>	<b>0.1032</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1815</b>	<b>0.1053</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWC-21</b>	<b>0.06514</b>	<b>0.01913</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.04214</b>	<b>0.03094</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWB-4R</b>	<b>0.15</b>	<b>0.0209</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.06482</b>	<b>0.05453</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Molybdenum (mg/L)	GWB-5R	0.01	0.0012	0.01	No 13	0.009323	0.002441	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWB-6R	0.01	0.001	0.01	No 13	0.008044	0.003737	76.92	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWA-7 (bg)	0.031	0.0078	0.05	No 17	0.01734	0.01126	29.41	None	No	0.01	NP (normality)
Selenium (mg/L)	GWA-8 (bg)	0.01	0.0013	0.05	No 18	0.009017	0.002862	88.89	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-1	0.0052	0.0018	0.05	No 17	0.004365	0.005511	11.76	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-11	0.009451	0.003586	0.05	No 17	0.008276	0.005737	23.53	Kaplan-Meiersqrt(x)		0.01	Param.
Selenium (mg/L)	GWC-12	0.01	0.0025	0.05	No 17	0.008612	0.003093	82.35	Kaplan-Meier	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-14	0.004985	0.002799	0.05	No 18	0.004016	0.001997	5.556	None	sqrt(x)	0.01	Param.
Selenium (mg/L)	GWC-15	0.01	0.0029	0.05	No 17	0.008182	0.003504	52.94	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-16	0.006266	0.003664	0.05	No 18	0.004965	0.00215	5.556	None	No	0.01	Param.
Selenium (mg/L)	GWC-17	0.01	0.0013	0.05	No 17	0.006141	0.004273	52.94	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-2	0.01	0.0035	0.05	No 17	0.009147	0.002422	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-20	0.01	0.0014	0.05	No 17	0.007465	0.004049	70.59	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-21	0.02215	0.01282	0.05	No 17	0.01748	0.007441	0	None	No	0.01	Param.
Selenium (mg/L)	GWC-22	0.01	0.0023	0.05	No 17	0.008053	0.003628	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-9	0.01	0.01	0.05	No 17	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWB-4R	0.01	0.0033	0.05	No 17	0.006294	0.003358	41.18	None	No	0.01	NP (normality)
Selenium (mg/L)	GWB-5R	0.01	0.0073	0.05	No 17	0.008965	0.002515	82.35	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWB-6R	0.05	0.0033	0.05	No 17	0.01051	0.01074	70.59	None	No	0.01	NP (normality)
Thallium (mg/L)	GWA-7 (bg)	0.001	0.0005	0.002	No 13	0.0009615	0.0001387	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWA-8 (bg)	0.001	0.00006	0.002	No 13	0.0007825	0.0004134	76.92	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-1	0.001	0.000054	0.002	No 13	0.0007814	0.0004154	76.92	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-11	0.001	0.00007	0.002	No 13	0.0005306	0.0004543	46.15	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-12	0.001	0.00013	0.002	No 13	0.0004985	0.0004152	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-14	0.001	0.00007	0.002	No 13	0.0008562	0.0003511	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-16	0.001	0.00006	0.002	No 13	0.0008546	0.0003549	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-17	0.001	0.000066	0.002	No 13	0.0005768	0.000476	53.85	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-2	0.001	0.00011	0.002	No 14	0.0009364	0.0002379	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-21	0.001	0.00005	0.002	No 13	0.0009269	0.0002635	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-22	0.001	0.000065	0.002	No 13	0.0006524	0.0004584	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	GWB-4R	0.001	0.00007	0.002	No 13	0.0008569	0.0003492	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWB-5R	0.001	0.00031	0.002	No 13	0.0008744	0.0003109	84.62	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWA-7 (bg)	0.326	0.1554	0.43	No 14	0.2474	0.1235	0	None	sqrt(x)	0.01	Param.
Vanadium (mg/L)	GWA-8 (bg)	0.01	0.0014	0.43	No 15	0.008813	0.003135	86.67	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-1	0.006019	0.003669	0.43	No 12	0.005842	0.002371	16.67	Kaplan-Meier	No	0.01	Param.
Vanadium (mg/L)	GWC-11	0.01	0.0021	0.43	No 12	0.004258	0.003471	25	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-12	0.00535	0.00299	0.43	No 12	0.005342	0.00261	16.67	Kaplan-Meier	No	0.01	Param.
Vanadium (mg/L)	GWC-13	0.01	0.0016	0.43	No 12	0.007267	0.004003	58.33	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-14	0.01891	0.008918	0.43	No 15	0.01391	0.007371	13.33	None	No	0.01	Param.
Vanadium (mg/L)	GWC-15	0.01	0.0021	0.43	No 14	0.00555	0.004013	42.86	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-16	0.01	0.0026	0.43	No 15	0.004877	0.003229	26.67	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-17	0.01	0.0024	0.43	No 12	0.005817	0.003718	41.67	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-2	0.01	0.0024	0.43	No 12	0.009367	0.002194	91.67	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-20	0.01	0.0024	0.43	No 14	0.005293	0.003647	35.71	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-21	0.00373	0.002297	0.43	No 12	0.004825	0.003221	25	Kaplan-Meierln(x)		0.01	Param.
Vanadium (mg/L)	GWC-22	0.01	0.0014	0.43	No 12	0.006158	0.004136	50	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results Page 5

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Vanadium (mg/L)	GWC-9	0.01	0.0015	0.43	No 12	0.008567	0.003348	83.33	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWB-4R	0.03662	0.009413	0.43	No 12	0.02302	0.01734	8.333	None	No	0.01	Param.
Vanadium (mg/L)	GWB-5R	0.0119	0.004362	0.43	No 12	0.009083	0.008257	8.333	None	ln(x)	0.01	Param.
Vanadium (mg/L)	GWB-6R	0.03198	0.006264	0.43	No 12	0.02425	0.02861	0	None	ln(x)	0.01	Param.
Zinc (mg/L)	GWA-7 (bg)	0.08526	0.01857	0.16	No 13	0.05192	0.04485	7.692	None	No	0.01	Param.
Zinc (mg/L)	GWA-8 (bg)	0.01	0.0024	0.16	No 15	0.005093	0.003237	20	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-1	0.01	0.0021	0.16	No 12	0.0082	0.003256	66.67	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-11	0.01	0.0029	0.16	No 12	0.007325	0.003446	58.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-12	0.0074	0.0023	0.16	No 12	0.004008	0.002446	8.333	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-13	0.047	0.0021	0.16	No 12	0.01572	0.01858	0	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-14	0.01	0.0052	0.16	No 15	0.00864	0.002895	80	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-15	0.032	0.0051	0.16	No 14	0.01122	0.006121	85.71	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-16	0.01	0.0025	0.16	No 15	0.00712	0.003725	53.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-17	0.01378	0.007908	0.16	No 12	0.01084	0.003739	8.333	None	No	0.01	Param.
Zinc (mg/L)	GWC-2	0.056	0.0015	0.16	No 12	0.01103	0.01462	50	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-20	0.031	0.0049	0.16	No 14	0.01066	0.006229	78.57	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-21	0.01	0.0016	0.16	No 12	0.00765	0.003682	58.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-22	0.008393	0.003302	0.16	No 12	0.007625	0.003513	33.33	Kaplan-Meier	No	0.01	Param.
Zinc (mg/L)	GWC-9	0.00774	0.002518	0.16	No 12	0.005958	0.006392	8.333	None	ln(x)	0.01	Param.
Zinc (mg/L)	GWB-4R	0.009883	0.004867	0.16	No 12	0.007375	0.003197	8.333	None	No	0.01	Param.
Zinc (mg/L)	GWB-5R	0.01	0.0022	0.16	No 12	0.007842	0.003569	66.67	None	No	0.01	NP (normality)
Zinc (mg/L)	GWB-6R	0.007346	0.001628	0.16	No 12	0.007767	0.004243	50	Kaplan-Meier	No	0.01	Param.









# Outlier Summary

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

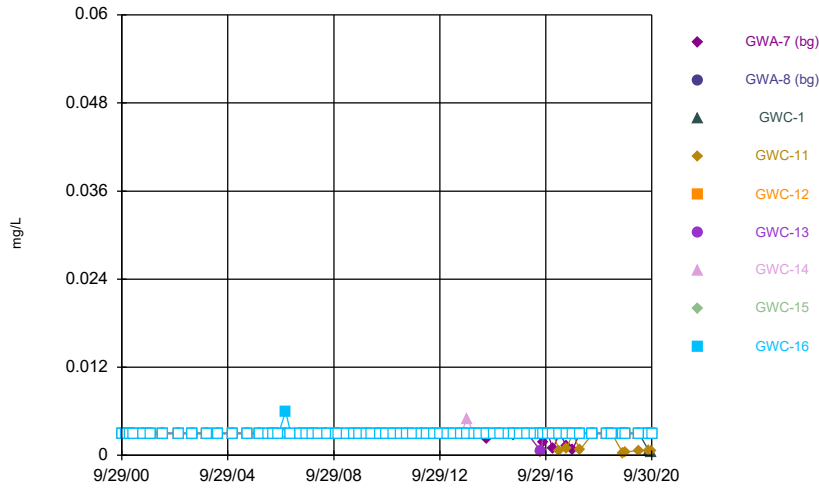
Date	GWA-8 Vanadium (mg/L)	GWC-1 Vanadium (mg/L)	GWC-14 Vanadium (mg/L)	GWC-15 Vanadium (mg/L)	GWC-16 Vanadium (mg/L)	GWB-5R Vanadium (mg/L)	GWA-7 Zinc (mg/L)	GWA-8 Zinc (mg/L)	GWC-11 Zinc (mg/L)	GWC-12 Zinc (mg/L)
9/29/2000										0.38 (o)
11/21/2000										0.077 (o)
1/20/2001								0.025 (o)		0.23 (o)
3/14/2001						0.077 (o)				0.24 (o)
7/16/2001						0.12 (o)				0.053 (o)
11/1/2001						0.21 (o)				0.022 (o)
4/25/2002						0.086 (o)				1.2 (o)
11/20/2002						0.14 (o)		0.016 (o)		0.045 (o)
6/6/2003	0.017 (o)	0.16 (o)		0.019 (o)	0.082 (o)	0.12 (o)	0.69 (o)	0.032 (o)		0.042 (o)
12/12/2003	0.011 (o)			0.018 (o)			0.12 (o)	0.019 (o)		
5/26/2004						0.06 (o)				
12/7/2004									0.028 (o)	
6/21/2005										
12/12/2005										
6/27/2006										0.012 (o)
8/30/2006								0.017 (o)		
12/4/2006										
6/23/2007										0.025 (o)
12/11/2007										
6/24/2008										
12/5/2008										
7/7/2009										
12/21/2009										0.013 (o)
6/20/2010										
6/21/2010										
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014			0.077 (o)							
1/17/2016										
8/31/2016										
9/1/2016										
10/26/2016										
10/3/2017										
7/10/2018										
7/11/2018										
1/16/2019										
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019							<0.01 (o)			





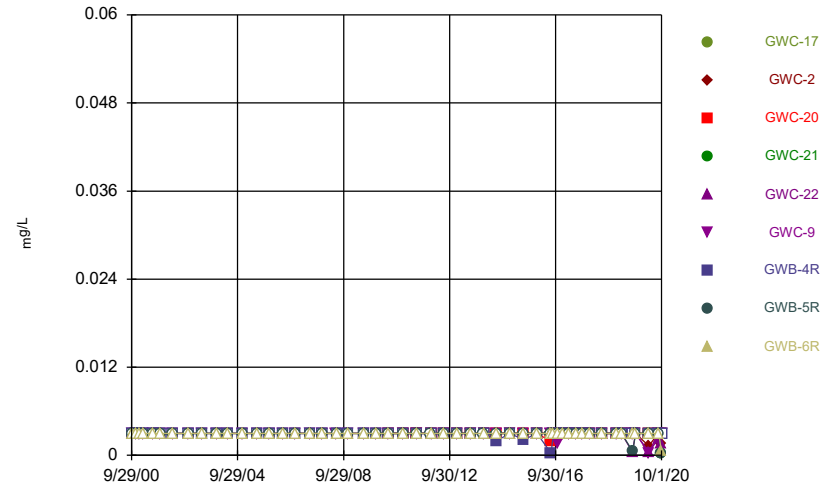
FIGURE A.

### Time Series



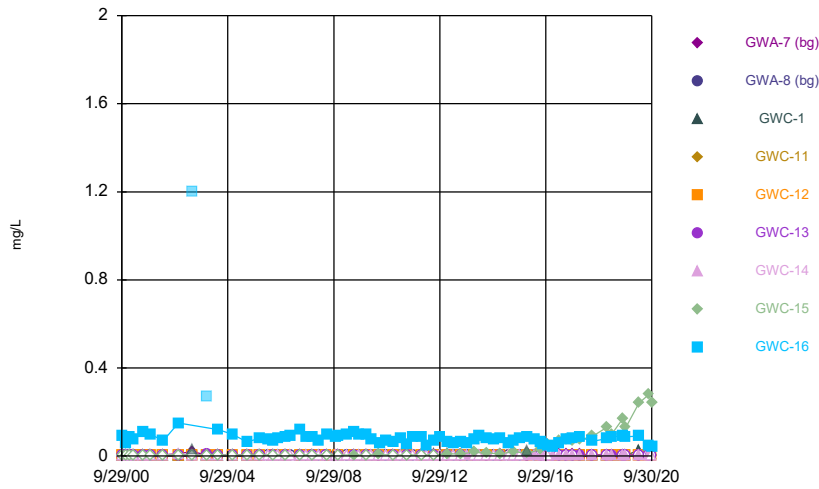
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



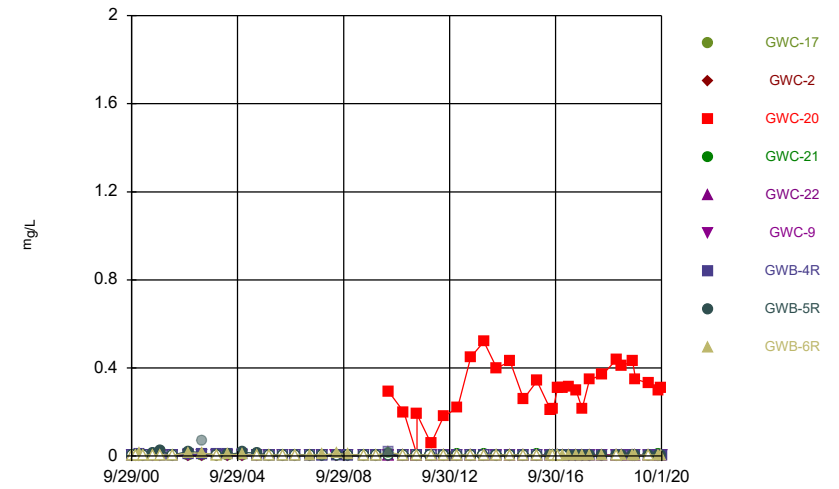
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



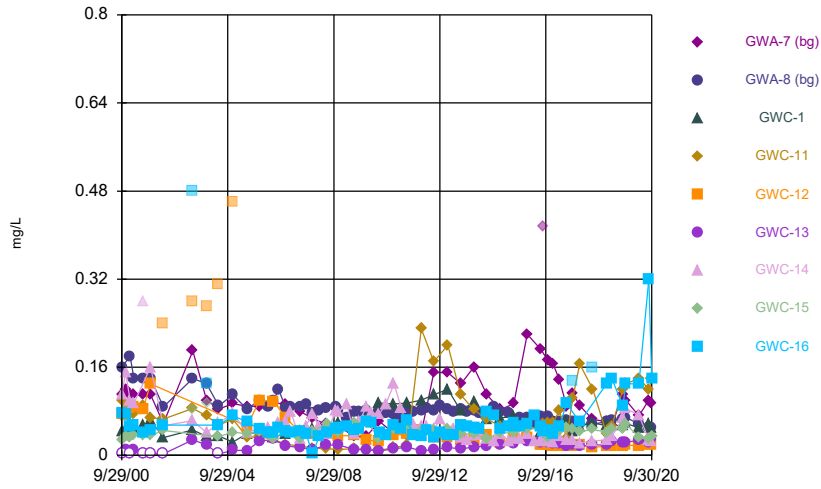
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



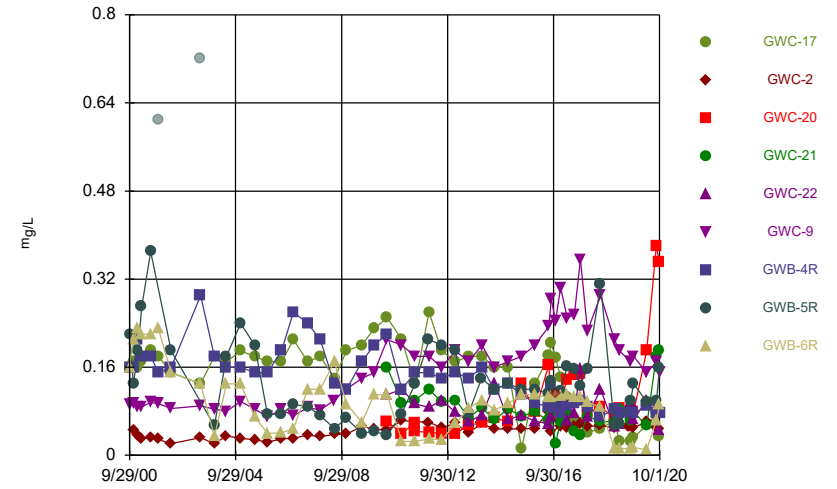
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



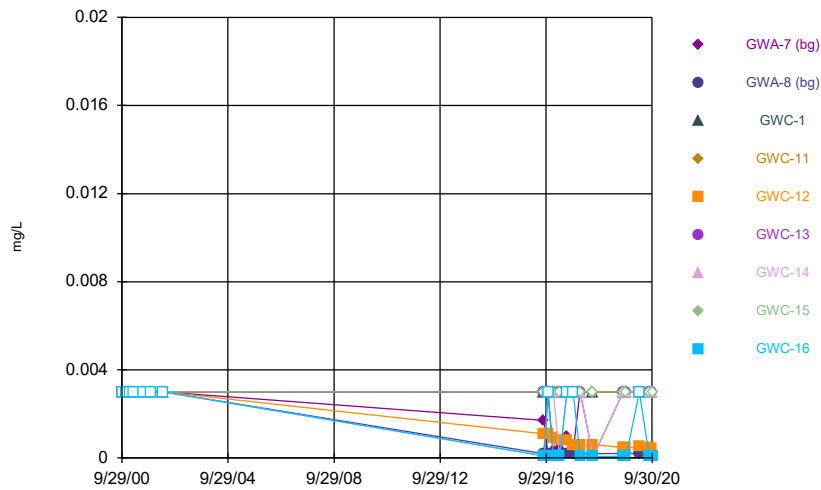
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



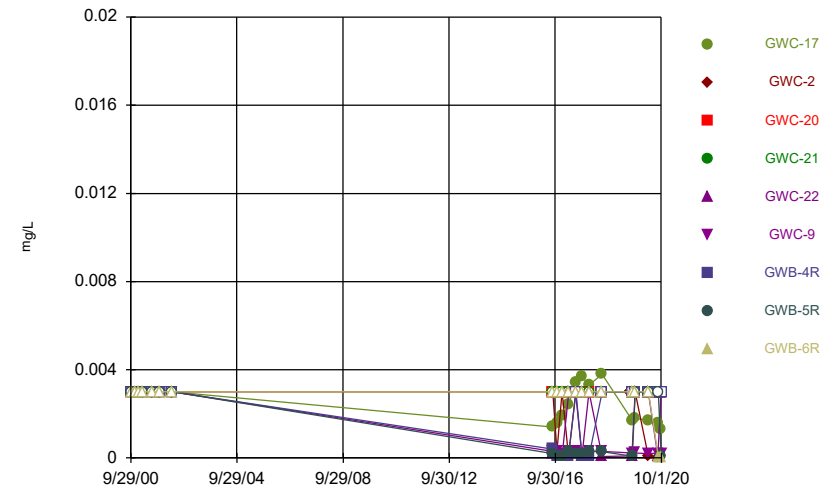
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



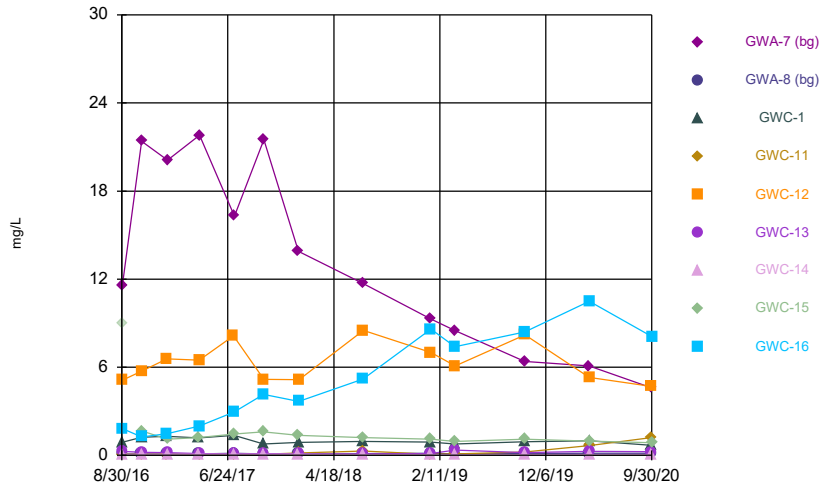
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



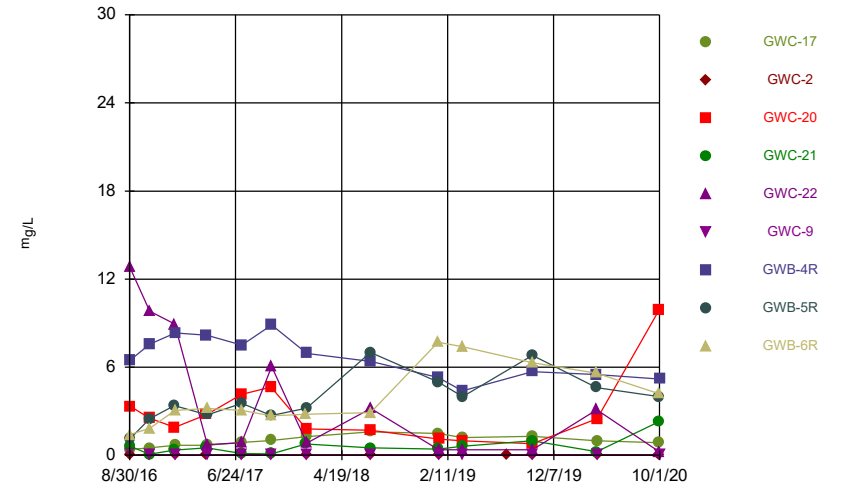
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



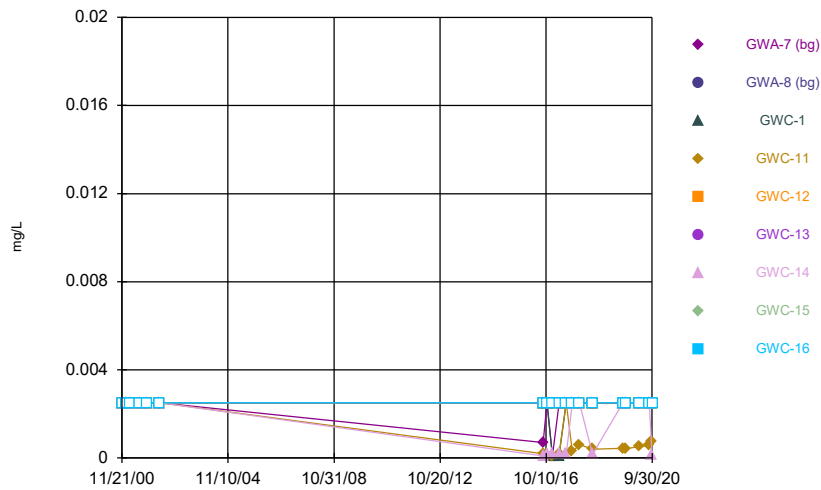
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



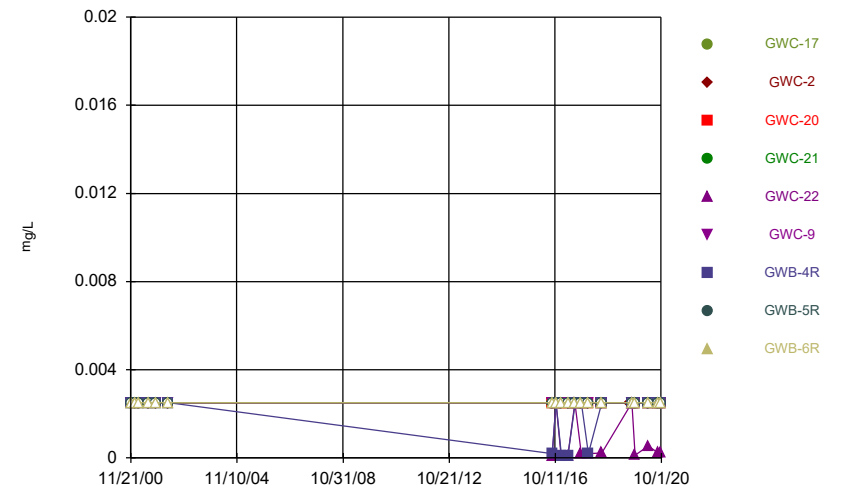
Constituent: Boron Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



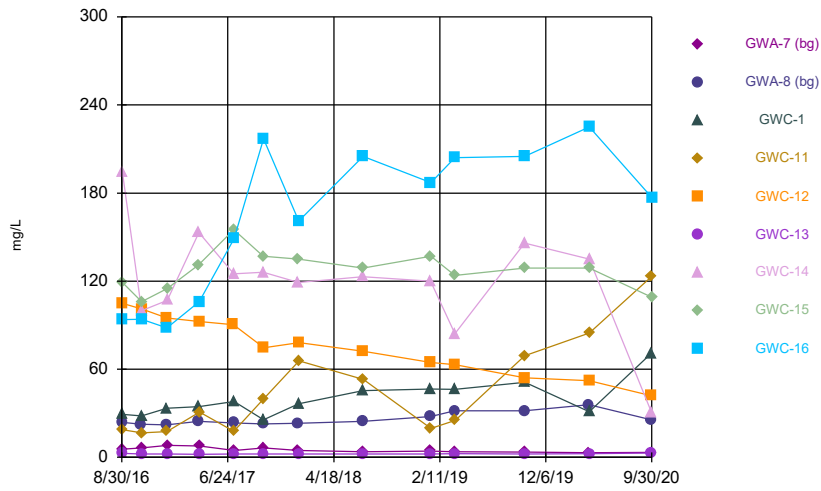
Constituent: Cadmium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



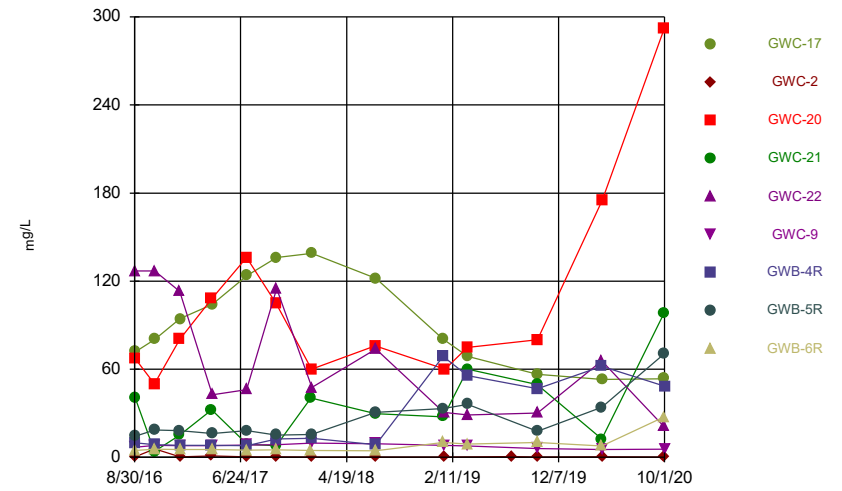
Constituent: Cadmium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



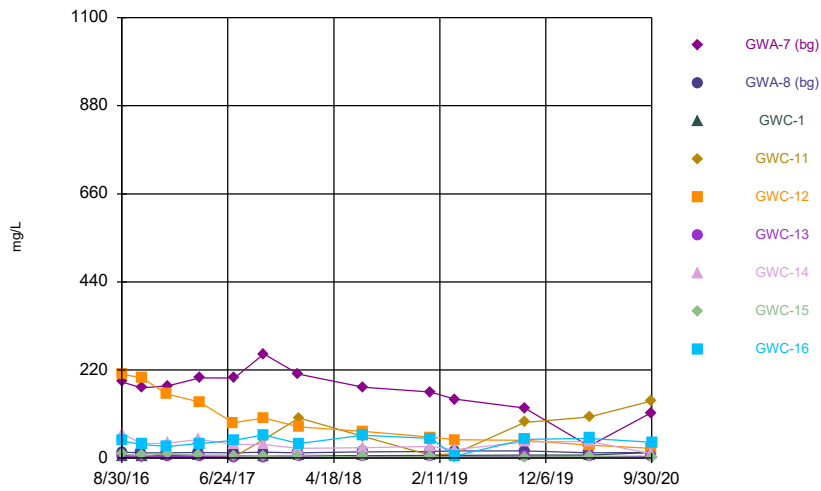
Constituent: Calcium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



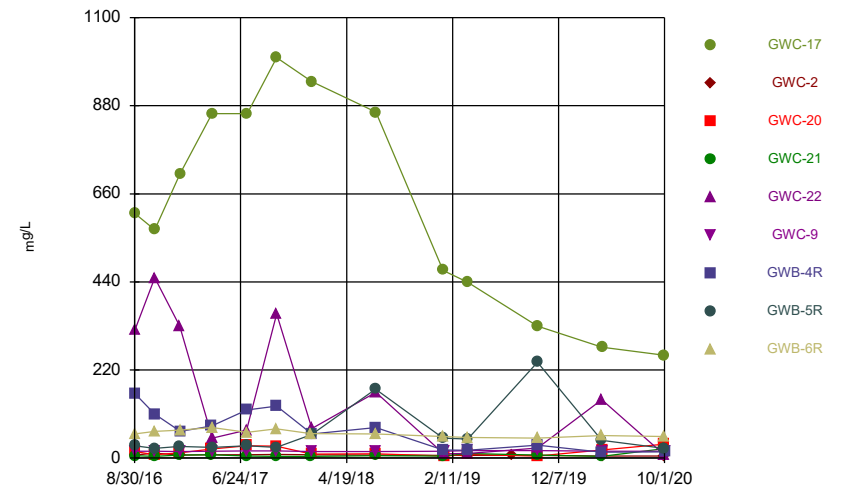
Constituent: Calcium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



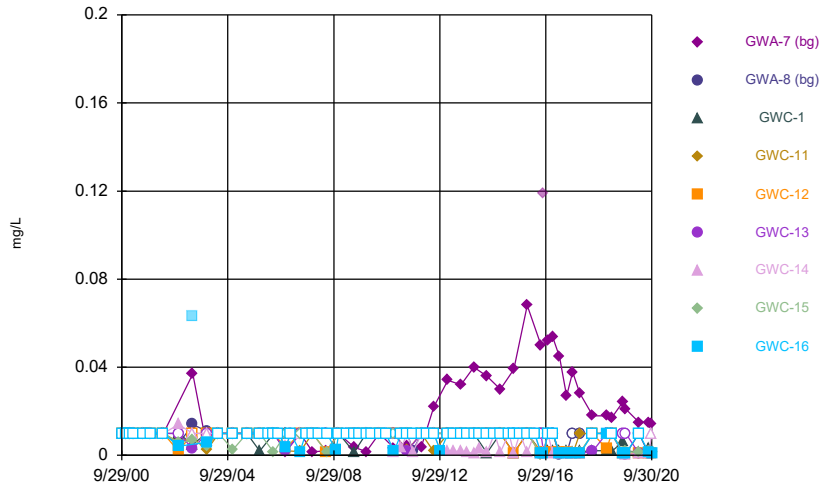
Constituent: Chloride Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



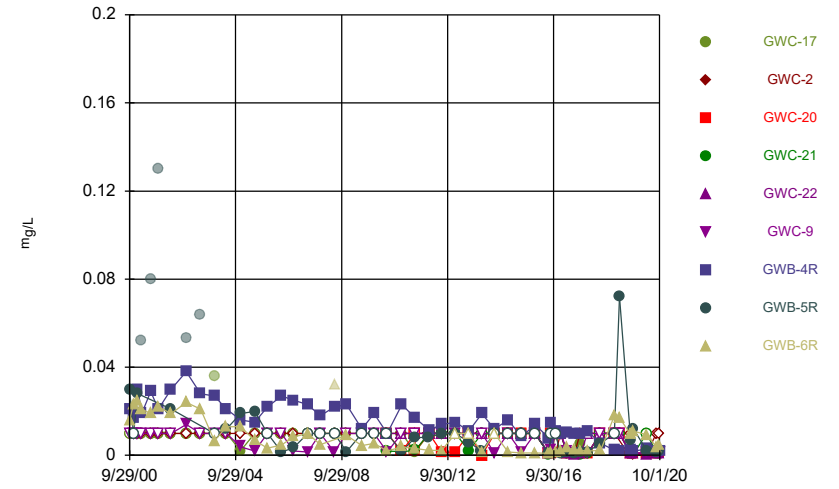
Constituent: Chloride Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



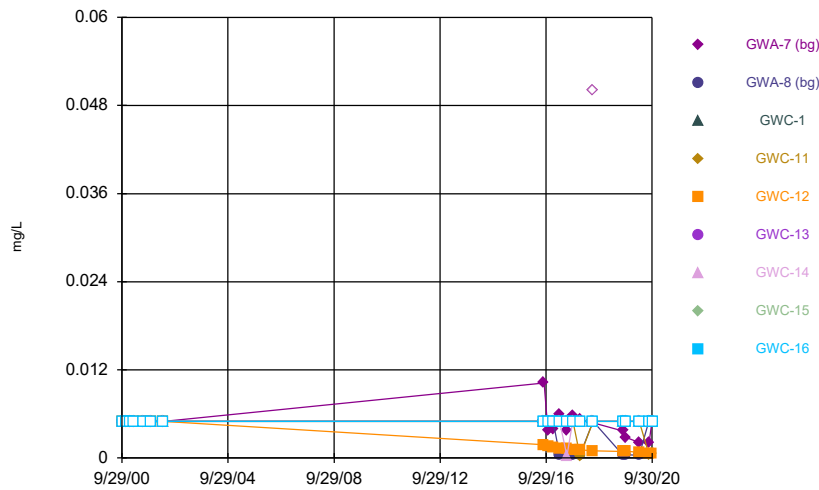
Constituent: Chromium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



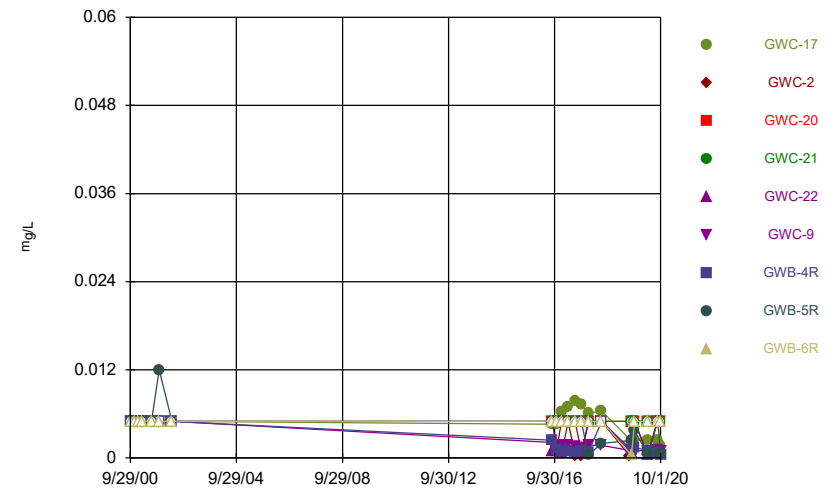
Constituent: Chromium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



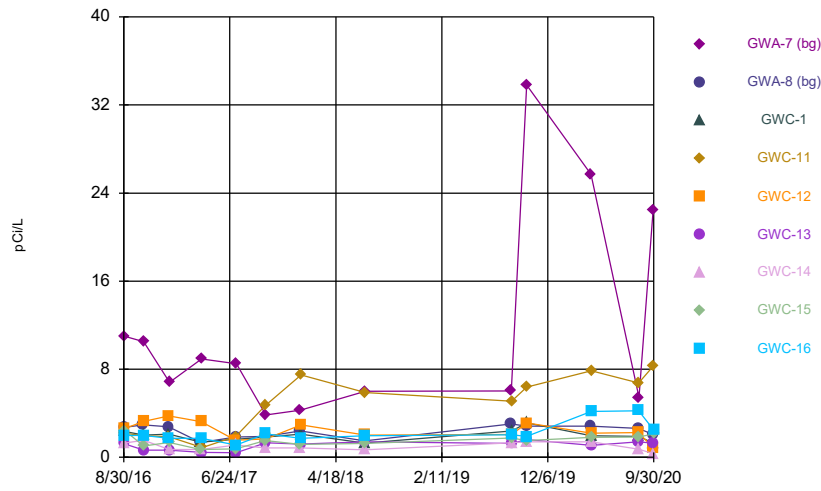
Constituent: Cobalt Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



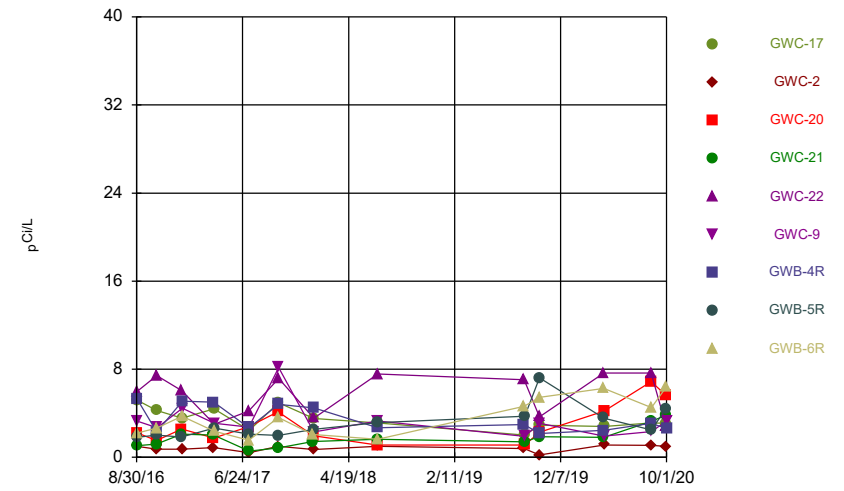
Constituent: Cobalt Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



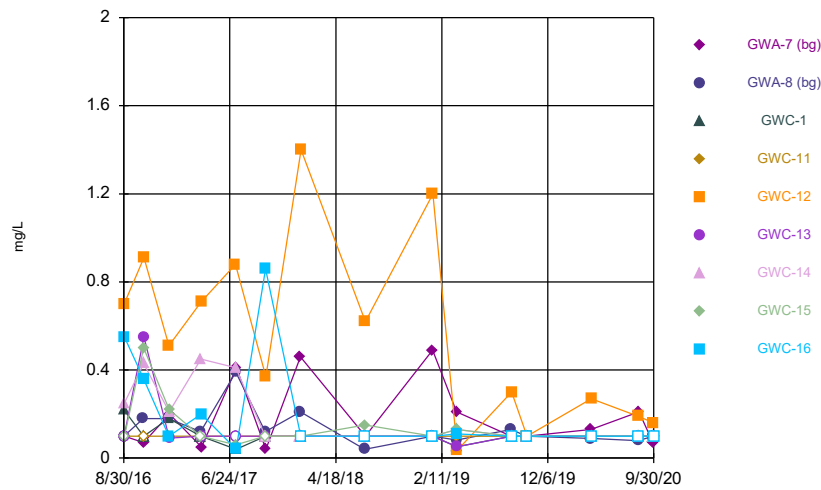
Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



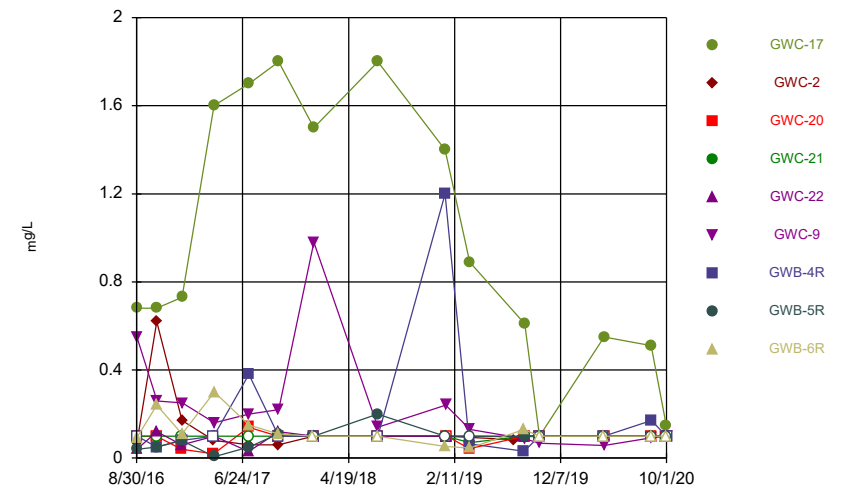
Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



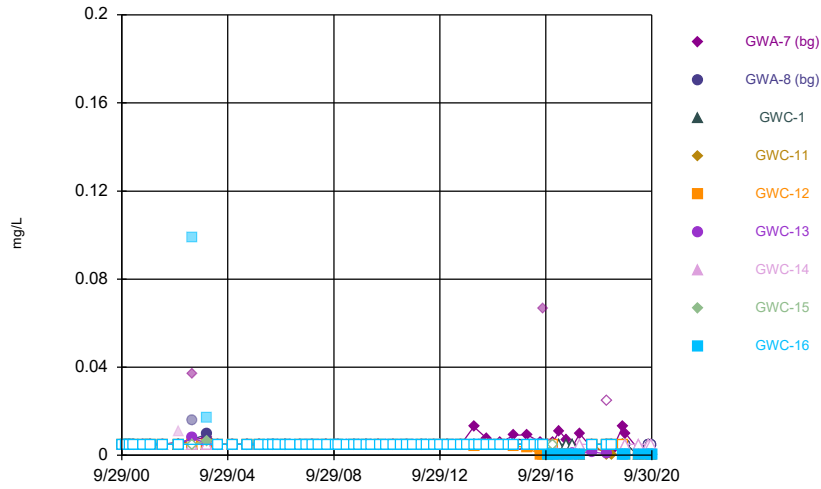
Constituent: Fluoride Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



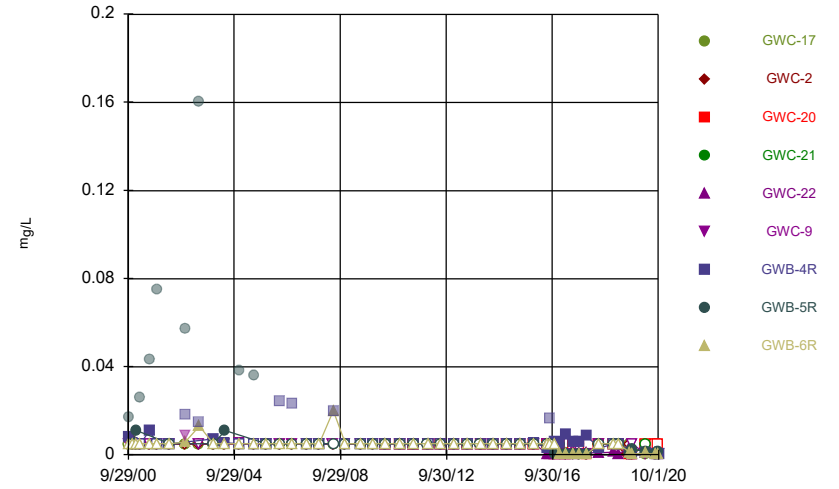
Constituent: Fluoride Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



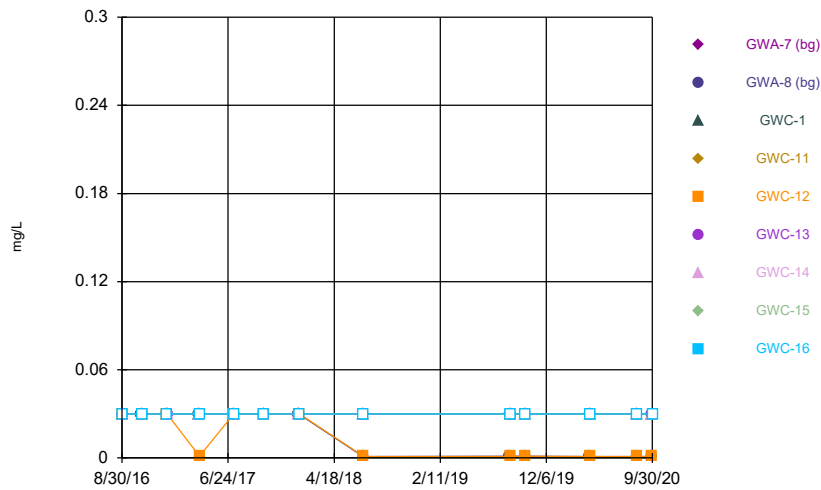
Constituent: Lead Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



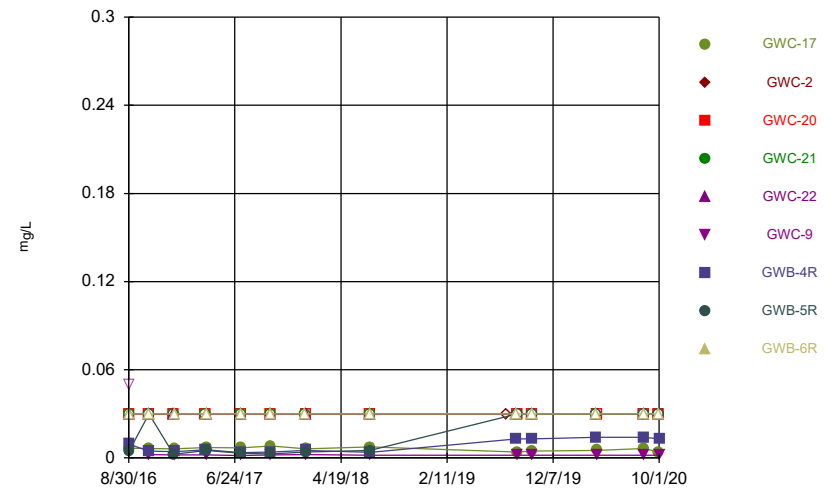
Constituent: Lead Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



Constituent: Lithium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

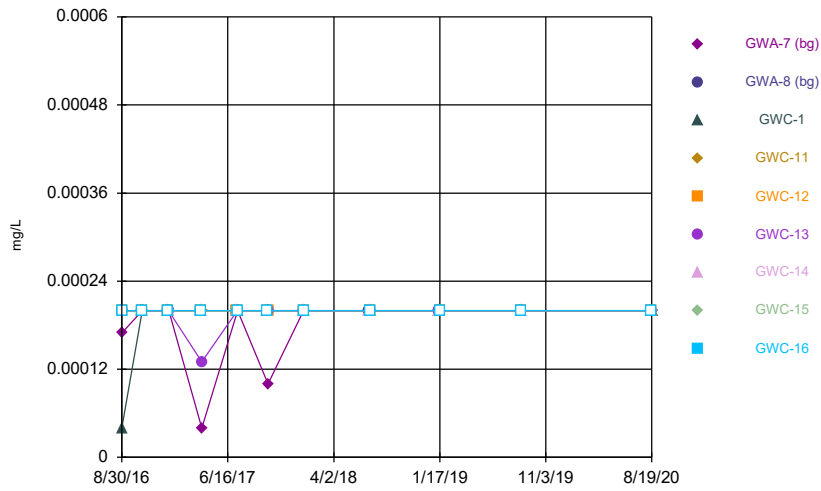
Time Series



Constituent: Lithium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

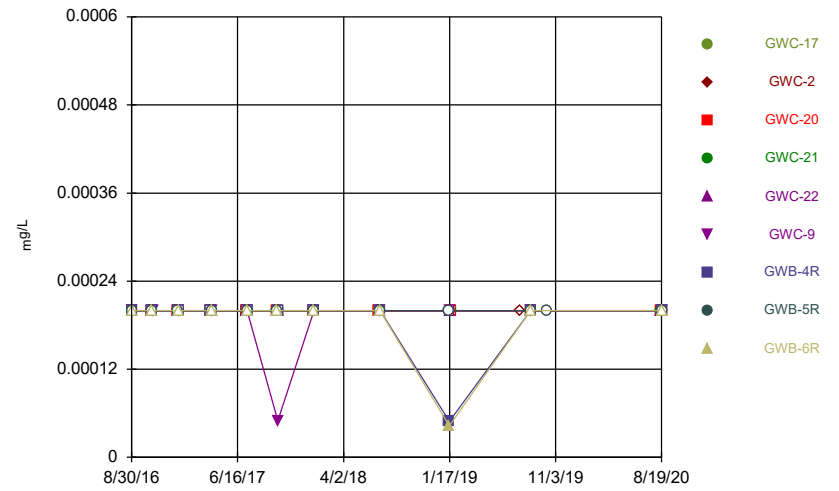


Time Series



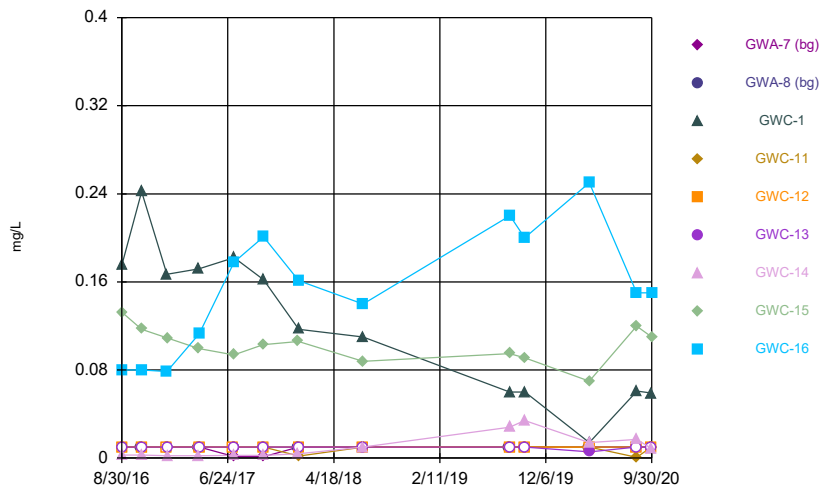
Constituent: Mercury Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



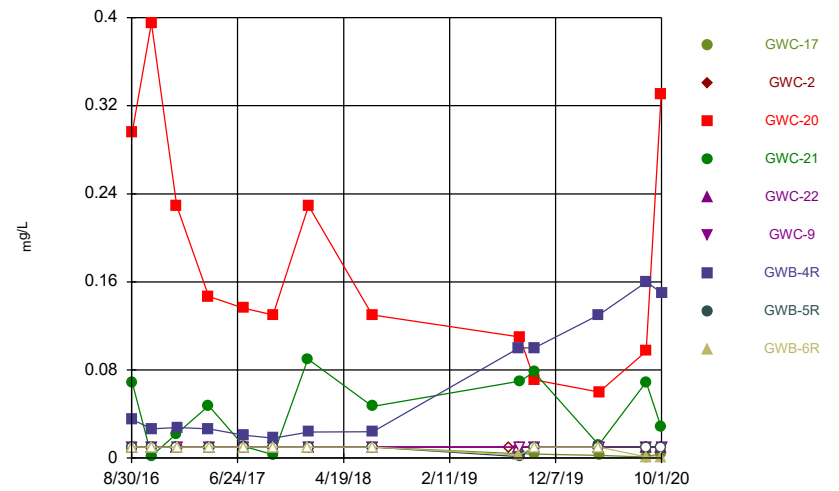
Constituent: Mercury Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



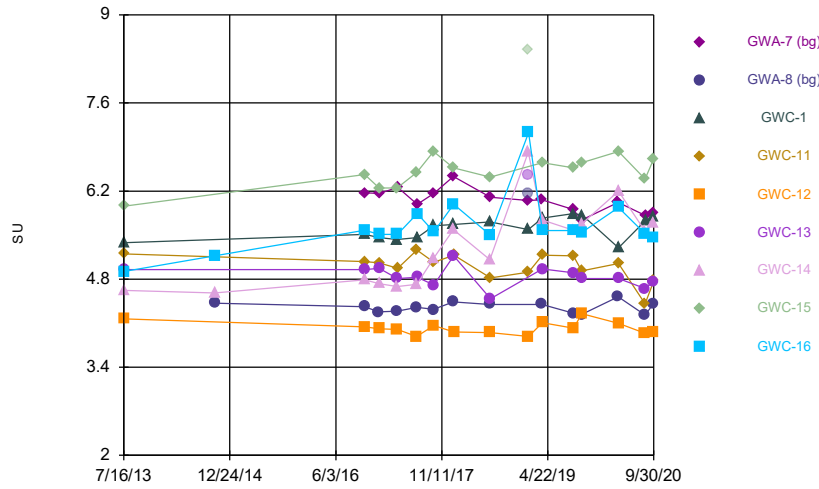
Constituent: Molybdenum Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



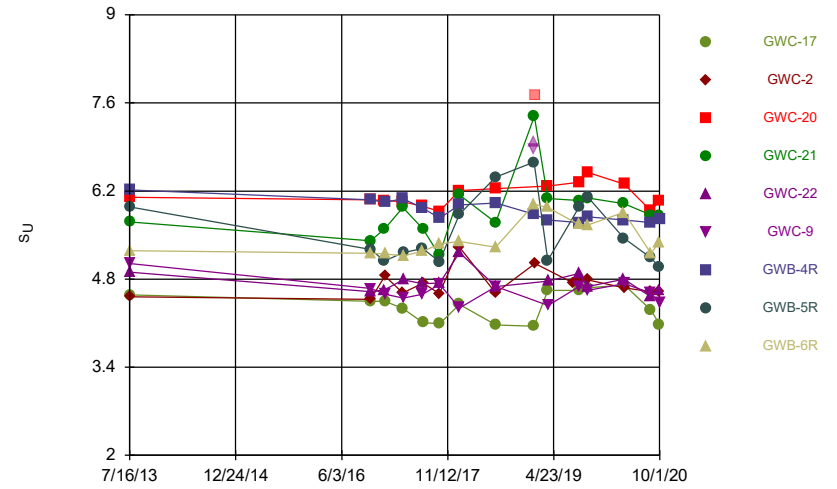
Constituent: Molybdenum Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



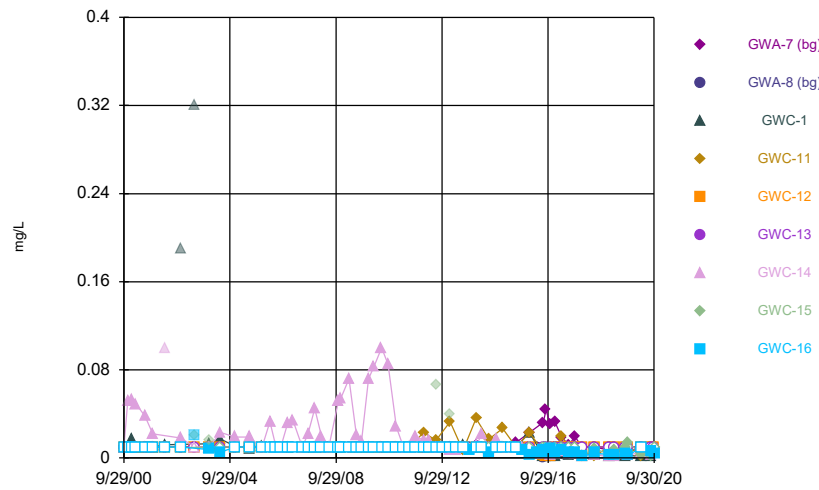
Constituent: pH Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



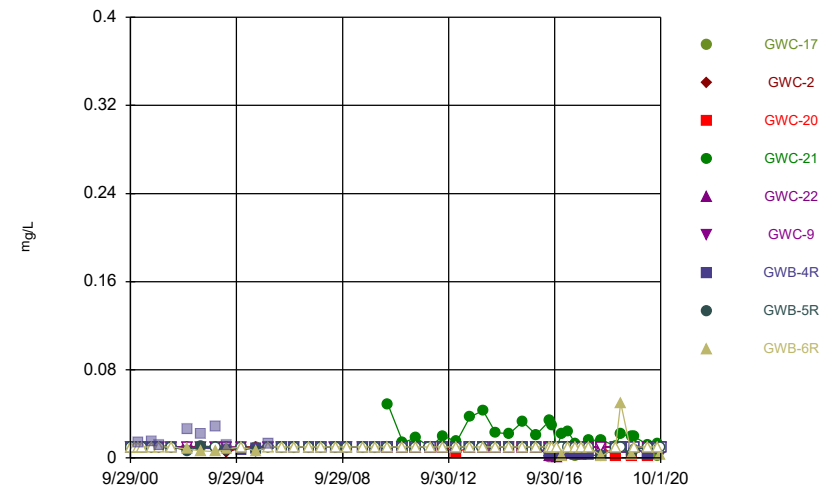
Constituent: pH Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



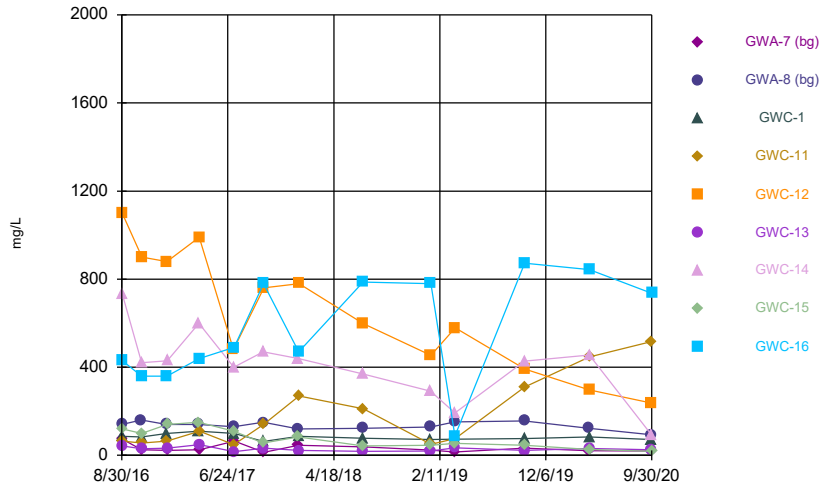
Constituent: Selenium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



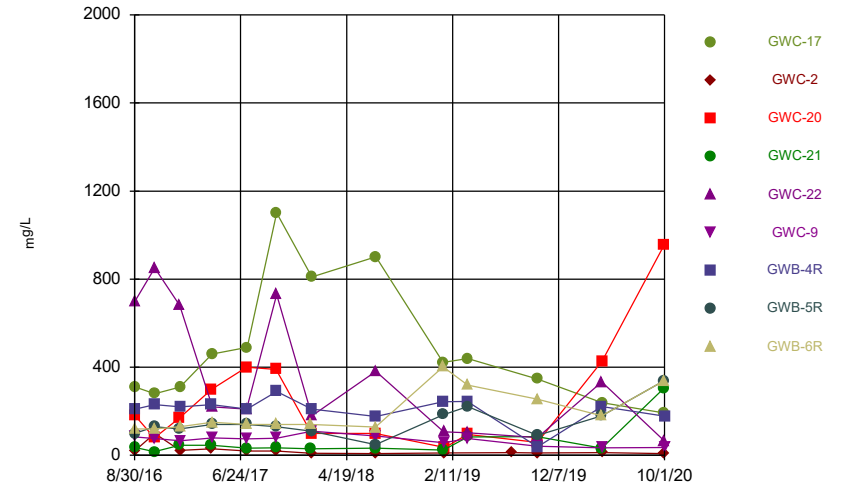
Constituent: Selenium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



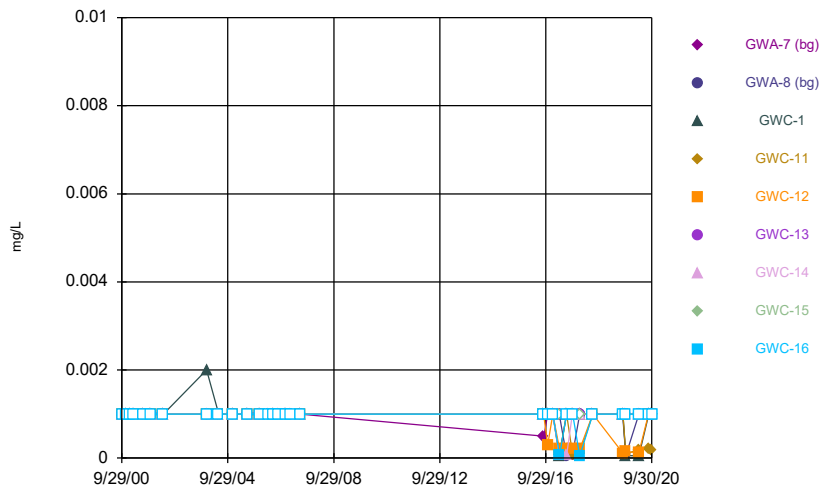
Constituent: Sulfate Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



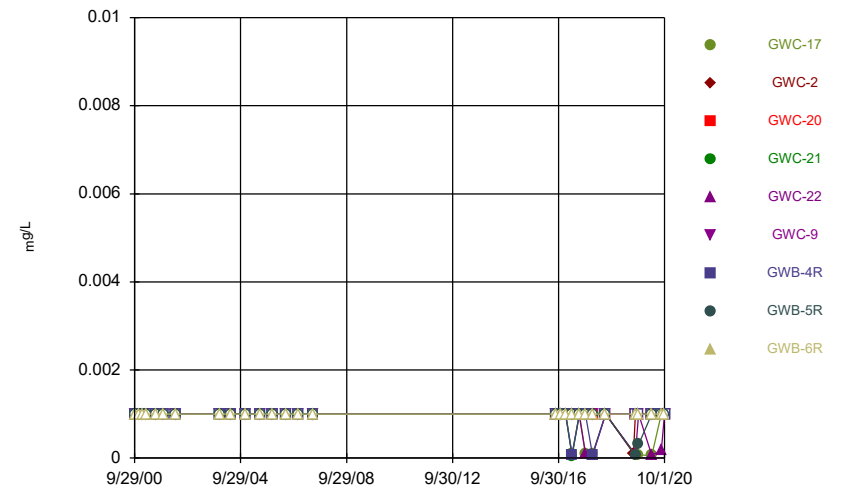
Constituent: Sulfate Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



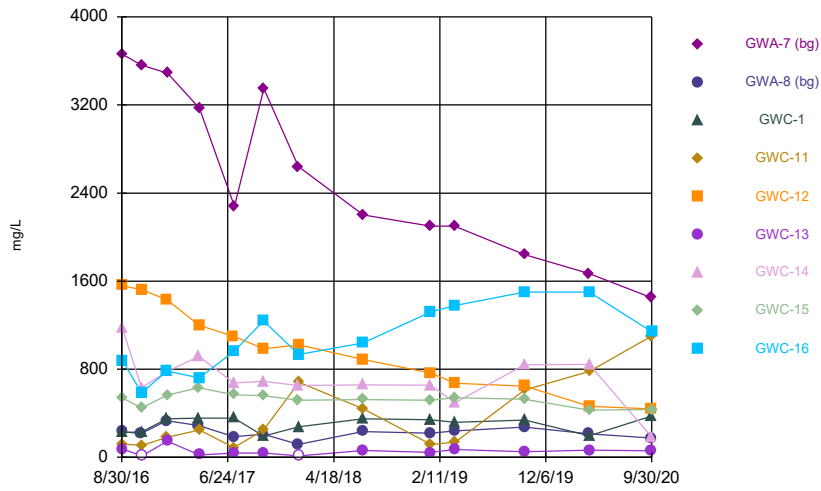
Constituent: Thallium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



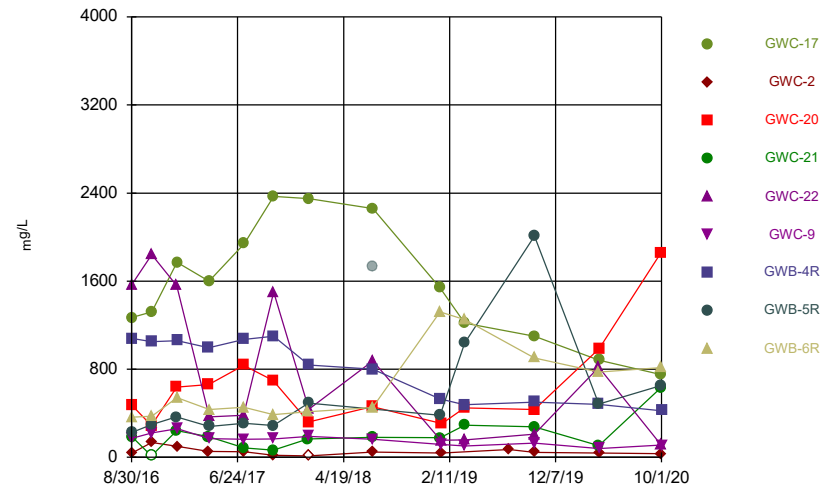
Constituent: Thallium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



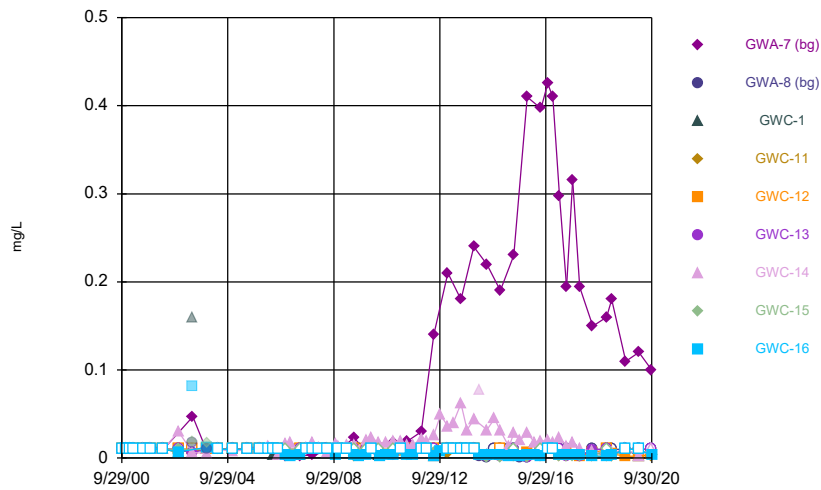
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



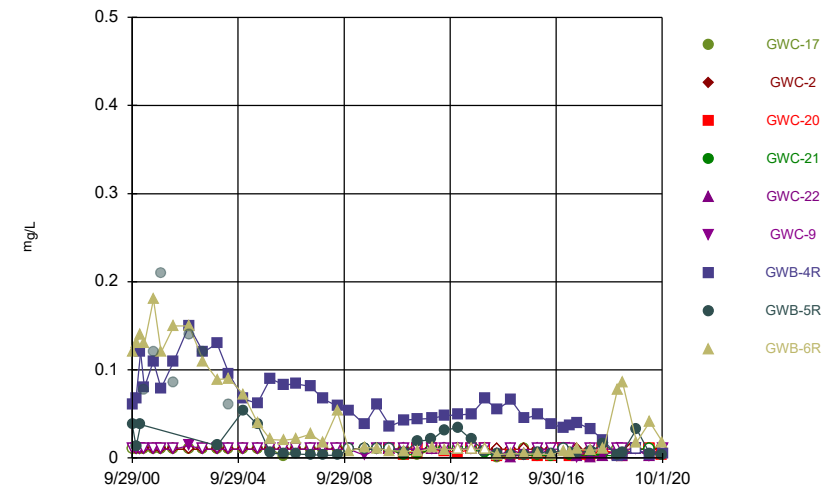
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



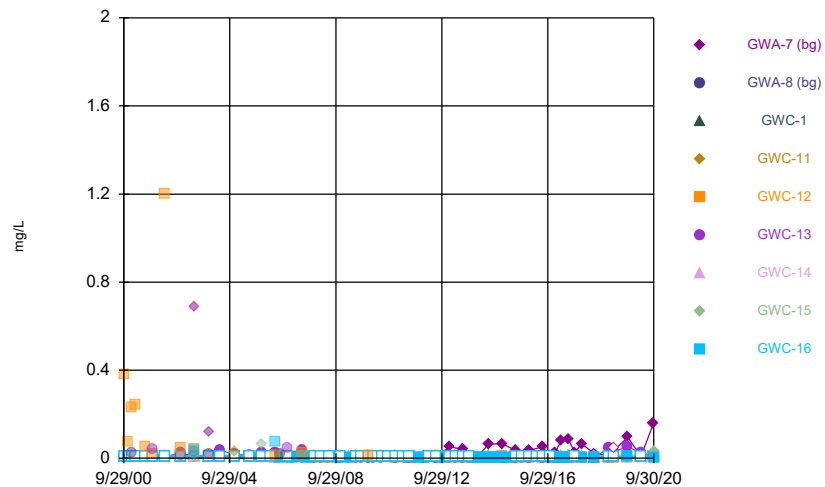
Constituent: Vanadium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series



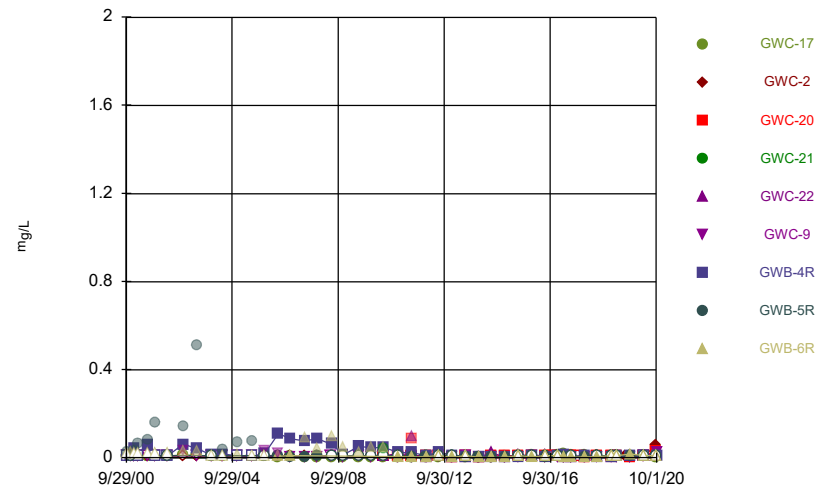
Constituent: Vanadium Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



Constituent: Zinc Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Time Series



Constituent: Zinc Analysis Run 2/1/2021 10:26 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

# Time Series

Constituent: Antimony (mg/L)    Analysis Run 2/1/2021 11:56 AM    View: Descriptive

Grumman Road Landfill    Client: Southern Company    Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/21/2000	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
1/20/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
3/14/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
7/16/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/1/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
4/25/2002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/20/2002		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
6/6/2003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/12/2003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
5/26/2004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/7/2004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
6/21/2005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/12/2005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
4/4/2006		<0.003					<0.003		<0.003
6/27/2006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/30/2006		<0.003					<0.003		<0.003
12/4/2006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.006
2/15/2007		<0.003					<0.003		<0.003
6/23/2007	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/11/2007		<0.003					<0.003		<0.003
12/11/2007	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
3/11/2008		<0.003					<0.003		<0.003
6/23/2008	<0.003	<0.003		<0.003	<0.003	<0.003			<0.003
6/24/2008			<0.003				<0.003	<0.003	<0.003
11/3/2008		<0.003					<0.003		<0.003
12/4/2008	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003
12/5/2008			<0.003					<0.003	<0.003
3/25/2009		<0.003					<0.003		<0.003
7/7/2009	<0.003	<0.003	<0.003						
7/8/2009				<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/14/2009		<0.003					<0.003		<0.003
12/20/2009	<0.003	<0.003	<0.003				<0.003	<0.003	<0.003
12/21/2009				<0.003	<0.003	<0.003			
3/4/2010		<0.003					<0.003		<0.003
6/20/2010	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
6/21/2010									<0.003
9/14/2010		<0.003					<0.003		<0.003
1/6/2011			<0.003	<0.003		<0.003			
1/7/2011	<0.003	<0.003			<0.003		<0.003	<0.003	<0.003
4/15/2011		<0.003					<0.003		<0.003
7/7/2011	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/25/2011		<0.003					<0.003		<0.003
1/17/2012	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
1/18/2012									<0.003
4/4/2012		<0.003					<0.003		<0.003
7/9/2012	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	
7/10/2012		<0.003							<0.003
10/9/2012		<0.003					<0.003		<0.003
1/17/2013			<0.003	<0.003	<0.003	<0.003			
1/18/2013	<0.003	<0.003					<0.003	<0.003	<0.003
4/5/2013		<0.003					<0.003		<0.003

# Time Series

Constituent: Antimony (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.003	<0.003	<0.003	<0.003			
7/17/2013	<0.003	<0.003					<0.003	<0.003	<0.003
10/11/2013		<0.003					0.005		<0.003
1/13/2014	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003	
1/14/2014		<0.003					<0.003		<0.003
4/3/2014		<0.003					<0.003		<0.003
7/8/2014				<0.003	<0.003	<0.003			
7/9/2014	0.0022 (J)	<0.003	<0.003				<0.003	<0.003	<0.003
10/24/2014		<0.003					<0.003		<0.003
1/13/2015	<0.003		<0.003	<0.003	<0.003	<0.003		<0.003	
1/14/2015		<0.003					<0.003		<0.003
5/10/2015		<0.003					<0.003		
5/11/2015									<0.003
7/16/2015	0.0028 (J)		<0.003	<0.003	<0.003	<0.003		<0.003	<0.003
7/17/2015		<0.003					<0.003		
10/6/2015		<0.003					<0.003		<0.003
1/17/2016			<0.003				<0.003	<0.003	<0.003
1/18/2016	<0.003	<0.003			<0.003	<0.003			
1/19/2016				<0.003					
4/26/2016		<0.003					<0.003		<0.003
7/26/2016				0.0005 (J)		0.0006 (J)			
7/27/2016	<0.003		<0.003		<0.003		<0.003	<0.003	
7/28/2016		<0.003							<0.003
8/30/2016		<0.003	<0.003						
8/31/2016				<0.003	<0.003	<0.003			
9/1/2016	0.0017 (J)						<0.003	<0.003	<0.003
10/24/2016		<0.003							
10/25/2016	<0.003		<0.003				<0.003	<0.003	<0.003
10/26/2016				<0.003	<0.003	<0.003			
1/3/2017		<0.003							
1/4/2017			<0.003	<0.003	<0.003				<0.003
1/5/2017						<0.003	<0.003	<0.003	
1/6/2017	0.0009 (J)								
4/3/2017		<0.003						<0.003	
4/4/2017			<0.003				<0.003		
4/5/2017					<0.003				<0.003
4/6/2017	<0.003			0.0006 (J)		<0.003			
7/10/2017					<0.003				
7/11/2017		<0.003		0.0009 (J)			<0.003	<0.003	
7/12/2017			<0.003			<0.003			<0.003
7/13/2017	0.0013 (J)								
10/2/2017		<0.003					<0.003	<0.003	
10/3/2017			<0.003	<0.003					<0.003
10/4/2017	0.0008 (J)				<0.003	<0.003			
1/9/2018	<0.003	<0.003					<0.003	<0.003	
1/10/2018			<0.003			<0.003			<0.003
1/11/2018				0.0007 (J)	<0.003				
7/9/2018		<0.003					<0.003		
7/10/2018			<0.003					<0.003	<0.003
7/11/2018	<0.003			<0.003	<0.003	<0.003			
1/16/2019	<0.003	<0.003	<0.003			<0.003	<0.003		
1/17/2019				<0.003	<0.003			<0.003	<0.003

# Time Series

Constituent: Antimony (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/25/2019	<0.003	<0.003							
3/26/2019			<0.003			<0.003	<0.003	<0.003	<0.003
3/27/2019				<0.003	<0.003				
8/26/2019	<0.003	<0.003							
8/27/2019			<0.003	0.00033 (J)	<0.003	<0.003	<0.003	<0.003	
8/28/2019									<0.003
10/7/2019		<0.003							
10/8/2019	<0.003			0.00046 (J)		<0.003	<0.003	<0.003	<0.003
10/9/2019			<0.003		<0.003				
4/6/2020	<0.003	<0.003							
4/7/2020			<0.003	0.00066 (J)	<0.003		<0.003	<0.003	<0.003
4/8/2020						<0.003			
8/17/2020		<0.003			<0.003	<0.003			
8/18/2020				0.00064 (J)			<0.003	<0.003	<0.003
8/19/2020	<0.003		0.00061 (J)						
9/28/2020	<0.003	<0.003	0.00035 (J)			<0.003			
9/29/2020				0.00051 (J)	<0.003		<0.003		
9/30/2020								<0.003	<0.003



# Time Series

Constituent: Antimony (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.003					<0.003	<0.003	<0.003	<0.003
11/21/2000	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
1/20/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
3/14/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
7/16/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
11/1/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
4/25/2002	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
11/20/2002	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
6/6/2003	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
12/12/2003	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
5/26/2004	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
12/7/2004	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
6/21/2005	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
12/12/2005	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
6/27/2006	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
12/4/2006	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
6/23/2007	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
12/11/2007	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
6/23/2008						<0.003			
6/24/2008	<0.003	<0.003					<0.003	<0.003	<0.003
12/4/2008		<0.003				<0.003			
12/5/2008	<0.003						<0.003	<0.003	<0.003
7/7/2009							<0.003	<0.003	<0.003
7/8/2009	<0.003	<0.003				<0.003			
12/20/2009		<0.003							
12/21/2009	<0.003					<0.003	<0.003	<0.003	<0.003
6/20/2010		<0.003				<0.003	<0.003	<0.003	<0.003
6/21/2010	<0.003		<0.003	<0.003	<0.003		<0.003		
1/6/2011		<0.003						<0.003	
1/7/2011	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
7/7/2011			<0.003					<0.003	<0.003
7/8/2011	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		
1/17/2012		<0.003						<0.003	
1/18/2012	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
7/9/2012		<0.003						<0.003	
7/10/2012	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
1/17/2013		<0.003						<0.003	
1/18/2013	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
7/16/2013								<0.003	
7/17/2013	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
1/13/2014		<0.003						<0.003	
1/14/2014	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003		<0.003
7/9/2014	<0.003	<0.003		<0.003	<0.003	<0.003	0.002 (J)	<0.003	<0.003
7/10/2014			<0.003		<0.003				
1/12/2015			<0.003				<0.003		
1/13/2015		<0.003						<0.003	
1/14/2015	<0.003			<0.003	<0.003	<0.003			<0.003
7/16/2015		<0.003					0.0021 (J)	<0.003	
7/17/2015				<0.003	<0.003	<0.003			<0.003
7/18/2015	<0.003		<0.003	<0.003	<0.003	<0.003			
1/17/2016		<0.003	<0.003	<0.003					
1/18/2016	<0.003				<0.003	<0.003	<0.003	<0.003	<0.003

# Time Series

Constituent: Antimony (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		<0.003						<0.003	
7/28/2016			0.0019 (J)	<0.003		<0.003			<0.003
7/29/2016	<0.003				<0.003		0.0003 (J)		
8/30/2016								<0.003	<0.003
8/31/2016		<0.003			<0.003	<0.003			
9/1/2016	<0.003		<0.003	<0.003			<0.003		
10/25/2016			<0.003	<0.003					
10/26/2016	<0.003	<0.003			<0.003		<0.003	<0.003	<0.003
10/27/2016						0.0016 (J)			
1/3/2017								<0.003	
1/4/2017			<0.003	<0.003	<0.003				
1/5/2017	<0.003	<0.003							<0.003
1/6/2017						<0.003	<0.003		
4/4/2017		<0.003	<0.003	<0.003			<0.003		
4/5/2017	<0.003								
4/6/2017					<0.003	<0.003		<0.003	<0.003
7/11/2017			<0.003		<0.003				
7/12/2017						<0.003	<0.003	<0.003	<0.003
7/13/2017	<0.003	<0.003		<0.003					
10/2/2017			<0.003						
10/3/2017		<0.003		<0.003				<0.003	<0.003
10/4/2017	<0.003				<0.003	<0.003	<0.003		
1/9/2018				<0.003					<0.003
1/10/2018		<0.003	<0.003					<0.003	
1/11/2018	<0.003				<0.003	<0.003	<0.003		
7/9/2018			<0.003						
7/10/2018		<0.003		<0.003				<0.003	<0.003
7/11/2018	<0.003				<0.003	<0.003	<0.003		
1/16/2019	<0.003						<0.003	<0.003	<0.003
1/17/2019				<0.003					
1/18/2019					<0.003	<0.003			
1/21/2019		<0.003	<0.003						
3/25/2019			<0.003				<0.003		
3/26/2019	<0.003			<0.003				<0.003	<0.003
3/27/2019					<0.003	<0.003			
7/30/2019		<0.003							
8/27/2019		<0.003			0.00045 (J)		<0.003		<0.003
8/28/2019	<0.003		<0.003	<0.003		<0.003		0.00054 (J)	
10/8/2019				<0.003					
10/9/2019	<0.003	<0.003	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003
4/7/2020				<0.003	0.00049 (J)		<0.003	<0.003	<0.003
4/8/2020	<0.003	0.0013 (J)	<0.003			0.00033 (J)			
8/18/2020	<0.003	<0.003	<0.003	<0.003	0.0022 (J)				
8/19/2020						<0.003	<0.003	<0.003	<0.003
9/29/2020		0.0016 (J)							
9/30/2020	<0.003		<0.003	0.00033 (J)	0.0016 (J)			0.0003 (J)	0.00059 (J)
10/1/2020						<0.003	<0.003		

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.094
11/21/2000	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.059
1/20/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.087
3/14/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.075
7/16/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.11
11/1/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.098
4/25/2002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.071
11/20/2002		<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	0.15
6/6/2003	0.02	<0.005	0.03 (o)	<0.005	<0.005	<0.005	<0.005	<0.005	1.2 (o)
12/12/2003	<0.005	<0.005	<0.005	<0.005	<0.005	0.0064	<0.005	<0.005	0.27 (o)
5/26/2004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.12
12/7/2004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.098
6/21/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.065
12/12/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.081
4/4/2006		<0.005					<0.005		0.077
6/27/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.071
8/30/2006		<0.005					<0.005		0.08
12/4/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.085
2/15/2007		<0.005					<0.005		0.09
6/23/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.12
9/11/2007		<0.005					<0.005		0.088
12/11/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.088
3/11/2008		<0.005					<0.005		0.071
6/23/2008	<0.005	<0.005		<0.005	<0.005	<0.005			
6/24/2008			<0.005				<0.005	<0.005	0.097
11/3/2008		<0.005					<0.005		0.089
12/4/2008	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005		
12/5/2008			<0.005					<0.005	0.092
3/25/2009		<0.005					<0.005		0.095
7/7/2009	<0.005	<0.005	<0.005						
7/8/2009				<0.005	<0.005	<0.005	<0.005	0.0052	0.11
9/14/2009		<0.005					<0.005		0.099
12/20/2009	<0.005	<0.005	<0.005				<0.005	<0.005	0.1
12/21/2009				<0.005	<0.005	<0.005			
3/4/2010		<0.005					<0.005		0.074
6/20/2010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0068	
6/21/2010									0.056
9/14/2010		<0.005					<0.005		0.067
1/6/2011			<0.005	<0.005		<0.005			
1/7/2011	<0.005	<0.005			<0.005		<0.005	<0.005	0.066
4/15/2011		<0.005					<0.005		0.08
7/7/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.054
9/25/2011		<0.005					<0.005		0.085
1/17/2012	<0.005	<0.005	0.0071	<0.005	<0.005	<0.005	<0.005	<0.005	
1/18/2012									0.089
4/4/2012		<0.005					<0.005		0.0473
7/9/2012	0.0052		0.0076	<0.005	<0.005	<0.005	<0.005	<0.005	
7/10/2012		<0.005							0.07
10/9/2012		<0.005					<0.005		0.088
1/17/2013			0.0086	<0.005	<0.005	<0.005			
1/18/2013	0.0087	<0.005					<0.005	0.0089	0.063
4/5/2013		<0.005					<0.005		0.06

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.005	<0.005	<0.005	<0.005			
7/17/2013	0.0084	<0.005					<0.005	0.011	0.063
10/11/2013		<0.005					0.005		0.059
1/13/2014	0.009		<0.005	<0.005	<0.005	<0.005		0.017	
1/14/2014		<0.005					<0.005		0.077
4/3/2014		<0.005					<0.005		0.091
7/8/2014				<0.005	<0.005	<0.005			
7/9/2014	0.008	<0.005	0.0022 (J)				<0.005	0.014	0.08
10/24/2014		<0.005					<0.005		0.073
1/13/2015	0.0077		<0.005	<0.005	<0.005	<0.005		0.011	
1/14/2015		<0.005					<0.005		0.079
5/10/2015		<0.005					<0.005		
5/11/2015									0.058
7/16/2015	0.0077		0.0037 (J)	<0.005	<0.005	<0.005		0.02	0.068
7/17/2015		<0.005					<0.005		
10/6/2015		<0.005					<0.005		0.078
1/17/2016			0.024 (o)				0.002 (J)	0.014	0.089
1/18/2016	0.014	<0.005			<0.005	<0.005			
1/19/2016				<0.005					
4/26/2016		0.0011 (J)					0.00183 (J)		0.0731
7/26/2016				<0.005		<0.005			
7/27/2016	0.0111		0.0046 (J)		<0.005		0.0021 (J)	0.0303	
7/28/2016		<0.005							0.0627
8/30/2016		<0.005	0.0023 (J)						
8/31/2016				<0.005	<0.005	<0.005			
9/1/2016	0.0287						0.0024 (J)	0.0533	0.0551
10/24/2016		<0.005							
10/25/2016	0.0069		0.0035 (J)				<0.005	0.0551	0.0466
10/26/2016				<0.005	<0.005	<0.005			
1/3/2017		<0.005							
1/4/2017			0.0018 (J)	<0.005	<0.005				0.0444
1/5/2017									
1/6/2017	0.0097					<0.005	0.0024 (J)	0.0437	
4/3/2017		0.0006 (J)						0.0713	
4/4/2017			0.0015 (J)				0.003 (J)		
4/5/2017					0.0006 (J)				0.0591
4/6/2017	0.0104			<0.005		<0.005			
7/10/2017					0.0008 (J)				
7/11/2017		0.0006 (J)		<0.005			0.0019 (J)	0.0745	
7/12/2017			0.0015 (J)			<0.005			0.0776
7/13/2017	0.0064								
10/2/2017		0.0006 (J)					0.0026 (J)	0.0723	
10/3/2017			0.0013 (J)	<0.005					0.0813
10/4/2017	0.0078				0.0009 (J)	<0.005			
1/9/2018	0.0091 (J)	0.0009 (J)					0.0021 (J)	0.0731	
1/10/2018			0.0023 (J)			0.0006 (J)			0.085
1/11/2018				<0.005	<0.005				
7/9/2018		<0.005					0.0019 (J)		
7/10/2018			0.0031 (J)					0.09	0.067
7/11/2018	<0.005			<0.005	<0.005	<0.005			
1/16/2019	<0.005	<0.005	0.0023 (J)			<0.005	0.0016 (J)		
1/17/2019				<0.005	<0.005			0.13	0.079

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/25/2019	0.0029 (J)	<0.005							
3/26/2019			0.0032 (J)			0.00058 (J)	0.0023 (J)	0.1	0.089
3/27/2019				<0.005	<0.005				
8/26/2019	0.0041 (J)	<0.005							
8/27/2019			0.0022 (J)	<0.005	<0.005	<0.005	0.0017 (J)	0.17	
8/28/2019									0.091
10/7/2019		<0.005							
10/8/2019	0.003 (J)			<0.005		<0.005	0.0017 (J)	0.13	0.088
10/9/2019			0.0042 (J)		<0.005				
4/6/2020	<0.005	0.00045 (J)							
4/7/2020			0.027	<0.005	<0.005		0.0018 (J)	0.24	0.091
4/8/2020						<0.005			
8/17/2020		<0.005			<0.005	<0.005			
8/18/2020				<0.005			0.0012 (J)	0.28	0.045
8/19/2020	0.006 (J)		0.007						
9/28/2020	<0.005	<0.005	0.0058			<0.005			
9/29/2020				<0.005	<0.005		<0.005		
9/30/2020								0.24	0.044

# Time Series

Constituent: Arsenic (mg/L)    Analysis Run 2/1/2021 11:56 AM    View: Descriptive

Grumman Road Landfill    Client: Southern Company    Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.005					<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
1/20/2001	<0.005	<0.005				<0.005	0.01	<0.005	0.014
3/14/2001	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
7/16/2001	<0.005	<0.005				<0.005	<0.005	0.014	<0.005
11/1/2001	<0.005	<0.005				<0.005	<0.005	0.023	<0.005
4/25/2002	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
11/20/2002	<0.005	<0.005				<0.005	0.0096	0.022	0.014
6/6/2003	<0.005	<0.005				<0.005	0.0076	0.07 (o)	0.014
12/12/2003	<0.005	<0.005				<0.005	0.0058	<0.005	<0.005
5/26/2004	<0.005	<0.005				<0.005	0.0068	0.0074	0.0082
12/7/2004	<0.005	<0.005				<0.005	0.0066	0.017	0.0062
6/21/2005	<0.005	<0.005				<0.005	<0.005	0.013	<0.005
12/12/2005	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
6/27/2006	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
12/4/2006	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
6/23/2007	<0.005	<0.005				<0.005	<0.005	<0.005	0.0053
12/11/2007	<0.005	<0.005				<0.005	<0.005	<0.005	0.0057
6/23/2008						<0.005			
6/24/2008	<0.005	<0.005					0.005	<0.005	0.012
12/4/2008		<0.005				<0.005			
12/5/2008	<0.005						<0.005	<0.005	0.0064
7/7/2009							<0.005	<0.005	<0.005
7/8/2009	<0.005	<0.005				<0.005			
12/20/2009		<0.005							
12/21/2009	<0.005					<0.005	<0.005	<0.005	<0.005
6/20/2010		<0.005				<0.005		<0.005	0.017
6/21/2010	<0.005		0.29	0.013 (o)	<0.005		0.018 (o)		
1/6/2011		<0.005						<0.005	
1/7/2011	<0.005		0.2	<0.005	<0.005	<0.005	<0.005		<0.005
7/7/2011			<0.005					<0.005	<0.005
7/8/2011	<0.005		0.19	<0.005	<0.005	<0.005	<0.005		
1/17/2012		<0.005						<0.005	
1/18/2012	<0.005		0.058	<0.005	<0.005	<0.005	<0.005		<0.005
7/9/2012		<0.005						<0.005	
7/10/2012	<0.005		0.18	<0.005	<0.005	<0.005	0.0052		<0.005
1/17/2013		<0.005						<0.005	
1/18/2013	<0.005		0.22	0.0061	<0.005	<0.005	<0.005		<0.005
7/16/2013								<0.005	
7/17/2013	<0.005	<0.005	0.45	<0.005	<0.005	<0.005	<0.005		<0.005
1/13/2014		<0.005						<0.005	
1/14/2014	<0.005		0.52	0.006	<0.005	<0.005	<0.005		<0.005
7/9/2014	<0.005	<0.005		<0.005		<0.005	0.0023 (J)	<0.005	<0.005
7/10/2014			0.4		0.0027 (J)				
1/12/2015			0.43				0.0028 (J)		
1/13/2015		<0.005						<0.005	
1/14/2015	<0.005			<0.005	<0.005	<0.005			<0.005
7/16/2015		<0.005					<0.005	<0.005	
7/17/2015				<0.005		<0.005			<0.005
7/18/2015	<0.005		0.26		<0.005				
1/17/2016		<0.005	0.34	0.0065					
1/18/2016	<0.005				<0.005	<0.005	<0.005	<0.005	<0.005

# Time Series

Constituent: Arsenic (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		<0.005						0.0008 (J)	
7/28/2016			0.209	<0.005		<0.005			0.0009 (J)
7/29/2016	0.0009 (J)				0.002 (J)		0.0014 (J)		
8/30/2016								<0.005	<0.005
8/31/2016		<0.005			0.0017 (J)	<0.005			
9/1/2016	<0.005		0.215	0.0039 (J)			0.0033 (J)		
10/25/2016			0.307	<0.005					
10/26/2016	<0.005	<0.005			<0.005		0.0016 (J)	<0.005	<0.005
10/27/2016						<0.005			
1/3/2017								<0.005	
1/4/2017			0.311	<0.005	<0.005				
1/5/2017	<0.005	<0.005							0.0021 (J)
1/6/2017						<0.005	<0.005		
4/4/2017		<0.005	0.317	0.0031 (J)			0.0021 (J)		
4/5/2017	0.0011 (J)								
4/6/2017					0.0006 (J)	<0.005		0.0006 (J)	0.0011 (J)
7/11/2017			0.299		0.0012 (J)				
7/12/2017						<0.005	0.0015 (J)	0.0009 (J)	0.0014 (J)
7/13/2017	0.0016 (J)	<0.005		<0.005					
10/2/2017			0.216						
10/3/2017		<0.005		<0.005				0.001 (J)	0.0014 (J)
10/4/2017	0.0019 (J)				0.0025 (J)	<0.005	0.0018 (J)		
1/9/2018				0.0033 (J)					0.0017 (J)
1/10/2018		0.0006 (J)	0.347					0.0012 (J)	
1/11/2018	0.0015 (J)				0.0006 (J)	<0.005	0.0015 (J)		
7/9/2018			0.37						
7/10/2018		<0.005		0.0027 (J)				0.0016 (J)	0.00063 (J)
7/11/2018	0.00082 (J)				0.0011 (J)	<0.005	0.00095 (J)		
1/16/2019	<0.005						0.0024 (J)	0.0011 (J)	<0.005
1/17/2019				0.0022 (J)					
1/18/2019					<0.005	<0.005			
1/21/2019		<0.005	0.44						
3/25/2019			0.41				0.0029 (J)		
3/26/2019	0.0015 (J)			0.0045 (J)				0.0014 (J)	0.0029 (J)
3/27/2019					<0.005	<0.005			
7/30/2019		0.00039 (J)							
8/27/2019		<0.005			0.00044 (J)		0.0023 (J)		0.0035 (J)
8/28/2019	0.0011 (J)		0.43	0.002 (J)		<0.005		0.0023 (J)	
10/8/2019				0.0028 (J)					
10/9/2019	0.0011 (J)	<0.005	0.35		<0.005	<0.005	0.0024 (J)	0.0053 (J)	0.0018 (J)
4/7/2020				<0.005	0.00043 (J)		0.0027 (J)	0.0011 (J)	<0.005
4/8/2020	0.0013 (J)	0.00094 (J)	0.33			0.00084 (J)			
8/18/2020	<0.005	<0.005	0.3	0.0059	<0.005				
8/19/2020						<0.005	0.0033 (J)	0.0019 (J)	0.0036 (J)
9/29/2020		<0.005							
9/30/2020	0.0012 (J)		0.31	0.0029 (J)	<0.005			0.0017 (J)	0.004 (J)
10/1/2020						<0.005	0.0027 (J)		

# Time Series

Constituent: Barium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	0.11	0.16	0.044	0.1	0.075	<0.005	0.11	0.028	0.076
11/21/2000	0.12		0.047	0.082	0.072	0.01	0.15	0.035	0.075
1/20/2001	0.11	0.18	0.051	0.083	0.086	<0.005	0.1	0.032	0.053
3/14/2001	0.11	0.14	0.048	0.075	0.088	0.01	0.095	0.036	0.055
7/16/2001	0.11	0.14	0.054	0.091	0.084	<0.005	0.28 (o)	0.036	0.041
11/1/2001	0.11	0.14	0.063	0.068	0.13	<0.005	0.16	0.036	0.045
4/25/2002	0.058	0.088	0.032	0.066	0.24 (o)	<0.005	0.054	0.045	0.055
6/6/2003	0.19	0.14	0.046	0.085	0.28 (o)	0.028	0.063	0.083 (o)	0.48 (o)
12/12/2003	0.1	0.13	0.034	0.072	0.27 (o)	0.019	0.041	0.094 (o)	0.13 (o)
5/26/2004	0.084	0.09	0.035	0.055	0.31 (o)	<0.005	0.059	0.034	0.055
12/7/2004	0.094	0.11	0.024	0.066	0.46 (o)	0.009	0.076	0.042	0.072
6/21/2005	0.089	0.084	0.039	0.033	0.053	0.0089	0.042	0.039	0.061
12/12/2005	0.089	0.1	0.042	0.034	0.1	0.026	0.048	0.043	0.047
4/4/2006		0.089					0.05		0.042
6/27/2006	0.096	0.1	0.033	0.029	0.098	0.029	0.036	0.031	0.042
8/30/2006		0.12					0.059		0.05
12/4/2006	0.092	0.086	0.04	0.02	0.068	0.017	0.062	0.043	0.044
2/15/2007		0.088					0.079		0.041
6/23/2007	0.08	0.089	0.044	0.017	0.042	0.014	0.03	0.031	0.044
9/11/2007		0.092					0.053		0.04
12/11/2007	0.067	0.077	0.049	0.013	0.04	0.011	0.075	0.044	0.0035
3/11/2008		0.082					0.052		0.034
6/23/2008	0.056	0.086		0.012	0.041	0.018			
6/24/2008			0.038				0.039	0.057	0.042
11/3/2008		0.088					0.082		0.049
12/4/2008	0.054	0.081		0.011	0.035	0.019	0.079		
12/5/2008			0.06					0.041	0.05
3/25/2009		0.069					0.093		0.052
7/7/2009	0.034	0.078	0.043						
7/8/2009				0.012	0.036	0.011	0.039	0.058	0.046
9/14/2009		0.079					0.061		0.048
12/20/2009	0.034	0.081	0.065				0.088	0.062	0.062
12/21/2009				0.011	0.028	0.01			
3/4/2010		0.065					0.077		0.058
6/20/2010	0.062	0.078	0.095	0.0089	0.025	0.0081	0.075	0.03	
6/21/2010									0.041
9/14/2010		0.076					0.093		0.036
1/6/2011			0.093	0.014		0.012			
1/7/2011	0.039	0.074			0.037		0.13	0.049	0.054
4/15/2011		0.065					0.086		0.049
7/7/2011	0.036	0.081	0.095	0.018	0.039	0.015	0.051	0.05	0.063
9/25/2011		0.078					0.056		0.037
1/17/2012	0.041	0.082	0.1	0.23	0.045	0.0086	0.052	0.044	
1/18/2012									0.034
4/4/2012		0.0861					0.0519		0.0446
7/9/2012	0.15		0.11	0.17	0.032	0.01	0.048	0.045	
7/10/2012		0.082							0.033
10/9/2012		0.09					0.065		0.041
1/17/2013			0.12	0.2	0.033	0.014			
1/18/2013	0.15	0.083					0.045	0.049	0.036
4/5/2013		0.078					0.047		0.036
7/16/2013			0.081	0.11	0.027	0.012			



# Time Series

Constituent: Barium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/17/2013	0.13	0.083					0.032	0.039	0.054
10/11/2013		0.078					0.028		0.052
1/13/2014	0.16		0.096	0.083	0.027	0.015		0.038	
1/14/2014		0.081					0.036		0.051
4/3/2014		0.077					0.038		0.047
7/8/2014				0.066	0.037	0.017			
7/9/2014	0.11	0.073	0.066				0.03	0.031	0.08
10/24/2014		0.087					0.025		0.072
1/13/2015	0.083		0.068	0.053	0.023	0.019		0.041	
1/14/2015		0.079					0.04		0.047
5/10/2015		0.076					0.026		
5/11/2015									0.053
7/16/2015	0.094		0.07	0.052	0.03	0.022		0.041	0.059
7/17/2015		0.061					0.029		
10/6/2015		0.067					0.03		0.053
1/17/2016			0.062				0.038	0.048	0.056
1/18/2016	0.22	0.068			0.032	0.026			
1/19/2016				0.048					
4/26/2016		0.0596					0.025		0.0721
7/26/2016				0.051		0.0236			
7/27/2016	0.192		0.0417		0.0191		0.0248	0.0487	
7/28/2016		0.0701							0.0534
8/30/2016		0.0687	0.0545						
8/31/2016				0.0565	0.019	0.0273			
9/1/2016	0.415 (o)						0.0346	0.0403	0.0445
10/24/2016		0.07							
10/25/2016	0.173		0.0504				0.0248	0.0329	0.0464
10/26/2016				0.0591	0.0197	0.0238			
1/3/2017		0.061							
1/4/2017			0.0534	0.0598	0.0174				0.0379
1/5/2017						0.0218	0.0245	0.0392	
1/6/2017	0.167								
4/3/2017		0.0612						0.0439	
4/4/2017			0.0549				0.0342		
4/5/2017					0.0174				0.0534
4/6/2017	0.136			0.0813		0.0204			
7/10/2017					0.0172				
7/11/2017		0.0624		0.0302			0.0276	0.051	
7/12/2017			0.0614			0.0161			0.0944
7/13/2017	0.0891								
10/2/2017		0.0618					0.0274	0.047	
10/3/2017			0.0436	0.103					0.135 (o)
10/4/2017	0.113				0.0162	0.0185			
1/9/2018	0.0901	0.0574					0.0222	0.0431	
1/10/2018			0.053			0.0166			0.0603
1/11/2018				0.166	0.018				
7/9/2018		0.056					0.026		
7/10/2018			0.059					0.047	0.16 (o)
7/11/2018	0.065			0.12	0.014	0.019			
1/16/2019	0.062	0.062	0.054			0.019	0.028		
1/17/2019				0.039	0.017			0.042	0.13
3/25/2019	0.054	0.064							



# Time Series

Constituent: Barium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	0.16					0.093	0.16	0.22	0.16
11/21/2000	0.17	0.046				0.095	0.16	0.13	0.21
1/20/2001	0.16	0.036				0.089	0.21	0.19	0.23
3/14/2001	0.17	0.03				0.088	0.18	0.27	0.22
7/16/2001	0.19	0.032				0.096	0.18	0.37	0.22
11/1/2001	0.18	0.029				0.094	0.15	0.61 (o)	0.23
4/25/2002	0.15	0.021				0.085	0.16	0.19	0.15
6/6/2003	0.13	0.032				0.09	0.29	0.72 (o)	0.13
12/12/2003	0.18	0.021				0.084	0.18	0.054	0.034
5/26/2004	0.17	0.035				0.08	0.16	0.18	0.13
12/7/2004	0.19	0.031				0.098	0.16	0.24	0.13
6/21/2005	0.18	0.028				0.084	0.15	0.2	0.07
12/12/2005	0.17	0.024				0.07	0.15	0.074	0.04
6/27/2006	0.17	0.03				0.083	0.19	0.075	0.041
12/4/2006	0.21	0.031				0.072	0.26	0.092	0.048
6/23/2007	0.17	0.037				0.087	0.24	0.089	0.12
12/11/2007	0.18	0.034				0.082	0.21	0.072	0.12
6/23/2008						0.1			
6/24/2008	0.14	0.038					0.13	0.049	0.17
12/4/2008		0.038				0.12			
12/5/2008	0.19						0.12	0.067	0.093
7/7/2009							0.17	0.04	0.06
7/8/2009	0.2	0.053				0.14			
12/20/2009		0.047							
12/21/2009	0.23					0.15	0.2	0.044	0.11
6/20/2010		0.046				0.21		0.036	0.11
6/21/2010	0.25		0.062	0.16	0.11		0.22		
1/6/2011		0.063						0.075	
1/7/2011	0.21		0.039	0.095	0.12	0.2	0.12		0.025
7/7/2011			0.06					0.13	0.025
7/8/2011	0.13		0.043	0.1	0.094	0.18	0.15		
1/17/2012		0.06						0.21	
1/18/2012	0.26		0.042	0.12	0.087	0.18	0.15		0.03
7/9/2012		0.05						0.2	
7/10/2012	0.19		0.039	0.097	0.1	0.16	0.14		0.028
1/17/2013		0.058						0.19	
1/18/2013	0.17		0.04	0.1	0.078	0.19	0.15		0.058
7/16/2013								0.076	
7/17/2013	0.18	0.041	0.055	0.069	0.062	0.17	0.14		0.086
1/13/2014		0.058						0.14	
1/14/2014	0.18		0.059	0.086	0.073	0.2	0.16		0.1
7/9/2014	0.16	0.048		0.065		0.16	0.12	0.12	0.082
7/10/2014			0.067		0.13				
1/12/2015			0.061				0.13		
1/13/2015		0.048						0.13	
1/14/2015	0.16			0.084	0.065	0.17			0.094
7/16/2015		0.048					0.11	0.12	
7/17/2015				0.071		0.18			0.11
7/18/2015	0.012		0.13		0.073				
1/17/2016		0.049	0.08	0.079					
1/18/2016	0.13				0.062	0.2	0.095	0.12	0.11
7/27/2016		0.0796						0.112	

# Time Series

Constituent: Barium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Date	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/28/2016			0.164	0.0626		0.234			0.105
7/29/2016	0.181				0.0575		0.0883		
8/30/2016								0.135	0.106
8/31/2016		0.0429			0.0693	0.284			
9/1/2016	0.203		0.0976	0.077			0.123		
10/25/2016			0.0702	0.0217					
10/26/2016	0.177	0.113 (o)			0.0966		0.0863	0.103	0.107
10/27/2016						0.244			
1/3/2017								0.118	
1/4/2017			0.0999	0.0617	0.0975				
1/5/2017	0.142	0.0526							0.107
1/6/2017						0.305	0.0758		
4/4/2017		0.0503	0.136	0.0761			0.091		
4/5/2017	0.106								
4/6/2017					0.064	0.249		0.162	0.111
7/11/2017			0.145		0.0778				
7/12/2017						0.256	0.0941	0.157	0.106
7/13/2017	0.0686	0.0529		0.0428					
10/2/2017			0.148						
10/3/2017		0.057		0.0376				0.127	0.105
10/4/2017	0.0589				0.156	0.356	0.0994		
1/9/2018				0.0704					0.0969
1/10/2018		0.0527	0.0788					0.158	
1/11/2018	0.0412				0.0702	0.226	0.088		
7/9/2018			0.087						
7/10/2018		0.054		0.061				0.31	0.087
7/11/2018	0.049				0.12	0.29	0.071		
1/16/2019	0.063						0.083	0.054	0.013 (J)
1/17/2019				0.061					
1/18/2019					0.052	0.21			
1/21/2019		0.05	0.069						
3/25/2019			0.085				0.077		
3/26/2019	0.025			0.084				0.057	0.012 (J)
3/27/2019					0.057	0.19			
7/30/2019		0.052							
8/27/2019		0.053			0.097		0.076		0.013
8/28/2019	0.026		0.078	0.063		0.17		0.1	
10/8/2019				0.079					
10/9/2019	0.032	0.05	0.078		0.065	0.18	0.076	0.13	0.014 (J)
4/7/2020				0.054	0.1		0.09	0.098	0.01 (J)
4/8/2020	0.055	0.061	0.19			0.15			
8/18/2020	0.074	0.05	0.38	0.18	0.085				
8/19/2020						0.17	0.076	0.1	0.064
9/29/2020		0.049							
9/30/2020	0.035		0.35	0.19	0.045			0.16	0.092
10/1/2020						0.15	0.077		

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/21/2000	<0.003		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
1/20/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
3/14/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
7/16/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/1/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
4/25/2002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/30/2016		0.0002 (J)	<0.003						
8/31/2016				<0.003	0.0011 (J)	<0.003			
9/1/2016	0.0017 (J)						0.0001 (J)	<0.003	0.0001 (J)
10/24/2016		<0.003							
10/25/2016	0.0002 (J)		<0.003				<0.003	<0.003	<0.003
10/26/2016				<0.003	0.0011 (J)	<0.003			
1/3/2017		0.0002 (J)							
1/4/2017			<0.003	<0.003	0.0009 (J)				9E-05 (J)
1/5/2017						<0.003	<0.003	<0.003	
1/6/2017	0.0003 (J)								
4/3/2017		0.0002 (J)						<0.003	
4/4/2017			<0.003				9E-05 (J)		
4/5/2017					0.0008 (J)				9E-05 (J)
4/6/2017	0.0004 (J)			<0.003		<0.003			
7/10/2017					0.0008 (J)				
7/11/2017		0.0002 (J)		<0.003			<0.003	<0.003	
7/12/2017			<0.003			<0.003			<0.003
7/13/2017	0.001 (J)								
10/2/2017		0.0002 (J)					<0.003	<0.003	
10/3/2017			<0.003	<0.003					<0.003
10/4/2017	0.0002 (J)				0.0006 (J)	<0.003			
1/9/2018	<0.003	0.0002 (J)					<0.003	<0.003	
1/10/2018			<0.003			<0.003			0.0001 (J)
1/11/2018				<0.003	0.0006 (J)				
7/9/2018		0.0002 (J)					6.2E-05 (J)		
7/10/2018			<0.003					<0.003	6E-05 (J)
7/11/2018	<0.003			<0.003	0.00061 (J)	5.8E-05 (J)			
8/26/2019	<0.003	0.00021 (J)							
8/27/2019			<0.003	<0.003	0.00047 (J)	<0.003	<0.003	<0.003	
8/28/2019									8E-05 (J)
10/7/2019		0.00024 (J)							
10/8/2019	<0.003			<0.003		<0.003	<0.003	<0.003	9.8E-05 (J)
10/9/2019			<0.003		0.00046 (J)				
4/6/2020	<0.003	0.00017 (J)							
4/7/2020			<0.003	<0.003	0.00051 (J)		<0.003	<0.003	<0.003
4/8/2020						<0.003			
8/17/2020		0.00019 (J)			0.00046 (J)	<0.003			
8/18/2020				<0.003			<0.003	<0.003	6.8E-05 (J)
8/19/2020	<0.003		<0.003						
9/28/2020	<0.003	0.00021 (J)	<0.003			<0.003			
9/29/2020				<0.003	0.00043 (J)		<0.003		
9/30/2020							<0.003		8.9E-05 (J)

# Time Series

Constituent: Beryllium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.003					<0.003	<0.003	<0.003	<0.003
11/21/2000	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
1/20/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
3/14/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
7/16/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
11/1/2001	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
4/25/2002	<0.003	<0.003				<0.003	<0.003	<0.003	<0.003
8/30/2016								0.0002 (J)	<0.003
8/31/2016		<0.003			0.0002 (J)	0.0003 (J)			
9/1/2016	0.0014 (J)		<0.003	<0.003			0.0004 (J)		
10/25/2016			<0.003	<0.003					
10/26/2016	0.0016 (J)	0.0003 (J)			0.0002 (J)		0.0001 (J)	0.0001 (J)	<0.003
10/27/2016						0.0003 (J)			
1/3/2017								0.0001 (J)	
1/4/2017			<0.003	<0.003	0.0001 (J)				
1/5/2017	0.0019 (J)	<0.003							<0.003
1/6/2017						0.0002 (J)	0.0001 (J)		
4/4/2017		9E-05 (J)	<0.003	<0.003			0.0001 (J)		
4/5/2017	0.0024 (J)								
4/6/2017					<0.003	0.0003 (J)		0.0003 (J)	<0.003
7/11/2017			<0.003		<0.003				
7/12/2017						0.0003 (J)	<0.003	0.0002 (J)	<0.003
7/13/2017	0.0034	<0.003		<0.003					
10/2/2017			<0.003						
10/3/2017		<0.003		<0.003				0.0002 (J)	<0.003
10/4/2017	0.0037				0.0001 (J)	0.0002 (J)	0.0001 (J)		
1/9/2018				<0.003					<0.003
1/10/2018		<0.003	<0.003					0.0003 (J)	
1/11/2018	0.0033				<0.003	0.0003 (J)	0.0001 (J)		
7/9/2018			<0.003						
7/10/2018		<0.003		<0.003				0.00028 (J)	<0.003
7/11/2018	0.0038				7E-05 (J)	0.0003 (J)	<0.003		
7/30/2019		<0.003							
8/27/2019		<0.003			9E-05 (J)		<0.003		<0.003
8/28/2019	0.0017 (J)		<0.003	<0.003		0.00022 (J)		7.6E-05 (J)	
10/8/2019				<0.003					
10/9/2019	0.0018 (J)	<0.003	<0.003		<0.003	0.00023 (J)	<0.003	<0.003	<0.003
4/7/2020				<0.003	<0.003		<0.003	<0.003	<0.003
4/8/2020	0.0017 (J)	8.8E-05 (J)	<0.003			0.00019 (J)			
8/18/2020	0.0016 (J)	5.1E-05 (J)	<0.003	<0.003	7.6E-05 (J)				
8/19/2020						0.00022 (J)	<0.003	<0.003	5E-05 (J)
9/29/2020		7.5E-05 (J)							
9/30/2020	0.0013 (J)		<0.003	<0.003	<0.003			6.5E-05 (J)	4.6E-05 (J)
10/1/2020						0.0002 (J)	<0.003		

# Time Series

Constituent: Boron (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		0.117	0.875						
8/31/2016				0.0688 (J)	5.1	0.261			
9/1/2016	11.6						0.071 (J)	9.01 (o)	1.82
10/24/2016		0.126							
10/25/2016	21.4		1.22				0.0819 (J)	1.66	1.26
10/26/2016				0.083 (J)	5.74	0.211			
1/3/2017		0.124							
1/4/2017			1.3	0.0738	6.56				1.46
1/5/2017						0.179	0.0813	1.1	
1/6/2017	20.1								
4/3/2017		0.105						1.21	
4/4/2017			1.19				0.0723		
4/5/2017					6.49				2
4/6/2017	21.8			0.0754		0.112			
7/10/2017					8.13				
7/11/2017		0.136		0.0614			0.0734	1.44	
7/12/2017			1.37			0.0882			2.95
7/13/2017	16.3								
10/2/2017		0.107					0.0748	1.59	
10/3/2017			0.765	0.0838					4.15
10/4/2017	21.5				5.18	0.116			
1/9/2018	13.9	0.123					0.0679	1.35	
1/10/2018			0.876			0.101			3.68
1/11/2018				0.169	5.16				
7/9/2018		0.11					0.061		
7/10/2018			0.94					1.2	5.2
7/11/2018	11.7			0.3	8.5	0.098			
1/16/2019	9.3	0.13	0.91			0.11	0.046		
1/17/2019				0.065	7			1.1	8.6
3/25/2019	8.5	0.098							
3/26/2019			0.77			0.35	0.037 (J)	0.95	7.4
3/27/2019				0.089	6.1				
10/7/2019		0.12							
10/8/2019	6.4			0.22		0.18	0.048	1.1	8.4
10/9/2019			0.93		8.2				
4/6/2020	6.1	0.14							
4/7/2020			1	0.67	5.3		0.061 (J)	0.96	10.5
4/8/2020						0.28			
9/28/2020	4.6	0.15	0.69			0.24			
9/29/2020				1.2	4.7		0.053		
9/30/2020								0.86	8.1

# Time Series

Constituent: Boron (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								1.09	1.41
8/31/2016		0.0196 (J)			12.8	0.096 (J,o)			
9/1/2016	0.408		3.34	0.62			6.48		
10/25/2016			2.54	0.0658 (J)					
10/26/2016	0.5	0.05 (J)			9.81		7.57	2.5	1.83
10/27/2016						0.0281 (J)			
1/3/2017								3.39	
1/4/2017			1.91	0.36	8.94				
1/5/2017	0.676	0.0162 (J)							3.07
1/6/2017						0.0189 (J)	8.34		
4/4/2017		0.019 (J)	2.77	0.509			8.18		
4/5/2017	0.69								
4/6/2017					0.733	0.0181 (J)		2.76	3.19
7/11/2017			4.14		0.852				
7/12/2017						0.0211 (J)	7.51	3.55	3.06
7/13/2017	0.888	0.023 (J)		0.126					
10/2/2017			4.65						
10/3/2017		0.0266 (J)		0.1				2.72	2.69
10/4/2017	1.02				6.05	0.0254 (J)	8.88		
1/9/2018				0.783					2.81
1/10/2018		0.0203 (J)	1.79					3.21	
1/11/2018	1.28				0.838	0.018 (J)	6.95		
7/9/2018			1.7						
7/10/2018		0.026 (J)		0.5				7	2.9
7/11/2018	1.6				3.2	0.02 (J)	6.4		
1/16/2019	1.5						5.3	5	7.7
1/17/2019				0.43					
1/18/2019					0.37	0.018 (J)			
1/21/2019		0.018 (J)	1.1						
3/25/2019			1				4.4		
3/26/2019	1.2			0.61				4	7.4
3/27/2019					0.37	0.016 (J)			
7/30/2019		0.02 (J)							
10/8/2019				1					
10/9/2019	1.3	0.024 (J)	0.79		0.39	0.019 (J)	5.7	6.8	6.3
4/7/2020				0.24	3.1		5.5	4.6	5.6
4/8/2020	0.99	0.031 (J)	2.5			0.023 (J)			
9/29/2020		0.024 (J)							
9/30/2020	0.86		9.9	2.3	0.25			4	4.2
10/1/2020						0.028 (J)	5.2		



# Time Series

Constituent: Cadmium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
11/21/2000	<0.0025		<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
1/20/2001	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
3/14/2001	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
7/16/2001	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
11/1/2001	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
4/25/2002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
8/30/2016		<0.0025	<0.0025						
8/31/2016				0.0002 (J)	<0.0025	<0.0025			
9/1/2016	0.0007 (J)						0.0001 (J)	<0.0025	<0.0025
10/24/2016		<0.0025							
10/25/2016	<0.0025		<0.0025				0.0002 (J)	<0.0025	<0.0025
10/26/2016				0.0001 (J)	<0.0025	<0.0025			
1/3/2017		<0.0025							
1/4/2017			0.0001 (J)	0.0001 (J)	<0.0025				<0.0025
1/5/2017						<0.0025	0.0002 (J)	<0.0025	
1/6/2017	0.0001 (J)								
4/3/2017		<0.0025						<0.0025	
4/4/2017			7E-05 (J)				0.0002 (J)		
4/5/2017					<0.0025				<0.0025
4/6/2017	<0.0025			0.0002 (J)		<0.0025			
7/10/2017					<0.0025				
7/11/2017		<0.0025		<0.0025			0.0002 (J)	<0.0025	
7/12/2017			<0.0025			<0.0025			<0.0025
7/13/2017	<0.0025								
10/2/2017		<0.0025					<0.0025	<0.0025	
10/3/2017			<0.0025	0.0003 (J)					<0.0025
10/4/2017	<0.0025				<0.0025	<0.0025			
1/9/2018	<0.0025	<0.0025					<0.0025	<0.0025	
1/10/2018			<0.0025			<0.0025			<0.0025
1/11/2018				0.0006 (J)	<0.0025				
7/9/2018		<0.0025					0.00017 (J)		
7/10/2018			<0.0025					<0.0025	<0.0025
7/11/2018	<0.0025			0.0004 (J)	<0.0025	<0.0025			
8/26/2019	<0.0025	<0.0025							
8/27/2019			<0.0025	0.00044 (J)	<0.0025	<0.0025	<0.0025	<0.0025	
8/28/2019									<0.0025
10/7/2019		<0.0025							
10/8/2019	<0.0025			0.00043 (J)		<0.0025	<0.0025	<0.0025	<0.0025
10/9/2019			<0.0025		<0.0025				
4/6/2020	<0.0025	<0.0025							
4/7/2020			<0.0025	0.00051 (J)	<0.0025		<0.0025	<0.0025	<0.0025
4/8/2020						<0.0025			
8/17/2020		<0.0025			<0.0025	<0.0025			
8/18/2020				0.00058 (J)			<0.0025	<0.0025	<0.0025
8/19/2020	<0.0025		<0.0025						
9/28/2020	<0.0025	<0.0025	<0.0025			<0.0025			
9/29/2020				0.00077 (J)	<0.0025		0.00012 (J)		
9/30/2020								<0.0025	<0.0025

# Time Series

Constituent: Cadmium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
11/21/2000	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
1/20/2001	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
3/14/2001	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
7/16/2001	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
11/1/2001	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
4/25/2002	<0.0025	<0.0025				<0.0025	<0.0025	<0.0025	<0.0025
8/30/2016								<0.0025	<0.0025
8/31/2016		<0.0025			8E-05 (J)	<0.0025			
9/1/2016	<0.0025		<0.0025	<0.0025			0.0002 (J)		
10/25/2016			<0.0025	<0.0025					
10/26/2016	<0.0025	<0.0025			<0.0025		<0.0025	<0.0025	<0.0025
10/27/2016						<0.0025			
1/3/2017								<0.0025	
1/4/2017			<0.0025	<0.0025	0.0001 (J)				
1/5/2017	<0.0025	<0.0025							<0.0025
1/6/2017						<0.0025	9E-05 (J)		
4/4/2017		<0.0025	<0.0025	<0.0025			9E-05 (J)		
4/5/2017	<0.0025								
4/6/2017					0.0001 (J)	<0.0025		<0.0025	<0.0025
7/11/2017			<0.0025		<0.0025				
7/12/2017						<0.0025	<0.0025	<0.0025	<0.0025
7/13/2017	<0.0025	<0.0025		<0.0025					
10/2/2017			<0.0025						
10/3/2017		<0.0025		<0.0025				<0.0025	<0.0025
10/4/2017	<0.0025				0.0002 (J)	<0.0025	<0.0025		
1/9/2018				<0.0025					<0.0025
1/10/2018		<0.0025	<0.0025					<0.0025	
1/11/2018	<0.0025				0.0002 (J)	<0.0025	0.0002 (J)		
7/9/2018			<0.0025						
7/10/2018		<0.0025		<0.0025				<0.0025	<0.0025
7/11/2018	<0.0025				0.00023 (J)	<0.0025	<0.0025		
7/30/2019		<0.0025							
8/27/2019		<0.0025			<0.0025		<0.0025		<0.0025
8/28/2019	<0.0025		<0.0025	<0.0025		<0.0025		<0.0025	
10/8/2019				<0.0025					
10/9/2019	<0.0025	<0.0025	<0.0025		0.00012 (J)	<0.0025	<0.0025	<0.0025	<0.0025
4/7/2020				<0.0025	0.00054 (J)		<0.0025	<0.0025	<0.0025
4/8/2020	<0.0025	<0.0025	<0.0025			<0.0025			
8/18/2020	<0.0025	<0.0025	<0.0025	<0.0025	0.00024 (J)				
8/19/2020						<0.0025	<0.0025	<0.0025	<0.0025
9/29/2020		<0.0025							
9/30/2020	<0.0025		<0.0025	<0.0025	0.00024 (J)			<0.0025	<0.0025
10/1/2020						<0.0025	<0.0025		

# Time Series

Constituent: Calcium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		23.8	29.4						
8/31/2016				18.8	105	2.77			
9/1/2016	5.59						194	119	93.8
10/24/2016		22.5							
10/25/2016	6.43		28.3				100	106	94.1
10/26/2016				16.6	101	2.25			
1/3/2017		22.1							
1/4/2017			33.4	17.6	94.9				88.2
1/5/2017						2.27	107	115	
1/6/2017	8.13								
4/3/2017		24.6 (J)						131	
4/4/2017			34.6				153		
4/5/2017					92.5				106
4/6/2017	7.72			30.9		2.04			
7/10/2017					90.3				
7/11/2017		23.5		17.7			125	155	
7/12/2017			38			2.25			149
7/13/2017	4.57								
10/2/2017		22.7					126	137	
10/3/2017			25.5	39.8					217
10/4/2017	6.41				74.6	2.19			
1/9/2018	4.68	23.2					119	135	
1/10/2018			36.5			2.28			161
1/11/2018				65.6	78.1				
7/9/2018		24.6 (J)					123		
7/10/2018			45.5					129	205
7/11/2018	3.9			53	72.2	2.3			
1/16/2019	4.3	27.7	46.5			2.3	120		
1/17/2019				19.8 (J)	64.7			137	187
3/25/2019	3.9	31.7							
3/26/2019			46.3			2.4	84.2	124	204
3/27/2019				25.1	63.1				
10/7/2019		31.6							
10/8/2019	3.5			69.2		2.3	146	129	205
10/9/2019			51.2		54.2				
4/6/2020	3.1	35.8							
4/7/2020			31.1	84.7	52.1		135	129	225
4/8/2020						2.5			
9/28/2020	3.3	25.6	70.7			2.9			
9/29/2020				123	42		30.8		
9/30/2020								109	177

# Time Series

Constituent: Calcium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								14.3	4.68
8/31/2016		0.371 (J)			127	6.9			
9/1/2016	71.9		67.2	40.5			9.91		
10/25/2016			50.1	3.91					
10/26/2016	80.3	5.84			127		8.56	18.6	5.45
10/27/2016						8.2			
1/3/2017								18.1	
1/4/2017			80.4	15.2	113				
1/5/2017	94.4	0.379 (J)							5.35
1/6/2017						7.97	8.18		
4/4/2017		0.993	108	32.3			8.12		
4/5/2017	104								
4/6/2017					42.7	7.95		16.2	5.41
7/11/2017			136		46				
7/12/2017						8.37	8	18.1	4.81
7/13/2017	124	0.388 (J)		8.92					
10/2/2017			105						
10/3/2017		0.251 (J)		7.88				15.2	5.17
10/4/2017	136				115	8.57	12.5		
1/9/2018				40.5					4.73
1/10/2018		0.177 (J)	60.1					15.5	
1/11/2018	139				47.6	9.78	12.9		
7/9/2018			75.9						
7/10/2018		0.17 (J)		29.8				30.6	4.5
7/11/2018	122				73.7	9.2	8.6		
1/16/2019	80.5						68.8	33.3	10.1
1/17/2019				27.6					
1/18/2019					30.6	8.1			
1/21/2019		0.19 (J)	60						
3/25/2019			74.8				55.6		
3/26/2019	68.8			60.1				36.1	9
3/27/2019					28.8	7.7			
7/30/2019		0.43							
10/8/2019				49.5					
10/9/2019	56.6	0.18	80.1		30.1	6	46.7	17.7	10.1
4/7/2020				12.5	65.7		62.1	34.1	7.8
4/8/2020	53.1	0.24 (J)	175			5.3			
9/29/2020		0.18 (J)							
9/30/2020	53.5		292	98.4	20.9			70.4	27.5
10/1/2020						5.5	48.4		

# Time Series

Constituent: Chloride (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		15	5.5						
8/31/2016				3.5	210	4.3			
9/1/2016	190						60	10	43
10/24/2016		13							
10/25/2016	175 (D)		5.1				36	6.5	34
10/26/2016				2.5	200	4.9			
1/3/2017		13							
1/4/2017			6.9	3.8	160				29
1/5/2017						4.1	37	10	
1/6/2017	180								
4/3/2017		14						7.3	
4/4/2017			6.5				47		
4/5/2017					140				36
4/6/2017	200			7.1		3.7			
7/10/2017					88				
7/11/2017		13		3.1			34	5.7	
7/12/2017			6.5			2.6			44
7/13/2017	200								
10/2/2017		15					34	4.4	
10/3/2017			4.5	46					58
10/4/2017	260				100	3			
1/9/2018	210	13					24	5.7	
1/10/2018			6.9			3.4			36
1/11/2018				100	78				
7/9/2018		15.4					25.9		
7/10/2018			6.2					3.1	57
7/11/2018	177			53.7	66.9	3.2			
1/16/2019	165	16	6.6			3.8	29.2		
1/17/2019				6.6	52			3.2	48.9
3/25/2019	147	17.7							
3/26/2019			7			3.2	21.1	3	5.1
3/27/2019				11.9	45.6				
10/7/2019		18							
10/8/2019	125			89		4	40.2	2.9	46.4
10/9/2019			7.2		44.1				
4/6/2020	30.2	13.5							
4/7/2020			7.7	103	32.5		41.6	3.4	49.3
4/8/2020						4.5			
9/28/2020	113	13.7	13.8			4.3			
9/29/2020				143	24.3		10.6		
9/30/2020								1.7	39.6

# Time Series

Constituent: Chloride (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								31	60
8/31/2016		7.8			320	17			
9/1/2016	610		16	5.9			160		
10/25/2016			8.1	4.4					
10/26/2016	570	12			450		110	24	67
10/27/2016						17			
1/3/2017								29	
1/4/2017			13	7.7	330				
1/5/2017	710	7.4							70
1/6/2017						16	67		
4/4/2017		8.7	23	8			80		
4/5/2017	860								
4/6/2017					50	17		27	76
7/11/2017			31		70				
7/12/2017						18	120	31	64
7/13/2017	860	8.3		5.4					
10/2/2017			30						
10/3/2017		9		4.4				27	73
10/4/2017	1000				360	18	130		
1/9/2018				4.4					61
1/10/2018		8.2	9.7					59	
1/11/2018	940				74	16	60		
7/9/2018			10.8						
7/10/2018		7.3		6.3				172	60.2
7/11/2018	864				164	16.2	75.9		
1/16/2019	469						20.2	49.7	54.1
1/17/2019				5.4					
1/18/2019					11	17.5			
1/21/2019		6.9	5.1						
3/25/2019			9.4				19.7		
3/26/2019	439			11.9				47.9	51.8
3/27/2019					11.5	18.9			
7/30/2019		7.1							
10/8/2019				7.8					
10/9/2019	330	7	5.4		25.3	19	32.1	239	49.7
4/7/2020				4.7	146		14.5	44.3	56.4
4/8/2020	277	5.2	20.2			16.9			
9/29/2020		5.4							
9/30/2020	257		34.9	23.7	8.5			24.1	53.9
10/1/2020						16.8	15.7		

# Time Series

Constituent: Chromium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/20/2002		0.0051	<0.01	0.006	0.002	<0.01	0.014	0.0058	0.0041
6/6/2003	0.037	0.014	0.005	0.0082	<0.01	0.003	<0.01	0.0068	0.063 (o)
12/12/2003	0.0044	0.011	<0.01	0.0023	<0.01	<0.01	<0.01	0.0041	0.0059
5/26/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0026	<0.01
6/21/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/12/2005	<0.01	<0.01	0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/4/2006		<0.01					<0.01		<0.01
6/27/2006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0013	<0.01
8/30/2006		<0.01					<0.01		<0.01
12/4/2006	0.0015	<0.01	<0.01	0.0021	0.0032	0.0017	0.0042	<0.01	0.0036
2/15/2007		<0.01					<0.01		<0.01
6/23/2007	<0.01	<0.01	<0.01	0.0017	<0.01	<0.01	<0.01	<0.01	0.0016
9/11/2007		<0.01					<0.01		<0.01
12/11/2007	0.0016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/11/2008		<0.01					<0.01		<0.01
6/23/2008	0.0019	<0.01		<0.01	0.0016	<0.01			<0.01
6/24/2008			<0.01				<0.01	0.0014	<0.01
11/3/2008		<0.01					<0.01		0.0025
12/4/2008	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01		
12/5/2008			<0.01					<0.01	<0.01
3/25/2009		<0.01					<0.01		<0.01
7/7/2009	0.0037	<0.01	0.0013						
7/8/2009				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/14/2009		<0.01					<0.01		<0.01
12/20/2009	0.0016	<0.01	<0.01				<0.01	<0.01	<0.01
12/21/2009				<0.01	<0.01	<0.01			
3/4/2010		<0.01					<0.01		<0.01
6/20/2010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
6/21/2010									<0.01
9/14/2010		<0.01					<0.01		<0.01
1/6/2011			<0.01	<0.01		<0.01			
1/7/2011	0.0033	<0.01			<0.01		0.0016	<0.01	0.0018
4/15/2011		<0.01					0.0034		<0.01
7/7/2011	0.0044	<0.01	<0.01	0.0023	<0.01	0.0019	<0.01	<0.01	<0.01
9/25/2011		0.0021					0.0013		<0.01
1/17/2012	0.0038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
1/18/2012									<0.01
4/4/2012		<0.01					<0.01		<0.01
7/9/2012	0.022		<0.01	0.0017	<0.01	<0.01	<0.01	<0.01	
7/10/2012		<0.01							<0.01
10/9/2012		<0.01					0.0019		0.0018
1/17/2013			<0.01	<0.01	<0.01	<0.01			
1/18/2013	0.034	<0.01					0.0017	<0.01	<0.01
4/5/2013		<0.01					0.0019		<0.01

# Time Series

Constituent: Chromium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.01	<0.01	<0.01	<0.01			
7/17/2013	0.032	<0.01					0.0017	<0.01	<0.01
10/11/2013		<0.01					0.0013		<0.01
1/13/2014	0.04		<0.01	<0.01	<0.01	<0.01		<0.01	
1/14/2014		<0.01					0.001		<0.01
4/3/2014		<0.01					0.0031		<0.01
7/8/2014				<0.01	<0.01	<0.01			
7/9/2014	0.036	<0.01	0.0011 (J)				0.0012 (J)	<0.01	<0.01
10/24/2014		<0.01					<0.01		<0.01
1/13/2015	0.03		<0.01	<0.01	<0.01	<0.01		<0.01	
1/14/2015		<0.01					0.0013		<0.01
5/10/2015		<0.01					<0.01		
5/11/2015									<0.01
7/16/2015	0.039		0.0011 (J)	<0.01	0.001 (J)	<0.01		<0.01	<0.01
7/17/2015		<0.01					0.001 (J)		
10/6/2015		<0.01					<0.01		<0.01
1/17/2016			<0.01				0.0012 (J)	<0.01	<0.01
1/18/2016	0.068	<0.01			<0.01	<0.01			
1/19/2016				<0.01					
4/26/2016		<0.01					<0.01		<0.01
7/26/2016				0.0005 (J)		<0.01			
7/27/2016	0.05		0.0016 (J)		0.0014 (J)		0.0008 (J)	0.0007 (J)	
7/28/2016		<0.01							0.0006 (J)
8/30/2016		<0.01	0.0015 (J)						
8/31/2016				0.001 (J)	0.0012 (J)	0.0011 (J)			
9/1/2016	0.119 (o)						0.0015 (J)	0.0011 (J)	0.0011 (J)
10/24/2016		<0.01							
10/25/2016	0.0519		0.0018 (J)				<0.01	<0.01	<0.01
10/26/2016				<0.01	0.0012 (J)	<0.01			
1/3/2017		<0.01							
1/4/2017			0.0021 (J)	<0.01	0.0012 (J)				<0.01
1/5/2017						<0.01	0.001 (J)	<0.01	
1/6/2017	0.0536								
4/3/2017		0.0004 (J)						0.0015 (J)	
4/4/2017			0.002 (J)				0.001 (J)		
4/5/2017					0.0013 (J)				0.001 (J)
4/6/2017	0.0447 (J)			0.0007 (J)		0.0011 (J)			
7/10/2017					0.0014 (J)				
7/11/2017		0.0006 (J)		0.0006 (J)			0.0008 (J)	0.0013 (J)	
7/12/2017			0.0021 (J)			0.0007 (J)			0.0011 (J)
7/13/2017	0.0269								
10/2/2017		<0.01					0.0009 (J)	0.0013 (J)	
10/3/2017			0.0014 (J)	0.0007 (J)					0.0009 (J)
10/4/2017	0.0378				0.0011 (J)	0.0008 (J)			
1/9/2018	0.0283 (J)	<0.01					0.0006 (J)	0.0012 (J)	
1/10/2018			0.0017 (J)			0.0007 (J)			0.0007 (J)
1/11/2018				0.0098 (J)	0.001 (J)				
7/9/2018		<0.01					<0.01		
7/10/2018			0.0021 (J)					<0.01	<0.01
7/11/2018	0.018 (J)			<0.01	<0.01	0.0019 (J)			
1/16/2019	0.018 (J)	<0.01	0.0021 (J)			<0.01	<0.01		
1/17/2019				<0.01	0.0028 (J)			<0.01	0.01 (J)



# Time Series

Constituent: Chromium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/25/2019	0.017 (J)	<0.01							
3/26/2019			0.0018 (J)			<0.01	<0.01	<0.01	<0.01
3/27/2019				<0.01	<0.01				
8/26/2019	0.024 (J)	0.001 (J)							
8/27/2019			0.0062 (J)	0.00092 (J)	0.00085 (J)	<0.01	0.001 (J)	0.0016 (J)	
8/28/2019									0.0011 (J)
10/7/2019		0.00052 (J)							
10/8/2019	0.021 (J)			0.00091 (J)		<0.01	0.00053 (J)	0.0017 (J)	0.00099 (J)
10/9/2019			0.0019 (J)		0.00081 (J)				
4/6/2020	0.015 (J)	<0.01							
4/7/2020			0.0015 (J)	0.00094 (J)	0.00082 (J)		0.00074 (J)	0.0014 (J)	<0.01
4/8/2020						0.00058 (J)			
8/17/2020		0.00082 (J)			0.001 (J)	0.00077 (J)			
8/18/2020				0.0015 (J)			0.00059 (J)	0.0018 (J)	0.0012 (J)
8/19/2020	0.015 (J)		0.0028 (J)						
9/28/2020	0.014 (J)	0.00071 (J)	0.0024 (J)			0.00062 (J)			
9/29/2020				0.0011 (J)	0.00085 (J)		<0.01		
9/30/2020								0.0016 (J)	0.00098 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.01					<0.01	0.021	0.03	0.016
11/21/2000	<0.01	<0.01				<0.01	0.017	<0.01	0.023
1/20/2001	<0.01	<0.01				<0.01	0.03	0.028	0.025
3/14/2001	<0.01	<0.01				<0.01	0.019	0.052 (o)	0.021
7/16/2001	<0.01	<0.01				<0.01	0.029	0.08 (o)	0.019
11/1/2001	<0.01	<0.01				<0.01	0.021	0.13 (o)	0.022
4/25/2002	<0.01	<0.01				<0.01	0.03	0.021	0.019
11/20/2002	<0.01	<0.01				0.014	0.038	0.053 (o)	0.024
6/6/2003	<0.01	<0.01				<0.01	0.028	0.064 (o)	0.021
12/12/2003	0.036 (o)	<0.01				<0.01	0.027	<0.01	0.0066
5/26/2004	<0.01	<0.01				<0.01	0.021	0.012	0.013
12/7/2004	0.0021	<0.01				0.0039	0.016	0.019	0.013
6/21/2005	<0.01	<0.01				0.002	0.015	0.02	0.0067
12/12/2005	<0.01	<0.01				<0.01	0.022	<0.01	0.0033
6/27/2006	<0.01	<0.01				<0.01	0.027	0.0015	0.0047
12/4/2006	<0.01	<0.01				0.0019	0.025	0.0034	0.0084
6/23/2007	<0.01	<0.01				0.0015	0.023	<0.01	0.01
12/11/2007	<0.01	<0.01				<0.01	0.018	<0.01	0.0049
6/23/2008						0.0015			
6/24/2008	<0.01	<0.01					0.022	<0.01	0.032 (o)
12/4/2008		<0.01				<0.01			
12/5/2008	<0.01						0.023	0.0016	0.009
7/7/2009							0.012	<0.01	0.0044
7/8/2009	<0.01	<0.01				<0.01			
12/20/2009		<0.01							
12/21/2009	<0.01					<0.01	0.019	<0.01	0.0055
6/20/2010		<0.01				0.0015		<0.01	0.002
6/21/2010	<0.01		<0.01	0.0019	<0.01		0.01		
1/6/2011		<0.01						0.0017	
1/7/2011	<0.01		0.0018	0.0017	<0.01	<0.01	0.023		0.0039
7/7/2011			<0.01					0.008	0.0031
7/8/2011	0.0013		0.0019	0.0023	<0.01	<0.01	0.017		
1/17/2012		<0.01						0.0082	
1/18/2012	<0.01		<0.01	<0.01	<0.01	<0.01	0.0114		0.0023
7/9/2012		<0.01						0.01	
7/10/2012	<0.01		0.0013	<0.01	<0.01	<0.01	0.014		0.0022
1/17/2013		<0.01						0.01	
1/18/2013	<0.01		0.0015	<0.01	<0.01	<0.01	0.015		<0.01
7/16/2013								0.0061	
7/17/2013	<0.01	<0.01	<0.01	0.0019	<0.01	<0.01	0.011		<0.01
1/13/2014		<0.01						0.002	
1/14/2014	<0.01		0	<0.01	<0.01	<0.01	0.019		0.0013
7/9/2014	<0.01	<0.01		<0.01		0.0011 (J)	0.012	<0.01	<0.01
7/10/2014			<0.01		<0.01				
1/12/2015			<0.01				0.016		
1/13/2015		<0.01						<0.01	
1/14/2015	<0.01			<0.01	<0.01	<0.01			0.0015
7/16/2015		<0.01					0.0084	<0.01	
7/17/2015				<0.01		0.0013			0.0011 (J)
7/18/2015	<0.01		<0.01	<0.01	<0.01				
1/17/2016		<0.01	<0.01	<0.01					
1/18/2016	<0.01				<0.01	<0.01	0.014	<0.01	0.0011 (J)

# Time Series

Constituent: Chromium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		0.0008 (J)						0.0006 (J)	
7/28/2016			0.0007 (J)	0.0005 (J)		0.0011 (J)			0.001 (J)
7/29/2016	0.0009 (J)				0.0007 (J)		0.0077 (J)		
8/30/2016								<0.01	0.0013 (J)
8/31/2016		<0.01			<0.01	0.0024 (J)			
9/1/2016	0.0011 (J)		<0.01	<0.01			0.015		
10/25/2016			<0.01	<0.01					
10/26/2016	<0.01	0.001 (J)			<0.01		0.0106	<0.01	0.0014 (J)
10/27/2016						<0.01			
1/3/2017								0.001 (J)	
1/4/2017			<0.01	<0.01	<0.01				
1/5/2017	0.0012 (J)	<0.01							0.002 (J)
1/6/2017						<0.01	0.0098 (J)		
4/4/2017		0.0008 (J)	0.0011 (J)	0.0008 (J)			0.0101		
4/5/2017	0.0015 (J)								
4/6/2017					0.0006 (J)	0.0019 (J)		0.0013 (J)	0.0034 (J)
7/11/2017			0.0009 (J)		0.0005 (J)				
7/12/2017						0.0011 (J)	0.0096 (J)	0.0011 (J)	0.0024 (J)
7/13/2017	0.0012 (J)	0.0006 (J)		0.0006 (J)					
10/2/2017			0.0009 (J)						
10/3/2017		<0.01		0.0005 (J)				0.0012 (J)	0.0022 (J)
10/4/2017	0.0055 (J)				0.0006 (J)	0.0011 (J)	0.0097 (J)		
1/9/2018				0.0007 (J)					0.0019 (J)
1/10/2018		<0.01	0.0008 (J)					0.0016 (J)	
1/11/2018	0.0009 (J)				<0.01	0.001 (J)	0.0109		
7/9/2018			<0.01						
7/10/2018		<0.01		<0.01				0.0055 (J)	0.0023 (J)
7/11/2018	<0.01				<0.01	<0.01	0.0055 (J)		
1/16/2019	<0.01						0.0024 (J)	<0.01	0.018 (J)
1/17/2019				0.01					
1/18/2019					<0.01	<0.01			
1/21/2019		<0.01	<0.01						
3/25/2019			<0.01				0.002 (J)		
3/26/2019	<0.01			<0.01				0.072	0.017 (J)
3/27/2019					<0.01	<0.01			
7/30/2019		0.00065 (J)							
8/27/2019		<0.01			0.00057 (J)		0.0027 (J)		0.0097 (J)
8/28/2019	0.0013 (J)		0.00089 (J)	0.00087 (J)		0.00089 (J)		0.0071 (J)	
10/8/2019				0.00065 (J)					
10/9/2019	0.00081 (J)	0.00049 (J)	0.0011 (J)		0.00072 (J)	0.0009 (J)	0.002 (J)	0.012 (J)	0.011 (J)
4/7/2020				<0.01	0.00049 (J)		0.0028 (J)	0.0022 (J)	0.0094 (J)
4/8/2020	0.00073 (J)	0.00069 (J)	0.001 (J)			0.0015 (J)			
8/18/2020	0.0011 (J)	<0.01	0.0011 (J)	0.0012 (J)	0.00056 (J)				
8/19/2020						0.0013 (J)	0.0022 (J)	0.0012 (J)	0.0037 (J)
9/29/2020		<0.01							
9/30/2020	0.00096 (J)		0.0013 (J)	0.00067 (J)	0.00064 (J)			0.0018 (J)	0.0045 (J)
10/1/2020						0.0012 (J)	0.002 (J)		

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/20/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3/14/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
7/16/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/1/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/25/2002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/30/2016		<0.005	<0.005						
8/31/2016				<0.005	0.0018 (J)	<0.005			
9/1/2016	0.0102						<0.005	<0.005	<0.005
10/24/2016		<0.005							
10/25/2016	0.0037 (J)		<0.005				<0.005	<0.005	<0.005
10/26/2016				<0.005	0.0016 (J)	<0.005			
1/3/2017		<0.005							
1/4/2017			<0.005	<0.005	0.0014 (J)				<0.005
1/5/2017						<0.005	<0.005	<0.005	
1/6/2017	0.0039 (J)								
4/3/2017		0.0005 (J)						<0.005	
4/4/2017			<0.005				<0.005		
4/5/2017					0.0013 (J)				<0.005
4/6/2017	0.006 (J)			<0.005		<0.005			
7/10/2017					0.0013 (J)				
7/11/2017		0.0005 (J)		<0.005			0.0003 (J)	<0.005	
7/12/2017			<0.005			<0.005			<0.005
7/13/2017	0.0037 (J)								
10/2/2017		0.0004 (J)					<0.005	<0.005	
10/3/2017			<0.005	<0.005					<0.005
10/4/2017	0.0058 (J)				0.0011 (J)	<0.005			
1/9/2018	0.0053 (J)	0.0004 (J)					<0.005	<0.005	
1/10/2018			<0.005			<0.005			<0.005
1/11/2018				0.0003 (J)	0.0011 (J)				
7/9/2018		<0.005					<0.005		
7/10/2018			<0.005					<0.005	<0.005
7/11/2018	<0.05 (o)			<0.005	0.00096 (J)	<0.005			
8/26/2019	0.0037 (J)	0.00042 (J)							
8/27/2019			<0.005	<0.005	0.0009 (J)	<0.005	<0.005	<0.005	
8/28/2019									<0.005
10/7/2019		0.00046 (J)							
10/8/2019	0.0028 (J)			<0.005		<0.005	<0.005	<0.005	<0.005
10/9/2019			<0.005		0.00094 (J)				
4/6/2020	0.0021 (J)	0.00036 (J)							
4/7/2020			<0.005	<0.005	0.00077 (J)		<0.005	<0.005	<0.005
4/8/2020						<0.005			
8/17/2020		<0.005			0.0006 (J)	<0.005			
8/18/2020				0.0004 (J)			<0.005	<0.005	<0.005
8/19/2020	0.0021 (J)		<0.005						
9/28/2020	<0.005	<0.005	<0.005			<0.005			
9/29/2020				0.00055 (J)	0.00057 (J)		<0.005		
9/30/2020							<0.005	<0.005	<0.005

# Time Series

Constituent: Cobalt (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.005					<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
1/20/2001	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
3/14/2001	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
7/16/2001	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
11/1/2001	<0.005	<0.005				<0.005	<0.005	0.012	<0.005
4/25/2002	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
8/30/2016								<0.005	<0.005
8/31/2016		<0.005			0.001 (J)	0.0021 (J)			
9/1/2016	0.0046 (J)		<0.005	<0.005			0.0024 (J)		
10/25/2016			<0.005	<0.005					
10/26/2016	0.0046 (J)	0.0011 (J)			0.0009 (J)		0.0011 (J)	<0.005	<0.005
10/27/2016						0.0017 (J)			
1/3/2017								<0.005	
1/4/2017			<0.005	<0.005	0.0007 (J)				
1/5/2017	0.0062 (J)	<0.005							<0.005
1/6/2017						0.0017 (J)	0.001 (J)		
4/4/2017		<0.005	<0.005	<0.005			0.001 (J)		
4/5/2017	0.007 (J)								
4/6/2017					<0.005	0.0017 (J)		<0.005	<0.005
7/11/2017			<0.005		<0.005				
7/12/2017						0.0016 (J)	0.0008 (J)	<0.005	<0.005
7/13/2017	0.0077 (J)	0.0003 (J)		<0.005					
10/2/2017			<0.005						
10/3/2017		0.0003 (J)		<0.005				<0.005	<0.005
10/4/2017	0.0073 (J)				0.0007 (J)	0.0015 (J)	0.001 (J)		
1/9/2018				<0.005					<0.005
1/10/2018		<0.005	<0.005					0.0004 (J)	
1/11/2018	0.0061 (J)				<0.005	0.0017 (J)	0.0008 (J)		
7/9/2018			<0.005						
7/10/2018		<0.005		<0.005				0.002 (J)	<0.005
7/11/2018	0.0064 (J)				<0.005	0.0017 (J)	<0.005		
7/30/2019		0.00032 (J)							
8/27/2019		<0.005			0.00077 (J)		0.0011 (J)		0.00038 (J)
8/28/2019	0.0023 (J)		<0.005	<0.005		0.00099 (J)		0.0024 (J)	
10/8/2019				<0.005					
10/9/2019	0.0024 (J)	<0.005	<0.005		<0.005	0.00099 (J)	0.0015 (J)	0.0037 (J)	<0.005
4/7/2020				<0.005	0.00037 (J)		0.0009 (J)	0.00053 (J)	<0.005
4/8/2020	0.0024 (J)	0.00036 (J)	<0.005			0.001 (J)			
8/18/2020	0.0025 (J)	<0.005	<0.005	<0.005	<0.005				
8/19/2020						0.0011 (J)	0.00072 (J)	<0.005	<0.005
9/29/2020		<0.005							
9/30/2020	0.0018 (J)		<0.005	<0.005	<0.005			0.00056 (J)	<0.005
10/1/2020						0.00099 (J)	0.0005 (J)		

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		2.72	2.36						
8/31/2016				2.2	2.61	1.23			
9/1/2016	11						1.28	2.45	1.99
10/24/2016		2.96							
10/25/2016	10.5		2.02				1.54	1.04 (U)	1.98
10/26/2016				1.96	3.28	0.641 (U)			
1/3/2017		2.76							
1/4/2017			2.1	1.88	3.77				1.72
1/5/2017						0.657 (U)	0.715 (U)	1.36	
1/6/2017	6.81								
4/3/2017		1.36						0.697 (U)	
4/4/2017			1.39 (U)				0.699 (U)		
4/5/2017					3.25				1.72
4/6/2017	8.93					0.439 (U)			
4/8/2017				0.893 (U)					
7/10/2017					1.55				
7/11/2017		1.85		1.89			1.12	0.754 (U)	
7/12/2017			1.63			0.414 (U)			1.11
7/13/2017	8.51								
10/2/2017		1.9					0.855 (U)	1.52	
10/3/2017			1.84	4.73					2.13
10/4/2017	3.85				1.68	1.33			
1/9/2018	4.28	2.39					0.861 (U)	1.17	
1/10/2018			2.11			1.21			1.74
1/11/2018				7.49	2.94				
7/9/2018		1.49					0.693 (U)		
7/10/2018			1.29					1.26	1.97
7/11/2018	5.99			5.88	2.03	1.4 (U)			
8/26/2019	6.03	3.03							
8/27/2019			2.41	5.09	2.09	1.27	1.32	1.75	
8/28/2019									2.04
10/7/2019		2.83							
10/8/2019	33.8			6.39		1.62	1.41	1.52	1.89
10/9/2019			3.13		3.11				
4/6/2020	25.7	2.83							
4/7/2020			1.97	7.87	2.18		1.41	1.82	4.17
4/8/2020						1.08 (U)			
8/17/2020		2.63			2.25	1.42			
8/18/2020				6.76			0.731 (U)	1.84	4.24
8/19/2020	5.45		1.91						
9/28/2020	22.4	2.08	1.29			1.28			
9/29/2020				8.3	0.845 (U)		0.331 (U)		
9/30/2020								2.14	2.47

# Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								1.81	2.19
8/31/2016		1.01			5.96	3.3			
9/1/2016	5.19		2.21	1.05			5.27		
10/25/2016			1.51 (U)	1.2					
10/26/2016	4.25	0.725 (U)			7.42		2.32	2.03	2.67
10/27/2016						2.7			
1/3/2017								1.85	
1/4/2017			2.56	2.11	6.07				
1/5/2017	3.55	0.735 (U)							3.74
1/6/2017						4.45	5.1		
4/4/2017		0.87 (U)	1.77	2.02			5		
4/5/2017	4.39								
4/6/2017					3	3.1		2.66	2.36
7/11/2017			2.76		4.2				
7/12/2017						2.73	2.69	2.1	1.54
7/13/2017	2.44	0.42 (U)		0.576 (U)					
10/2/2017			4.15						
10/3/2017		0.995 (U)		0.86				2	3.63
10/4/2017	4.95				7.16	8.16	4.82		
1/9/2018				1.43					2.07
1/10/2018		0.698 (U)	1.96					2.55	
1/11/2018	3.53				3.57	2.31	4.48		
7/9/2018			1.11						
7/10/2018		1.01		1.63				3.14	1.63
7/11/2018	3.13				7.57	3.31	2.69		
8/27/2019		0.787 (U)			7.04		2.97		4.63
8/28/2019	2.01		1.13 (U)	1.4 (U)		1.91		3.74	
10/8/2019				1.88					
10/9/2019	2.91	0.22 (U)	2.28		3.68	3.09	2.17	7.23	5.45
4/7/2020				1.8	7.66		2.44	3.57	6.25
4/8/2020	2.79	1.13 (U)	4.19			1.92			
8/18/2020	3.11	1.09 (U)	6.86	3.27	7.65				
8/19/2020						2.34	3.1	2.49	4.53
9/29/2020		1 (U)							
9/30/2020	3.09		5.62	3.83	2.79			4.45	6.39
10/1/2020						3.3	2.6		

# Time Series

Constituent: Fluoride (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		0.1 (J)	0.22 (J)						
8/31/2016				<0.1	0.7	<0.1			
9/1/2016	<0.1						0.25 (J)	<0.1	0.55
10/24/2016		0.18 (J)							
10/25/2016	0.07 (J)		<0.1				0.43	0.5	0.36
10/26/2016				<0.1	0.91	0.55			
1/3/2017		0.18 (J)							
1/4/2017			0.18 (J)	<0.1	0.51				0.1 (J)
1/5/2017						0.09 (J)	0.21 (J)	0.22 (J)	
1/6/2017	0.2 (J)								
4/3/2017		0.12 (J)						<0.1	
4/4/2017			<0.1				0.45		
4/5/2017					0.71				0.2 (J)
4/6/2017	0.05 (J)			<0.1		<0.1			
7/10/2017					0.88				
7/11/2017		0.39		<0.1			0.41	0.06 (J)	
7/12/2017			0.04 (J)			<0.1			0.04 (J)
7/13/2017	0.41								
10/2/2017		0.12 (J)					<0.1	<0.1	
10/3/2017			<0.1	<0.1					0.86
10/4/2017	0.04 (J)				0.37	<0.1			
1/9/2018	0.46	0.21 (J)					<0.1	<0.1	
1/10/2018			<0.1			<0.1			<0.1
1/11/2018				<0.1	1.4				
7/9/2018		0.04 (J)					<0.1		
7/10/2018			<0.1					0.15 (J)	<0.1
7/11/2018	<0.1			<0.1	0.62	<0.1			
1/16/2019	0.49	<0.1	<0.1			<0.1	<0.1		
1/17/2019				<0.1	1.2			<0.1	<0.1
3/25/2019	0.21 (J)	0.082 (J)							
3/26/2019			0.051 (J)			0.052 (J)	0.13 (J)	0.13 (J)	0.11 (J)
3/27/2019				<0.1	0.036 (J)				
8/26/2019	<0.1	0.13							
8/27/2019			<0.1	<0.1	0.3	<0.1	<0.1	<0.1	
8/28/2019									<0.1
10/7/2019		<0.1							
10/8/2019	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
10/9/2019			<0.1		<0.1				
4/6/2020	0.13 (J)	0.089 (J)							
4/7/2020			<0.1	<0.1	0.27 (J)		<0.1	<0.1	<0.1
4/8/2020						<0.1			
8/17/2020		0.079 (J)			0.19	<0.1			
8/18/2020				<0.1			<0.1	<0.1	<0.1
8/19/2020	0.21		<0.1						
9/28/2020	0.069 (J)	<0.1	<0.1			<0.1			
9/29/2020				<0.1	0.16		<0.1		
9/30/2020								<0.1	<0.1



# Time Series

Constituent: Fluoride (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								0.04 (J)	0.09 (J)
8/31/2016		0.07 (J)			0.04 (J)	0.55			
9/1/2016	0.68		<0.1	<0.1			<0.1		
10/25/2016			<0.1	<0.1					
10/26/2016	0.68	0.62			0.12 (J)		0.05 (J)	0.05 (J)	0.24 (J)
10/27/2016						0.26 (J)			
1/3/2017								0.08 (J)	
1/4/2017			0.04 (J)	<0.1	0.06 (J)				
1/5/2017	0.73	0.17 (J)							0.11 (J)
1/6/2017						0.25 (J)	0.08 (J)		
4/4/2017		0.08 (J)	0.02 (J)	<0.1			<0.1		
4/5/2017	1.6								
4/6/2017					<0.1	0.16 (J)		0.006 (J)	0.3
7/11/2017			0.14 (J)		0.03 (J)				
7/12/2017						0.2 (J)	0.38	0.05 (J)	0.15 (J)
7/13/2017	1.7	0.06 (J)		<0.1					
10/2/2017			<0.1						
10/3/2017		0.06 (J)		<0.1				0.11 (J)	0.11 (J)
10/4/2017	1.8				0.12 (J)	0.22 (J)	<0.1		
1/9/2018				<0.1					<0.1
1/10/2018		<0.1	<0.1					<0.1	
1/11/2018	1.5				<0.1	0.98	<0.1		
7/9/2018			<0.1						
7/10/2018		<0.1		<0.1				0.2 (J)	<0.1
7/11/2018	1.8				<0.1	0.14 (J)	<0.1		
1/16/2019	1.4						1.2	<0.1	0.053 (J)
1/17/2019				<0.1					
1/18/2019					<0.1	0.24 (J)			
1/21/2019		<0.1	<0.1						
3/25/2019			0.043 (J)				0.064 (J)		
3/26/2019	0.89			0.071 (J)				<0.1	0.046 (J)
3/27/2019					<0.1	0.13 (J)			
7/30/2019		0.083 (J)							
8/27/2019		<0.1			0.1		0.031 (J)		0.13 (J)
8/28/2019	0.61		<0.1	<0.1		0.088 (J)		0.097 (J)	
10/8/2019				<0.1					
10/9/2019	<0.1	<0.1	<0.1		<0.1	0.068 (J)	<0.1	<0.1	<0.1
4/7/2020				<0.1	<0.1		<0.1	<0.1	<0.1
4/8/2020	0.55	<0.1	<0.1			0.058 (J)			
8/18/2020	0.51	<0.1	<0.1	<0.1	<0.1				
8/19/2020						0.092 (J)	0.17	<0.1	<0.1
9/29/2020		<0.1							
9/30/2020	0.15		<0.1	<0.1	<0.1			<0.1	<0.1
10/1/2020						<0.1	<0.1		

# Time Series

Constituent: Lead (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/20/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3/14/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
7/16/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/1/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/25/2002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/20/2002		<0.005	<0.005	<0.005	<0.005	<0.005	0.011 (o)	<0.005	<0.005
6/6/2003	0.037 (o)	0.016 (o)	<0.005	0.0068	<0.005	0.0078	<0.005	<0.005	0.099 (o)
12/12/2003	0.008	0.0095	<0.005	<0.005	<0.005	0.0055	<0.005	0.0065	0.017 (o)
5/26/2004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/7/2004	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
6/21/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/12/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2006		<0.005					<0.005		<0.005
6/27/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/30/2006		<0.005					<0.005		<0.005
12/4/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2/15/2007		<0.005					<0.005		<0.005
6/23/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/11/2007		<0.005					<0.005		<0.005
12/11/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3/11/2008		<0.005					<0.005		<0.005
6/23/2008	<0.005	<0.005		<0.005	<0.005	<0.005			<0.005
6/24/2008			<0.005				<0.005	<0.005	<0.005
11/3/2008		<0.005					<0.005		<0.005
12/4/2008	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005		<0.005
12/5/2008			<0.005					<0.005	<0.005
3/25/2009		<0.005					<0.005		<0.005
7/7/2009	<0.005	<0.005	<0.005						
7/8/2009				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/14/2009		<0.005					<0.005		<0.005
12/20/2009	<0.005	<0.005	<0.005				<0.005	<0.005	<0.005
12/21/2009				<0.005	<0.005	<0.005			
3/4/2010		<0.005					<0.005		<0.005
6/20/2010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
6/21/2010									<0.005
9/14/2010		<0.005					<0.005		<0.005
1/6/2011			<0.005	<0.005		<0.005			
1/7/2011	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005
4/15/2011		<0.005					<0.005		<0.005
7/7/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/25/2011		<0.005					<0.005		<0.005
1/17/2012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
1/18/2012									<0.005
4/4/2012		<0.005					<0.005		<0.005
7/9/2012	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
7/10/2012		<0.005							<0.005
10/9/2012		<0.005					<0.005		<0.005
1/17/2013			<0.005	<0.005	<0.005	<0.005			
1/18/2013	<0.005	<0.005					<0.005	<0.005	<0.005
4/5/2013		<0.005					<0.005		<0.005

# Time Series

Constituent: Lead (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.005	<0.005	<0.005	<0.005			
7/17/2013	<0.005	<0.005					<0.005	<0.005	<0.005
10/11/2013		<0.005					<0.005		<0.005
1/13/2014	0.013		<0.005	<0.005	0.004	<0.005		<0.005	
1/14/2014		<0.005					<0.005		<0.005
4/3/2014		<0.005					<0.005		<0.005
7/8/2014				<0.005	<0.005	<0.005			
7/9/2014	0.0076 (J)	<0.005	<0.005				<0.005	<0.005	<0.005
10/24/2014		<0.005					<0.005		<0.005
1/13/2015	0.0057 (J)		<0.005	<0.005	<0.005	<0.005		<0.005	
1/14/2015		<0.005					<0.005		<0.005
5/10/2015		<0.005					<0.005		
5/11/2015									<0.005
7/16/2015	0.009 (J)		<0.005	<0.005	0.0044 (J)	<0.005		<0.005	<0.005
7/17/2015		<0.005					<0.005		
10/6/2015		<0.005							
1/17/2016			<0.005				<0.005	<0.005	<0.005
1/18/2016	0.0094 (J)	<0.005			0.0034 (J)	<0.005			
1/19/2016				<0.005					
4/26/2016		<0.005					<0.005		<0.005
7/26/2016				0.0001 (J)		<0.005			
7/27/2016	0.0058		<0.005		0.0001 (J)		<0.005	<0.005	
7/28/2016		<0.005							<0.005
8/30/2016		<0.005	<0.005						
8/31/2016				0.0002 (J)	0.0001 (J)	<0.005			
9/1/2016	0.0663 (o)						<0.005	<0.005	<0.005
10/24/2016		<0.005							
10/25/2016	0.0003 (J)		<0.005				<0.005	<0.005	0.0002 (J)
10/26/2016				0.0001 (J)	0.0001 (J)	<0.005			
1/3/2017		0.0001 (J)							
1/4/2017			<0.005	0.0002 (J)	<0.005				0.0001 (J)
1/5/2017						0.0002 (J)	<0.005	<0.005	
1/6/2017	0.006								
4/3/2017		0.0002 (J)						0.0003 (J)	
4/4/2017			<0.005				0.0001 (J)		
4/5/2017					0.0003 (J)				0.0002 (J)
4/6/2017	0.0109			0.0003 (J)		0.0005 (J)			
7/10/2017					0.0003 (J)				
7/11/2017		0.0001 (J)		0.0002 (J)			8E-05 (J)	0.0001 (J)	
7/12/2017			<0.005			0.0005 (J)			0.0001 (J)
7/13/2017	0.007								
10/2/2017		0.0001 (J)					0.0001 (J)	0.0002 (J)	
10/3/2017			<0.005	0.0003 (J)					0.0001 (J)
10/4/2017	0.0042 (J)				0.0001 (J)	0.0007 (J)			
1/9/2018	0.0098	0.0001 (J)					<0.005	0.0002 (J)	
1/10/2018			0.0001 (J)			0.0009 (J)			0.0002 (J)
1/11/2018				0.0003 (J)	0.0002 (J)				
7/9/2018		<0.005					<0.005		
7/10/2018			<0.005					<0.005	<0.005
7/11/2018	0.0028 (J)			<0.005	<0.005	0.0015 (J)			
1/16/2019	<0.025 (o)	<0.005	<0.005			0.00061 (J)	<0.005		
1/17/2019				0.00028 (J)	<0.005			<0.005	<0.005

# Time Series

Constituent: Lead (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/25/2019	0.0019 (J)	<0.005							
3/26/2019			<0.005			<0.005	<0.005	<0.005	<0.005
3/27/2019				0.00029 (J)	<0.005				
8/26/2019	0.013 (J)	<0.005							
8/27/2019			<0.005	0.00021 (J)	<0.005	0.0001 (J)	0.00051 (J)	0.00033 (J)	
8/28/2019									0.0001 (J)
10/7/2019		<0.005							
10/8/2019	0.0098 (J)			0.00028 (J)		0.00013 (J)	<0.005	0.00012 (J)	0.0001 (J)
10/9/2019			<0.005		6.6E-05 (J)				
4/6/2020	0.0024 (J)	0.0001 (J)							
4/7/2020			0.00012 (J)	0.00036 (J)	8.1E-05 (J)		<0.005	8.6E-05 (J)	0.00023 (J)
4/8/2020						0.00017 (J)			
8/17/2020		<0.005			4.9E-05 (J)	7.6E-05 (J)			
8/18/2020				0.00035 (J)			<0.005	9E-05 (J)	0.00017 (J)
8/19/2020	0.0044 (J)		<0.005						
9/28/2020	0.0043 (J)	<0.005	4.3E-05 (J)			6.4E-05 (J)			
9/29/2020				0.00032 (J)	3.7E-05 (J)		<0.005		
9/30/2020								4.7E-05 (J)	9.1E-05 (J)

# Time Series

Constituent: Lead (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.005					<0.005	0.0083	0.017 (o)	<0.005
11/21/2000	<0.005	0.0069				<0.005	0.0052	<0.005	<0.005
1/20/2001	<0.005	<0.005				<0.005	<0.005	0.011	<0.005
3/14/2001	<0.005	<0.005				<0.005	<0.005	0.026 (o)	<0.005
7/16/2001	<0.005	<0.005				<0.005	0.011	0.043 (o)	<0.005
11/1/2001	<0.005	<0.005				<0.005	<0.005	0.075 (o)	<0.005
4/25/2002	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
11/20/2002	<0.005	<0.005				0.0086 (o)	0.018 (o)	0.057 (o)	0.0057 (J)
6/6/2003	<0.005	<0.005				<0.005	0.015 (o)	0.16 (o)	0.013
12/12/2003	<0.005	<0.005				<0.005	0.0072	<0.005	<0.005
5/26/2004	<0.005	<0.005				<0.005	0.0055	0.011	<0.005
12/7/2004	<0.005	<0.005				0.0051	<0.005	0.038 (o)	<0.005
6/21/2005	<0.005	<0.005				<0.005	<0.005	0.036 (o)	<0.005
12/12/2005	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
6/27/2006	<0.005	<0.005				<0.005	0.024 (o)	<0.005	<0.005
12/4/2006	<0.005	<0.005				<0.005	0.023 (o)	<0.005	<0.005
6/23/2007	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
12/11/2007	<0.005	<0.005				<0.005	<0.005	<0.005	<0.005
6/23/2008						<0.005			
6/24/2008	<0.005	<0.005					0.02 (o)	<0.005	0.02
12/4/2008		<0.005				<0.005			
12/5/2008	<0.005						<0.005	<0.005	<0.005
7/7/2009							<0.005	<0.005	<0.005
7/8/2009	<0.005	<0.005				<0.005			
12/20/2009		<0.005							
12/21/2009	<0.005					<0.005	<0.005	<0.005	<0.005
6/20/2010		<0.005				<0.005	<0.005	<0.005	<0.005
6/21/2010	<0.005		<0.005	<0.005	<0.005		<0.005		
1/6/2011		<0.005						<0.005	
1/7/2011	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
7/7/2011			<0.005					<0.005	<0.005
7/8/2011	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005		
1/17/2012		<0.005						<0.005	
1/18/2012	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
7/9/2012		<0.005						<0.005	
7/10/2012	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
1/17/2013		<0.005						<0.005	
1/18/2013	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
7/16/2013								<0.005	
7/17/2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
1/13/2014		<0.005						<0.005	
1/14/2014	<0.005		<0.005	<0.005	<0.005	<0.005	0.005		<0.005
7/9/2014	<0.005	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
7/10/2014			<0.005		<0.005				
1/12/2015			<0.005				<0.005		
1/13/2015		<0.005						<0.005	
1/14/2015	<0.005			<0.005	<0.005	<0.005			<0.005
7/16/2015		<0.005					<0.005	<0.005	
7/17/2015				<0.005		<0.005			<0.005
7/18/2015	<0.005		<0.005		<0.005				
1/17/2016		<0.005	<0.005	<0.005					
1/18/2016	<0.005				<0.005	<0.005	0.0055 (J)	<0.005	<0.005

# Time Series

Constituent: Lead (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		<0.005						<0.005	
7/28/2016			<0.005	<0.005		<0.005			<0.005
7/29/2016	<0.005				0.0004 (J)		0.003 (J)		
8/30/2016								<0.005	<0.005
8/31/2016		<0.005			0.0003 (J)	0.0007 (J)			
9/1/2016	<0.005		<0.005	<0.005			0.0166 (a)		
10/25/2016			0.0001 (J)	<0.005					
10/26/2016	<0.005	<0.005			0.0003 (J)		0.0057	0.0002 (J)	<0.005
10/27/2016						<0.005			
1/3/2017								0.0001 (J)	
1/4/2017			<0.005	<0.005	0.0003 (J)				
1/5/2017	<0.005	<0.005							0.0003 (J)
1/6/2017						<0.005	0.0053		
4/4/2017		0.0002 (J)	7E-05 (J)	9E-05 (J)			0.0092		
4/5/2017	0.0009 (J)								
4/6/2017					0.0003 (J)	0.0001 (J)		0.0003 (J)	0.0002 (J)
7/11/2017			<0.005		0.0002 (J)				
7/12/2017						<0.005	0.006	0.0002 (J)	0.0002 (J)
7/13/2017	<0.005	0.0003 (J)		7E-05 (J)					
10/2/2017			<0.005						
10/3/2017		<0.005		0.0001 (J)				0.0002 (J)	0.0001 (J)
10/4/2017	0.0001 (J)				0.0008 (J)	9E-05 (J)	0.0057		
1/9/2018				9E-05 (J)					0.0003 (J)
1/10/2018		8E-05 (J)	0.0002 (J)					0.0003 (J)	
1/11/2018	0.0001 (J)				0.0009 (J)	0.0002 (J)	0.0085		
7/9/2018			<0.005						
7/10/2018		<0.005		<0.005				<0.005	<0.005
7/11/2018	<0.005				0.001 (J)	<0.005	0.0029 (J)		
1/16/2019	<0.005						<0.005	<0.005	<0.005
1/17/2019				<0.005					
1/18/2019					0.0012 (J)	<0.005			
1/21/2019		<0.005	<0.005						
3/25/2019			<0.005				<0.005		
3/26/2019	<0.005			<0.005				<0.005	<0.005
3/27/2019					0.00047 (J)	<0.005			
7/30/2019		0.0002 (J)							
8/27/2019		<0.005			0.003 (J)		0.001 (J)		0.0011 (J)
8/28/2019	<0.005		6.5E-05 (J)	0.00018 (J)		6.1E-05 (J)		0.0011 (J)	
10/8/2019				0.00016 (J)					
10/9/2019	0.00015 (J)	6.4E-05 (J)	0.00018 (J)		0.00032 (J)	<0.005	0.00041 (J)	0.0025 (J)	0.00033 (J)
4/7/2020				<0.005	0.00067 (J)		0.00073 (J)	0.0014 (J)	0.00063 (J)
4/8/2020	8.4E-05 (J)	<0.005	<0.005			0.00021 (J)			
8/18/2020	0.00014 (J)	<0.005	<0.005	0.00027 (J)	0.00072 (J)				
8/19/2020						9.6E-05 (J)	0.00048 (J)	7.9E-05 (J)	0.00014 (J)
9/29/2020		<0.005							
9/30/2020	6E-05 (J)		<0.005	5.4E-05 (J)	0.00023 (J)			0.0012 (J)	8E-05 (J)
10/1/2020						3.8E-05 (J)	0.00026 (J)		

# Time Series

Constituent: Lithium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		<0.03	<0.03						
8/31/2016				<0.03	<0.03	<0.03			
9/1/2016	<0.03						<0.03	<0.03	<0.03
10/24/2016		<0.03							
10/25/2016	<0.03		<0.03				<0.03	<0.03	<0.03
10/26/2016				<0.03	<0.03	<0.03			
1/3/2017		<0.03							
1/4/2017			<0.03	<0.03	<0.03				<0.03
1/5/2017						<0.03	<0.03	<0.03	
1/6/2017	<0.03								
4/3/2017		<0.03						<0.03	
4/4/2017			<0.03				<0.03		
4/5/2017					0.0012 (J)				<0.03
4/6/2017	<0.03			<0.03		<0.03			
7/10/2017					<0.03				
7/11/2017		<0.03		<0.03			<0.03	<0.03	
7/12/2017			<0.03			<0.03			<0.03
7/13/2017	<0.03								
10/2/2017		<0.03					<0.03	<0.03	
10/3/2017			<0.03	<0.03					<0.03
10/4/2017	<0.03				<0.03	<0.03			
1/9/2018	<0.03	<0.03					<0.03	<0.03	
1/10/2018			<0.03			<0.03			<0.03
1/11/2018				<0.03	<0.03				
7/9/2018		0.001 (J)					<0.03		
7/10/2018			<0.03					<0.03	<0.03
7/11/2018	<0.03			<0.03	0.00098 (J)	<0.03			
8/26/2019	<0.03	0.0012 (J)							
8/27/2019			<0.03	<0.03	0.00094 (J)	<0.03	<0.03	<0.03	
8/28/2019									<0.03
10/7/2019		0.0012 (J)							
10/8/2019	<0.03			<0.03		<0.03	<0.03	<0.03	<0.03
10/9/2019			<0.03		0.0011 (J)				
4/6/2020	<0.03	0.00086 (J)							
4/7/2020			<0.03	<0.03	0.00094 (J)		<0.03	<0.03	<0.03
4/8/2020						<0.03			
8/17/2020		0.001 (J)			0.00091 (J)	<0.03			
8/18/2020				<0.03			<0.03	<0.03	<0.03
8/19/2020	<0.03		<0.03						
9/28/2020	<0.03	0.001 (J)	<0.03			<0.03			
9/29/2020				<0.03	0.00086 (J)		<0.03		
9/30/2020								<0.03	<0.03

# Time Series

Constituent: Lithium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								0.0042 (J)	<0.03
8/31/2016		<0.03			<0.03	<0.05 (o)			
9/1/2016	0.0066 (J)		<0.03	<0.03			0.0092 (J)		
10/25/2016			<0.03	<0.03					
10/26/2016	0.0065 (J)	<0.03			<0.03		0.0046 (J)	<0.03	<0.03
10/27/2016						0.0023 (J)			
1/3/2017								0.0024 (J)	
1/4/2017			<0.03	<0.03	<0.03				
1/5/2017	0.0062 (J)	<0.03							<0.03
1/6/2017						0.0021 (J)	0.0042 (J)		
4/4/2017		<0.03	<0.03	<0.03			0.0056 (J)		
4/5/2017	0.007 (J)								
4/6/2017					<0.03	0.0021 (J)		0.0051 (J)	<0.03
7/11/2017			<0.03		<0.03				
7/12/2017						0.0017 (J)	0.0035 (J)	0.0031 (J)	<0.03
7/13/2017	0.0069 (J)	<0.03		<0.03					
10/2/2017			<0.03						
10/3/2017		<0.03		<0.03				0.0027 (J)	<0.03
10/4/2017	0.0082 (J)				<0.03	0.0021 (J)	0.0041 (J)		
1/9/2018				<0.03					<0.03
1/10/2018		<0.03	<0.03					0.0041 (J)	
1/11/2018	0.0061 (J)				<0.03	0.0022 (J)	0.0052 (J)		
7/9/2018			<0.03						
7/10/2018		<0.03		<0.03				0.005 (J)	<0.03
7/11/2018	0.0075 (J)				<0.03	0.0019 (J)	0.0039 (J)		
7/30/2019		<0.03							
8/27/2019		<0.03			<0.03		0.013 (J)		<0.03
8/28/2019	0.0041 (J)		<0.03	<0.03		0.0018 (J)		<0.03	
10/8/2019				<0.03					
10/9/2019	0.0046 (J)	<0.03	<0.03		<0.03	0.0018 (J)	0.013 (J)	<0.03	<0.03
4/7/2020				<0.03	<0.03		0.014 (J)	<0.03	<0.03
4/8/2020	0.0051 (J)	<0.03	<0.03			0.0018 (J)			
8/18/2020	0.0065 (J)	<0.03	<0.03	<0.03	<0.03				
8/19/2020						0.0019 (J)	0.014 (J)	<0.03	<0.03
9/29/2020		<0.03							
9/30/2020	0.0041 (J)		<0.03	<0.03	<0.03			<0.03	<0.03
10/1/2020						0.0019 (J)	0.013 (J)		



# Time Series

Constituent: Mercury (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		<0.0002	4E-05 (J)						
8/31/2016				<0.0002	<0.0002	<0.0002			
9/1/2016	0.00017 (J)						<0.0002	<0.0002	<0.0002
10/24/2016		<0.0002							
10/25/2016	<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
10/26/2016				<0.0002	<0.0002	<0.0002			
1/3/2017		<0.0002							
1/4/2017			<0.0002	<0.0002	<0.0002				<0.0002
1/5/2017						<0.0002	<0.0002	<0.0002	
1/6/2017	<0.0002								
4/3/2017		<0.0002						<0.0002	
4/4/2017			<0.0002				<0.0002		
4/5/2017					<0.0002				<0.0002
4/6/2017	4E-05 (J)			<0.0002		0.00013 (J)			
7/10/2017					<0.0002				
7/11/2017		<0.0002		<0.0002			<0.0002	<0.0002	
7/12/2017			<0.0002			<0.0002			<0.0002
7/13/2017	<0.0002								
10/2/2017		<0.0002					<0.0002	<0.0002	
10/3/2017			<0.0002	<0.0002					<0.0002
10/4/2017	0.0001 (J)				<0.0002	<0.0002			
1/9/2018	<0.0002	<0.0002					<0.0002	<0.0002	
1/10/2018			<0.0002			<0.0002			<0.0002
1/11/2018				<0.0002	<0.0002				
7/9/2018		<0.0002					<0.0002		
7/10/2018			<0.0002					<0.0002	<0.0002
7/11/2018	<0.0002			<0.0002	<0.0002	<0.0002			
1/16/2019	<0.0002	<0.0002	<0.0002			<0.0002	<0.0002		
1/17/2019				<0.0002	<0.0002			<0.0002	<0.0002
8/26/2019	<0.0002	<0.0002							
8/27/2019			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
8/28/2019									<0.0002
8/17/2020		<0.0002			<0.0002	<0.0002			
8/18/2020				<0.0002			<0.0002	<0.0002	<0.0002
8/19/2020	<0.0002		<0.0002						

# Time Series

Constituent: Mercury (mg/L)    Analysis Run 2/1/2021 11:56 AM    View: Descriptive  
 Grumman Road Landfill    Client: Southern Company    Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								<0.0002	<0.0002
8/31/2016		<0.0002			<0.0002	<0.0002			
9/1/2016	<0.0002		<0.0002	<0.0002			<0.0002		
10/25/2016			<0.0002	<0.0002					
10/26/2016	<0.0002	<0.0002			<0.0002		<0.0002	<0.0002	<0.0002
10/27/2016						<0.0002			
1/3/2017								<0.0002	
1/4/2017			<0.0002	<0.0002	<0.0002				
1/5/2017	<0.0002	<0.0002							<0.0002
1/6/2017						<0.0002	<0.0002		
4/4/2017		<0.0002	<0.0002	<0.0002			<0.0002		
4/5/2017	<0.0002								
4/6/2017					<0.0002	<0.0002		<0.0002	<0.0002
7/11/2017			<0.0002		<0.0002				
7/12/2017						<0.0002	<0.0002	<0.0002	<0.0002
7/13/2017	<0.0002	<0.0002		<0.0002					
10/2/2017			<0.0002						
10/3/2017		<0.0002		<0.0002				<0.0002	<0.0002
10/4/2017	<0.0002				<0.0002	5E-05 (J)	<0.0002		
1/9/2018				<0.0002					<0.0002
1/10/2018		<0.0002	<0.0002					<0.0002	
1/11/2018	<0.0002				<0.0002	<0.0002	<0.0002		
7/9/2018			<0.0002						
7/10/2018		<0.0002		<0.0002				<0.0002	<0.0002
7/11/2018	<0.0002				<0.0002	<0.0002	<0.0002		
1/16/2019	<0.0002						4.9E-05 (J)	<0.0002	4.3E-05 (J)
1/17/2019				<0.0002					
1/18/2019					<0.0002	<0.0002			
1/21/2019		<0.0002	<0.0002						
7/30/2019		<0.0002							
8/27/2019		<0.0002			<0.0002		<0.0002		<0.0002
8/28/2019	<0.0002		<0.0002	<0.0002		<0.0002		<0.0002	
10/9/2019								<0.0002	
8/18/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002				
8/19/2020						<0.0002	<0.0002	<0.0002	<0.0002

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		<0.01	0.175						
8/31/2016				<0.01	<0.01	<0.01			
9/1/2016	0.0098 (J)						0.0027 (J)	0.132	0.08
10/24/2016		<0.01							
10/25/2016	<0.01		0.242				0.0028 (J)	0.117	0.08
10/26/2016				<0.01	<0.01	<0.01			
1/3/2017		<0.01							
1/4/2017			0.167	<0.01	<0.01				0.0786
1/5/2017						<0.01	0.0022 (J)	0.109	
1/6/2017	<0.01								
4/3/2017		<0.01						0.0994	
4/4/2017			0.172				0.0022 (J)		
4/5/2017					<0.01				0.113
4/6/2017	<0.01			<0.01		<0.01			
7/10/2017					<0.01				
7/11/2017		<0.01		<0.01			0.0024 (J)	0.0938	
7/12/2017			0.182			<0.01			0.178
7/13/2017	0.0013 (J)								
10/2/2017		<0.01					0.0025 (J)	0.103	
10/3/2017			0.162	<0.01					0.201
10/4/2017	0.0013 (J)				<0.01	<0.01			
1/9/2018	<0.01	<0.01					0.0038 (J)	0.106	
1/10/2018			0.117			<0.01			0.161
1/11/2018				0.0018 (J)	<0.01				
7/9/2018		<0.01					0.01		
7/10/2018			0.11					0.088	0.14
7/11/2018	<0.01			<0.01	<0.01	<0.01			
8/26/2019	<0.01	<0.01							
8/27/2019			0.06	<0.01	<0.01	<0.01	0.028	0.095	
8/28/2019									0.22
10/7/2019		<0.01							
10/8/2019	<0.01			<0.01		<0.01	0.034	0.091	0.2
10/9/2019			0.06		<0.01				
4/6/2020	<0.01	<0.01							
4/7/2020			0.014	<0.01	<0.01		0.014	0.07	0.25
4/8/2020						0.0056 (J)			
8/17/2020		<0.01			<0.01	<0.01			
8/18/2020				0.00077 (J)			0.017	0.12	0.15
8/19/2020	<0.01		0.061						
9/28/2020	<0.01	<0.01	0.059			<0.01			
9/29/2020				<0.01	<0.01		0.0089 (J)		
9/30/2020								0.11	0.15

# Time Series

Constituent: Molybdenum (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								<0.01	<0.01
8/31/2016		<0.01			<0.01	<0.01			
9/1/2016	<0.01		0.296	0.0686			0.035		
10/25/2016			0.395	0.0018 (J)					
10/26/2016	<0.01	<0.01			<0.01		0.0267	<0.01	<0.01
10/27/2016						<0.01			
1/3/2017								<0.01	
1/4/2017			0.229	0.0222	<0.01				
1/5/2017	<0.01	<0.01							<0.01
1/6/2017						<0.01	0.0278		
4/4/2017		<0.01	0.147	0.0476			0.0265		
4/5/2017	<0.01								
4/6/2017					<0.01	<0.01		<0.01	<0.01
7/11/2017			0.136		<0.01				
7/12/2017						<0.01	0.0209	<0.01	<0.01
7/13/2017	<0.01	<0.01		0.0105					
10/2/2017			0.13						
10/3/2017		<0.01		0.0031 (J)				<0.01	<0.01
10/4/2017	<0.01				<0.01	<0.01	0.0181		
1/9/2018				0.09					<0.01
1/10/2018		<0.01	0.229					<0.01	
1/11/2018	<0.01				<0.01	<0.01	0.0237		
7/9/2018			0.13						
7/10/2018		<0.01		0.047				<0.01	<0.01
7/11/2018	<0.01				<0.01	<0.01	0.024		
7/30/2019		<0.01							
8/27/2019		<0.01			<0.01		0.1		0.0026 (J)
8/28/2019	0.004 (J)		0.11	0.07		<0.01		0.0012 (J)	
10/8/2019				0.078					
10/9/2019	0.0036 (J)	<0.01	0.071		<0.01	<0.01	0.1	<0.01	<0.01
4/7/2020				0.012	<0.01		0.13	<0.01	<0.01
4/8/2020	0.0024 (J)	<0.01	0.06			<0.01			
8/18/2020	0.00092 (J)	<0.01	0.097	0.069	<0.01				
8/19/2020						<0.01	0.16	<0.01	0.001 (J)
9/29/2020		<0.01							
9/30/2020	0.0041 (J)		0.33	0.028	<0.01			<0.01	0.00097 (J)
10/1/2020						<0.01	0.15		

# Time Series

Constituent: pH (SU) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			5.38	5.2	4.17	4.95	4.62	5.96	4.92
10/11/2014		4.42					4.58		5.17
10/24/2016		4.36							
10/25/2016	6.17		5.51				4.79	6.46	5.58
10/26/2016				5.08	4.04	4.95			
1/3/2017		4.28							
1/4/2017			5.46	5.06	4.01				5.51
1/5/2017						4.97	4.73	6.25	
1/6/2017	6.16								
4/3/2017		4.29						6.25	
4/4/2017			5.43				4.68		
4/5/2017					4	4.81			5.51
4/6/2017	6.26			4.97					
7/10/2017					3.89				
7/11/2017		4.35		5.26			4.72	6.5	
7/12/2017			5.46			4.83			5.84
7/13/2017	5.99								
10/2/2017		4.32					5.13	6.83	
10/3/2017			5.65	5.07					5.55
10/4/2017	6.16				4.06	4.71			
1/9/2018	6.43	4.44					5.59	6.57	
1/10/2018			5.67			5.17			5.99
1/11/2018				5.18	3.96				
7/9/2018		4.4					5.11		
7/10/2018			5.71					6.42	5.5
7/11/2018	6.1			4.82	3.95	4.49			
1/16/2019	6.05	6.16 (o)	5.59			6.45 (o)	6.82		
1/17/2019				4.91	3.89			8.44 (o)	7.13
3/25/2019	6.06	4.4							
3/26/2019			5.77			4.96	5.74	6.65	5.57
3/27/2019				5.18	4.11				
8/26/2019	5.91	4.26							
8/27/2019			5.84	5.17	4.02	4.9	5.58	6.57	
8/28/2019									5.57
10/7/2019		4.24							
10/8/2019	5.74			4.93		4.81	5.68	6.65	5.54
10/9/2019			5.82		4.25				
4/6/2020	6.02	4.52							
4/7/2020			5.3	5.05	4.1		6.2	6.83	5.94
4/8/2020						4.81			
8/17/2020		4.23			3.94	4.65			
8/18/2020				4.41			5.56	6.39	5.52
8/19/2020	5.81 (D)		5.73						
9/28/2020	5.86	4.41	5.79			4.76			
9/29/2020				4.77	3.95		5.69		
9/30/2020								6.71	5.47

# Time Series

Constituent: pH (SU) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/16/2013	4.55	4.52	6.1	5.71	4.91	5.05	6.22	5.95	5.25
10/25/2016			6.06	5.41					
10/26/2016	4.45	4.48			4.6		6.06	5.27	5.21
10/27/2016						4.65			
1/3/2017								5.09	
1/4/2017			6.05	5.6	4.63				
1/5/2017	4.45	4.85							5.2
1/6/2017						4.56	6.02		
4/4/2017		4.58	6.03	5.94			6.08		
4/5/2017	4.33								
4/6/2017					4.79	4.5		5.22	5.17
7/11/2017			5.96		4.73				
7/12/2017						4.56	5.93	5.29	5.24
7/13/2017	4.11	4.74		5.6					
10/2/2017			5.88						
10/3/2017		4.57		5.18				5.08	5.36
10/4/2017	4.09				4.74	4.72	5.77		
1/9/2018				6.14					5.4
1/10/2018		5.31	6.21					5.83	
1/11/2018	4.4				5.22	4.34	5.98		
7/9/2018			6.24						
7/10/2018		4.58		5.7				6.42	5.31
7/11/2018	4.07				4.68	4.68	6.01		
1/16/2019	4.05						5.83	6.66	5.99
1/17/2019				7.39					
1/18/2019					6.98 (o)	6.87 (o)			
1/21/2019		5.05	7.73 (o)						
3/25/2019			6.28				5.74		
3/26/2019	4.62			6.08				5.1	5.94
3/27/2019					4.77	4.38			
7/30/2019		4.74							
8/27/2019		4.77			4.89		5.7		5.67
8/28/2019	4.62		6.34	6.05		4.68		5.95	
10/8/2019				6.09					
10/9/2019	4.66	4.79	6.5		4.68	4.62	5.79	6.11	5.66
4/7/2020				6	4.8		5.74	5.45	5.86
4/8/2020	4.71	4.66	6.31			4.73			
8/18/2020	4.31	4.6	5.89	5.82	4.52				
8/19/2020						4.58	5.7	5.14 (D)	5.21
9/29/2020		4.6							
9/30/2020	4.08		6.04	5.82	4.63			4.99	5.39
10/1/2020						4.42	5.75		

# Time Series

Constituent: Selenium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01		<0.01	<0.01	<0.01	<0.01	0.052	<0.01	<0.01
1/20/2001	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	0.053	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.049	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.038	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01
4/25/2002	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	0.1 (o)	<0.01	<0.01
11/20/2002		<0.01	0.19 (o)	<0.01	<0.01	<0.01	0.018	0.0094	<0.01
6/6/2003	<0.01	<0.01	0.32 (o)	<0.01	<0.01	<0.01	<0.01	0.021 (o)	0.021 (o)
12/12/2003	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	0.016 (o)	0.0078
5/26/2004	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	0.023	<0.01	0.0053
12/7/2004	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	0.019	<0.01	<0.01
6/21/2005	<0.01	<0.01	0.0088	<0.01	<0.01	<0.01	0.019	<0.01	<0.01
12/12/2005	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	0.0095	<0.01	<0.01
4/4/2006		<0.01					0.033		<0.01
6/27/2006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8/30/2006		<0.01					<0.01		<0.01
12/4/2006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.032	<0.01	<0.01
2/15/2007		<0.01					0.034		<0.01
6/23/2007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/11/2007		<0.01					0.022		<0.01
12/11/2007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.045	<0.01	<0.01
3/11/2008		<0.01					0.02		<0.01
6/23/2008	<0.01	<0.01		<0.01	<0.01	<0.01			
6/24/2008			<0.01				<0.01	<0.01	<0.01
11/3/2008		<0.01					0.052		<0.01
12/4/2008	<0.01	<0.01		<0.01	<0.01	<0.01	0.054		
12/5/2008			<0.01					<0.01	<0.01
3/25/2009		<0.01					0.072		<0.01
7/7/2009	<0.01	<0.01	<0.01						
7/8/2009				<0.01	<0.01	<0.01	0.021	<0.01	<0.01
9/14/2009		<0.01					0.015		<0.01
12/20/2009	<0.01	<0.01	<0.01				0.072	<0.01	<0.01
12/21/2009				<0.01	<0.01	<0.01			
3/4/2010		<0.01					0.083		<0.01
6/20/2010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.1	<0.01	
6/21/2010									<0.01
9/14/2010		<0.01					0.085		<0.01
1/6/2011			<0.01	<0.01		<0.01			
1/7/2011	<0.01	<0.01			<0.01		0.028	<0.01	<0.01
4/15/2011		<0.01					<0.01		<0.01
7/7/2011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/25/2011		<0.01					0.02		<0.01
1/17/2012	<0.01	<0.01	<0.01	0.023	<0.01	<0.01	0.016	<0.01	
1/18/2012									<0.01
4/4/2012		<0.01					0.0156		<0.01
7/9/2012	<0.01		<0.01	0.016	<0.01	<0.01	<0.01	0.066 (o)	
7/10/2012		<0.01							<0.01
10/9/2012		<0.01					0.0094		<0.01
1/17/2013			<0.01	0.033	<0.01	<0.01			
1/18/2013	0.009	<0.01					0.0067	0.04 (o)	<0.01
4/5/2013		<0.01					0.0077		<0.01

# Time Series

Constituent: Selenium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			0.012	0.0068	<0.01	<0.01			
7/17/2013	0.011	<0.01					0.01	<0.01	<0.01
10/11/2013		<0.01					0.0087		0.0069
1/13/2014	0.012		<0.01	0.036	<0.01	<0.01		<0.01	
1/14/2014		<0.01					0.012		<0.01
4/3/2014		<0.01					0.022		<0.01
7/8/2014				0.017	<0.01	<0.01			
7/9/2014	0.011	<0.01	<0.01				0.0089	<0.01	0.005
10/24/2014		<0.01					0.017		<0.01
1/13/2015	0.0092		<0.01	0.027	<0.01	<0.01		<0.01	
1/14/2015		<0.01					<0.01		<0.01
5/10/2015		<0.01					<0.01		
5/11/2015									<0.01
7/16/2015	0.014		<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
7/17/2015		<0.01					<0.01		
10/6/2015		<0.01					<0.01		0.0073
1/17/2016			0.023				<0.01	<0.01	0.0031 (J)
1/18/2016	0.023	<0.01			<0.01	<0.01			
1/19/2016				0.023					
4/26/2016		<0.01					0.00428 (J)		0.00497 (J)
7/26/2016				0.0056 (J)		<0.01			
7/27/2016	0.0323		0.002 (J)		0.0025 (J)		0.0038 (J)	<0.01	
7/28/2016		0.001 (J)							0.0076 (J)
8/30/2016		<0.01	0.002 (J)						
8/31/2016				0.0084 (J)	0.0019 (J)	<0.01			
9/1/2016	0.0438						0.0056 (J)	<0.01	0.0052 (J)
10/24/2016		0.0013 (J)							
10/25/2016	0.031		0.0022 (J)				0.0023 (J)	<0.01	0.0085 (J)
10/26/2016				0.0052 (J)	0.002 (J)	<0.01			
1/3/2017		<0.01							
1/4/2017			0.0016 (J)	0.0062 (J)	<0.01				0.0048 (J)
1/5/2017									
1/6/2017	0.0324					<0.01	0.0038 (J)	<0.01	
4/3/2017		<0.01						<0.01	
4/4/2017			0.0052 (J)				0.0064 (J)		
4/5/2017					<0.01				0.0068 (J)
4/6/2017	0.0188 (J)			0.0195		<0.01			
7/10/2017					<0.01				
7/11/2017		<0.01		<0.01			0.0044 (J)	<0.01	
7/12/2017			0.0024 (J)			<0.01			0.0048 (J)
7/13/2017	0.0118								
10/2/2017		<0.01					0.004 (J)	<0.01	
10/3/2017			<0.01	0.0079 (J)					0.0051 (J)
10/4/2017	0.0195				<0.01	<0.01			
1/9/2018	<0.01	<0.01					0.0019 (J)	0.0019 (J)	
1/10/2018			0.0018 (J)			<0.01			0.0018 (J)
1/11/2018				0.0054 (J)	<0.01				
7/9/2018		<0.01					0.0029 (J)		
7/10/2018			0.0026 (J)					0.0086 (J)	0.0045 (J)
7/11/2018	<0.01			0.0022 (J)	<0.01	<0.01			
1/16/2019	0.0071 (J)	<0.01	0.0018 (J)			<0.01	0.0016 (J)		
1/17/2019				<0.01	<0.01			0.0029 (J)	0.0031 (J)



# Time Series

Constituent: Selenium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/25/2019	<0.01	<0.01							
3/26/2019			0.0023 (J)			<0.01	0.0022 (J)	0.0074 (J)	0.0033 (J)
3/27/2019				0.01 (J)	<0.01				
8/26/2019	<0.01	<0.01							
8/27/2019			0.0016 (J)	<0.01	<0.01	<0.01	0.0035 (J)	0.0092 (J)	
8/28/2019									0.004 (J)
10/7/2019		<0.01							
10/8/2019	0.0072 (J)			<0.01		<0.01	0.0026 (J)	0.014	0.0023 (J)
10/9/2019			0.0024 (J)		<0.01				
4/6/2020	0.0078 (J)	<0.01							
4/7/2020			0.0013 (J)	0.0021 (J)	<0.01		0.005 (J)	0.0029 (J)	<0.01
4/8/2020						<0.01			
8/17/2020		<0.01			<0.01	<0.01			
8/18/2020				0.0028 (J)			0.0029 (J)	0.0022 (J)	0.0058 (J)
8/19/2020	<0.01		0.002 (J)						
9/28/2020	0.01 (J)	<0.01	<0.01			<0.01			
9/29/2020				0.0024 (J)	<0.01		0.0051 (J)		
9/30/2020								<0.01	0.0037 (J)

# Time Series

Constituent: Selenium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.01					<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01				<0.01	0.014 (o)	<0.01	<0.01
3/14/2001	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01				<0.01	0.015 (o)	<0.01	<0.01
11/1/2001	<0.01	<0.01				<0.01	0.012 (o)	<0.01	<0.01
4/25/2002	<0.01	<0.01				<0.01	0.01	<0.01	<0.01
11/20/2002	<0.01	<0.01				<0.01	0.026 (o)	0.0064	0.008
6/6/2003	<0.01	<0.01				<0.01	0.022 (o)	0.011	0.0066
12/12/2003	<0.01	<0.01				<0.01	0.028 (o)	<0.01	0.0056
5/26/2004	<0.01	0.005				<0.01	0.012 (o)	0.007	0.0084
12/7/2004	<0.01	<0.01				<0.01	0.0073	<0.01	<0.01
6/21/2005	<0.01	<0.01				0.0062	0.0087	0.0063	0.0062
12/12/2005	<0.01	<0.01				<0.01	0.013 (o)	<0.01	<0.01
6/27/2006	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
12/4/2006	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
6/23/2007	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
12/11/2007	<0.01	<0.01				<0.01	<0.01	<0.01	<0.01
6/23/2008						<0.01			
6/24/2008	<0.01	<0.01					<0.01	<0.01	<0.01
12/4/2008		<0.01				<0.01			
12/5/2008	<0.01						<0.01	<0.01	<0.01
7/7/2009							<0.01	<0.01	<0.01
7/8/2009	<0.01	<0.01				<0.01			
12/20/2009		<0.01							
12/21/2009	<0.01					<0.01	<0.01	<0.01	<0.01
6/20/2010		<0.01				<0.01		<0.01	<0.01
6/21/2010	<0.01		<0.01	0.048	<0.01		<0.01		
1/6/2011		<0.01						<0.01	
1/7/2011	<0.01		<0.01	0.014	<0.01	<0.01	<0.01		<0.01
7/7/2011			<0.01					<0.01	<0.01
7/8/2011	<0.01		<0.01	0.018	<0.01	<0.01	<0.01		
1/17/2012		<0.01						<0.01	
1/18/2012	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
7/9/2012		<0.01						<0.01	
7/10/2012	<0.01		<0.01	0.02	<0.01	<0.01	<0.01		<0.01
1/17/2013		<0.01						<0.01	
1/18/2013	<0.01		0.005	0.015	<0.01	<0.01	<0.01		<0.01
7/16/2013								<0.01	
7/17/2013	<0.01	<0.01	<0.01	0.037	<0.01	<0.01	<0.01		<0.01
1/13/2014		<0.01						<0.01	
1/14/2014	<0.01		<0.01	0.043	<0.01	<0.01	<0.01		<0.01
7/9/2014	<0.01	<0.01		0.023	<0.01	<0.01	<0.01	<0.01	<0.01
7/10/2014			<0.01		<0.01				
1/12/2015			<0.01				<0.01		
1/13/2015		<0.01						<0.01	
1/14/2015	<0.01			0.022	<0.01	<0.01			<0.01
7/16/2015		<0.01					<0.01	<0.01	
7/17/2015				0.033		<0.01			<0.01
7/18/2015	<0.01		<0.01		<0.01				
1/17/2016		<0.01	<0.01	0.021					
1/18/2016	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01

# Time Series

Constituent: Selenium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		0.002 (J)						<0.01	
7/28/2016			<0.01	0.0341		<0.01			<0.01
7/29/2016	0.0011 (J)				0.0022 (J)		0.0036 (J)		
8/30/2016								<0.01	<0.01
8/31/2016		<0.01			0.0014 (J)	<0.01			
9/1/2016	0.0012 (J)		<0.01	0.0297			0.0067 (J)		
10/25/2016			0.0014 (J)	0.0095 (J)					
10/26/2016	0.0013 (J)	0.0035 (J)			0.001 (J)		0.0042 (J)	<0.01	<0.01
10/27/2016						<0.01			
1/3/2017								<0.01	
1/4/2017			0.0014 (J)	0.022	<0.01				
1/5/2017	0.0012 (J)	<0.01							0.0014 (J)
1/6/2017						<0.01	0.0042 (J)		
4/4/2017		<0.01	<0.01	0.0236			0.0043 (J)		
4/5/2017	<0.01								
4/6/2017					<0.01	<0.01		<0.01	<0.01
7/11/2017			<0.01		<0.01				
7/12/2017						<0.01	0.0033 (J)	<0.01	<0.01
7/13/2017	0.0018 (J)	<0.01		0.013					
10/2/2017			<0.01						
10/3/2017		<0.01		0.01 (J)				<0.01	<0.01
10/4/2017	0.0042 (J)				0.0023 (J)	<0.01	0.0038 (J)		
1/9/2018				0.0162					<0.01
1/10/2018		<0.01	<0.01					<0.01	
1/11/2018	<0.01				<0.01	<0.01	0.0029 (J)		
7/9/2018			<0.01						
7/10/2018		<0.01		0.016				0.0018 (J)	0.0016 (J)
7/11/2018	0.0016 (J)				<0.01	<0.01	0.0015 (J)		
1/16/2019	<0.01						<0.01	<0.01	<0.01
1/17/2019				0.011					
1/18/2019					<0.01	<0.01			
1/21/2019		<0.01	0.0014 (J)						
3/25/2019			<0.01				<0.01		
3/26/2019	<0.01			0.022				<0.01	0.05 (J)
3/27/2019					<0.01	<0.01			
7/30/2019		<0.01							
8/27/2019		<0.01			<0.01		<0.01		0.0033 (J)
8/28/2019	<0.01		0.0014 (J)	0.019		<0.01		0.0033 (J)	
10/8/2019				0.019					
10/9/2019	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	0.0073 (J)	<0.01
4/7/2020				0.012	<0.01		0.0025 (J)	<0.01	<0.01
4/8/2020	<0.01	<0.01	0.0013 (J)			<0.01			
8/18/2020	0.002 (J)	<0.01	<0.01	0.013	<0.01				
8/19/2020						<0.01	<0.01	<0.01	<0.01
9/29/2020		<0.01							
9/30/2020	<0.01		<0.01	0.0061 (J)	<0.01			<0.01	0.0023 (J)
10/1/2020						<0.01	<0.01		

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		140	87						
8/31/2016				64	1100	43			
9/1/2016	73						730	120	430
10/24/2016		160							
10/25/2016	26		83				420	100	360
10/26/2016				56	900	29			
1/3/2017		140							
1/4/2017			99	65	880				360
1/5/2017						32	430	140	
1/6/2017	23								
4/3/2017		140						150	
4/4/2017			110				600		
4/5/2017					990				440
4/6/2017	25			110		49			
7/10/2017					480				
7/11/2017		130		49			400	110	
7/12/2017			100			16			490
7/13/2017	65								
10/2/2017		150					470	56	
10/3/2017			63	140					780
10/4/2017	13				760	33			
1/9/2018	45	120					440	84	
1/10/2018			86			22			470
1/11/2018				270	780				
7/9/2018		123					369		
7/10/2018			77.7					43	787
7/11/2018	37.7			211	598	17.8			
1/16/2019	24.5	129	71.2			20.2	291		
1/17/2019				50.3	454			45.2	780
3/25/2019	14.7	152							
3/26/2019			73.8			33.6	192	54	87.9
3/27/2019				76.8	579				
10/7/2019		156							
10/8/2019	32.8			310		22	428	45.8	872
10/9/2019			76.3		392				
4/6/2020	20.3	123							
4/7/2020			83	446	297		456	26.9	844
4/8/2020						30.7			
9/28/2020	20	93.6	71.6			25.6			
9/29/2020				516	237		93.5		
9/30/2020								18.5	736

# Time Series

Constituent: Sulfate (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								100	120
8/31/2016		21			700	84			
9/1/2016	310		180	36			210		
10/25/2016			79	16					
10/26/2016	280	100			850		230	130	120
10/27/2016						76			
1/3/2017								120	
1/4/2017			170	45	680				
1/5/2017	310	22							130
1/6/2017						66	220		
4/4/2017		29	300	46			230		
4/5/2017	460								
4/6/2017					220	79		140	150
7/11/2017			400		210				
7/12/2017						75	210	140	140
7/13/2017	490	20		33					
10/2/2017			390						
10/3/2017		20		34				130	140
10/4/2017	1100				730	78	290		
1/9/2018				29					140
1/10/2018		9.5	99					110	
1/11/2018	810				180	110	210		
7/9/2018			99.2						
7/10/2018		8.5		33.2				48.1	128
7/11/2018	902				381	87.4	177		
1/16/2019	422						244	184	402
1/17/2019				24.1					
1/18/2019					107	56.9			
1/21/2019		10.2	35.5						
3/25/2019			95.6				245		
3/26/2019	439			83.9				222	319
3/27/2019					103	76.2			
7/30/2019		12.3							
10/8/2019				85.6					
10/9/2019	346	10.1	58.5		80.2	41.1	38.5	90.8	255
4/7/2020				33.2	333		221	180	180
4/8/2020	239	12.9	428			34.2			
9/29/2020		8.6							
9/30/2020	193		956	306	65.5			339	339
10/1/2020						35	178		

# Time Series

Constituent: Thallium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11/21/2000	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/20/2001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
3/14/2001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
7/16/2001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11/1/2001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/25/2002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12/12/2003	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
5/26/2004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12/7/2004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
6/21/2005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12/12/2005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
4/4/2006		<0.001					<0.001		<0.001
6/27/2006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/30/2006		<0.001					<0.001		<0.001
12/4/2006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2/15/2007		<0.001					<0.001		<0.001
6/23/2007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
8/30/2016		<0.001	<0.001						
8/31/2016				<0.001	<0.001	<0.001			
9/1/2016	0.0005 (J)						<0.001	<0.001	<0.001
10/24/2016		<0.001							
10/25/2016	<0.001		<0.001				<0.001	<0.001	<0.001
10/26/2016				<0.001	0.0003 (J)	<0.001			
1/3/2017		<0.001							
1/4/2017			<0.001	<0.001	<0.001				<0.001
1/5/2017						<0.001	<0.001	<0.001	
1/6/2017	<0.001								
4/3/2017		<0.001						<0.001	
4/4/2017			5E-05 (J)				7E-05 (J)		
4/5/2017					0.0002 (J)				6E-05 (J)
4/6/2017	<0.001			6E-05 (J)		<0.001			
7/10/2017					0.0002 (J)				
7/11/2017		5E-05 (J)		<0.001			6E-05 (J)	<0.001	
7/12/2017			<0.001			<0.001			<0.001
7/13/2017	<0.001								
10/2/2017		6E-05 (J)					<0.001	<0.001	
10/3/2017			<0.001	7E-05 (J)					<0.001
10/4/2017	<0.001				0.0002 (J)	<0.001			
1/9/2018	<0.001	<0.001					<0.001	<0.001	
1/10/2018			<0.001			<0.001			5E-05 (J)
1/11/2018				0.0001 (J)	0.0002 (J)				
7/9/2018		<0.001					<0.001		
7/10/2018			<0.001					<0.001	<0.001
7/11/2018	<0.001			<0.001	<0.001	<0.001			
8/26/2019	<0.001	<0.001							
8/27/2019			<0.001	<0.001	0.00011 (J)	<0.001	<0.001	<0.001	
8/28/2019									<0.001
10/7/2019		6.2E-05 (J)							
10/8/2019	<0.001			9.8E-05 (J)		<0.001	<0.001	<0.001	<0.001
10/9/2019			5.4E-05 (J)		0.00014 (J)				
4/6/2020	<0.001	<0.001							

# Time Series

Constituent: Thallium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
4/7/2020			5.4E-05 (J)	0.00019 (J)	0.00013 (J)		<0.001	<0.001	<0.001
4/8/2020						<0.001			
8/17/2020		<0.001			<0.001	<0.001			
8/18/2020				0.00021 (J)			<0.001	<0.001	<0.001
8/19/2020	<0.001		<0.001						
9/28/2020	<0.001	<0.001	<0.001			<0.001			
9/29/2020				0.00017 (J)	<0.001		<0.001		
9/30/2020								<0.001	<0.001

# Time Series

Constituent: Thallium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.001					<0.001	<0.001	<0.001	<0.001
11/21/2000	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
1/20/2001	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
3/14/2001	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
7/16/2001	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
11/1/2001	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
4/25/2002	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
12/12/2003	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
5/26/2004	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
12/7/2004	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
6/21/2005	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
12/12/2005	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
6/27/2006	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
12/4/2006	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
6/23/2007	<0.001	<0.001				<0.001	<0.001	<0.001	<0.001
8/30/2016								<0.001	<0.001
8/31/2016		<0.001			<0.001	<0.001			
9/1/2016	<0.001		<0.001	<0.001			<0.001		
10/25/2016			<0.001	<0.001					
10/26/2016	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001
10/27/2016						<0.001			
1/3/2017								<0.001	
1/4/2017			<0.001	<0.001	<0.001				
1/5/2017	<0.001	<0.001							<0.001
1/6/2017						<0.001	<0.001		
4/4/2017		<0.001	<0.001	5E-05 (J)			7E-05 (J)		
4/5/2017	0.0001 (J)								
4/6/2017					<0.001	<0.001		<0.001	<0.001
7/11/2017			<0.001		<0.001				
7/12/2017						<0.001	<0.001	<0.001	<0.001
7/13/2017	<0.001	<0.001		<0.001					
10/2/2017			<0.001						
10/3/2017		<0.001		<0.001				<0.001	<0.001
10/4/2017	0.0001 (J)				0.0001 (J)	<0.001	<0.001		
1/9/2018				<0.001					<0.001
1/10/2018		<0.001	<0.001					<0.001	
1/11/2018	0.0001 (J)				6E-05 (J)	<0.001	7E-05 (J)		
7/9/2018			<0.001						
7/10/2018		<0.001		<0.001				<0.001	<0.001
7/11/2018	<0.001				<0.001	<0.001	<0.001		
7/30/2019		0.00011 (J)							
8/27/2019		<0.001			8.6E-05 (J)		<0.001		<0.001
8/28/2019	6.6E-05 (J)		<0.001	<0.001		<0.001		5.7E-05 (J)	
10/8/2019				<0.001					
10/9/2019	7.6E-05 (J)	<0.001	<0.001		<0.001	<0.001	<0.001	0.00031 (J)	<0.001
4/7/2020				<0.001	6.5E-05 (J)		<0.001	<0.001	<0.001
4/8/2020	5.6E-05 (J)	<0.001	<0.001			<0.001			
8/18/2020	<0.001	<0.001	<0.001	<0.001	0.00017 (J)				
8/19/2020						<0.001	<0.001	<0.001	<0.001
9/29/2020		<0.001							
9/30/2020	<0.001		<0.001	<0.001	<0.001			<0.001	<0.001
10/1/2020						<0.001	<0.001		



# Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
8/30/2016		234	225						
8/31/2016				119	1560	77			
9/1/2016	3660						1170	539	878
10/24/2016		216							
10/25/2016	3560		230				633	449	585
10/26/2016				108	1520	<25			
1/3/2017		333							
1/4/2017			349	182	1430				783
1/5/2017						146	781	565	
1/6/2017	3490								
4/3/2017		288						632	
4/4/2017			356				916		
4/5/2017					1200				722
4/6/2017	3170			248		23 (J)			
7/10/2017					1100				
7/11/2017		188		88			675	569	
7/12/2017			357			39			962
7/13/2017	2280								
10/2/2017		210					689	559	
10/3/2017			192	248					1240
10/4/2017	3350				986	38			
1/9/2018	2640	118					653	520	
1/10/2018			277			<25			935
1/11/2018				681	1020				
7/9/2018		235					659		
7/10/2018			349					524	1040
7/11/2018	2200			440	888	63			
1/16/2019	2100	219	341			44	656		
1/17/2019				118	765			518 (D)	1320
3/25/2019	2100	240							
3/26/2019			317			72	496	541	1380
3/27/2019				138	673				
10/7/2019		275							
10/8/2019	1840			613		51	841	526	1500
10/9/2019			338		647				
4/6/2020	1670	214							
4/7/2020			195	780	464		843	428	1500
4/8/2020						65			
9/28/2020	1450	175	373			60			
9/29/2020				1100	440		187		
9/30/2020								434	1140

# Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016								224	365
8/31/2016		39			1570	173			
9/1/2016	1270		470	184			1080		
10/25/2016			289	<25					
10/26/2016	1320	135			1840		1050	297	373
10/27/2016						221			
1/3/2017								366	
1/4/2017			639	242	1560				
1/5/2017	1770	99							543
1/6/2017						259	1060		
4/4/2017		54	660	187			994		
4/5/2017	1600								
4/6/2017					368	169		279	434
7/11/2017			836		383				
7/12/2017						163	1070	308	454
7/13/2017	1940	50		86					
10/2/2017			698						
10/3/2017		18 (J)		66				288	389
10/4/2017	2370				1500	168	1100		
1/9/2018				167					415
1/10/2018		<25	322					493	
1/11/2018	2350				438	190	838		
7/9/2018			461						
7/10/2018		49		180				1730 (o)	453
7/11/2018	2260				876	165	799		
1/16/2019	1540						530	382	1320
1/17/2019				178					
1/18/2019					154	118			
1/21/2019		39	307						
3/25/2019			449				479		
3/26/2019	1220			292				1040	1250
3/27/2019					158	104			
7/30/2019		70							
10/8/2019				278					
10/9/2019	1100	46	434		211	128	502	2010	903
4/7/2020				106	819		482	483	775
4/8/2020	881	38	986			80			
9/29/2020		33							
9/30/2020	752		1860	634	113			652	816
10/1/2020						111	424		

# Time Series

Constituent: Vanadium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/20/2002		<0.01	0.0069	0.0071	<0.01	<0.01	0.03	0.0099	0.0069
6/6/2003	0.047	0.017 (o)	0.16 (o)	0.0098	<0.01	0.0063	0.0065	0.019 (o)	0.082 (o)
12/12/2003	0.0086	0.011 (o)	<0.01	0.0074	<0.01	<0.01	0.0052	0.018 (o)	0.012
5/26/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0074	<0.01	<0.01
6/21/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
12/12/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/4/2006		<0.01					0.013		<0.01
6/27/2006	<0.01	<0.01	0.0029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8/30/2006		<0.01					0.0039		<0.01
12/4/2006	0.0027	<0.01	0.0047	<0.01	<0.01	<0.01	0.016	<0.01	0.0031
2/15/2007		<0.01					0.017		0.0025
6/23/2007	0.0027	<0.01	0.0029	0.0036	<0.01	<0.01	0.0076	<0.01	0.0032
9/11/2007		<0.01					0.012		<0.01
12/11/2007	0.0033	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	<0.01
3/11/2008		<0.01					0.012		<0.01
6/23/2008	0.0074	<0.01		<0.01	<0.01	<0.01			
6/24/2008			<0.01				0.0069	<0.01	<0.01
11/3/2008		<0.01					0.016		0.0032
12/4/2008	0.0084	<0.01		<0.01	<0.01	<0.01	0.013		
12/5/2008			<0.01					<0.01	<0.01
3/25/2009		<0.01					0.014		<0.01
7/7/2009	0.023	<0.01	<0.01						
7/8/2009				0.0026	<0.01	<0.01	0.014	<0.01	0.0036
9/14/2009		<0.01					0.0072		0.0026
12/20/2009	0.007	<0.01	<0.01				0.02	<0.01	0.0031
12/21/2009				<0.01	<0.01	<0.01			
3/4/2010		<0.01					0.023		<0.01
6/20/2010	0.0047	<0.01	0.0037	<0.01	<0.01	<0.01	0.017	<0.01	
6/21/2010									0.0025
9/14/2010		<0.01					0.018		0.0035
1/6/2011			<0.01	0.003		0.0028			
1/7/2011	0.018	<0.01			<0.01		0.019	<0.01	0.0036
4/15/2011		<0.01					0.019		<0.01
7/7/2011	0.019	<0.01	0.0045	0.004	<0.01	<0.01	0.014	0.0036	0.003
9/25/2011		<0.01					0.015		0.0037
1/17/2012	0.0298	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	
1/18/2012									<0.01
4/4/2012		<0.01					0.0191		<0.01
7/9/2012	0.14		0.0026	0.005	<0.01	<0.01	0.026	0.0059	
7/10/2012		<0.01							0.0026
10/9/2012		<0.01					0.049		0.007
1/17/2013			<0.01	0.005	<0.01	<0.01			
1/18/2013	0.21	<0.01					0.036	<0.01	<0.01
4/5/2013		<0.01					0.04		<0.01

# Time Series

Constituent: Vanadium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.01	<0.01	<0.01	<0.01			
7/17/2013	0.18	<0.01					0.062	<0.01	<0.01
10/11/2013		<0.01					0.032		<0.01
1/13/2014	0.24		<0.01	<0.01	<0.01	<0.01		<0.01	
1/14/2014		<0.01					0.044		<0.01
4/3/2014		0.0015 (J)					0.077 (o)		0.0032 (J)
7/8/2014				0.0024 (J)	0.0034 (J)	0.002 (J)			
7/9/2014	0.22	0.0012 (J)	0.0041 (J)				0.032	0.0012 (J)	0.0031 (J)
10/24/2014		<0.01					0.045		0.0028 (J)
1/13/2015	0.19		0.0029 (J)	0.0023 (J)	<0.01	0.0015 (J)		0.0013 (J)	
1/14/2015		<0.01					0.031		0.0034 (J)
5/10/2015		<0.01					0.013		
5/11/2015									0.0026 (J)
7/16/2015	0.23		0.0034 (J)	0.002 (J)	0.0049 (J)	<0.01		<0.01	0.0028 (J)
7/17/2015		<0.01					0.028		
10/6/2015		0.0012 (J)					0.02		0.0016 (J)
1/17/2016			0.0046 (J)				0.028	0.0013 (J)	0.0029 (J)
1/18/2016	0.41	0.00079 (J)			0.0058	0.0011 (J)			
1/19/2016				0.0025 (J)					
4/26/2016		<0.01					0.0181		0.00296 (J)
7/26/2016				0.0027 (J)		<0.01			
7/27/2016	0.397		0.0064 (J)		0.0058 (J)		0.0189	<0.01	
7/28/2016		<0.01							0.0026 (J)
10/24/2016		<0.01							
10/25/2016	0.425						0.0206	<0.01	<0.01
1/3/2017		<0.01							
1/4/2017			<0.01	<0.01	<0.01				<0.01
1/5/2017						<0.01	0.0172	<0.01	
1/6/2017	0.41								
4/3/2017		<0.01						0.002 (J)	
4/4/2017			0.0061 (J)				0.0235		
4/5/2017					0.0039 (J)				0.0033 (J)
4/6/2017	0.297			0.0025 (J)		<0.01			
7/10/2017					0.0062 (J)				
7/11/2017		<0.01		0.0027 (J)			0.0136	0.0022 (J)	
7/12/2017			0.0067 (J)			0.0016 (J)			0.0037 (J)
7/13/2017	0.194								
10/2/2017		<0.01					0.0175	0.0022 (J)	
10/3/2017									0.0036 (J)
10/4/2017	0.316								
1/9/2018	0.194	0.0014 (J)					0.0103	0.0021 (J)	
1/10/2018			0.0056 (J)			0.0019 (J)			0.0029 (J)
1/11/2018				0.0019 (J)	0.0025 (J)				
7/9/2018		<0.01					0.0078 (J)		
7/10/2018			0.0056 (J)					0.0025 (J)	0.0025 (J)
7/11/2018	0.15			0.0021 (J)	0.0059 (J)	0.0097 (J)			
1/16/2019	0.16	<0.01	0.0043 (J)			<0.01	0.0043 (J)		
1/17/2019		<0.01		0.0021 (J)	<0.01			<0.01	0.0021 (J)
3/25/2019	0.18	<0.01							
3/26/2019			0.0051 (J)			0.0029 (J)	0.0063 (J)	0.0026 (J)	0.0038 (J)
3/27/2019				0.0023 (J)	0.0049 (J)				
10/7/2019		<0.01							

# Time Series

Constituent: Vanadium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
10/8/2019	0.11			<0.01		<0.01	<0.01	<0.01	<0.01
10/9/2019			<0.01		0.0021 (J)				
4/6/2020	0.12	<0.01							
4/7/2020			0.0015 (J)	<0.01	0.0024 (J)		0.0026 (J)	<0.01	<0.01
4/8/2020						<0.01			
9/28/2020	0.1	<0.01	0.0042 (J)			<0.01			
9/29/2020				0.0023 (J)	0.0046 (J)		<0.01		
9/30/2020								0.0028 (J)	0.0028 (J)

# Time Series

Constituent: Vanadium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.01					<0.01	0.06	0.038	0.12
11/21/2000	<0.01	<0.01				<0.01	0.068	0.013	0.13
1/20/2001	<0.01	<0.01				<0.01	0.12	0.038	0.14
3/14/2001	<0.01	<0.01				<0.01	0.08	0.077 (o)	0.13
7/16/2001	<0.01	<0.01				<0.01	0.11	0.12 (o)	0.18
11/1/2001	<0.01	<0.01				<0.01	0.079	0.21 (o)	0.12
4/25/2002	<0.01	<0.01				<0.01	0.11	0.086 (o)	0.15
11/20/2002	<0.01	<0.01				0.014	0.15	0.14 (o)	0.15
6/6/2003	<0.01	<0.01				<0.01	0.12	0.12 (o)	0.11
12/12/2003	<0.01	<0.01				<0.01	0.13	0.014	0.089
5/26/2004	<0.01	<0.01				<0.01	0.095	0.06 (o)	0.09
12/7/2004	<0.01	<0.01				<0.01	0.067	0.054	0.072
6/21/2005	<0.01	<0.01				<0.01	0.062	0.038	0.04
12/12/2005	<0.01	<0.01				<0.01	0.09	0.0056	0.021
6/27/2006	0.0025	<0.01				<0.01	0.083	0.0043	0.02
12/4/2006	<0.01	<0.01				<0.01	0.084	0.0044	0.022
6/23/2007	<0.01	<0.01				<0.01	0.081	0.0039	0.027
12/11/2007	<0.01	<0.01				<0.01	0.067	0.0029	0.017
6/23/2008						<0.01			
6/24/2008	<0.01	<0.01					0.059	0.003	0.053
12/4/2008		<0.01				<0.01			
12/5/2008	<0.01						0.054	<0.01	0.0078
7/7/2009							0.038	<0.01	0.012
7/8/2009	<0.01	<0.01				0.0029			
12/20/2009		<0.01							
12/21/2009	<0.01					<0.01	0.06	<0.01	0.011
6/20/2010		<0.01				<0.01		<0.01	0.0083
6/21/2010	<0.01		<0.01	<0.01	<0.01		0.036		
1/6/2011		<0.01						0.0067	
1/7/2011	<0.01		0.0029	0.0031	<0.01	<0.01	0.043		0.0079
7/7/2011			<0.01					0.019	0.007
7/8/2011	0.0031		0.0046	0.0048	<0.01	<0.01	0.044		
1/17/2012		<0.01						0.021	
1/18/2012	<0.01		<0.01	<0.01	<0.01	<0.01	0.045		0.0116
7/9/2012		<0.01						0.032	
7/10/2012	<0.01		0.0081	<0.01	<0.01	<0.01	0.048		0.0096
1/17/2013		<0.01						0.034	
1/18/2013	<0.01		0.0063	<0.01	<0.01	<0.01	0.049		<0.01
7/16/2013								0.021	
7/17/2013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05		<0.01
1/13/2014		<0.01						0.008	
1/14/2014	<0.01		<0.01	0.006	<0.01	<0.01	0.067		<0.01
7/9/2014	0.0012 (J)	<0.01		0.0019 (J)		0.0016 (J)	0.055	0.0052	0.0039 (J)
7/10/2014			0.0026 (J)		0.0053				
1/12/2015			0.0031 (J)				0.066		
1/13/2015		<0.01						0.0036 (J)	
1/14/2015	0.002 (J)			0.0037 (J)	0.0013 (J)	<0.01			0.005
7/16/2015		<0.01					0.045	0.004 (J)	
7/17/2015				0.0028 (J)		0.0029 (J)			0.0045 (J)
7/18/2015	<0.01		0.003 (J)		0.0043 (J)				
1/17/2016		<0.01	0.0025 (J)	0.0039 (J)					
1/18/2016	0.0019 (J)				<0.01	<0.01	0.049	0.0069	0.0044 (J)

# Time Series

Constituent: Vanadium (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		<0.01						0.0046 (J)	
7/28/2016			0.0024 (J)	0.0022 (J)		<0.01			0.0038 (J)
7/29/2016	0.0031 (J)				0.0052 (J)		0.0388		
10/25/2016			<0.01						
1/3/2017								<0.01	
1/4/2017			<0.01	<0.01	<0.01				
1/5/2017	<0.01	<0.01							0.0077 (J)
1/6/2017						<0.01	0.0341		
4/4/2017		<0.01	0.0024 (J)	0.003 (J)			0.0371		
4/5/2017	0.0029 (J)								
4/6/2017					<0.01	<0.01		0.0063 (J)	0.0069 (J)
7/11/2017			0.003 (J)		0.0016 (J)				
7/12/2017						0.0013 (J)	0.0399	0.0064 (J)	0.0098 (J)
7/13/2017	0.0037 (J)	<0.01		0.0019 (J)					
10/2/2017			0.0028 (J)						
1/9/2018				0.0046 (J)					0.0086 (J)
1/10/2018		<0.01	0.0026 (J)					0.0077 (J)	
1/11/2018	0.0026 (J)				0.0012 (J)	<0.01	0.0327		
7/9/2018			<0.01						
7/10/2018		<0.01		0.0031 (J)				0.016	0.0098 (J)
7/11/2018	0.0032 (J)				0.0025 (J)	<0.01	0.02		
1/16/2019	<0.01						0.0022 (J)	0.0033 (J)	0.077
1/17/2019				0.0022 (J)					
1/18/2019					<0.01	<0.01			
1/21/2019		0.0024 (J)	0.0031 (J)						
3/25/2019			0.0024 (J)				0.004 (J)		
3/26/2019	0.0024 (J)			0.0041 (J)				0.0058 (J)	0.086
3/27/2019					0.002 (J)	<0.01			
7/30/2019		<0.01							
10/8/2019				<0.01					
10/9/2019	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01	0.033 (J)	0.018 (J)
4/7/2020				<0.01	0.0014 (J)		0.0037 (J)	0.0053 (J)	0.041 (J)
4/8/2020	<0.01	<0.01	<0.01			0.0015 (J)			
9/29/2020		<0.01							
9/30/2020	<0.01		0.0029 (J)	0.0029 (J)	<0.01			0.0037 (J)	0.018
10/1/2020						<0.01	0.0047 (J)		

# Time Series

Constituent: Zinc (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
9/29/2000	<0.01	<0.01	<0.01	<0.01	0.38 (o)	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01		<0.01	<0.01	0.077 (o)	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	0.025 (o)	<0.01	<0.01	0.23 (o)	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	0.24 (o)	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	0.053 (o)	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	0.022 (o)	0.044 (o)	<0.01	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	1.2 (o)	<0.01	<0.01	<0.01	<0.01
11/20/2002		0.016 (o)	<0.01	<0.01	0.045 (o)	0.023	<0.01	<0.01	<0.01
6/6/2003	0.69 (o)	0.032 (o)	0.011	<0.01	0.042 (o)	<0.01	<0.01	<0.01	0.035 (o)
12/12/2003	0.12 (o)	0.019 (o)	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01
5/26/2004	0.013	<0.01	<0.01	<0.01	<0.01	0.035	<0.01	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	0.028 (o)	<0.01	0.018	<0.01	<0.01	<0.01
6/21/2005	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.01
12/12/2005	0.014	0.01	<0.01	<0.01	<0.01	0.023	0.011	0.064 (o)	<0.01
4/4/2006		<0.01					<0.01		<0.01
6/27/2006	0.01	0.0043	<0.01	0.0028	0.012 (o)	0.023	0.0045	0.011	0.077 (o)
8/30/2006		0.017 (o)					<0.01		0.0027
12/4/2006	0.0065	0.0053	<0.01	0.0028	0.0067	0.046 (o)	<0.01	0.0033	<0.01
2/15/2007		0.0045					<0.01		0.0032
6/23/2007	0.0049	0.0043	<0.01	0.0063	0.025 (o)	0.036	<0.01	0.0029	0.0058
9/11/2007		0.004					<0.01		0.0033
12/11/2007	0.0043	0.0048	<0.01	<0.01	0.0038	0.011	<0.01	<0.01	<0.01
3/11/2008		0.0043					<0.01		<0.01
6/23/2008	0.0025	0.0037		<0.01	0.0051	0.0091			
6/24/2008			<0.01				<0.01	<0.01	<0.01
11/3/2008		0.0032					<0.01		0.0025
12/4/2008	0.0025	0.0029		<0.01	<0.01	0.0038	<0.01		
12/5/2008			<0.01					<0.01	<0.01
3/25/2009		0.0055					<0.01		0.0025
7/7/2009	<0.01	0.0028	<0.01						
7/8/2009				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/14/2009		0.0027					<0.01		<0.01
12/20/2009	0.0031	0.0029	<0.01				<0.01	<0.01	<0.01
12/21/2009				<0.01	0.013 (o)	0.0032			
3/4/2010		0.0042					<0.01		<0.01
6/20/2010	<0.01	0.0027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
6/21/2010									<0.01
9/14/2010		<0.01					<0.01		<0.01
1/6/2011			<0.01	<0.01		0.004			
1/7/2011	<0.01	0.0032			0.004		<0.01	<0.01	<0.01
4/15/2011		<0.01					<0.01		<0.01
7/7/2011	0.0031	0.005	0.0025	<0.01	0.0028	0.0037	<0.01	<0.01	<0.01
9/25/2011		0.0041					<0.01		0.0028
1/17/2012	0.004	0.0043	<0.01	0.0043	0.0043	0.0031	<0.01	<0.01	
1/18/2012									0.0029
4/4/2012		<0.01					<0.01		<0.01
7/9/2012	0.0096		<0.01	<0.01	<0.01	0.003	<0.01	<0.01	
7/10/2012		0.0028							<0.01
10/9/2012		0.0033					<0.01		0.0027
1/17/2013			<0.01	0.0025	0.0033	<0.01			
1/18/2013	0.051	0.0038					<0.01	<0.01	<0.01
4/5/2013		0.0026					<0.01		<0.01



# Time Series

Constituent: Zinc (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013			<0.01	<0.01	0.0028	0.0029			
7/17/2013	0.042	<0.01					<0.01	<0.01	<0.01
10/11/2013		0.0046					<0.01		<0.01
1/13/2014	0.0025		0.0025	0.0025	0.0025	0.0025		0.0025	
1/14/2014		0.0025					0.0025		0.0025
4/3/2014		0.0029					0.0014 (J)		0.0015 (J)
7/8/2014				0.0011 (J)	0.002 (J)	0.0018 (J)			
7/9/2014	0.064	0.002 (J)	<0.01				0.00086 (J)	<0.01	0.0012 (J)
10/24/2014		0.0031					0.00083 (J)		0.0013 (J)
1/13/2015	0.066		0.0025	0.0021 (J)	0.0079	0.0028		<0.01	
1/14/2015		0.003					<0.01		0.0017 (J)
5/10/2015		0.0028					<0.01		
5/11/2015									0.0015 (J)
7/16/2015	0.036		<0.01	<0.01	0.0026	0.0018 (J)		<0.01	<0.01
7/17/2015		0.0018 (J)					<0.01		
10/6/2015		0.0018 (J)					<0.01		<0.01
1/17/2016			<0.01				<0.01	<0.01	<0.01
1/18/2016	0.035	0.0028			0.0025	0.0017 (J)			
1/19/2016				0.0029					
4/26/2016		<0.01					<0.01		<0.01
7/26/2016				<0.01		0.0028 (J)			
7/27/2016	0.0529		<0.01		0.0021 (J)		<0.01	<0.01	
7/28/2016		0.0018 (J)							<0.01
10/24/2016		0.0024 (J)							
10/25/2016	0.0035 (J)						<0.01	<0.01	<0.01
1/3/2017		0.0035 (J)							
1/4/2017			<0.01	<0.01	0.0025 (J)				0.0025 (J)
1/5/2017						0.0021 (J)	<0.01	<0.01	
1/6/2017	0.0235								
4/3/2017		0.0041 (J)						<0.01	
4/4/2017			<0.01				<0.01		
4/5/2017					0.0026 (J)				0.0025 (J)
4/6/2017	0.0829			0.004 (J)		0.0027 (J)			
7/10/2017					0.0023 (J)				
7/11/2017		0.0029 (J)		<0.01			<0.01	<0.01	
7/12/2017			<0.01			0.0043 (J)			0.002 (J)
7/13/2017	0.0853								
10/2/2017		0.0026 (J)					0.0026 (J)	<0.01	
10/3/2017									<0.01
10/4/2017	0.0263								
1/9/2018	0.0665	0.0035 (J)					0.0018 (J)	<0.01	
1/10/2018			0.0014 (J)			0.0021 (J)			0.0016 (J)
1/11/2018				0.0018 (J)	0.0031 (J)				
7/9/2018		0.0022 (J)					<0.01		
7/10/2018			0.0021 (J)					<0.01	0.0031 (J)
7/11/2018	0.02 (J)			<0.01	0.0036 (J)	0.0039 (J)			
1/16/2019	0.014 (J)	0.0037 (J)	<0.01			0.047	<0.01		
1/17/2019				<0.01	0.0032 (J)			<0.01	<0.01
3/25/2019	<0.05 (o)	<0.01							
3/26/2019			<0.01			0.03	<0.01	<0.01	<0.01
3/27/2019				<0.01	0.0031 (J)				
10/7/2019		0.0077 (J)							

# Time Series

Constituent: Zinc (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
10/8/2019	0.095			0.0061 (J)		0.053	0.0052 (J)	0.0051 (J)	0.01
10/9/2019			0.0057 (J)		0.0057 (J)				
4/6/2020	<0.01	<0.01							
4/7/2020			<0.01	<0.01	<0.01		<0.01	<0.01	<0.01
4/8/2020						0.023			
9/28/2020	0.16	0.0092 (J)	0.0092 (J)			0.016			
9/29/2020				0.0031 (J)	0.0074 (J)		<0.01		
9/30/2020								0.032	0.0051 (J)

# Time Series

Constituent: Zinc (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.01					<0.01	<0.01	0.026 (o)	<0.02 (o)
11/21/2000	<0.01	0.021 (o)				<0.01	<0.01	<0.01	0.024 (o)
1/20/2001	<0.01	<0.01				<0.01	0.041	0.031 (o)	<0.02 (o)
3/14/2001	<0.01	<0.01				<0.01	<0.01	0.063 (o)	<0.02 (o)
7/16/2001	<0.01	<0.01				<0.01	0.059	0.08 (o)	<0.02 (o)
11/1/2001	<0.01	<0.01				<0.01	<0.01	0.16 (o)	<0.02 (o)
4/25/2002	<0.01	<0.01				<0.01	<0.01	<0.01	<0.02 (o)
11/20/2002	0.014	<0.01				0.033 (o)	0.061	0.14 (o)	0.028 (o)
6/6/2003	0.012	<0.01				<0.01	0.041	0.51 (o)	0.032 (o)
12/12/2003	<0.01	<0.01				<0.01	0.012	<0.01	<0.01 (o)
5/26/2004	<0.01	<0.01				<0.01	0.016	0.036 (o)	<0.01 (o)
12/7/2004	<0.01	<0.01				<0.01	<0.01	0.069 (o)	0.012 (o)
6/21/2005	<0.01	<0.01				<0.01	<0.01	0.076 (o)	<0.01 (o)
12/12/2005	<0.01	0.012				0.032 (o)	0.017	<0.01	<0.01 (o)
6/27/2006	0.0046	<0.01				0.018 (o)	0.11	0.01	0.0071
12/4/2006	0.0071	<0.01				0.0044	0.086	0.0035	0.0096
6/23/2007	0.005	<0.01				0.0041	0.076	0.0032	0.094 (o)
12/11/2007	0.0033	<0.01				0.0039	0.087	0.0079	0.042 (o)
6/23/2008						<0.01			
6/24/2008	0.0037	<0.01					0.062	<0.01	0.098 (o)
12/4/2008		<0.01				0.0039			
12/5/2008	0.0027						0.014	<0.01	0.047 (o)
7/7/2009							0.052	<0.01	0.024 (o)
7/8/2009	0.0048	<0.01				<0.01			
12/20/2009		<0.01							
12/21/2009	0.0032					0.004	0.046	<0.01	0.049 (o)
6/20/2010		<0.01				<0.01		<0.01	0.045 (o)
6/21/2010	0.0028		<0.01	0.04 (o)	<0.01		0.045		
1/6/2011		<0.01						<0.01	
1/7/2011	0.003		<0.01	<0.01	0.019	0.0032	0.024		0.0044
7/7/2011			<0.01					0.0027	0.003
7/8/2011	0.0034		0.086 (J,o)	0.0044	0.1 (o)	0.0025	0.023		
1/17/2012		<0.01						0.0039	
1/18/2012	0.0049		<0.01	<0.01	0.0051	0.0045	0.011		0.0048
7/9/2012		<0.01						<0.01	
7/10/2012	0.0039		<0.01	<0.01	0.01	<0.01	0.024		<0.01
1/17/2013		<0.01						<0.01	
1/18/2013	0.0043		0.0032	<0.01	0.0036	0.0029	0.011		0.0028
7/16/2013								0.0032	
7/17/2013	0.0035	<0.01	<0.01	<0.01	0.0025	<0.01	0.0029		<0.01
1/13/2014		0.0025						0.0025	
1/14/2014	0.0025		0.0025	0.0025	0.0025	0.0025	0.0025		0.0025
7/9/2014	0.0033	0.00058 (J)		0.00084 (J)		0.0016 (J)	0.0051	0.00076 (J)	0.00093 (J)
7/10/2014			<0.01		0.024				
1/12/2015			<0.01				0.0023 (J)		
1/13/2015		0.0024 (J)						0.0036	
1/14/2015	0.0067			0.0018 (J)	0.0016 (J)	0.0024 (J)			0.0023 (J)
7/16/2015		<0.01					0.0021 (J)	<0.01	
7/17/2015				<0.01		0.0031			<0.01
7/18/2015	<0.01		<0.01		0.014				
1/17/2016		<0.01	<0.01	<0.01					
1/18/2016	0.012				<0.01	0.0059	0.0092	<0.01	0.0029

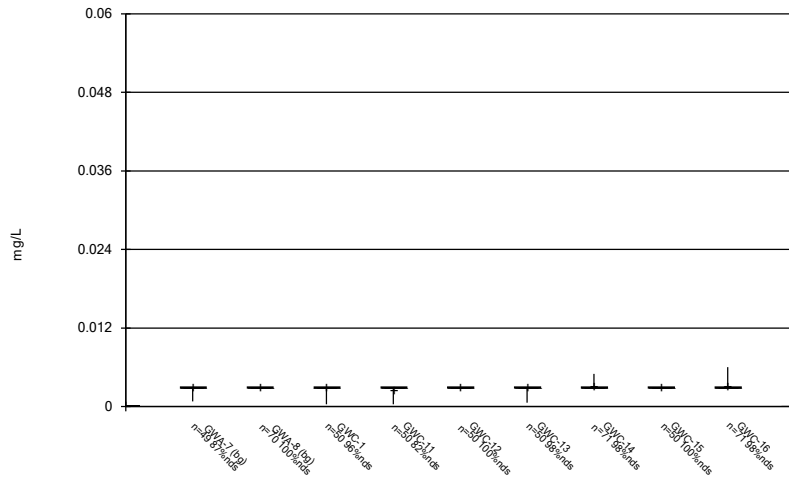
# Time Series

Constituent: Zinc (mg/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016		0.0018 (J)						0.0015 (J)	
7/28/2016			<0.01	<0.01		0.0019 (J)			<0.01
7/29/2016	0.0086 (J)				0.0129		0.003 (J)		
10/25/2016			<0.01						
1/3/2017								<0.01	
1/4/2017			<0.01	<0.01	0.006 (J)				
1/5/2017	0.016	<0.01							<0.01
1/6/2017						0.0026 (J)	0.0104		
4/4/2017		0.0015 (J)	<0.01	0.0015 (J)			0.0132		
4/5/2017	0.0175								
4/6/2017					0.0031 (J)	0.0047 (J)		0.0023 (J)	0.0032 (J)
7/11/2017			<0.01		0.0029 (J)				
7/12/2017						0.003 (J)	0.0046 (J)	<0.01	0.002 (J)
7/13/2017	0.0126	0.0014 (J)		0.002 (J)					
10/2/2017			<0.01						
1/9/2018				0.0016 (J)					0.0036 (J)
1/10/2018		<0.01	0.0034 (J)					0.0022 (J)	
1/11/2018	0.012				0.0106	0.0046 (J)	0.0095 (J)		
7/9/2018			<0.01						
7/10/2018		<0.01		<0.01				<0.01	0.0055 (J)
7/11/2018	0.011				0.0057 (J)	0.0033 (J)	0.0028 (J)		
1/16/2019	0.0094 (J)						0.0052 (J)	<0.01	<0.01
1/17/2019				<0.01					
1/18/2019					0.0024 (J)	0.0025 (J)			
1/21/2019		<0.01	<0.01						
3/25/2019			<0.01				0.0078 (J)		
3/26/2019	0.0057 (J)			<0.01				<0.01	<0.01
3/27/2019					<0.01	0.0026 (J)			
7/30/2019		0.0067 (J)							
10/8/2019				0.0071 (J)					
10/9/2019	0.011	0.005 (J)	0.0049 (J)		0.0079 (J)	0.0054 (J)	0.0064 (J)	0.0081 (J)	0.016 (J)
4/7/2020				<0.01	<0.01		<0.01	<0.01	<0.01
4/8/2020	<0.01	<0.01	<0.01			<0.01			
9/29/2020		0.056							
9/30/2020	0.0043 (J)		0.031	0.0096 (J)	<0.01			<0.01	<0.01
10/1/2020						0.025	0.0064 (J)		

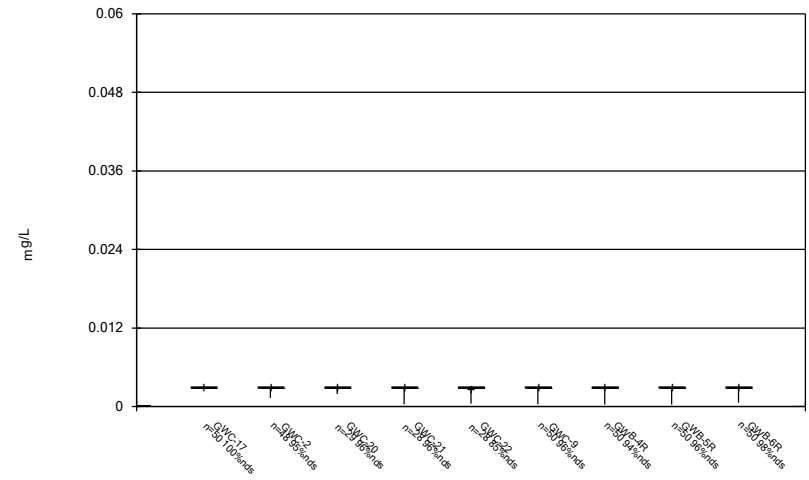
FIGURE B.

Box & Whiskers Plot



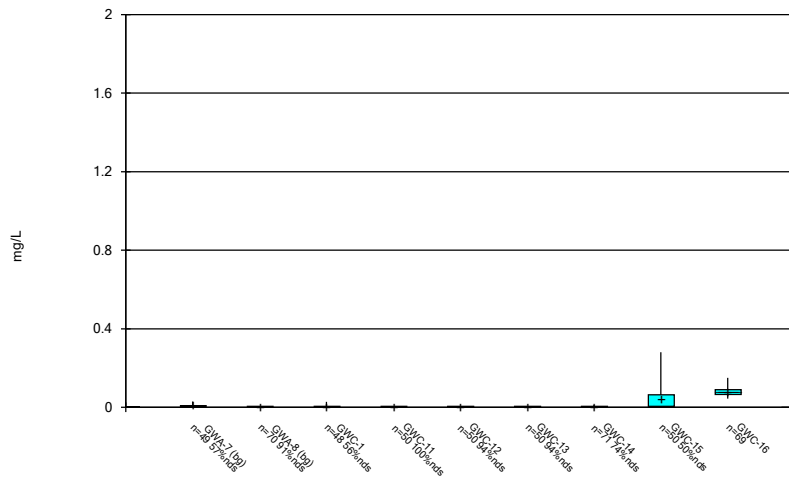
Constituent: Antimony Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



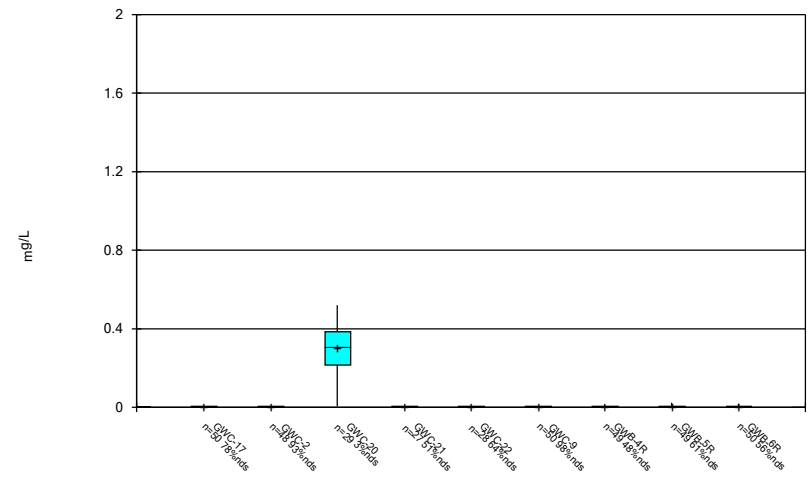
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



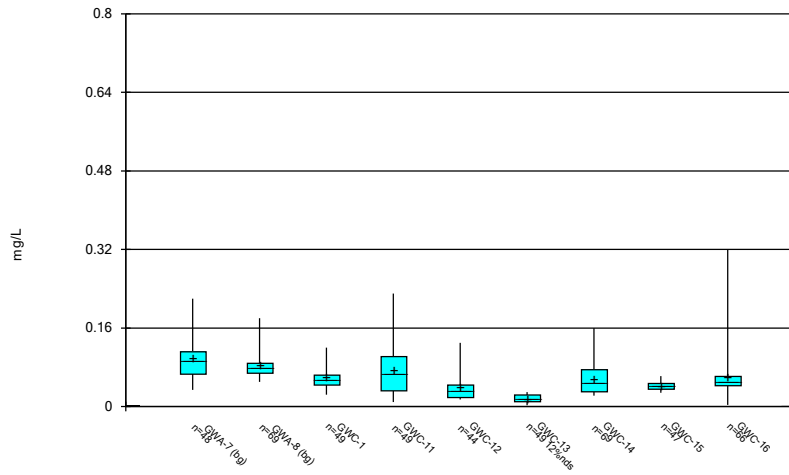
Constituent: Arsenic Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



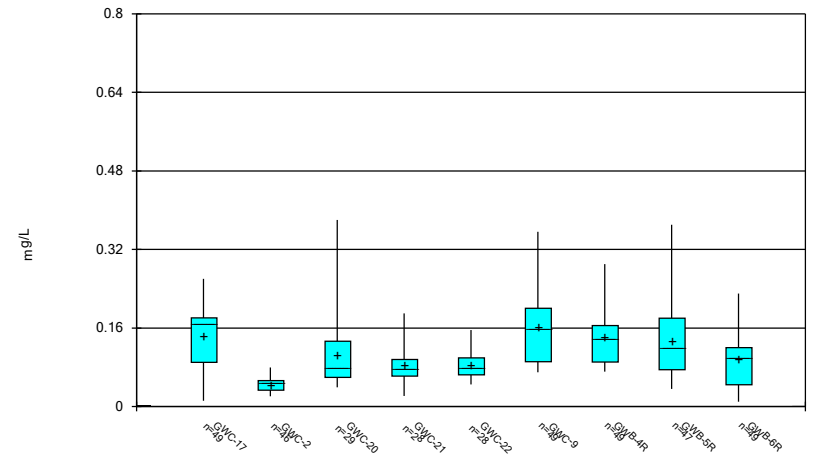
Constituent: Arsenic Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



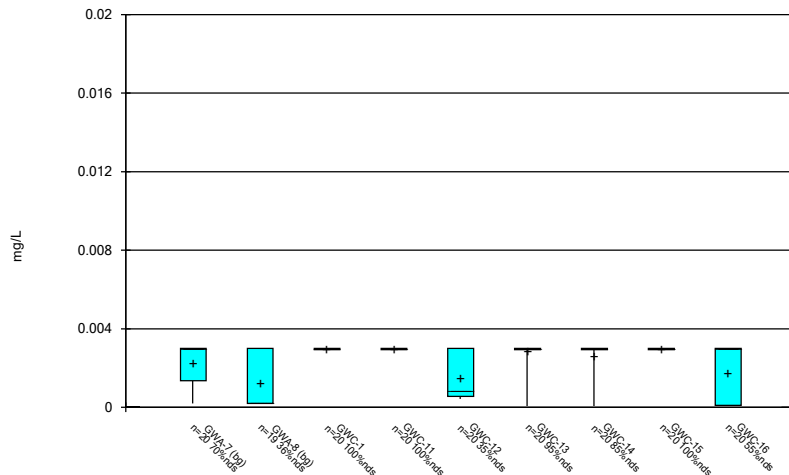
Constituent: Barium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



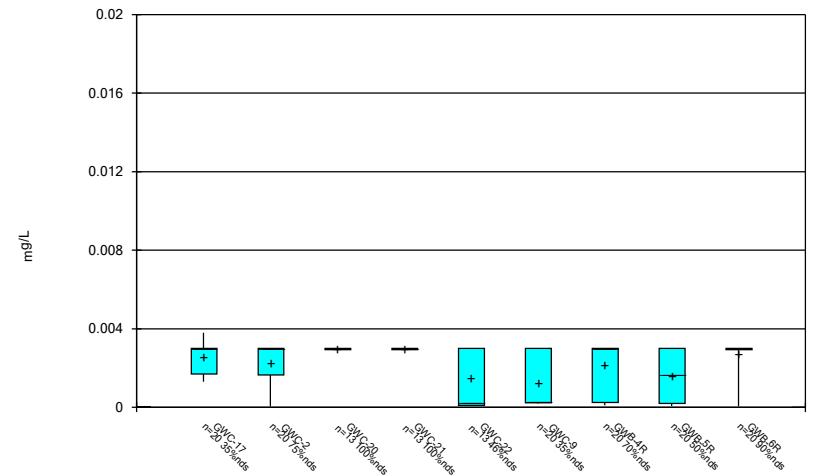
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



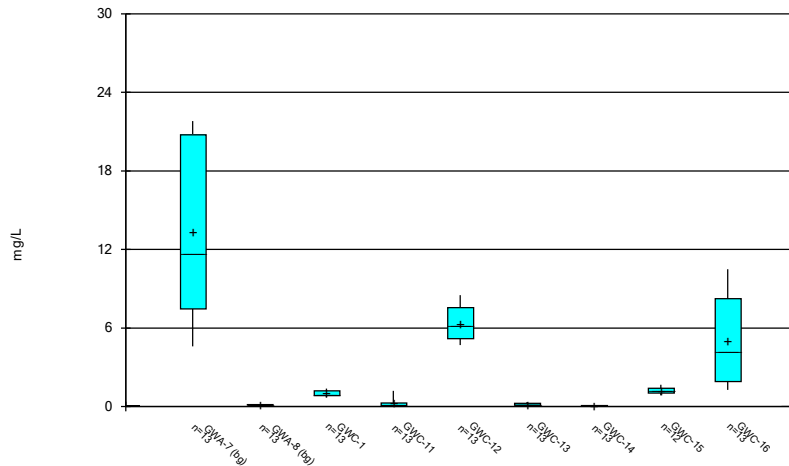
Constituent: Beryllium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



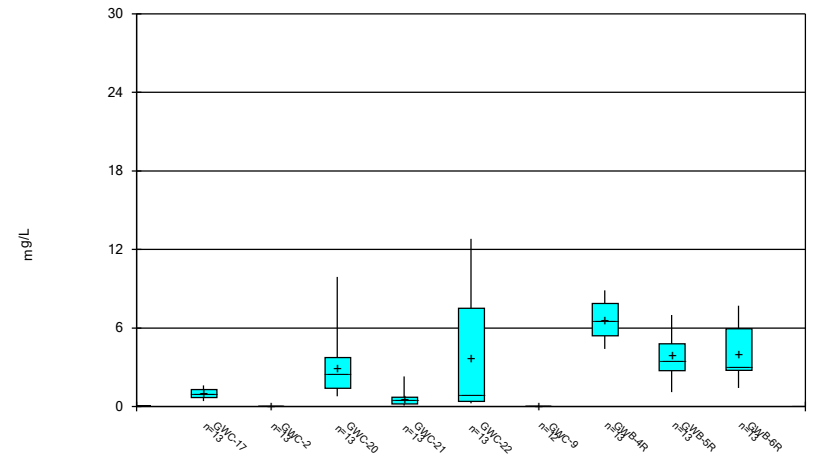
Constituent: Beryllium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



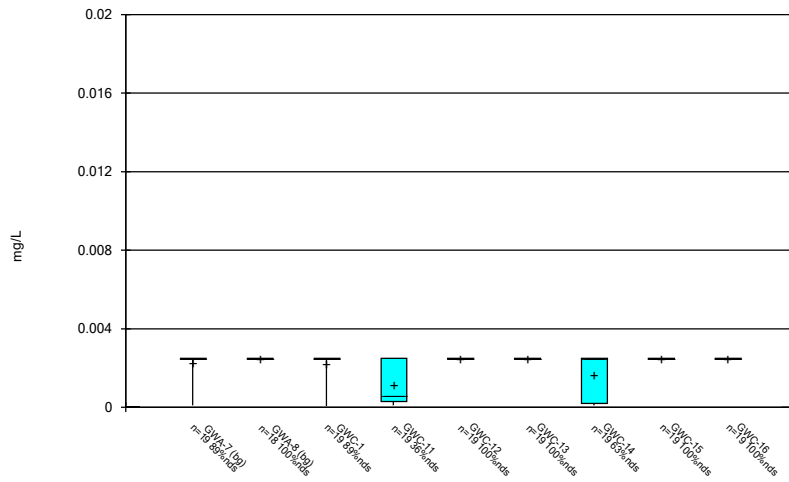
Constituent: Boron Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



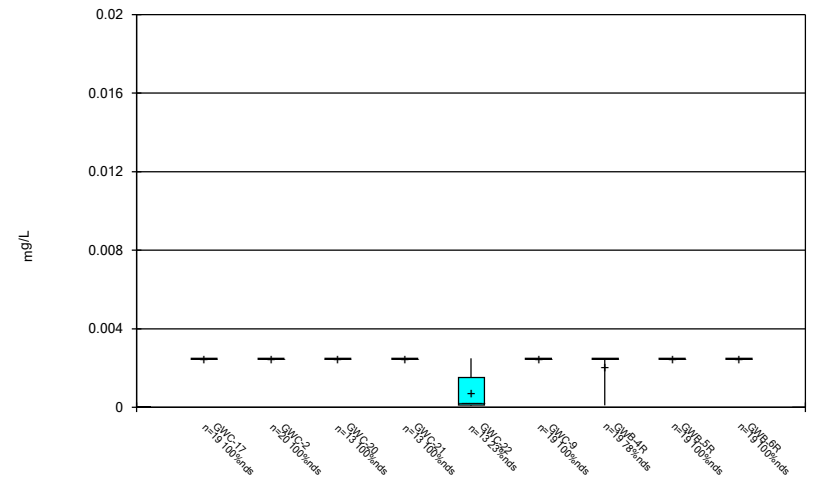
Constituent: Boron Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



Constituent: Cadmium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

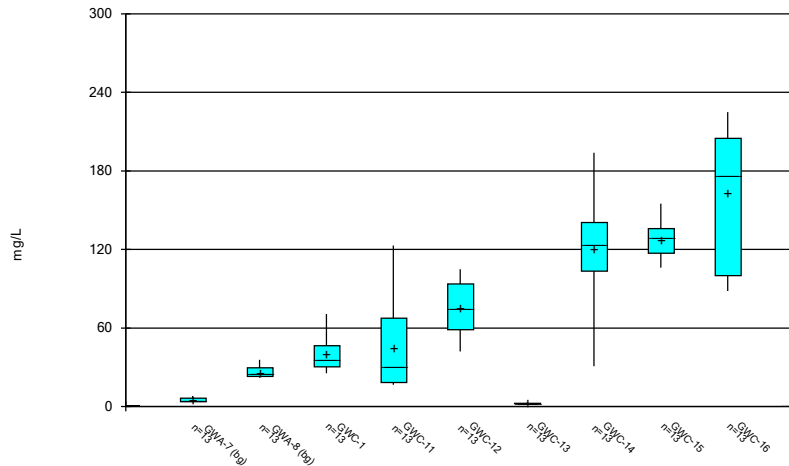
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

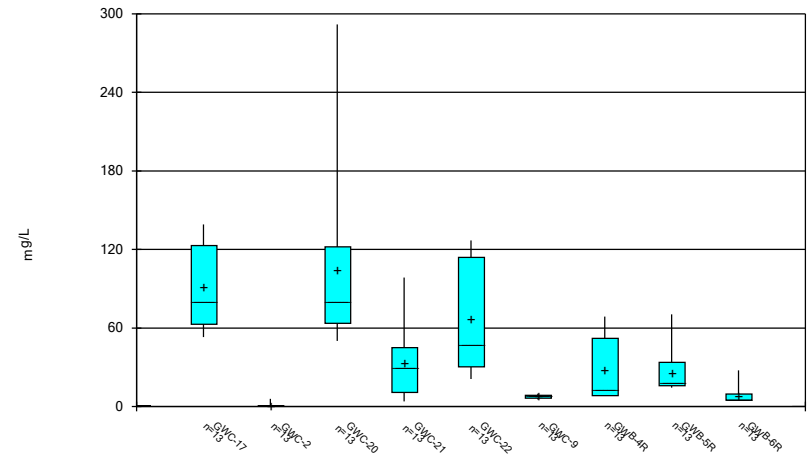


Box & Whiskers Plot



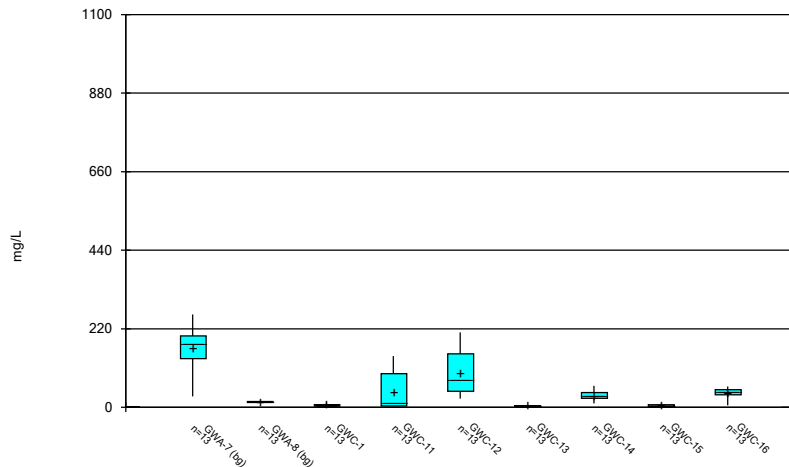
Constituent: Calcium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



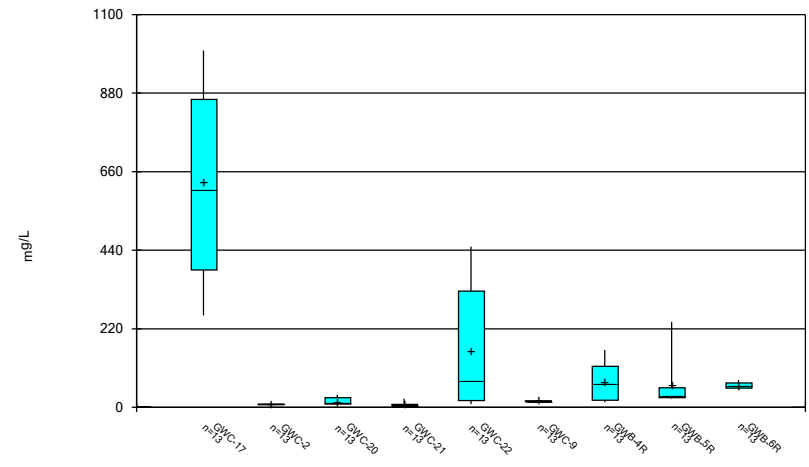
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



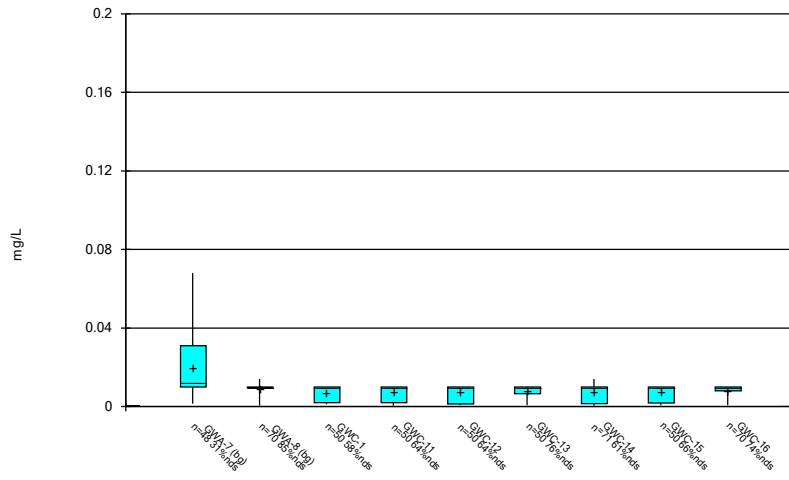
Constituent: Chloride Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



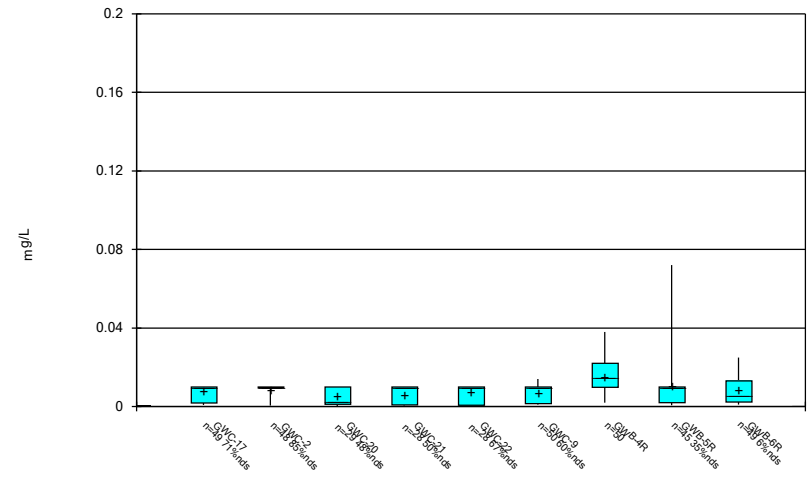
Constituent: Chloride Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



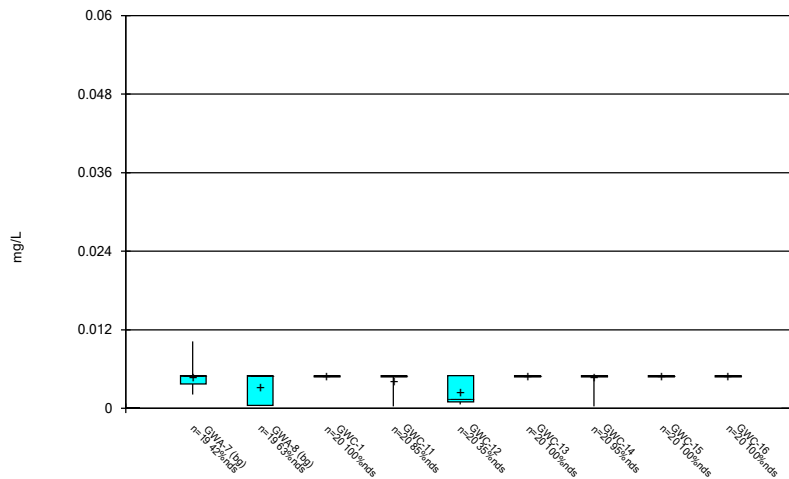
Constituent: Chromium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



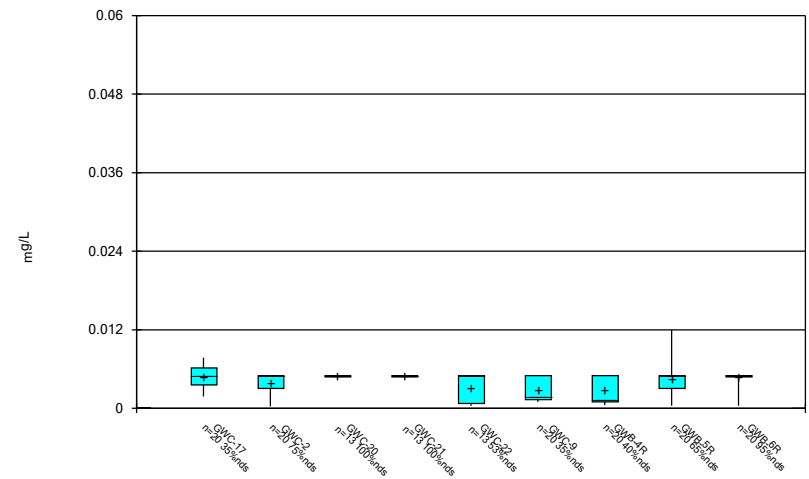
Constituent: Chromium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



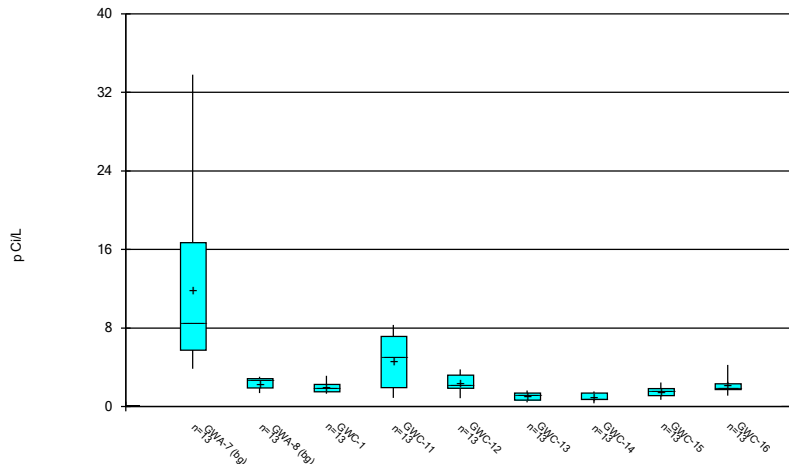
Constituent: Cobalt Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



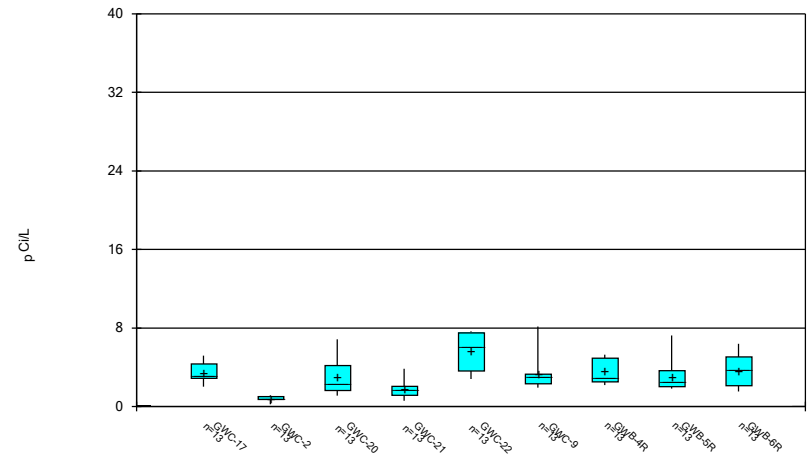
Constituent: Cobalt Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Box & Whiskers Plot



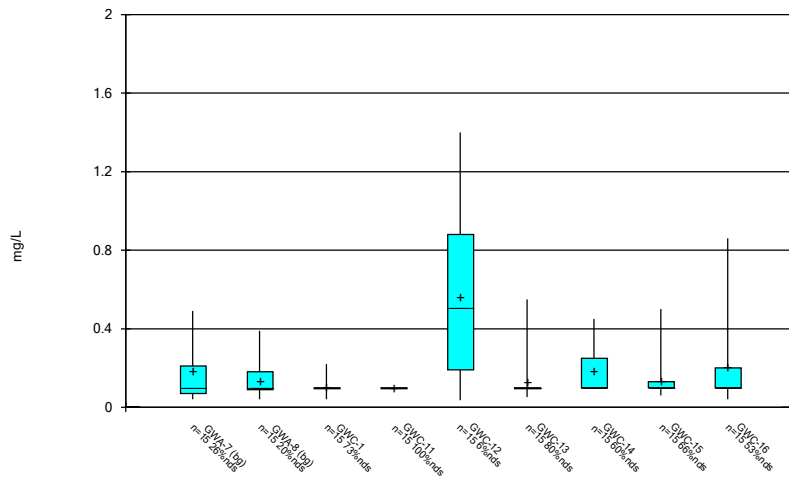
Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Box & Whiskers Plot



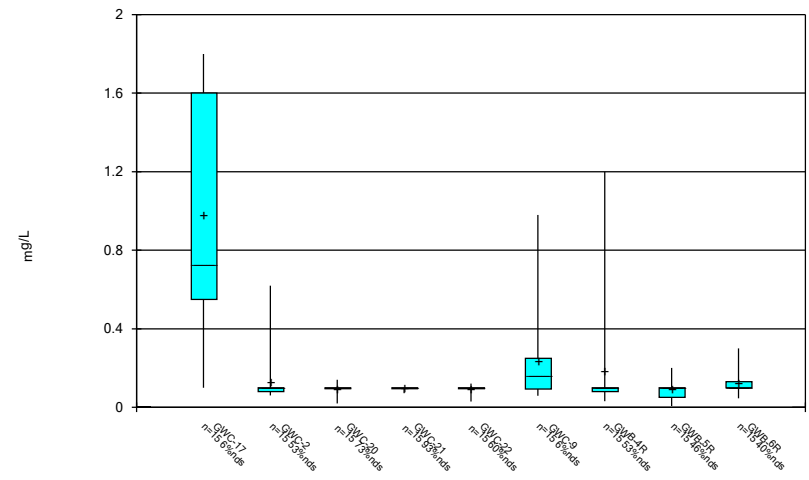
Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Box & Whiskers Plot



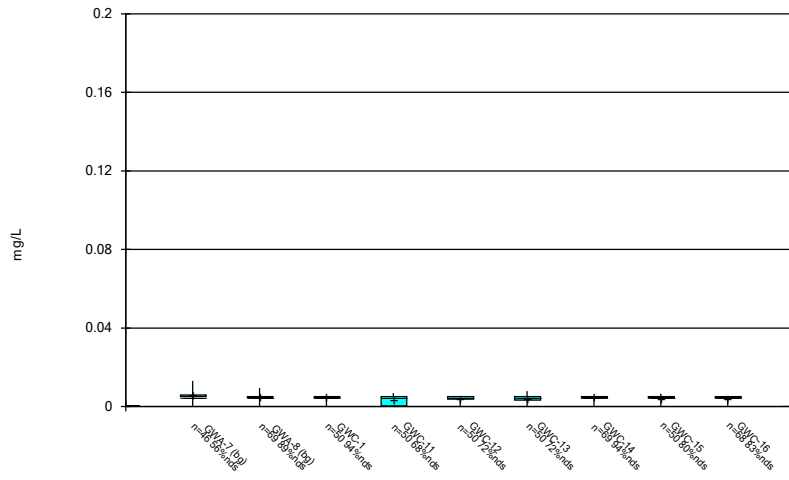
Constituent: Fluoride Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Box & Whiskers Plot



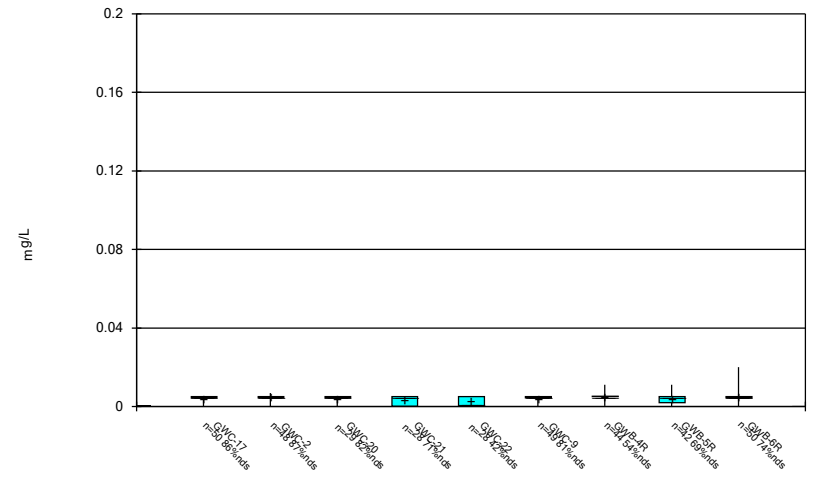
Constituent: Fluoride Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



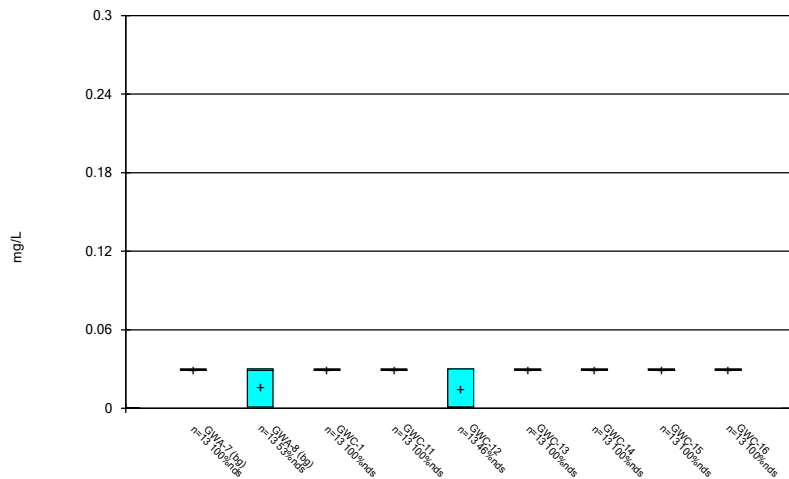
Constituent: Lead Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



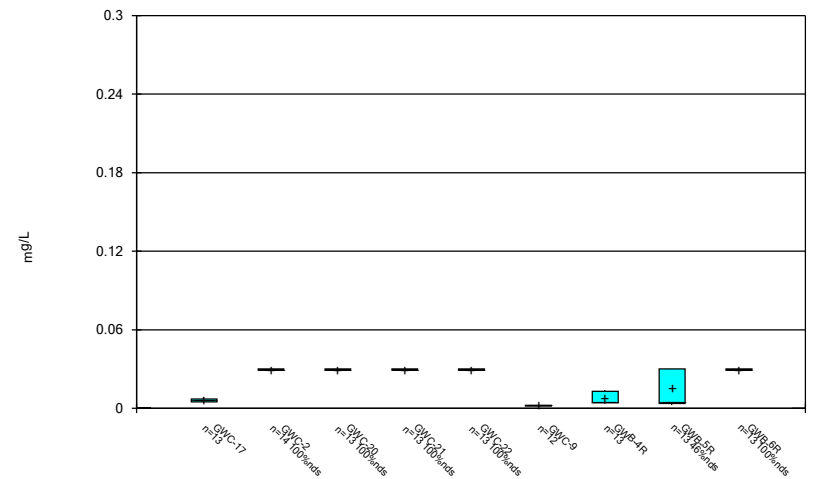
Constituent: Lead Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



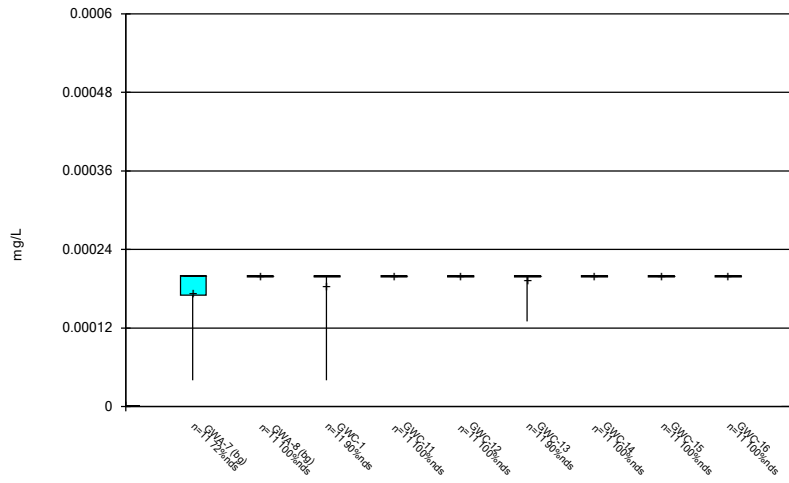
Constituent: Lithium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



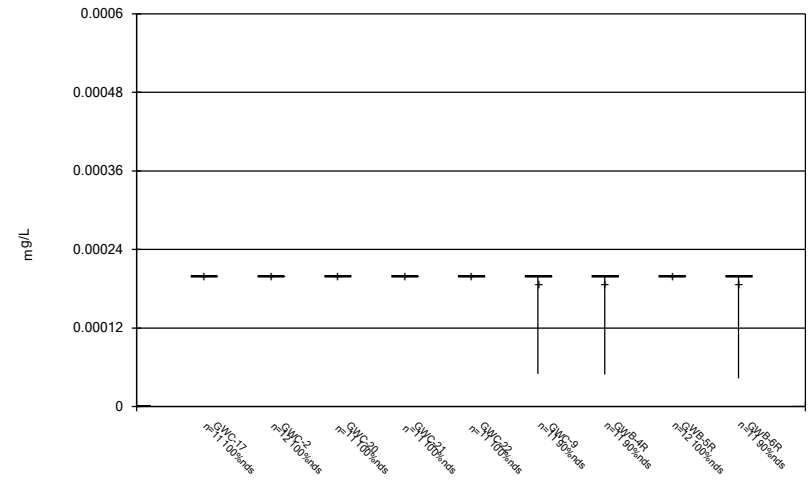
Constituent: Lithium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



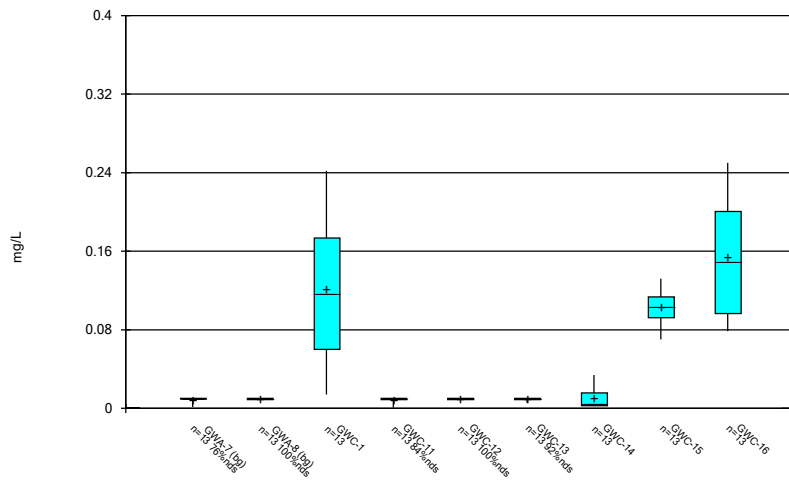
Constituent: Mercury Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



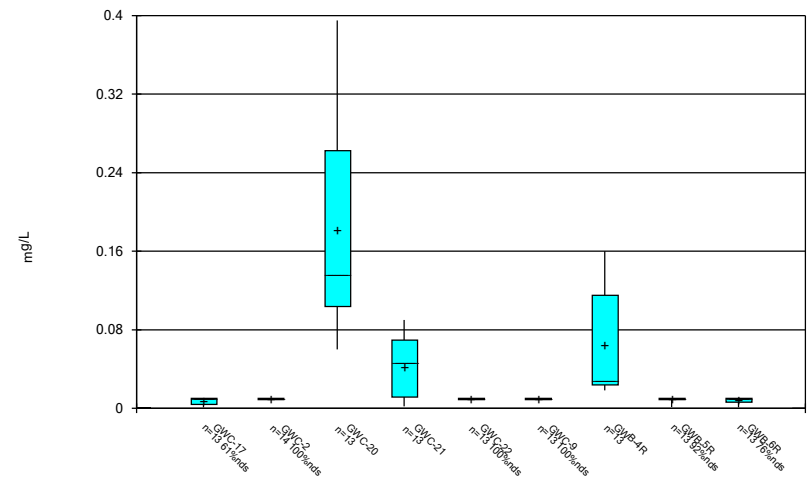
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



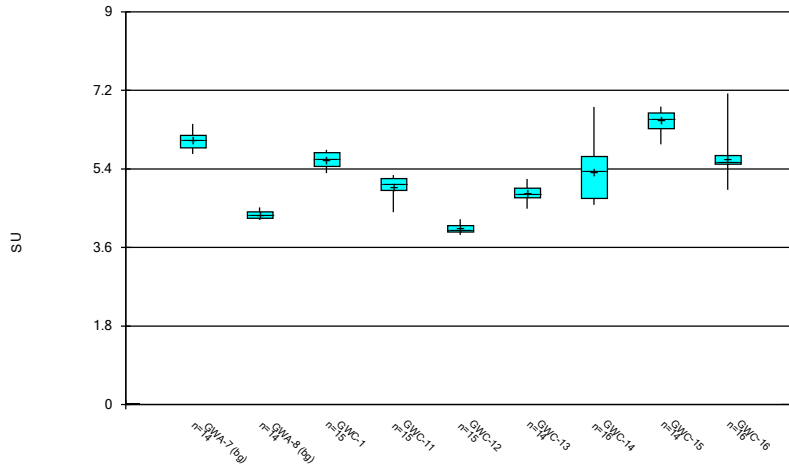
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



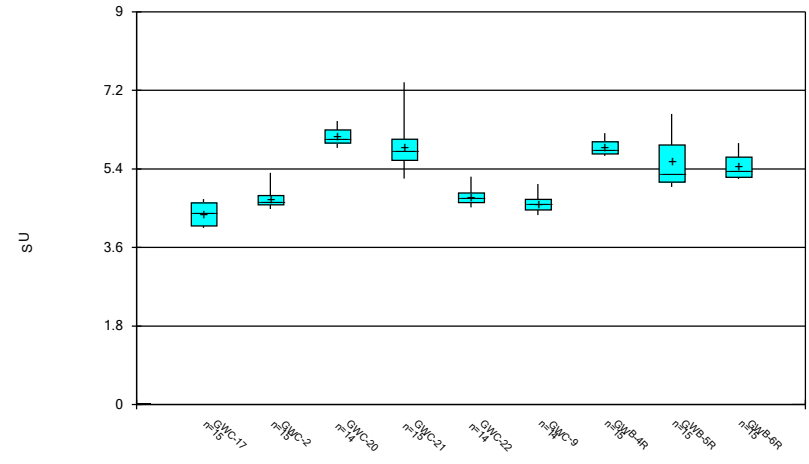
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



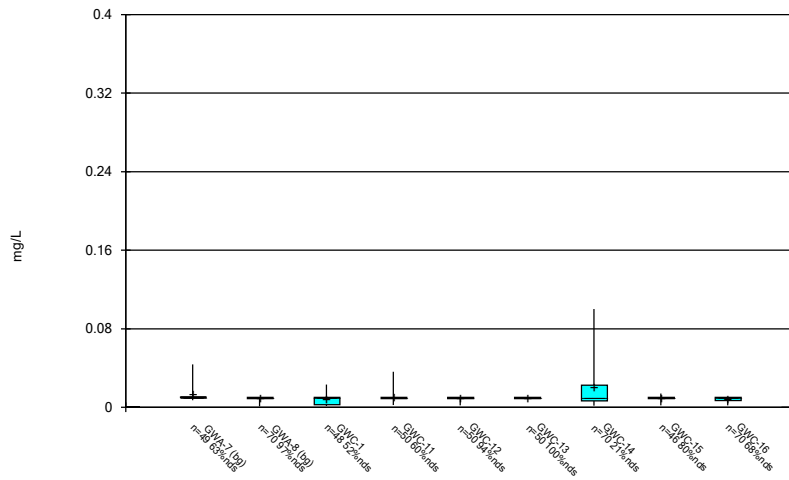
Constituent: pH Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



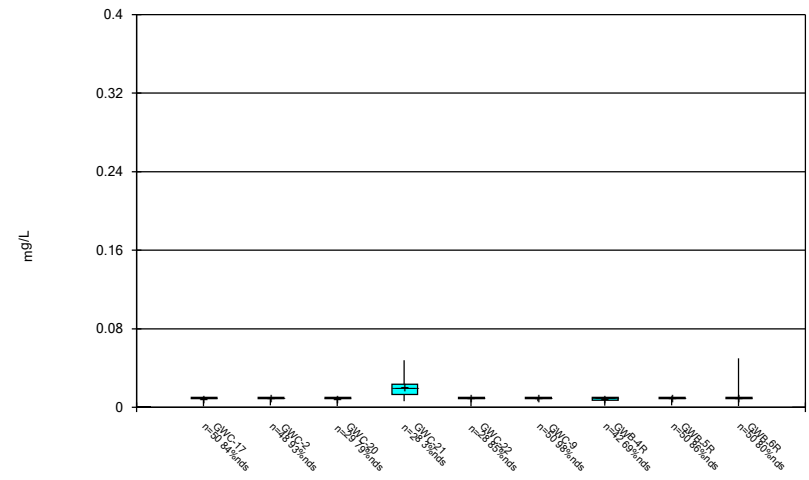
Constituent: pH Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



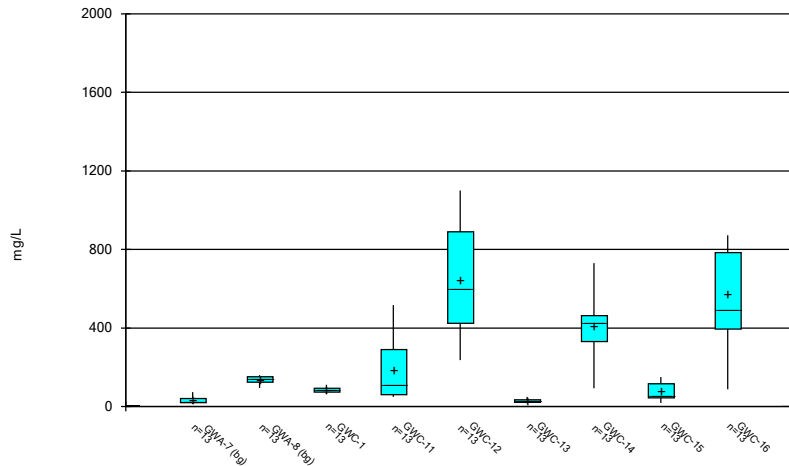
Constituent: Selenium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



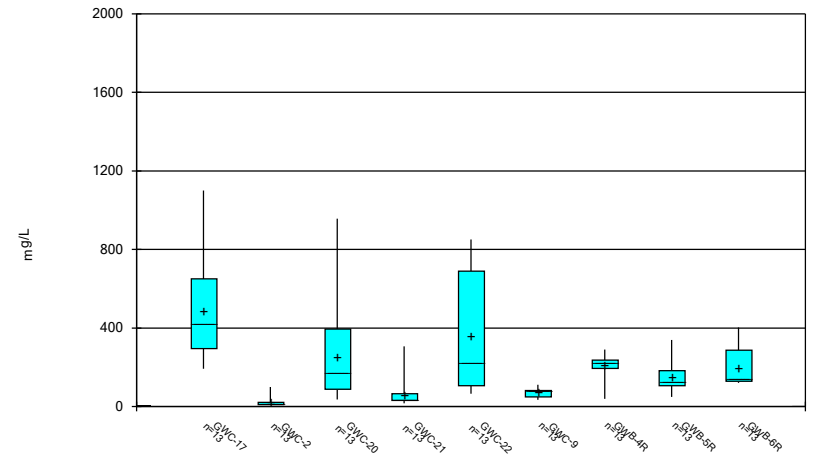
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



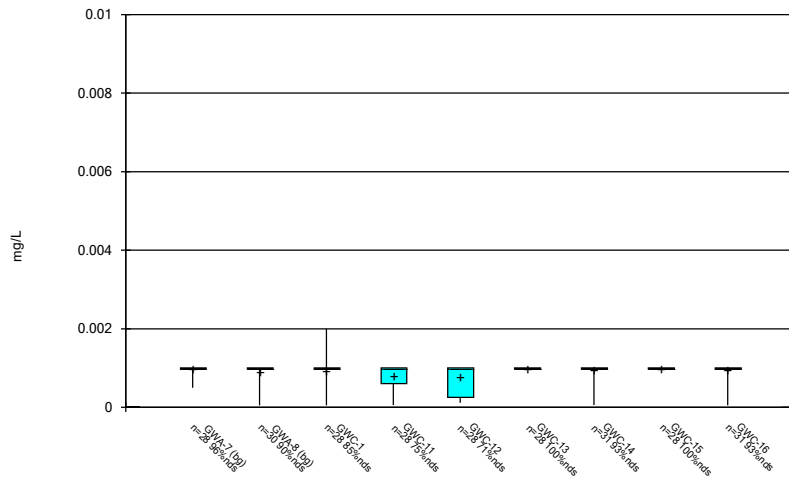
Constituent: Sulfate Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



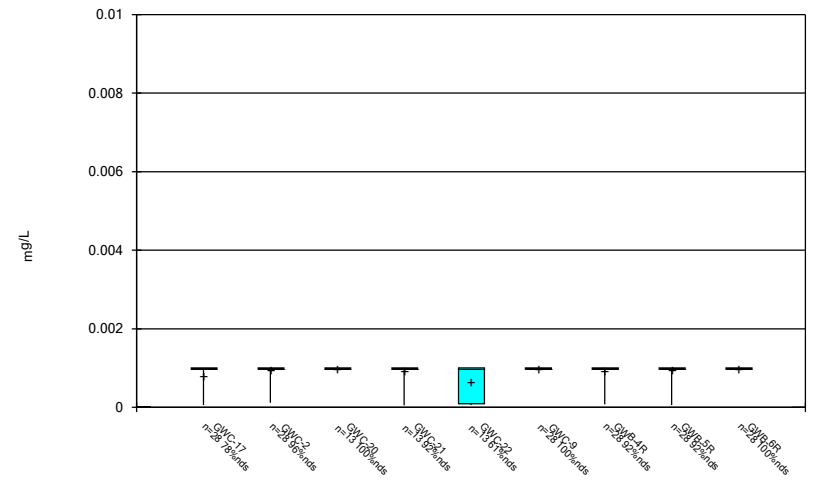
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



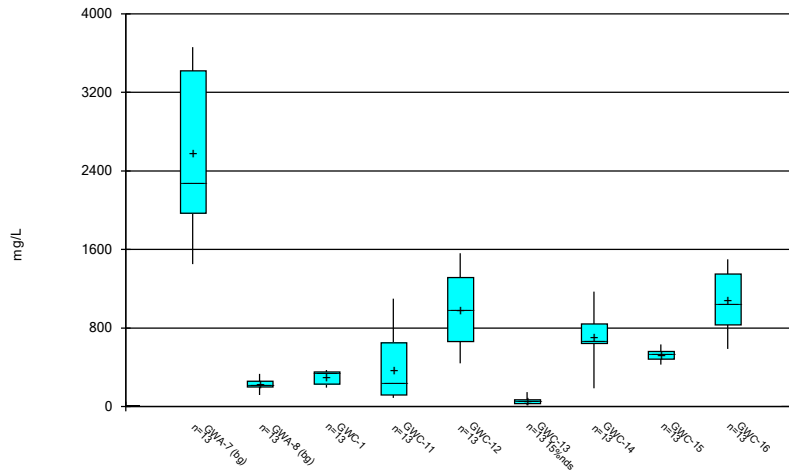
Constituent: Thallium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



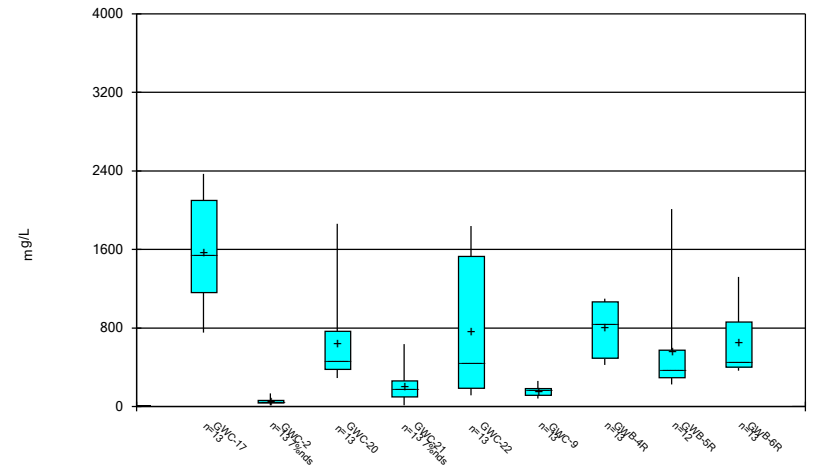
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



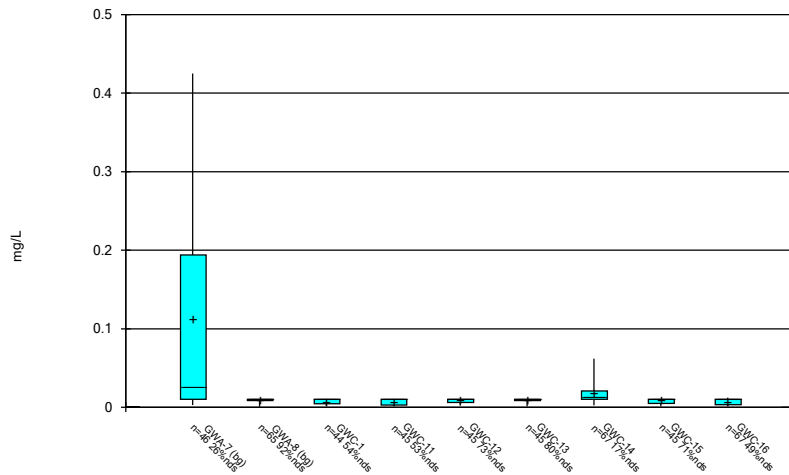
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



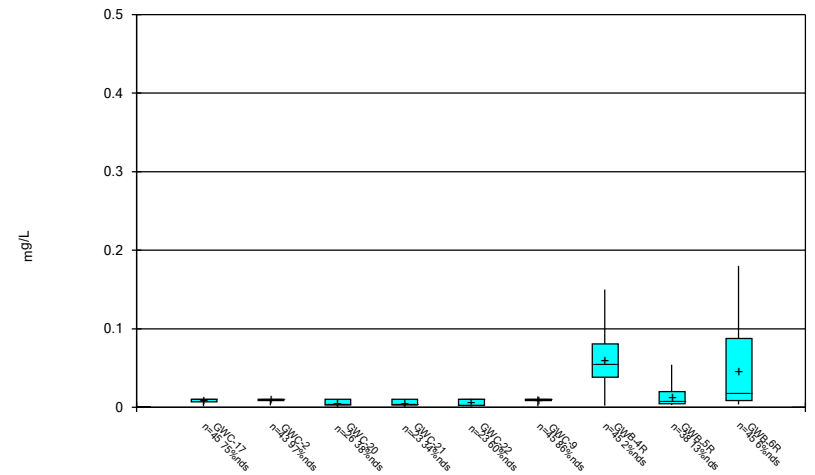
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



Constituent: Vanadium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

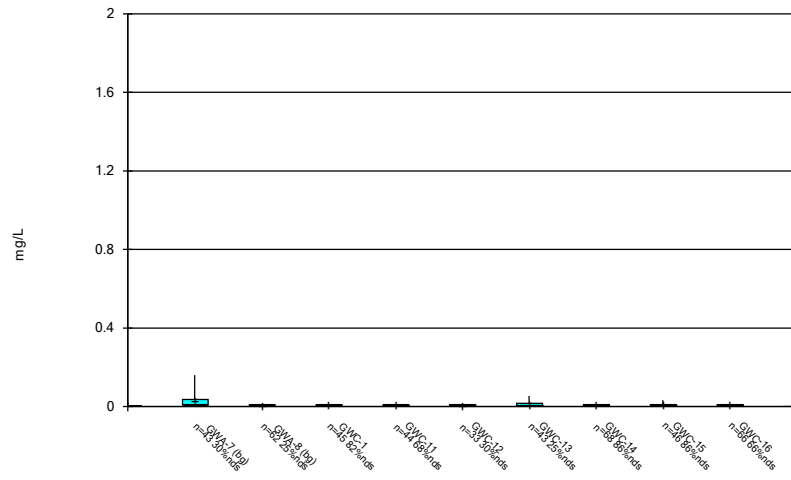
Box & Whiskers Plot



Constituent: Vanadium Analysis Run 2/1/2021 1:19 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

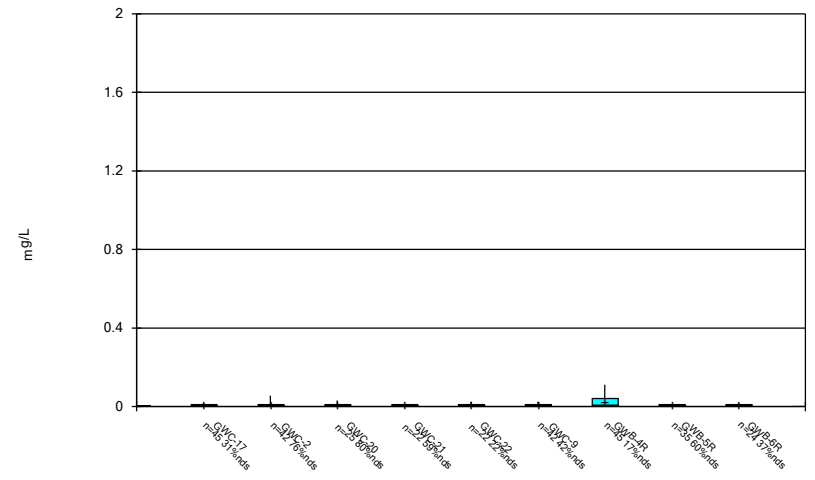


Box & Whiskers Plot



Constituent: Zinc Analysis Run 2/1/2021 1:20 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot



Constituent: Zinc Analysis Run 2/1/2021 1:20 PM View: Descriptive  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

FIGURE C.









# Outlier Summary

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

Date	GWA-8 Vanadium (mg/L)	GWC-1 Vanadium (mg/L)	GWC-14 Vanadium (mg/L)	GWC-15 Vanadium (mg/L)	GWC-16 Vanadium (mg/L)	GWB-5R Vanadium (mg/L)	GWA-7 Zinc (mg/L)	GWA-8 Zinc (mg/L)	GWC-11 Zinc (mg/L)	GWC-12 Zinc (mg/L)
9/29/2000										0.38 (o)
11/21/2000										0.077 (o)
1/20/2001								0.025 (o)		0.23 (o)
3/14/2001						0.077 (o)				0.24 (o)
7/16/2001						0.12 (o)				0.053 (o)
11/1/2001						0.21 (o)				0.022 (o)
4/25/2002						0.086 (o)				1.2 (o)
11/20/2002						0.14 (o)		0.016 (o)		0.045 (o)
6/6/2003	0.017 (o)	0.16 (o)		0.019 (o)	0.082 (o)	0.12 (o)	0.69 (o)	0.032 (o)		0.042 (o)
12/12/2003	0.011 (o)			0.018 (o)			0.12 (o)	0.019 (o)		
5/26/2004						0.06 (o)				
12/7/2004									0.028 (o)	
6/21/2005										
12/12/2005										
6/27/2006										0.012 (o)
8/30/2006								0.017 (o)		
12/4/2006										
6/23/2007										0.025 (o)
12/11/2007										
6/24/2008										
12/5/2008										
7/7/2009										
12/21/2009										0.013 (o)
6/20/2010										
6/21/2010										
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014			0.077 (o)							
1/17/2016										
8/31/2016										
9/1/2016										
10/26/2016										
10/3/2017										
7/10/2018										
7/11/2018										
1/16/2019										
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019							<0.01 (o)			





FIGURE D.

# State Interwell Prediction Limits - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	GWC-15	0.0287	9/30/2020	0.24	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-16	0.0287	9/30/2020	0.044	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-20	0.0287	9/30/2020	0.31	Yes	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Barium (mg/L)	GWC-20	0.22	9/30/2020	0.35	Yes	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2

# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	GWC-1	0.003	9/28/2020	0.00035J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-11	0.003	9/29/2020	0.00051J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-13	0.003	9/28/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-14	0.003	9/29/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-16	0.003	9/30/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-2	0.003	9/29/2020	0.0016J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-20	0.003	9/30/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-21	0.003	9/30/2020	0.00033J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-22	0.003	9/30/2020	0.0016J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWC-9	0.003	10/1/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-4R	0.003	10/1/2020	0.003ND	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-5R	0.003	9/30/2020	0.0003J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Antimony (mg/L)	GWB-6R	0.003	9/30/2020	0.00059J	No	119	n/a	n/a	94.96	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-1	0.0287	9/28/2020	0.0058	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-12	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-13	0.0287	9/28/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-14	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.24</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.044</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
Arsenic (mg/L)	GWC-17	0.0287	9/30/2020	0.0012J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-2	0.0287	9/29/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
<b>Arsenic (mg/L)</b>	<b>GWC-20</b>	<b>0.0287</b>	<b>9/30/2020</b>	<b>0.31</b>	<b>Yes</b>	<b>119</b>	<b>n/a</b>	<b>n/a</b>	<b>77.31</b>	<b>n/a</b>	<b>n/a</b>	<b>0.000137</b>	<b>NP Inter (NDs) 1 of 2</b>
Arsenic (mg/L)	GWC-21	0.0287	9/30/2020	0.0029J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-22	0.0287	9/30/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWC-9	0.0287	10/1/2020	0.005ND	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-4R	0.0287	10/1/2020	0.0027J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-5R	0.0287	9/30/2020	0.0017J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Arsenic (mg/L)	GWB-6R	0.0287	9/30/2020	0.004J	No	119	n/a	n/a	77.31	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Barium (mg/L)	GWC-1	0.22	9/28/2020	0.051	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-11	0.22	9/29/2020	0.14	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-12	0.22	9/29/2020	0.018	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-13	0.22	9/28/2020	0.029	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-14	0.22	9/29/2020	0.026	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-15	0.22	9/30/2020	0.034	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-16	0.22	9/30/2020	0.14	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-17	0.22	9/30/2020	0.035	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-2	0.22	9/29/2020	0.049	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
<b>Barium (mg/L)</b>	<b>GWC-20</b>	<b>0.22</b>	<b>9/30/2020</b>	<b>0.35</b>	<b>Yes</b>	<b>117</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0001427</b>	<b>NP Inter (normality) 1 of 2</b>
Barium (mg/L)	GWC-21	0.22	9/30/2020	0.19	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-22	0.22	9/30/2020	0.045	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWC-9	0.22	10/1/2020	0.15	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-4R	0.22	10/1/2020	0.077	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-5R	0.22	9/30/2020	0.16	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Barium (mg/L)	GWB-6R	0.22	9/30/2020	0.092	No	117	n/a	n/a	0	n/a	n/a	0.0001427	NP Inter (normality) 1 of 2
Chromium (mg/L)	GWC-1	0.068	9/28/2020	0.0024J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-11	0.068	9/29/2020	0.0011J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-12	0.068	9/29/2020	0.00085J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-13	0.068	9/28/2020	0.00062J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-14	0.068	9/29/2020	0.01ND	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-15	0.068	9/30/2020	0.0016J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2

# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Chromium (mg/L)	GWC-16	0.068	9/30/2020	0.00098J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-17	0.068	9/30/2020	0.00096J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-2	0.068	9/29/2020	0.01ND	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-20	0.068	9/30/2020	0.0013J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-21	0.068	9/30/2020	0.00067J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-22	0.068	9/30/2020	0.00064J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWC-9	0.068	10/1/2020	0.0012J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-4R	0.068	10/1/2020	0.002J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-5R	0.068	9/30/2020	0.0018J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Chromium (mg/L)	GWB-6R	0.068	9/30/2020	0.0045J	No	118	n/a	n/a	63.56	n/a	n/a	0.0001399	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-1	0.013	9/28/2020	0.000043J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-11	0.013	9/29/2020	0.00032J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-12	0.013	9/29/2020	0.000037J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-13	0.013	9/28/2020	0.000064J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-14	0.013	9/29/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-15	0.013	9/30/2020	0.000047J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-16	0.013	9/30/2020	0.000091J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-17	0.013	9/30/2020	0.00006J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-2	0.013	9/29/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-20	0.013	9/30/2020	0.005ND	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-21	0.013	9/30/2020	0.000054J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-22	0.013	9/30/2020	0.00023J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWC-9	0.013	10/1/2020	0.000038J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-4R	0.013	10/1/2020	0.00026J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-5R	0.013	9/30/2020	0.0012J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Lead (mg/L)	GWB-6R	0.013	9/30/2020	0.00008J	No	115	n/a	n/a	76.52	n/a	n/a	0.0001484	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-1	0.0438	9/28/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-11	0.0438	9/29/2020	0.0024J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-12	0.0438	9/29/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-14	0.0438	9/29/2020	0.0051J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-15	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-16	0.0438	9/30/2020	0.0037J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-17	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-2	0.0438	9/29/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-20	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-21	0.0438	9/30/2020	0.0061J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-22	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWC-9	0.0438	10/1/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-4R	0.0438	10/1/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-5R	0.0438	9/30/2020	0.01ND	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Selenium (mg/L)	GWB-6R	0.0438	9/30/2020	0.0023J	No	119	n/a	n/a	83.19	n/a	n/a	0.000137	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-1	0.425	9/28/2020	0.0042J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-11	0.425	9/29/2020	0.0023J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-12	0.425	9/29/2020	0.0046J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-13	0.425	9/28/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-14	0.425	9/29/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-15	0.425	9/30/2020	0.0028J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-16	0.425	9/30/2020	0.0028J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-17	0.425	9/30/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-2	0.425	9/29/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2

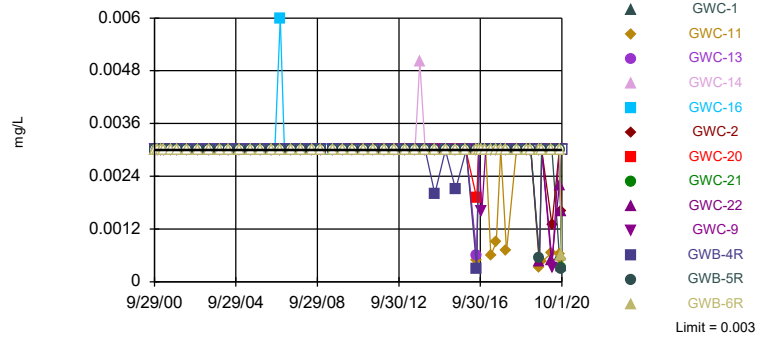
# State Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Vanadium (mg/L)	GWC-20	0.425	9/30/2020	0.0029J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-21	0.425	9/30/2020	0.0029J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-22	0.425	9/30/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWC-9	0.425	10/1/2020	0.01ND	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-4R	0.425	10/1/2020	0.0047J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-5R	0.425	9/30/2020	0.0037J	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Vanadium (mg/L)	GWB-6R	0.425	9/30/2020	0.018	No	111	n/a	n/a	64.86	n/a	n/a	0.0001599	NP Inter (NDs) 1 of 2
Zinc (mg/L)	GWC-1	0.16	9/28/2020	0.0092J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-11	0.16	9/29/2020	0.0031J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-12	0.16	9/29/2020	0.0074J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-13	0.16	9/28/2020	0.016	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-14	0.16	9/29/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-15	0.16	9/30/2020	0.032	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-16	0.16	9/30/2020	0.0051J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-17	0.16	9/30/2020	0.0043J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-2	0.16	9/29/2020	0.056	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-20	0.16	9/30/2020	0.031	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-21	0.16	9/30/2020	0.0096J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-22	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWC-9	0.16	10/1/2020	0.025	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-4R	0.16	10/1/2020	0.0064J	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-5R	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2
Zinc (mg/L)	GWB-6R	0.16	9/30/2020	0.01ND	No	105	n/a	n/a	27.62	n/a	n/a	0.0001771	NP Inter (normality) 1 of 2

Within Limit

Prediction Limit  
Interwell Non-parametric

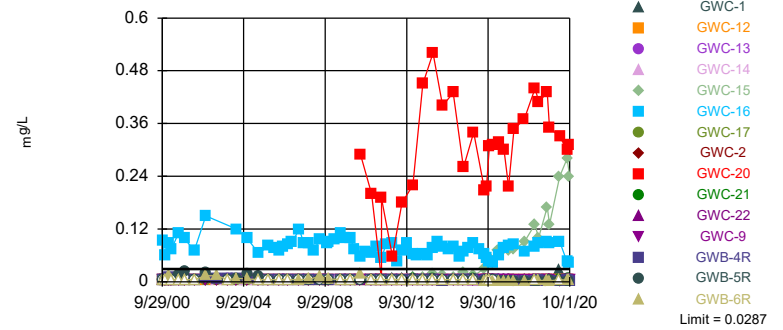


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 94.96% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 13 points to limit. Assumes 3 future values.

Constituent: Antimony Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Exceeds Limit: GWC-15, GWC-16, GWC-20

Prediction Limit  
Interwell Non-parametric

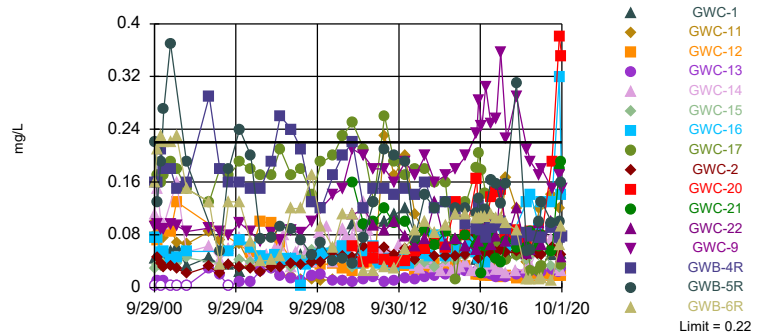


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 77.31% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 15 points to limit. Assumes 1 future value.

Constituent: Arsenic Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Exceeds Limit: GWC-20

Prediction Limit  
Interwell Non-parametric

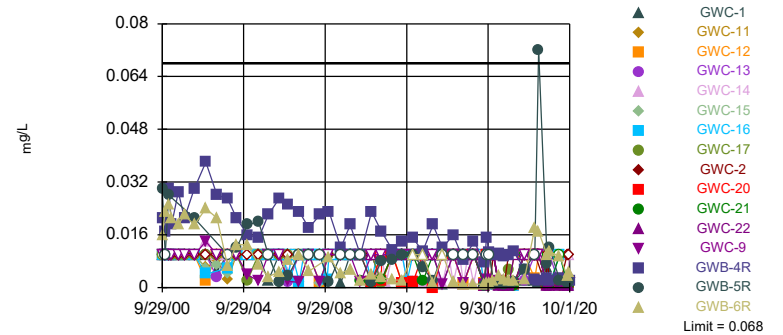


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 117 background values. Annual per-constituent alpha = 0.004557. Individual comparison alpha = 0.0001427 (1 of 2). Comparing 16 points to limit.

Constituent: Barium Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric

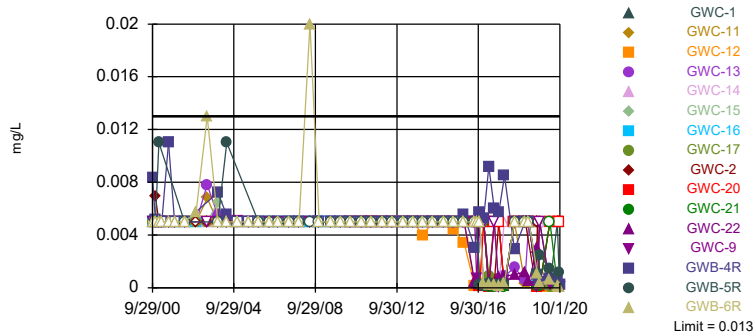


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 118 background values. 63.56% NDs. Annual per-constituent alpha = 0.004466. Individual comparison alpha = 0.0001399 (1 of 2). Comparing 16 points to limit.

Constituent: Chromium Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric

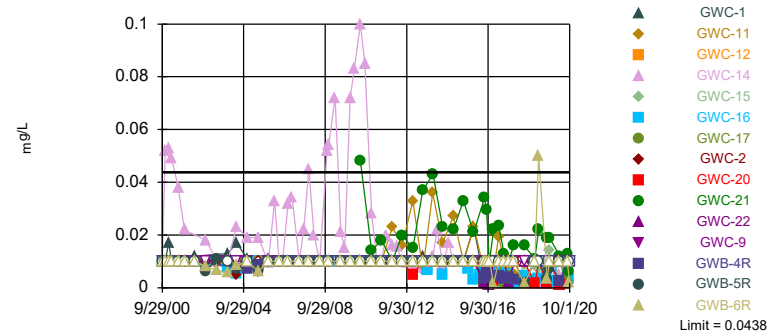


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 115 background values. 76.52% NDs. Annual per-constituent alpha = 0.004739. Individual comparison alpha = 0.0001484 (1 of 2). Comparing 16 points to limit.

Constituent: Lead Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric

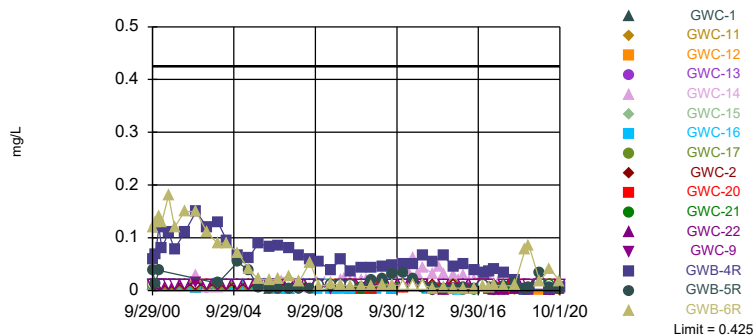


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 83.19% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 15 points to limit. Assumes 1 future value.

Constituent: Selenium Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric

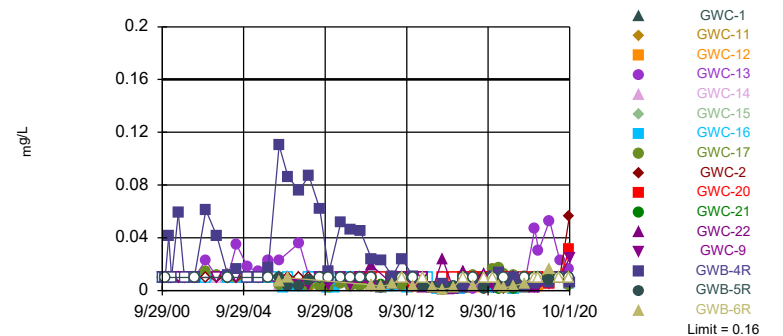


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 111 background values. 64.86% NDs. Annual per-constituent alpha = 0.005104. Individual comparison alpha = 0.0001599 (1 of 2). Comparing 16 points to limit.

Constituent: Vanadium Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 105 background values. 27.62% NDs. Annual per-constituent alpha = 0.005651. Individual comparison alpha = 0.0001771 (1 of 2). Comparing 16 points to limit.

Constituent: Zinc Analysis Run 2/17/2021 4:00 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-14	GWC-13	GWC-11	GWC-9	GWB-4R	GWC-1	GWB-5R	GWA-8 (bg)
9/29/2000	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/21/2000	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
1/20/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
3/14/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
7/16/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/1/2001	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
4/25/2002	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
11/20/2002		<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
6/6/2003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/12/2003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
5/26/2004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/7/2004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
6/21/2005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
12/12/2005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
4/4/2006		<0.003							<0.003
6/27/2006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8/30/2006		<0.003							<0.003
12/4/2006	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
2/15/2007		<0.003							<0.003
6/23/2007	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/11/2007		<0.003							<0.003
12/11/2007	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
3/11/2008		<0.003							<0.003
6/23/2008	<0.003		<0.003	<0.003	<0.003				<0.003
6/24/2008		<0.003				<0.003	<0.003	<0.003	
11/3/2008		<0.003							<0.003
12/4/2008	<0.003	<0.003	<0.003	<0.003	<0.003				<0.003
12/5/2008						<0.003	<0.003	<0.003	
3/25/2009		<0.003							<0.003
7/7/2009	<0.003					<0.003	<0.003	<0.003	<0.003
7/8/2009		<0.003	<0.003	<0.003	<0.003				
9/14/2009		<0.003							<0.003
12/20/2009	<0.003	<0.003					<0.003		<0.003
12/21/2009			<0.003	<0.003	<0.003	<0.003		<0.003	
3/4/2010		<0.003							<0.003
6/20/2010	<0.003	<0.003	<0.003	<0.003	<0.003		<0.003	<0.003	<0.003
6/21/2010						<0.003			
9/14/2010		<0.003							<0.003
1/6/2011			<0.003	<0.003			<0.003	<0.003	
1/7/2011	<0.003	<0.003			<0.003	<0.003			<0.003
4/15/2011		<0.003							<0.003
7/7/2011	<0.003	<0.003	<0.003	<0.003			<0.003	<0.003	<0.003
7/8/2011					<0.003	<0.003			
9/25/2011		<0.003							<0.003
1/17/2012	<0.003	<0.003	<0.003	<0.003			<0.003	<0.003	<0.003
1/18/2012					<0.003	<0.003			
4/4/2012		<0.003							<0.003
7/9/2012	<0.003	<0.003	<0.003	<0.003			<0.003	<0.003	
7/10/2012					<0.003	<0.003			<0.003
10/9/2012		<0.003							<0.003
1/17/2013			<0.003	<0.003			<0.003	<0.003	
1/18/2013	<0.003	<0.003			<0.003	<0.003			<0.003



# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-14	GWC-13	GWC-11	GWC-9	GWB-4R	GWC-1	GWB-5R	GWA-8 (bg)
4/5/2013		<0.003							<0.003
7/16/2013			<0.003	<0.003			<0.003	<0.003	
7/17/2013	<0.003	<0.003			<0.003	<0.003			<0.003
10/11/2013		0.005							<0.003
1/13/2014	<0.003		<0.003	<0.003			<0.003	<0.003	
1/14/2014		<0.003			<0.003	<0.003			<0.003
4/3/2014		<0.003							<0.003
7/8/2014			<0.003	<0.003					
7/9/2014	0.0022 (J)	<0.003			<0.003	0.002 (J)	<0.003	<0.003	<0.003
7/10/2014									
10/24/2014		<0.003							<0.003
1/12/2015						<0.003			
1/13/2015	<0.003		<0.003	<0.003			<0.003	<0.003	
1/14/2015		<0.003			<0.003				<0.003
5/10/2015		<0.003							<0.003
5/11/2015									
7/16/2015	0.0028 (J)		<0.003	<0.003		0.0021 (J)	<0.003	<0.003	
7/17/2015		<0.003			<0.003				<0.003
7/18/2015									
10/6/2015		<0.003							<0.003
1/17/2016		<0.003					<0.003		
1/18/2016	<0.003		<0.003		<0.003	<0.003		<0.003	<0.003
1/19/2016				<0.003					
4/26/2016		<0.003							<0.003
7/26/2016			0.0006 (J)	0.0005 (J)					
7/27/2016	<0.003	<0.003					<0.003	<0.003	
7/28/2016					<0.003				<0.003
7/29/2016						0.0003 (J)			
8/30/2016							<0.003	<0.003	<0.003
8/31/2016			<0.003	<0.003	<0.003				
9/1/2016	0.0017 (J)	<0.003				<0.003			
10/24/2016									<0.003
10/25/2016	<0.003	<0.003					<0.003		
10/26/2016			<0.003	<0.003		<0.003		<0.003	
10/27/2016					0.0016 (J)				
1/3/2017								<0.003	<0.003
1/4/2017				<0.003			<0.003		
1/5/2017		<0.003	<0.003						
1/6/2017	0.0009 (J)				<0.003	<0.003			
4/3/2017									<0.003
4/4/2017		<0.003				<0.003	<0.003		
4/5/2017									
4/6/2017	<0.003		<0.003	0.0006 (J)	<0.003			<0.003	
7/11/2017		<0.003		0.0009 (J)					<0.003
7/12/2017			<0.003		<0.003	<0.003	<0.003	<0.003	
7/13/2017	0.0013 (J)								
10/2/2017		<0.003							<0.003
10/3/2017				<0.003			<0.003	<0.003	
10/4/2017	0.0008 (J)		<0.003		<0.003	<0.003			
1/9/2018	<0.003	<0.003							<0.003
1/10/2018			<0.003				<0.003	<0.003	
1/11/2018				0.0007 (J)	<0.003	<0.003			

# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-14	GWC-13	GWC-11	GWC-9	GWB-4R	GWC-1	GWB-5R	GWA-8 (bg)
7/9/2018		<0.003							<0.003
7/10/2018							<0.003	<0.003	
7/11/2018	<0.003		<0.003	<0.003	<0.003	<0.003			
1/16/2019	<0.003	<0.003	<0.003			<0.003	<0.003	<0.003	<0.003
1/17/2019				<0.003					
1/18/2019					<0.003				
1/21/2019									
3/25/2019	<0.003					<0.003			<0.003
3/26/2019		<0.003	<0.003				<0.003	<0.003	
3/27/2019				<0.003	<0.003				
7/30/2019									
8/26/2019	<0.003								<0.003
8/27/2019		<0.003	<0.003	0.00033 (J)		<0.003	<0.003		
8/28/2019					<0.003			0.00054 (J)	
10/7/2019									<0.003
10/8/2019	<0.003	<0.003	<0.003	0.00046 (J)					
10/9/2019					<0.003	<0.003	<0.003	<0.003	
4/6/2020	<0.003								<0.003
4/7/2020		<0.003		0.00066 (J)		<0.003	<0.003	<0.003	
4/8/2020			<0.003		0.00033 (J)				
8/17/2020			<0.003						<0.003
8/18/2020		<0.003		0.00064 (J)					
8/19/2020	<0.003				<0.003	<0.003	0.00061 (J)	<0.003	
9/28/2020	<0.003		<0.003				0.00035 (J)		<0.003
9/29/2020		<0.003		0.00051 (J)					
9/30/2020								0.0003 (J)	
10/1/2020					<0.003	<0.003			

# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-16	GWC-2	GWC-20	GWC-22	GWC-21
9/29/2000	<0.003	<0.003				
11/21/2000	<0.003	<0.003	<0.003			
1/20/2001	<0.003	<0.003	<0.003			
3/14/2001	<0.003	<0.003	<0.003			
7/16/2001	<0.003	<0.003	<0.003			
11/1/2001	<0.003	<0.003	<0.003			
4/25/2002	<0.003	<0.003	<0.003			
11/20/2002	<0.003	<0.003	<0.003			
6/6/2003	<0.003	<0.003	<0.003			
12/12/2003	<0.003	<0.003	<0.003			
5/26/2004	<0.003	<0.003	<0.003			
12/7/2004	<0.003	<0.003	<0.003			
6/21/2005	<0.003	<0.003	<0.003			
12/12/2005	<0.003	<0.003	<0.003			
4/4/2006		<0.003				
6/27/2006	<0.003	<0.003	<0.003			
8/30/2006		<0.003				
12/4/2006	<0.003	0.006	<0.003			
2/15/2007		<0.003				
6/23/2007	<0.003	<0.003	<0.003			
9/11/2007		<0.003				
12/11/2007	<0.003	<0.003	<0.003			
3/11/2008		<0.003				
6/23/2008		<0.003				
6/24/2008	<0.003	<0.003	<0.003			
11/3/2008		<0.003				
12/4/2008			<0.003			
12/5/2008	<0.003	<0.003				
3/25/2009		<0.003				
7/7/2009	<0.003					
7/8/2009		<0.003	<0.003			
9/14/2009		<0.003				
12/20/2009		<0.003	<0.003			
12/21/2009	<0.003					
3/4/2010		<0.003				
6/20/2010	<0.003		<0.003			
6/21/2010		<0.003		<0.003	<0.003	<0.003
9/14/2010		<0.003				
1/6/2011			<0.003			
1/7/2011	<0.003	<0.003		<0.003	<0.003	<0.003
4/15/2011		<0.003				
7/7/2011	<0.003	<0.003		<0.003		
7/8/2011				<0.003	<0.003	<0.003
9/25/2011		<0.003				
1/17/2012			<0.003			
1/18/2012	<0.003	<0.003		<0.003	<0.003	<0.003
4/4/2012		<0.003				
7/9/2012			<0.003			
7/10/2012	<0.003	<0.003		<0.003	<0.003	<0.003
10/9/2012		<0.003				
1/17/2013			<0.003			
1/18/2013	<0.003	<0.003		<0.003	<0.003	<0.003

# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-16	GWC-2	GWC-20	GWC-22	GWC-21
4/5/2013		<0.003				
7/16/2013						
7/17/2013	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
10/11/2013		<0.003				
1/13/2014			<0.003			
1/14/2014	<0.003	<0.003		<0.003	<0.003	<0.003
4/3/2014		<0.003				
7/8/2014						
7/9/2014	<0.003	<0.003	<0.003			<0.003
7/10/2014				<0.003	<0.003	
10/24/2014		<0.003				
1/12/2015				<0.003		
1/13/2015			<0.003			
1/14/2015	<0.003	<0.003			<0.003	<0.003
5/10/2015						
5/11/2015		<0.003				
7/16/2015		<0.003	<0.003			
7/17/2015	<0.003					<0.003
7/18/2015				<0.003	<0.003	
10/6/2015		<0.003				
1/17/2016		<0.003	<0.003	<0.003		<0.003
1/18/2016	<0.003				<0.003	
1/19/2016						
4/26/2016		<0.003				
7/26/2016						
7/27/2016			<0.003			
7/28/2016	<0.003	<0.003		0.0019 (J)		<0.003
7/29/2016					<0.003	
8/30/2016	<0.003					
8/31/2016			<0.003		<0.003	
9/1/2016		<0.003		<0.003		<0.003
10/24/2016						
10/25/2016		<0.003		<0.003		<0.003
10/26/2016	<0.003		<0.003		<0.003	
10/27/2016						
1/3/2017						
1/4/2017		<0.003		<0.003	<0.003	<0.003
1/5/2017	<0.003		<0.003			
1/6/2017						
4/3/2017						
4/4/2017			<0.003	<0.003		<0.003
4/5/2017		<0.003				
4/6/2017	<0.003				<0.003	
7/11/2017				<0.003	<0.003	
7/12/2017	<0.003	<0.003				
7/13/2017			<0.003			<0.003
10/2/2017				<0.003		
10/3/2017	<0.003	<0.003	<0.003			<0.003
10/4/2017					<0.003	
1/9/2018	<0.003					<0.003
1/10/2018		<0.003	<0.003	<0.003		
1/11/2018					<0.003	

# Prediction Limit

Constituent: Antimony (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-16	GWC-2	GWC-20	GWC-22	GWC-21
7/9/2018				<0.003		
7/10/2018	<0.003	<0.003	<0.003			<0.003
7/11/2018					<0.003	
1/16/2019	<0.003					
1/17/2019		<0.003				<0.003
1/18/2019					<0.003	
1/21/2019			<0.003	<0.003		
3/25/2019				<0.003		
3/26/2019	<0.003	<0.003				<0.003
3/27/2019					<0.003	
7/30/2019			<0.003			
8/26/2019						
8/27/2019	<0.003		<0.003		0.00045 (J)	
8/28/2019		<0.003		<0.003		<0.003
10/7/2019						
10/8/2019		<0.003				<0.003
10/9/2019	<0.003		<0.003	<0.003	<0.003	
4/6/2020						
4/7/2020	<0.003	<0.003			0.00049 (J)	<0.003
4/8/2020			0.0013 (J)	<0.003		
8/17/2020						
8/18/2020		<0.003	<0.003	<0.003	0.0022 (J)	<0.003
8/19/2020	<0.003					
9/28/2020						
9/29/2020			0.0016 (J)			
9/30/2020	0.00059 (J)	<0.003		<0.003	0.0016 (J)	0.00033 (J)
10/1/2020						

# Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-12	GWA-8 (bg)	GWC-13	GWC-17	GWC-14
9/29/2000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1/20/2001	<0.005	0.014	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3/14/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
7/16/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/1/2001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/25/2002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/20/2002		0.014	0.0096	<0.005	<0.005	<0.005	<0.005	<0.005	0.011
6/6/2003	0.02	0.014	0.0076	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/12/2003	<0.005	<0.005	0.0058	<0.005	<0.005	<0.005	0.0064	<0.005	<0.005
5/26/2004	<0.005	0.0082	0.0068	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/7/2004	<0.005	0.0062	0.0066	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
6/21/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/12/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
4/4/2006						<0.005			<0.005
6/27/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/30/2006						<0.005			<0.005
12/4/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2/15/2007						<0.005			<0.005
6/23/2007	<0.005	0.0053	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/11/2007						<0.005			<0.005
12/11/2007	<0.005	0.0057	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
3/11/2008						<0.005			<0.005
6/23/2008	<0.005			<0.005	<0.005	<0.005	<0.005		<0.005
6/24/2008		0.012	0.005					<0.005	<0.005
11/3/2008						<0.005			<0.005
12/4/2008	<0.005			<0.005	<0.005	<0.005	<0.005		<0.005
12/5/2008		0.0064	<0.005					<0.005	
3/25/2009						<0.005			<0.005
7/7/2009	<0.005	<0.005	<0.005			<0.005			
7/8/2009				<0.005	<0.005		<0.005	<0.005	<0.005
9/14/2009						<0.005			<0.005
12/20/2009	<0.005					<0.005			<0.005
12/21/2009		<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	
3/4/2010						<0.005			<0.005
6/20/2010	<0.005	0.017		<0.005	<0.005	<0.005	<0.005		<0.005
6/21/2010			0.018 (o)					<0.005	
9/14/2010						<0.005			<0.005
1/6/2011							<0.005		
1/7/2011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005
4/15/2011						<0.005			<0.005
7/7/2011	<0.005	<0.005			<0.005	<0.005	<0.005		<0.005
7/8/2011			<0.005	<0.005				<0.005	
9/25/2011						<0.005			<0.005
1/17/2012	<0.005				<0.005	<0.005	<0.005		<0.005
1/18/2012		<0.005	<0.005	<0.005				<0.005	
4/4/2012						<0.005			<0.005
7/9/2012	0.0052				<0.005		<0.005		<0.005
7/10/2012		<0.005	0.0052	<0.005		<0.005		<0.005	
10/9/2012						<0.005			<0.005
1/17/2013					<0.005		<0.005		
1/18/2013	0.0087	<0.005	<0.005	<0.005		<0.005		<0.005	<0.005

# Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-12	GWA-8 (bg)	GWC-13	GWC-17	GWC-14
4/5/2013						<0.005			<0.005
7/16/2013					<0.005		<0.005		
7/17/2013	0.0084	<0.005	<0.005	<0.005		<0.005		<0.005	<0.005
10/11/2013						<0.005			0.005
1/13/2014	0.009				<0.005		<0.005		
1/14/2014		<0.005	<0.005	<0.005		<0.005		<0.005	<0.005
4/3/2014						<0.005			<0.005
7/8/2014					<0.005		<0.005		
7/9/2014	0.008	<0.005	0.0023 (J)	<0.005		<0.005		<0.005	<0.005
7/10/2014									
10/24/2014						<0.005			<0.005
1/12/2015			0.0028 (J)						
1/13/2015	0.0077				<0.005		<0.005		
1/14/2015		<0.005		<0.005		<0.005		<0.005	<0.005
5/10/2015						<0.005			<0.005
5/11/2015									
7/16/2015	0.0077		<0.005		<0.005		<0.005		
7/17/2015		<0.005		<0.005		<0.005			<0.005
7/18/2015								<0.005	
10/6/2015						<0.005			<0.005
1/17/2016									0.002 (J)
1/18/2016	0.014	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
4/26/2016						0.0011 (J)			0.00183 (J)
7/26/2016							<0.005		
7/27/2016	0.0111				<0.005				0.0021 (J)
7/28/2016		0.0009 (J)		<0.005		<0.005			
7/29/2016			0.0014 (J)					0.0009 (J)	
8/30/2016		<0.005				<0.005			
8/31/2016				<0.005	<0.005		<0.005		
9/1/2016	0.0287		0.0033 (J)					<0.005	0.0024 (J)
10/24/2016						<0.005			
10/25/2016	0.0069								<0.005
10/26/2016		<0.005	0.0016 (J)		<0.005		<0.005	<0.005	
10/27/2016				<0.005					
1/3/2017						<0.005			
1/4/2017					<0.005				
1/5/2017		0.0021 (J)					<0.005	<0.005	0.0024 (J)
1/6/2017	0.0097		<0.005	<0.005					
4/3/2017						0.0006 (J)			
4/4/2017			0.0021 (J)						0.003 (J)
4/5/2017					0.0006 (J)			0.0011 (J)	
4/6/2017	0.0104	0.0011 (J)		<0.005			<0.005		
7/10/2017					0.0008 (J)				
7/11/2017						0.0006 (J)			0.0019 (J)
7/12/2017		0.0014 (J)	0.0015 (J)	<0.005			<0.005		
7/13/2017	0.0064							0.0016 (J)	
10/2/2017						0.0006 (J)			0.0026 (J)
10/3/2017		0.0014 (J)							
10/4/2017	0.0078		0.0018 (J)	<0.005	0.0009 (J)		<0.005	0.0019 (J)	
1/9/2018	0.0091 (J)	0.0017 (J)				0.0009 (J)			0.0021 (J)
1/10/2018							0.0006 (J)		
1/11/2018			0.0015 (J)	<0.005	<0.005			0.0015 (J)	

# Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-12	GWA-8 (bg)	GWC-13	GWC-17	GWC-14
7/9/2018						<0.005			0.0019 (J)
7/10/2018		0.00063 (J)							
7/11/2018	<0.005		0.00095 (J)	<0.005	<0.005		<0.005	0.00082 (J)	
1/16/2019	<0.005	<0.005	0.0024 (J)			<0.005	<0.005	<0.005	0.0016 (J)
1/17/2019					<0.005				
1/18/2019				<0.005					
1/21/2019									
3/25/2019	0.0029 (J)		0.0029 (J)			<0.005			
3/26/2019		0.0029 (J)					0.00058 (J)	0.0015 (J)	0.0023 (J)
3/27/2019				<0.005	<0.005				
7/30/2019									
8/26/2019	0.0041 (J)					<0.005			
8/27/2019		0.0035 (J)	0.0023 (J)		<0.005		<0.005		0.0017 (J)
8/28/2019				<0.005				0.0011 (J)	
10/7/2019						<0.005			
10/8/2019	0.003 (J)						<0.005		0.0017 (J)
10/9/2019		0.0018 (J)	0.0024 (J)	<0.005	<0.005			0.0011 (J)	
4/6/2020	<0.005					0.00045 (J)			
4/7/2020		<0.005	0.0027 (J)		<0.005				0.0018 (J)
4/8/2020				0.00084 (J)			<0.005	0.0013 (J)	
8/17/2020					<0.005	<0.005	<0.005		
8/18/2020								<0.005	0.0012 (J)
8/19/2020	0.006 (J)	0.0036 (J)	0.0033 (J)	<0.005					
9/28/2020	<0.005					<0.005	<0.005		
9/29/2020					<0.005				<0.005
9/30/2020		0.004 (J)						0.0012 (J)	
10/1/2020			0.0027 (J)	<0.005					



# Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-5R	GWC-1	GWC-15	GWC-16	GWC-2	GWC-22	GWC-20	GWC-21
9/29/2000	<0.005	<0.005	<0.005	0.094				
11/21/2000	<0.005	<0.005	<0.005	0.059	<0.005			
1/20/2001	<0.005	<0.005	<0.005	0.087	<0.005			
3/14/2001	<0.005	<0.005	<0.005	0.075	<0.005			
7/16/2001	0.014	<0.005	<0.005	0.11	<0.005			
11/1/2001	0.023	<0.005	<0.005	0.098	<0.005			
4/25/2002	<0.005	<0.005	<0.005	0.071	<0.005			
11/20/2002	0.022	<0.005	<0.005	0.15	<0.005			
6/6/2003	0.07 (o)	0.03 (o)	<0.005	1.2 (o)	<0.005			
12/12/2003	<0.005	<0.005	<0.005	0.27 (o)	<0.005			
5/26/2004	0.0074	<0.005	<0.005	0.12	<0.005			
12/7/2004	0.017	<0.005	<0.005	0.098	<0.005			
6/21/2005	0.013	<0.005	<0.005	0.065	<0.005			
12/12/2005	<0.005	<0.005	<0.005	0.081	<0.005			
4/4/2006				0.077				
6/27/2006	<0.005	<0.005	<0.005	0.071	<0.005			
8/30/2006				0.08				
12/4/2006	<0.005	<0.005	<0.005	0.085	<0.005			
2/15/2007				0.09				
6/23/2007	<0.005	<0.005	<0.005	0.12	<0.005			
9/11/2007				0.088				
12/11/2007	<0.005	<0.005	<0.005	0.088	<0.005			
3/11/2008				0.071				
6/23/2008								
6/24/2008	<0.005	<0.005	<0.005	0.097	<0.005			
11/3/2008				0.089				
12/4/2008							<0.005	
12/5/2008	<0.005	<0.005	<0.005	0.092				
3/25/2009				0.095				
7/7/2009	<0.005	<0.005						
7/8/2009			0.0052	0.11	<0.005			
9/14/2009				0.099				
12/20/2009		<0.005	<0.005	0.1	<0.005			
12/21/2009	<0.005							
3/4/2010				0.074				
6/20/2010	<0.005	<0.005	0.0068		<0.005			
6/21/2010				0.056		<0.005	0.29	0.013 (o)
9/14/2010				0.067				
1/6/2011	<0.005	<0.005			<0.005			
1/7/2011			<0.005	0.066		<0.005	0.2	<0.005
4/15/2011				0.08				
7/7/2011	<0.005	<0.005	<0.005	0.054			<0.005	
7/8/2011						<0.005	0.19	<0.005
9/25/2011				0.085				
1/17/2012	<0.005	0.0071	<0.005		<0.005			
1/18/2012				0.089		<0.005	0.058	<0.005
4/4/2012				0.0473				
7/9/2012	<0.005	0.0076	<0.005		<0.005			
7/10/2012				0.07		<0.005	0.18	<0.005
10/9/2012				0.088				
1/17/2013	<0.005	0.0086			<0.005			
1/18/2013			0.0089	0.063		<0.005	0.22	0.0061

# Prediction Limit

Constituent: Arsenic (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-5R	GWC-1	GWC-15	GWC-16	GWC-2	GWC-22	GWC-20	GWC-21
4/5/2013				0.06				
7/16/2013	<0.005	<0.005						
7/17/2013			0.011	0.063	<0.005	<0.005	0.45	<0.005
10/11/2013				0.059				
1/13/2014	<0.005	<0.005	0.017		<0.005			
1/14/2014				0.077		<0.005	0.52	0.006
4/3/2014				0.091				
7/8/2014								
7/9/2014	<0.005	0.0022 (J)	0.014	0.08	<0.005			<0.005
7/10/2014						0.0027 (J)	0.4	
10/24/2014				0.073				
1/12/2015							0.43	
1/13/2015	<0.005	<0.005	0.011		<0.005			
1/14/2015				0.079		<0.005		<0.005
5/10/2015								
5/11/2015				0.058				
7/16/2015	<0.005	0.0037 (J)	0.02	0.068	<0.005			
7/17/2015								<0.005
7/18/2015						<0.005	0.26	
10/6/2015				0.078				
1/17/2016		0.024 (o)	0.014	0.089	<0.005		0.34	0.0065
1/18/2016	<0.005					<0.005		
4/26/2016				0.0731				
7/26/2016								
7/27/2016	0.0008 (J)	0.0046 (J)	0.0303		<0.005			
7/28/2016				0.0627			0.209	<0.005
7/29/2016						0.002 (J)		
8/30/2016	<0.005	0.0023 (J)						
8/31/2016					<0.005	0.0017 (J)		
9/1/2016			0.0533	0.0551			0.215	0.0039 (J)
10/24/2016								
10/25/2016		0.0035 (J)	0.0551	0.0466			0.307	<0.005
10/26/2016	<0.005				<0.005	<0.005		
10/27/2016								
1/3/2017	<0.005							
1/4/2017		0.0018 (J)		0.0444		<0.005	0.311	<0.005
1/5/2017			0.0437		<0.005			
1/6/2017								
4/3/2017			0.0713					
4/4/2017		0.0015 (J)			<0.005		0.317	0.0031 (J)
4/5/2017				0.0591				
4/6/2017	0.0006 (J)					0.0006 (J)		
7/10/2017								
7/11/2017			0.0745			0.0012 (J)	0.299	
7/12/2017	0.0009 (J)	0.0015 (J)		0.0776				
7/13/2017					<0.005			<0.005
10/2/2017			0.0723				0.216	
10/3/2017	0.001 (J)	0.0013 (J)		0.0813	<0.005			<0.005
10/4/2017						0.0025 (J)		
1/9/2018			0.0731					0.0033 (J)
1/10/2018	0.0012 (J)	0.0023 (J)		0.085	0.0006 (J)		0.347	
1/11/2018						0.0006 (J)		



# Prediction Limit

Constituent: Barium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-1	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
9/29/2000	0.11	0.044	0.075	<0.005	0.11	0.028	0.076	0.16	0.16
11/21/2000	0.12	0.047	0.072	0.01	0.15	0.035	0.075	0.17	
1/20/2001	0.11	0.051	0.086	<0.005	0.1	0.032	0.053	0.16	0.18
3/14/2001	0.11	0.048	0.088	0.01	0.095	0.036	0.055	0.17	0.14
7/16/2001	0.11	0.054	0.084	<0.005	0.28 (o)	0.036	0.041	0.19	0.14
11/1/2001	0.11	0.063	0.13	<0.005	0.16	0.036	0.045	0.18	0.14
4/25/2002	0.058	0.032	0.24 (o)	<0.005	0.054	0.045	0.055	0.15	0.088
6/6/2003	0.19	0.046	0.28 (o)	0.028	0.063	0.083 (o)	0.48 (o)	0.13	0.14
12/12/2003	0.1	0.034	0.27 (o)	0.019	0.041	0.094 (o)	0.13 (o)	0.18	0.13
5/26/2004	0.084	0.035	0.31 (o)	<0.005	0.059	0.034	0.055	0.17	0.09
12/7/2004	0.094	0.024	0.46 (o)	0.009	0.076	0.042	0.072	0.19	0.11
6/21/2005	0.089	0.039	0.053	0.0089	0.042	0.039	0.061	0.18	0.084
12/12/2005	0.089	0.042	0.1	0.026	0.048	0.043	0.047	0.17	0.1
4/4/2006					0.05		0.042		0.089
6/27/2006	0.096	0.033	0.098	0.029	0.036	0.031	0.042	0.17	0.1
8/30/2006					0.059		0.05		0.12
12/4/2006	0.092	0.04	0.068	0.017	0.062	0.043	0.044	0.21	0.086
2/15/2007					0.079		0.041		0.088
6/23/2007	0.08	0.044	0.042	0.014	0.03	0.031	0.044	0.17	0.089
9/11/2007					0.053		0.04		0.092
12/11/2007	0.067	0.049	0.04	0.011	0.075	0.044	0.0035	0.18	0.077
3/11/2008					0.052		0.034		0.082
6/23/2008	0.056		0.041	0.018					0.086
6/24/2008		0.038			0.039	0.057	0.042	0.14	
11/3/2008					0.082		0.049		0.088
12/4/2008	0.054		0.035	0.019	0.079				0.081
12/5/2008		0.06				0.041	0.05	0.19	
3/25/2009					0.093		0.052		0.069
7/7/2009	0.034	0.043							0.078
7/8/2009			0.036	0.011	0.039	0.058	0.046	0.2	
9/14/2009					0.061		0.048		0.079
12/20/2009	0.034	0.065			0.088	0.062	0.062		0.081
12/21/2009			0.028	0.01				0.23	
3/4/2010					0.077		0.058		0.065
6/20/2010	0.062	0.095	0.025	0.0081	0.075	0.03			0.078
6/21/2010							0.041	0.25	
9/14/2010					0.093		0.036		0.076
1/6/2011		0.093		0.012					
1/7/2011	0.039		0.037		0.13	0.049	0.054	0.21	0.074
4/15/2011					0.086		0.049		0.065
7/7/2011	0.036	0.095	0.039	0.015	0.051	0.05	0.063		0.081
7/8/2011								0.13	
9/25/2011					0.056		0.037		0.078
1/17/2012	0.041	0.1	0.045	0.0086	0.052	0.044			0.082
1/18/2012							0.034	0.26	
4/4/2012					0.0519		0.0446		0.0861
7/9/2012	0.15	0.11	0.032	0.01	0.048	0.045			
7/10/2012							0.033	0.19	0.082
10/9/2012					0.065		0.041		0.09
1/17/2013		0.12	0.033	0.014					
1/18/2013	0.15				0.045	0.049	0.036	0.17	0.083
4/5/2013					0.047		0.036		0.078

# Prediction Limit

Constituent: Barium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-1	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
7/16/2013		0.081	0.027	0.012					
7/17/2013	0.13				0.032	0.039	0.054	0.18	0.083
10/11/2013					0.028		0.052		0.078
1/13/2014	0.16	0.096	0.027	0.015		0.038			
1/14/2014					0.036		0.051	0.18	0.081
4/3/2014					0.038		0.047		0.077
7/8/2014			0.037	0.017					
7/9/2014	0.11	0.066			0.03	0.031	0.08	0.16	0.073
7/10/2014									
10/24/2014					0.025		0.072		0.087
1/12/2015									
1/13/2015	0.083	0.068	0.023	0.019		0.041			
1/14/2015					0.04		0.047	0.16	0.079
5/10/2015					0.026				0.076
5/11/2015							0.053		
7/16/2015	0.094	0.07	0.03	0.022		0.041	0.059		
7/17/2015					0.029				0.061
7/18/2015								0.012	
10/6/2015					0.03		0.053		0.067
1/17/2016		0.062			0.038	0.048	0.056		
1/18/2016	0.22		0.032	0.026				0.13	0.068
1/19/2016									
4/26/2016					0.025		0.0721		0.0596
7/26/2016				0.0236					
7/27/2016	0.192	0.0417	0.0191		0.0248	0.0487			
7/28/2016							0.0534		0.0701
7/29/2016								0.181	
8/30/2016		0.0545							0.0687
8/31/2016			0.019	0.0273					
9/1/2016	0.415 (o)				0.0346	0.0403	0.0445	0.203	
10/24/2016									0.07
10/25/2016	0.173	0.0504			0.0248	0.0329	0.0464		
10/26/2016			0.0197	0.0238				0.177	
10/27/2016									
1/3/2017									0.061
1/4/2017		0.0534	0.0174				0.0379		
1/5/2017				0.0218	0.0245	0.0392		0.142	
1/6/2017	0.167								
4/3/2017						0.0439			0.0612
4/4/2017		0.0549			0.0342				
4/5/2017			0.0174				0.0534	0.106	
4/6/2017	0.136			0.0204					
7/10/2017			0.0172						
7/11/2017					0.0276	0.051			0.0624
7/12/2017		0.0614		0.0161			0.0944		
7/13/2017	0.0891							0.0686	
10/2/2017					0.0274	0.047			0.0618
10/3/2017		0.0436					0.135 (o)		
10/4/2017	0.113		0.0162	0.0185				0.0589	
1/9/2018	0.0901				0.0222	0.0431			0.0574
1/10/2018		0.053		0.0166			0.0603		
1/11/2018			0.018					0.0412	





# Prediction Limit

Constituent: Barium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
7/16/2013			0.076		0.11				
7/17/2013	0.17	0.14		0.086		0.041	0.069	0.062	0.055
10/11/2013									
1/13/2014			0.14		0.083	0.058			
1/14/2014	0.2	0.16		0.1			0.086	0.073	0.059
4/3/2014									
7/8/2014					0.066				
7/9/2014	0.16	0.12	0.12	0.082		0.048	0.065		
7/10/2014								0.13	0.067
10/24/2014									
1/12/2015		0.13							0.061
1/13/2015			0.13		0.053	0.048			
1/14/2015	0.17			0.094			0.084	0.065	
5/10/2015									
5/11/2015									
7/16/2015		0.11	0.12		0.052	0.048			
7/17/2015	0.18			0.11			0.071		
7/18/2015								0.073	0.13
10/6/2015									
1/17/2016						0.049	0.079		0.08
1/18/2016	0.2	0.095	0.12	0.11				0.062	
1/19/2016					0.048				
4/26/2016									
7/26/2016					0.051				
7/27/2016			0.112			0.0796			
7/28/2016	0.234			0.105			0.0626		0.164
7/29/2016		0.0883						0.0575	
8/30/2016			0.135	0.106					
8/31/2016	0.284				0.0565	0.0429		0.0693	
9/1/2016		0.123					0.077		0.0976
10/24/2016									
10/25/2016							0.0217		0.0702
10/26/2016		0.0863	0.103	0.107	0.0591	0.113 (o)		0.0966	
10/27/2016	0.244								
1/3/2017			0.118						
1/4/2017					0.0598		0.0617	0.0975	0.0999
1/5/2017				0.107		0.0526			
1/6/2017	0.305	0.0758							
4/3/2017									
4/4/2017		0.091				0.0503	0.0761		0.136
4/5/2017									
4/6/2017	0.249		0.162	0.111	0.0813			0.064	
7/10/2017									
7/11/2017					0.0302			0.0778	0.145
7/12/2017	0.256	0.0941	0.157	0.106					
7/13/2017						0.0529	0.0428		
10/2/2017									0.148
10/3/2017			0.127	0.105	0.103	0.057	0.0376		
10/4/2017	0.356	0.0994						0.156	
1/9/2018				0.0969			0.0704		
1/10/2018			0.158			0.0527			0.0788
1/11/2018	0.226	0.088			0.166			0.0702	



# Prediction Limit

Constituent: Barium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
7/9/2018									0.087
7/10/2018			0.31	0.087		0.054	0.061		
7/11/2018	0.29	0.071			0.12			0.12	
1/16/2019		0.083	0.054	0.013 (J)					
1/17/2019					0.039		0.061		
1/18/2019	0.21							0.052	
1/21/2019						0.05			0.069
3/25/2019		0.077							0.085
3/26/2019			0.057	0.012 (J)			0.084		
3/27/2019	0.19				0.053			0.057	
7/30/2019						0.052			
8/26/2019									
8/27/2019		0.076		0.013	0.12	0.053		0.097	
8/28/2019	0.17		0.1				0.063		0.078
10/7/2019									
10/8/2019					0.13		0.079		
10/9/2019	0.18	0.076	0.13	0.014 (J)		0.05		0.065	0.078
4/6/2020									
4/7/2020		0.09	0.098	0.01 (J)	0.14		0.054	0.1	
4/8/2020	0.15					0.061			0.19
8/17/2020									
8/18/2020					0.12	0.05	0.18	0.085	0.38
8/19/2020	0.17	0.076	0.1	0.064					
9/28/2020									
9/29/2020					0.14	0.049			
9/30/2020			0.16	0.092			0.19	0.045	0.35
10/1/2020	0.15	0.077							

# Prediction Limit

Constituent: Chromium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/20/2002		0.0051	0.006	0.002	<0.01	0.014	0.0058	0.0041	<0.01
6/6/2003	0.037	0.014	0.0082	<0.01	0.003	<0.01	0.0068	0.063 (o)	<0.01
12/12/2003	0.0044	0.011	0.0023	<0.01	<0.01	<0.01	0.0041	0.0059	0.036 (o)
5/26/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0026	<0.01	0.0021
6/21/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/12/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/4/2006		<0.01				<0.01		<0.01	
6/27/2006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0013	<0.01	<0.01
8/30/2006		<0.01				<0.01		<0.01	
12/4/2006	0.0015	<0.01	0.0021	0.0032	0.0017	0.0042	<0.01	0.0036	<0.01
2/15/2007		<0.01				<0.01		<0.01	
6/23/2007	<0.01	<0.01	0.0017	<0.01	<0.01	<0.01	<0.01	0.0016	<0.01
9/11/2007		<0.01				<0.01		<0.01	
12/11/2007	0.0016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/11/2008		<0.01				<0.01		<0.01	
6/23/2008	0.0019	<0.01	<0.01	0.0016	<0.01				
6/24/2008						<0.01	0.0014	<0.01	<0.01
11/3/2008		<0.01				<0.01		0.0025	
12/4/2008	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
12/5/2008							<0.01	<0.01	<0.01
3/25/2009		<0.01				<0.01		<0.01	
7/7/2009	0.0037	<0.01							
7/8/2009			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/14/2009		<0.01				<0.01		<0.01	
12/20/2009	0.0016	<0.01				<0.01	<0.01	<0.01	
12/21/2009			<0.01	<0.01	<0.01				<0.01
3/4/2010		<0.01				<0.01		<0.01	
6/20/2010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
6/21/2010								<0.01	<0.01
9/14/2010		<0.01				<0.01		<0.01	
1/6/2011			<0.01		<0.01				
1/7/2011	0.0033	<0.01		<0.01		0.0016	<0.01	0.0018	<0.01
4/15/2011		<0.01				0.0034		<0.01	
7/7/2011	0.0044	<0.01	0.0023	<0.01	0.0019	<0.01	<0.01	<0.01	
7/8/2011									0.0013
9/25/2011		0.0021				0.0013		<0.01	
1/17/2012	0.0038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
1/18/2012								<0.01	<0.01
4/4/2012		<0.01				<0.01		<0.01	
7/9/2012	0.022		0.0017	<0.01	<0.01	<0.01	<0.01		
7/10/2012		<0.01						<0.01	<0.01
10/9/2012		<0.01				0.0019		0.0018	
1/17/2013			<0.01	<0.01	<0.01				
1/18/2013	0.034	<0.01				0.0017	<0.01	<0.01	<0.01

# Prediction Limit

Constituent: Chromium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWA-8 (bg)	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17
4/5/2013		<0.01				0.0019		<0.01	
7/16/2013			<0.01	<0.01	<0.01				
7/17/2013	0.032	<0.01				0.0017	<0.01	<0.01	<0.01
10/11/2013		<0.01				0.0013		<0.01	
1/13/2014	0.04		<0.01	<0.01	<0.01		<0.01		
1/14/2014		<0.01				0.001		<0.01	<0.01
4/3/2014		<0.01				0.0031		<0.01	
7/8/2014			<0.01	<0.01	<0.01				
7/9/2014	0.036	<0.01				0.0012 (J)	<0.01	<0.01	<0.01
7/10/2014									
10/24/2014		<0.01				<0.01		<0.01	
1/12/2015									
1/13/2015	0.03		<0.01	<0.01	<0.01		<0.01		
1/14/2015		<0.01				0.0013		<0.01	<0.01
5/10/2015		<0.01				<0.01			
5/11/2015								<0.01	
7/16/2015	0.039		<0.01	0.001 (J)	<0.01		<0.01	<0.01	
7/17/2015		<0.01				0.001 (J)			
7/18/2015									<0.01
10/6/2015		<0.01				<0.01		<0.01	
1/17/2016						0.0012 (J)	<0.01	<0.01	
1/18/2016	0.068	<0.01		<0.01	<0.01				<0.01
1/19/2016			<0.01						
4/26/2016		<0.01				<0.01		<0.01	
7/26/2016			0.0005 (J)		<0.01				
7/27/2016	0.05			0.0014 (J)		0.0008 (J)	0.0007 (J)		
7/28/2016		<0.01						0.0006 (J)	
7/29/2016									0.0009 (J)
8/30/2016		<0.01							
8/31/2016			0.001 (J)	0.0012 (J)	0.0011 (J)				
9/1/2016	0.119 (o)					0.0015 (J)	0.0011 (J)	0.0011 (J)	0.0011 (J)
10/24/2016		<0.01							
10/25/2016	0.0519					<0.01	<0.01	<0.01	
10/26/2016			<0.01	0.0012 (J)	<0.01				<0.01
10/27/2016									
1/3/2017		<0.01							
1/4/2017			<0.01	0.0012 (J)				<0.01	
1/5/2017					<0.01	0.001 (J)	<0.01		0.0012 (J)
1/6/2017	0.0536								
4/3/2017		0.0004 (J)					0.0015 (J)		
4/4/2017						0.001 (J)			
4/5/2017				0.0013 (J)				0.001 (J)	0.0015 (J)
4/6/2017	0.0447 (J)		0.0007 (J)		0.0011 (J)				
7/10/2017				0.0014 (J)					
7/11/2017		0.0006 (J)	0.0006 (J)			0.0008 (J)	0.0013 (J)		
7/12/2017					0.0007 (J)			0.0011 (J)	
7/13/2017	0.0269								0.0012 (J)
10/2/2017		<0.01				0.0009 (J)	0.0013 (J)		
10/3/2017			0.0007 (J)					0.0009 (J)	
10/4/2017	0.0378			0.0011 (J)	0.0008 (J)				0.0055 (J)
1/9/2018	0.0283 (J)	<0.01				0.0006 (J)	0.0012 (J)		
1/10/2018					0.0007 (J)			0.0007 (J)	



# Prediction Limit

Constituent: Chromium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWC-1	GWB-5R	GWB-6R	GWC-2	GWC-20	GWC-22	GWC-21
9/29/2000	<0.01	0.021	<0.01	0.03	0.016				
11/21/2000	<0.01	0.017	<0.01	<0.01	0.023	<0.01			
1/20/2001	<0.01	0.03	<0.01	0.028	0.025	<0.01			
3/14/2001	<0.01	0.019	<0.01	0.052 (o)	0.021	<0.01			
7/16/2001	<0.01	0.029	<0.01	0.08 (o)	0.019	<0.01			
11/1/2001	<0.01	0.021	<0.01	0.13 (o)	0.022	<0.01			
4/25/2002	<0.01	0.03	<0.01	0.021	0.019	<0.01			
11/20/2002	0.014	0.038	<0.01	0.053 (o)	0.024	<0.01			
6/6/2003	<0.01	0.028	0.005	0.064 (o)	0.021	<0.01			
12/12/2003	<0.01	0.027	<0.01	<0.01	0.0066	<0.01			
5/26/2004	<0.01	0.021	<0.01	0.012	0.013	<0.01			
12/7/2004	0.0039	0.016	<0.01	0.019	0.013	<0.01			
6/21/2005	0.002	0.015	<0.01	0.02	0.0067	<0.01			
12/12/2005	<0.01	0.022	0.002	<0.01	0.0033	<0.01			
4/4/2006									
6/27/2006	<0.01	0.027	<0.01	0.0015	0.0047	<0.01			
8/30/2006									
12/4/2006	0.0019	0.025	<0.01	0.0034	0.0084	<0.01			
2/15/2007									
6/23/2007	0.0015	0.023	<0.01	<0.01	0.01	<0.01			
9/11/2007									
12/11/2007	<0.01	0.018	<0.01	<0.01	0.0049	<0.01			
3/11/2008									
6/23/2008	0.0015								
6/24/2008		0.022	<0.01	<0.01	0.032 (o)	<0.01			
11/3/2008									
12/4/2008	<0.01					<0.01			
12/5/2008		0.023	<0.01	0.0016	0.009				
3/25/2009									
7/7/2009		0.012	0.0013	<0.01	0.0044				
7/8/2009	<0.01					<0.01			
9/14/2009									
12/20/2009			<0.01			<0.01			
12/21/2009	<0.01	0.019		<0.01	0.0055				
3/4/2010									
6/20/2010	0.0015		<0.01	<0.01	0.002	<0.01			
6/21/2010		0.01					<0.01	<0.01	0.0019
9/14/2010									
1/6/2011			<0.01	0.0017		<0.01			
1/7/2011	<0.01	0.023			0.0039		0.0018	<0.01	0.0017
4/15/2011									
7/7/2011			<0.01	0.008	0.0031		<0.01		
7/8/2011	<0.01	0.017					0.0019	<0.01	0.0023
9/25/2011									
1/17/2012			<0.01	0.0082		<0.01			
1/18/2012	<0.01	0.0114			0.0023		<0.01	<0.01	<0.01
4/4/2012									
7/9/2012			<0.01	0.01		<0.01			
7/10/2012	<0.01	0.014			0.0022		0.0013	<0.01	<0.01
10/9/2012									
1/17/2013			<0.01	0.01		<0.01			
1/18/2013	<0.01	0.015			<0.01		0.0015	<0.01	<0.01

# Prediction Limit

Constituent: Chromium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWC-1	GWB-5R	GWB-6R	GWC-2	GWC-20	GWC-22	GWC-21
4/5/2013									
7/16/2013			<0.01	0.0061					
7/17/2013	<0.01	0.011			<0.01	<0.01	<0.01	<0.01	0.0019
10/11/2013									
1/13/2014			<0.01	0.002		<0.01			
1/14/2014	<0.01	0.019			0.0013		0	<0.01	<0.01
4/3/2014									
7/8/2014									
7/9/2014	0.0011 (J)	0.012	0.0011 (J)	<0.01	<0.01	<0.01			<0.01
7/10/2014							<0.01	<0.01	
10/24/2014									
1/12/2015		0.016					<0.01		
1/13/2015			<0.01	<0.01		<0.01			
1/14/2015	<0.01				0.0015			<0.01	<0.01
5/10/2015									
5/11/2015									
7/16/2015		0.0084	0.0011 (J)	<0.01		<0.01			
7/17/2015	0.0013				0.0011 (J)				<0.01
7/18/2015							<0.01	<0.01	
10/6/2015									
1/17/2016			<0.01			<0.01	<0.01		<0.01
1/18/2016	<0.01	0.014		<0.01	0.0011 (J)			<0.01	
1/19/2016									
4/26/2016									
7/26/2016									
7/27/2016			0.0016 (J)	0.0006 (J)		0.0008 (J)			
7/28/2016	0.0011 (J)				0.001 (J)		0.0007 (J)		0.0005 (J)
7/29/2016		0.0077 (J)						0.0007 (J)	
8/30/2016			0.0015 (J)	<0.01	0.0013 (J)				
8/31/2016	0.0024 (J)					<0.01		<0.01	
9/1/2016		0.015					<0.01		<0.01
10/24/2016									
10/25/2016			0.0018 (J)				<0.01		<0.01
10/26/2016		0.0106		<0.01	0.0014 (J)	0.001 (J)		<0.01	
10/27/2016	<0.01								
1/3/2017				0.001 (J)					
1/4/2017			0.0021 (J)				<0.01	<0.01	<0.01
1/5/2017					0.002 (J)	<0.01			
1/6/2017	<0.01	0.0098 (J)							
4/3/2017									
4/4/2017		0.0101	0.002 (J)			0.0008 (J)	0.0011 (J)		0.0008 (J)
4/5/2017									
4/6/2017	0.0019 (J)			0.0013 (J)	0.0034 (J)			0.0006 (J)	
7/10/2017									
7/11/2017							0.0009 (J)	0.0005 (J)	
7/12/2017	0.0011 (J)	0.0096 (J)	0.0021 (J)	0.0011 (J)	0.0024 (J)				
7/13/2017						0.0006 (J)			0.0006 (J)
10/2/2017							0.0009 (J)		
10/3/2017			0.0014 (J)	0.0012 (J)	0.0022 (J)	<0.01			0.0005 (J)
10/4/2017	0.0011 (J)	0.0097 (J)						0.0006 (J)	
1/9/2018					0.0019 (J)				0.0007 (J)
1/10/2018			0.0017 (J)	0.0016 (J)		<0.01	0.0008 (J)		

# Prediction Limit

Constituent: Chromium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWC-1	GWB-5R	GWB-6R	GWC-2	GWC-20	GWC-22	GWC-21
1/11/2018	0.001 (J)	0.0109						<0.01	
7/9/2018							<0.01		
7/10/2018			0.0021 (J)	0.0055 (J)	0.0023 (J)	<0.01			<0.01
7/11/2018	<0.01	0.0055 (J)						<0.01	
1/16/2019		0.0024 (J)	0.0021 (J)	<0.01	0.018 (J)				
1/17/2019									0.01
1/18/2019	<0.01							<0.01	
1/21/2019						<0.01	<0.01		
3/25/2019		0.002 (J)					<0.01		
3/26/2019			0.0018 (J)	0.072	0.017 (J)				<0.01
3/27/2019	<0.01							<0.01	
7/30/2019						0.00065 (J)			
8/26/2019									
8/27/2019		0.0027 (J)	0.0062 (J)		0.0097 (J)	<0.01		0.00057 (J)	
8/28/2019	0.00089 (J)			0.0071 (J)			0.00089 (J)		0.00087 (J)
10/7/2019									
10/8/2019									0.00065 (J)
10/9/2019	0.0009 (J)	0.002 (J)	0.0019 (J)	0.012 (J)	0.011 (J)	0.00049 (J)	0.0011 (J)	0.00072 (J)	
4/6/2020									
4/7/2020		0.0028 (J)	0.0015 (J)	0.0022 (J)	0.0094 (J)			0.00049 (J)	<0.01
4/8/2020	0.0015 (J)					0.00069 (J)	0.001 (J)		
8/17/2020									
8/18/2020						<0.01	0.0011 (J)	0.00056 (J)	0.0012 (J)
8/19/2020	0.0013 (J)	0.0022 (J)	0.0028 (J)	0.0012 (J)	0.0037 (J)				
9/28/2020			0.0024 (J)						
9/29/2020						<0.01			
9/30/2020				0.0018 (J)	0.0045 (J)		0.0013 (J)	0.00064 (J)	0.00067 (J)
10/1/2020	0.0012 (J)	0.002 (J)							





# Prediction Limit

Constituent: Lead (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-17	GWC-15	GWC-14	GWC-13	GWC-12
4/5/2013							<0.005		
7/16/2013								<0.005	<0.005
7/17/2013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
10/11/2013							<0.005		
1/13/2014	0.013					<0.005		<0.005	0.004
1/14/2014		<0.005	0.005	<0.005	<0.005		<0.005		
4/3/2014							<0.005		
7/8/2014								<0.005	<0.005
7/9/2014	0.0076 (J)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
7/10/2014									
10/24/2014							<0.005		
1/12/2015			<0.005						
1/13/2015	0.0057 (J)					<0.005		<0.005	<0.005
1/14/2015		<0.005		<0.005	<0.005		<0.005		
5/10/2015							<0.005		
5/11/2015									
7/16/2015	0.009 (J)		<0.005			<0.005		<0.005	0.0044 (J)
7/17/2015		<0.005		<0.005			<0.005		
7/18/2015					<0.005				
10/6/2015									
1/17/2016						<0.005	<0.005		
1/18/2016	0.0094 (J)	<0.005	0.0055 (J)	<0.005	<0.005			<0.005	0.0034 (J)
1/19/2016									
4/26/2016							<0.005		
7/26/2016								<0.005	
7/27/2016	0.0058					<0.005	<0.005		0.0001 (J)
7/28/2016		<0.005		<0.005					
7/29/2016			0.003 (J)		<0.005				
8/30/2016		<0.005							
8/31/2016				0.0007 (J)				<0.005	0.0001 (J)
9/1/2016	0.0663 (o)		0.0166 (o)		<0.005	<0.005	<0.005		
10/24/2016									
10/25/2016	0.0003 (J)					<0.005	<0.005		
10/26/2016		<0.005	0.0057		<0.005			<0.005	0.0001 (J)
10/27/2016				<0.005					
1/3/2017									
1/4/2017									<0.005
1/5/2017		0.0003 (J)			<0.005	<0.005	<0.005	0.0002 (J)	
1/6/2017	0.006		0.0053	<0.005					
4/3/2017						0.0003 (J)			
4/4/2017			0.0092				0.0001 (J)		
4/5/2017					0.0009 (J)				0.0003 (J)
4/6/2017	0.0109	0.0002 (J)		0.0001 (J)				0.0005 (J)	
7/10/2017									0.0003 (J)
7/11/2017						0.0001 (J)	8E-05 (J)		
7/12/2017		0.0002 (J)	0.006	<0.005				0.0005 (J)	
7/13/2017	0.007				<0.005				
10/2/2017						0.0002 (J)	0.0001 (J)		
10/3/2017		0.0001 (J)							
10/4/2017	0.0042 (J)		0.0057	9E-05 (J)	0.0001 (J)			0.0007 (J)	0.0001 (J)
1/9/2018	0.0098	0.0003 (J)				0.0002 (J)	<0.005		
1/10/2018								0.0009 (J)	

# Prediction Limit

Constituent: Lead (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-17	GWC-15	GWC-14	GWC-13	GWC-12
1/11/2018			0.0085	0.0002 (J)	0.0001 (J)				0.0002 (J)
7/9/2018							<0.005		
7/10/2018		<0.005				<0.005			
7/11/2018	0.0028 (J)		0.0029 (J)	<0.005	<0.005			0.0015 (J)	<0.005
1/16/2019	<0.025 (o)	<0.005	<0.005		<0.005		<0.005	0.00061 (J)	
1/17/2019						<0.005			<0.005
1/18/2019				<0.005					
1/21/2019									
3/25/2019	0.0019 (J)		<0.005						
3/26/2019		<0.005			<0.005	<0.005	<0.005	<0.005	
3/27/2019				<0.005					<0.005
7/30/2019									
8/26/2019	0.013 (J)								
8/27/2019		0.0011 (J)	0.001 (J)			0.00033 (J)	0.00051 (J)	0.0001 (J)	<0.005
8/28/2019				6.1E-05 (J)	<0.005				
10/7/2019									
10/8/2019	0.0098 (J)					0.00012 (J)	<0.005	0.00013 (J)	
10/9/2019		0.00033 (J)	0.00041 (J)	<0.005	0.00015 (J)				6.6E-05 (J)
4/6/2020	0.0024 (J)								
4/7/2020		0.00063 (J)	0.00073 (J)			8.6E-05 (J)	<0.005		8.1E-05 (J)
4/8/2020				0.00021 (J)	8.4E-05 (J)			0.00017 (J)	
8/17/2020								7.6E-05 (J)	4.9E-05 (J)
8/18/2020					0.00014 (J)	9E-05 (J)	<0.005		
8/19/2020	0.0044 (J)	0.00014 (J)	0.00048 (J)	9.6E-05 (J)					
9/28/2020	0.0043 (J)							6.4E-05 (J)	
9/29/2020							<0.005		3.7E-05 (J)
9/30/2020		8E-05 (J)			6E-05 (J)	4.7E-05 (J)			
10/1/2020			0.00026 (J)	3.8E-05 (J)					

# Prediction Limit

Constituent: Lead (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-11	GWC-1	GWA-8 (bg)	GWC-16	GWC-2	GWB-5R	GWC-21	GWC-22	GWC-20
9/29/2000	<0.005	<0.005	<0.005	<0.005		0.017 (o)			
11/21/2000	<0.005	<0.005		<0.005	0.0069	<0.005			
1/20/2001	<0.005	<0.005	<0.005	<0.005	<0.005	0.011			
3/14/2001	<0.005	<0.005	<0.005	<0.005	<0.005	0.026 (o)			
7/16/2001	<0.005	<0.005	<0.005	<0.005	<0.005	0.043 (o)			
11/1/2001	<0.005	<0.005	<0.005	<0.005	<0.005	0.075 (o)			
4/25/2002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
11/20/2002	<0.005	<0.005	<0.005	<0.005	<0.005	0.057 (o)			
6/6/2003	0.0068	<0.005	0.016 (o)	0.099 (o)	<0.005	0.16 (o)			
12/12/2003	<0.005	<0.005	0.0095	0.017 (o)	<0.005	<0.005			
5/26/2004	<0.005	<0.005	<0.005	<0.005	<0.005	0.011			
12/7/2004	<0.005	<0.005	<0.005	<0.005	<0.005	0.038 (o)			
6/21/2005	<0.005	<0.005	<0.005	<0.005	<0.005	0.036 (o)			
12/12/2005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
4/4/2006			<0.005	<0.005					
6/27/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
8/30/2006			<0.005	<0.005					
12/4/2006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
2/15/2007			<0.005	<0.005					
6/23/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
9/11/2007			<0.005	<0.005					
12/11/2007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
3/11/2008			<0.005	<0.005					
6/23/2008	<0.005		<0.005						
6/24/2008		<0.005		<0.005	<0.005	<0.005			
11/3/2008			<0.005	<0.005					
12/4/2008	<0.005		<0.005		<0.005				
12/5/2008		<0.005		<0.005		<0.005			
3/25/2009			<0.005	<0.005					
7/7/2009		<0.005	<0.005			<0.005			
7/8/2009	<0.005			<0.005	<0.005				
9/14/2009			<0.005	<0.005					
12/20/2009		<0.005	<0.005	<0.005	<0.005				
12/21/2009	<0.005					<0.005			
3/4/2010			<0.005	<0.005					
6/20/2010	<0.005	<0.005	<0.005		<0.005	<0.005			
6/21/2010				<0.005		<0.005	<0.005	<0.005	<0.005
9/14/2010			<0.005	<0.005					
1/6/2011	<0.005	<0.005			<0.005	<0.005			
1/7/2011			<0.005	<0.005			<0.005	<0.005	<0.005
4/15/2011			<0.005	<0.005					
7/7/2011	<0.005	<0.005	<0.005	<0.005		<0.005			<0.005
7/8/2011							<0.005	<0.005	<0.005
9/25/2011			<0.005	<0.005					
1/17/2012	<0.005	<0.005	<0.005		<0.005	<0.005			
1/18/2012				<0.005			<0.005	<0.005	<0.005
4/4/2012			<0.005	<0.005					
7/9/2012	<0.005	<0.005			<0.005	<0.005			
7/10/2012			<0.005	<0.005			<0.005	<0.005	<0.005
10/9/2012			<0.005	<0.005					
1/17/2013	<0.005	<0.005			<0.005	<0.005			
1/18/2013			<0.005	<0.005			<0.005	<0.005	<0.005

# Prediction Limit

Constituent: Lead (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-11	GWC-1	GWA-8 (bg)	GWC-16	GWC-2	GWB-5R	GWC-21	GWC-22	GWC-20
4/5/2013			<0.005	<0.005					
7/16/2013	<0.005	<0.005				<0.005			
7/17/2013			<0.005	<0.005	<0.005		<0.005	<0.005	<0.005
10/11/2013			<0.005	<0.005					
1/13/2014	<0.005	<0.005			<0.005	<0.005			
1/14/2014			<0.005	<0.005			<0.005	<0.005	<0.005
4/3/2014			<0.005	<0.005					
7/8/2014	<0.005								
7/9/2014		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
7/10/2014								<0.005	<0.005
10/24/2014			<0.005	<0.005					
1/12/2015									<0.005
1/13/2015	<0.005	<0.005			<0.005	<0.005			
1/14/2015			<0.005	<0.005			<0.005	<0.005	
5/10/2015			<0.005						
5/11/2015				<0.005					
7/16/2015	<0.005	<0.005		<0.005	<0.005	<0.005			
7/17/2015			<0.005				<0.005		
7/18/2015								<0.005	<0.005
10/6/2015			<0.005						
1/17/2016		<0.005		<0.005	<0.005		<0.005		<0.005
1/18/2016			<0.005			<0.005		<0.005	
1/19/2016	<0.005								
4/26/2016			<0.005	<0.005					
7/26/2016	0.0001 (J)								
7/27/2016		<0.005			<0.005	<0.005			
7/28/2016			<0.005	<0.005			<0.005		<0.005
7/29/2016								0.0004 (J)	
8/30/2016		<0.005	<0.005			<0.005			
8/31/2016	0.0002 (J)				<0.005			0.0003 (J)	
9/1/2016				<0.005			<0.005		<0.005
10/24/2016			<0.005						
10/25/2016		<0.005		0.0002 (J)			<0.005		0.0001 (J)
10/26/2016	0.0001 (J)				<0.005	0.0002 (J)		0.0003 (J)	
10/27/2016									
1/3/2017			0.0001 (J)			0.0001 (J)			
1/4/2017	0.0002 (J)	<0.005		0.0001 (J)			<0.005	0.0003 (J)	<0.005
1/5/2017					<0.005				
1/6/2017									
4/3/2017			0.0002 (J)						
4/4/2017		<0.005			0.0002 (J)		9E-05 (J)		7E-05 (J)
4/5/2017				0.0002 (J)					
4/6/2017	0.0003 (J)					0.0003 (J)		0.0003 (J)	
7/10/2017									
7/11/2017	0.0002 (J)		0.0001 (J)					0.0002 (J)	<0.005
7/12/2017		<0.005		0.0001 (J)		0.0002 (J)			
7/13/2017					0.0003 (J)		7E-05 (J)		
10/2/2017			0.0001 (J)						<0.005
10/3/2017	0.0003 (J)	<0.005		0.0001 (J)	<0.005	0.0002 (J)	0.0001 (J)		
10/4/2017								0.0008 (J)	
1/9/2018			0.0001 (J)				9E-05 (J)		
1/10/2018		0.0001 (J)		0.0002 (J)	8E-05 (J)	0.0003 (J)			0.0002 (J)



# Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-16	GWC-14	GWC-17	GWC-12	GWC-11	GWC-9	GWC-1	GWB-4R
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01	<0.01	0.052	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01	0.053	<0.01	<0.01	<0.01	<0.01	0.017	0.014 (o)
3/14/2001	<0.01	<0.01	0.049	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	0.038	<0.01	<0.01	<0.01	<0.01	<0.01	0.015 (o)
11/1/2001	<0.01	<0.01	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	0.012 (o)
4/25/2002	<0.01	<0.01	0.1 (o)	<0.01	<0.01	<0.01	<0.01	0.012	0.01
11/20/2002		<0.01	0.018	<0.01	<0.01	<0.01	<0.01	0.19 (o)	0.026 (o)
6/6/2003	<0.01	0.021 (o)	<0.01	<0.01	<0.01	<0.01	<0.01	0.32 (o)	0.022 (o)
12/12/2003	<0.01	0.0078	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.028 (o)
5/26/2004	<0.01	0.0053	0.023	<0.01	<0.01	<0.01	<0.01	0.017	0.012 (o)
12/7/2004	<0.01	<0.01	0.019	<0.01	<0.01	<0.01	<0.01	0.011	0.0073
6/21/2005	<0.01	<0.01	0.019	<0.01	<0.01	<0.01	0.0062	0.0088	0.0087
12/12/2005	<0.01	<0.01	0.0095	<0.01	<0.01	<0.01	<0.01	0.011	0.013 (o)
4/4/2006		<0.01	0.033						
6/27/2006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
8/30/2006		<0.01	<0.01						
12/4/2006	<0.01	<0.01	0.032	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2/15/2007		<0.01	0.034						
6/23/2007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/11/2007		<0.01	0.022						
12/11/2007	<0.01	<0.01	0.045	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/11/2008		<0.01	0.02						
6/23/2008	<0.01				<0.01	<0.01	<0.01		
6/24/2008		<0.01	<0.01	<0.01				<0.01	<0.01
11/3/2008		<0.01	0.052						
12/4/2008	<0.01		0.054		<0.01	<0.01	<0.01		
12/5/2008		<0.01		<0.01				<0.01	<0.01
3/25/2009		<0.01	0.072						
7/7/2009	<0.01							<0.01	<0.01
7/8/2009		<0.01	0.021	<0.01	<0.01	<0.01	<0.01		
9/14/2009		<0.01	0.015						
12/20/2009	<0.01	<0.01	0.072					<0.01	
12/21/2009				<0.01	<0.01	<0.01	<0.01		<0.01
3/4/2010		<0.01	0.083						
6/20/2010	<0.01		0.1		<0.01	<0.01	<0.01	<0.01	
6/21/2010		<0.01		<0.01					<0.01
9/14/2010		<0.01	0.085						
1/6/2011						<0.01		<0.01	
1/7/2011	<0.01	<0.01	0.028	<0.01	<0.01		<0.01		<0.01
4/15/2011		<0.01	<0.01						
7/7/2011	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01	
7/8/2011				<0.01			<0.01		<0.01
9/25/2011		<0.01	0.02						
1/17/2012	<0.01		0.016		<0.01	0.023		<0.01	
1/18/2012		<0.01		<0.01			<0.01		<0.01
4/4/2012		<0.01	0.0156						
7/9/2012	<0.01		<0.01		<0.01	0.016		<0.01	
7/10/2012		<0.01		<0.01			<0.01		<0.01
10/9/2012		<0.01	0.0094						
1/17/2013					<0.01	0.033		<0.01	
1/18/2013	0.009	<0.01	0.0067	<0.01			<0.01		<0.01

# Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-16	GWC-14	GWC-17	GWC-12	GWC-11	GWC-9	GWC-1	GWB-4R
4/5/2013		<0.01	0.0077						
7/16/2013					<0.01	0.0068		0.012	
7/17/2013	0.011	<0.01	0.01	<0.01			<0.01		<0.01
10/11/2013		0.0069	0.0087						
1/13/2014	0.012				<0.01	0.036		<0.01	
1/14/2014		<0.01	0.012	<0.01			<0.01		<0.01
4/3/2014		<0.01	0.022						
7/8/2014					<0.01	0.017			
7/9/2014	0.011	0.005	0.0089	<0.01			<0.01	<0.01	<0.01
7/10/2014									
10/24/2014		<0.01	0.017						
1/12/2015									<0.01
1/13/2015	0.0092				<0.01	0.027		<0.01	
1/14/2015		<0.01	<0.01	<0.01			<0.01		
5/10/2015			<0.01						
5/11/2015		<0.01							
7/16/2015	0.014	<0.01			<0.01	<0.01		<0.01	<0.01
7/17/2015			<0.01				<0.01		
7/18/2015				<0.01					
10/6/2015		0.0073	<0.01						
1/17/2016		0.0031 (J)	<0.01					0.023	
1/18/2016	0.023			<0.01	<0.01		<0.01		<0.01
1/19/2016						0.023			
4/26/2016		0.00497 (J)	0.00428 (J)						
7/26/2016						0.0056 (J)			
7/27/2016	0.0323		0.0038 (J)		0.0025 (J)			0.002 (J)	
7/28/2016		0.0076 (J)					<0.01		
7/29/2016				0.0011 (J)					0.0036 (J)
8/30/2016								0.002 (J)	
8/31/2016					0.0019 (J)	0.0084 (J)	<0.01		
9/1/2016	0.0438	0.0052 (J)	0.0056 (J)	0.0012 (J)					0.0067 (J)
10/24/2016									
10/25/2016	0.031	0.0085 (J)	0.0023 (J)					0.0022 (J)	
10/26/2016				0.0013 (J)	0.002 (J)	0.0052 (J)			0.0042 (J)
10/27/2016							<0.01		
1/3/2017									
1/4/2017		0.0048 (J)			<0.01	0.0062 (J)		0.0016 (J)	
1/5/2017			0.0038 (J)	0.0012 (J)					
1/6/2017	0.0324						<0.01		0.0042 (J)
4/3/2017									
4/4/2017			0.0064 (J)					0.0052 (J)	0.0043 (J)
4/5/2017		0.0068 (J)		<0.01	<0.01				
4/6/2017	0.0188 (J)					0.0195	<0.01		
7/10/2017					<0.01				
7/11/2017			0.0044 (J)			<0.01			
7/12/2017		0.0048 (J)					<0.01	0.0024 (J)	0.0033 (J)
7/13/2017	0.0118			0.0018 (J)					
10/2/2017			0.004 (J)						
10/3/2017		0.0051 (J)				0.0079 (J)		<0.01	
10/4/2017	0.0195			0.0042 (J)	<0.01		<0.01		0.0038 (J)
1/9/2018	<0.01		0.0019 (J)						
1/10/2018		0.0018 (J)						0.0018 (J)	

# Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-16	GWC-14	GWC-17	GWC-12	GWC-11	GWC-9	GWC-1	GWB-4R
1/11/2018				<0.01	<0.01	0.0054 (J)	<0.01		0.0029 (J)
7/9/2018			0.0029 (J)						
7/10/2018		0.0045 (J)						0.0026 (J)	
7/11/2018	<0.01			0.0016 (J)	<0.01	0.0022 (J)	<0.01		0.0015 (J)
1/16/2019	0.0071 (J)		0.0016 (J)	<0.01				0.0018 (J)	<0.01
1/17/2019		0.0031 (J)			<0.01	<0.01			
1/18/2019							<0.01		
1/21/2019									
3/25/2019	<0.01								<0.01
3/26/2019		0.0033 (J)	0.0022 (J)	<0.01				0.0023 (J)	
3/27/2019					<0.01	0.01 (J)	<0.01		
7/30/2019									
8/26/2019	<0.01								
8/27/2019			0.0035 (J)		<0.01	<0.01		0.0016 (J)	<0.01
8/28/2019		0.004 (J)		<0.01			<0.01		
10/7/2019									
10/8/2019	0.0072 (J)	0.0023 (J)	0.0026 (J)			<0.01			
10/9/2019				<0.01	<0.01		<0.01	0.0024 (J)	<0.01
4/6/2020	0.0078 (J)								
4/7/2020		<0.01	0.005 (J)		<0.01	0.0021 (J)		0.0013 (J)	0.0025 (J)
4/8/2020				<0.01			<0.01		
8/17/2020					<0.01				
8/18/2020		0.0058 (J)	0.0029 (J)	0.002 (J)		0.0028 (J)			
8/19/2020	<0.01						<0.01	0.002 (J)	<0.01
9/28/2020	0.01 (J)							<0.01	
9/29/2020			0.0051 (J)		<0.01	0.0024 (J)			
9/30/2020		0.0037 (J)		<0.01					
10/1/2020							<0.01		<0.01



# Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-5R	GWA-8 (bg)	GWB-6R	GWC-15	GWC-2	GWC-20	GWC-21	GWC-22
9/29/2000	<0.01	<0.01	<0.01	<0.01				
11/21/2000	<0.01		<0.01	<0.01	<0.01			
1/20/2001	<0.01	<0.01	<0.01	<0.01	<0.01			
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01			
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01			
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01			
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01			
11/20/2002	0.0064	<0.01	0.008	0.0094	<0.01			
6/6/2003	0.011	<0.01	0.0066	0.021 (o)	<0.01			
12/12/2003	<0.01	<0.01	0.0056	0.016 (o)	<0.01			
5/26/2004	0.007	<0.01	0.0084	<0.01	0.005			
12/7/2004	<0.01	<0.01	<0.01	<0.01	<0.01			
6/21/2005	0.0063	<0.01	0.0062	<0.01	<0.01			
12/12/2005	<0.01	<0.01	<0.01	<0.01	<0.01			
4/4/2006		<0.01						
6/27/2006	<0.01	<0.01	<0.01	<0.01	<0.01			
8/30/2006		<0.01						
12/4/2006	<0.01	<0.01	<0.01	<0.01	<0.01			
2/15/2007		<0.01						
6/23/2007	<0.01	<0.01	<0.01	<0.01	<0.01			
9/11/2007		<0.01						
12/11/2007	<0.01	<0.01	<0.01	<0.01	<0.01			
3/11/2008		<0.01						
6/23/2008		<0.01						
6/24/2008	<0.01		<0.01	<0.01	<0.01			
11/3/2008		<0.01						
12/4/2008		<0.01					<0.01	
12/5/2008	<0.01		<0.01	<0.01				
3/25/2009		<0.01						
7/7/2009	<0.01	<0.01	<0.01					
7/8/2009				<0.01	<0.01			
9/14/2009		<0.01						
12/20/2009		<0.01		<0.01	<0.01			
12/21/2009	<0.01		<0.01					
3/4/2010		<0.01						
6/20/2010	<0.01	<0.01	<0.01	<0.01	<0.01			
6/21/2010						<0.01	0.048	<0.01
9/14/2010		<0.01						
1/6/2011	<0.01				<0.01			
1/7/2011		<0.01	<0.01	<0.01		<0.01	0.014	<0.01
4/15/2011		<0.01						
7/7/2011	<0.01	<0.01	<0.01	<0.01		<0.01		
7/8/2011						<0.01	0.018	<0.01
9/25/2011		<0.01						
1/17/2012	<0.01	<0.01		<0.01	<0.01			
1/18/2012			<0.01			<0.01	<0.01	<0.01
4/4/2012		<0.01						
7/9/2012	<0.01			0.066 (o)	<0.01			
7/10/2012		<0.01	<0.01			<0.01	0.02	<0.01
10/9/2012		<0.01						
1/17/2013	<0.01				<0.01			
1/18/2013		<0.01	<0.01	0.04 (o)		0.005	0.015	<0.01

# Prediction Limit

Constituent: Selenium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-5R	GWA-8 (bg)	GWB-6R	GWC-15	GWC-2	GWC-20	GWC-21	GWC-22
4/5/2013		<0.01						
7/16/2013	<0.01							
7/17/2013		<0.01	<0.01	<0.01	<0.01	<0.01	0.037	<0.01
10/11/2013		<0.01						
1/13/2014	<0.01			<0.01	<0.01			
1/14/2014		<0.01	<0.01			<0.01	0.043	<0.01
4/3/2014		<0.01						
7/8/2014								
7/9/2014	<0.01	<0.01	<0.01	<0.01	<0.01		0.023	
7/10/2014						<0.01		<0.01
10/24/2014		<0.01						
1/12/2015						<0.01		
1/13/2015	<0.01			<0.01	<0.01			
1/14/2015		<0.01	<0.01				0.022	<0.01
5/10/2015		<0.01						
5/11/2015								
7/16/2015	<0.01			<0.01	<0.01			
7/17/2015		<0.01	<0.01				0.033	
7/18/2015						<0.01		<0.01
10/6/2015		<0.01						
1/17/2016				<0.01	<0.01	<0.01	0.021	
1/18/2016	<0.01	<0.01	<0.01					<0.01
1/19/2016								
4/26/2016		<0.01						
7/26/2016								
7/27/2016	<0.01			<0.01	0.002 (J)			
7/28/2016		0.001 (J)	<0.01			<0.01	0.0341	
7/29/2016								0.0022 (J)
8/30/2016	<0.01	<0.01	<0.01					
8/31/2016					<0.01			0.0014 (J)
9/1/2016				<0.01		<0.01	0.0297	
10/24/2016		0.0013 (J)						
10/25/2016				<0.01		0.0014 (J)	0.0095 (J)	
10/26/2016	<0.01		<0.01		0.0035 (J)			0.001 (J)
10/27/2016								
1/3/2017	<0.01	<0.01						
1/4/2017						0.0014 (J)	0.022	<0.01
1/5/2017			0.0014 (J)	<0.01	<0.01			
1/6/2017								
4/3/2017		<0.01		<0.01				
4/4/2017					<0.01	<0.01	0.0236	
4/5/2017								
4/6/2017	<0.01		<0.01					<0.01
7/10/2017								
7/11/2017		<0.01		<0.01		<0.01		<0.01
7/12/2017	<0.01		<0.01					
7/13/2017					<0.01		0.013	
10/2/2017		<0.01		<0.01		<0.01		
10/3/2017	<0.01		<0.01		<0.01		0.01 (J)	
10/4/2017								0.0023 (J)
1/9/2018		<0.01	<0.01	0.0019 (J)			0.0162	
1/10/2018	<0.01				<0.01	<0.01		



# Prediction Limit

Constituent: Vanadium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-12	GWC-13	GWC-1	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/20/2002		<0.01	<0.01	0.0069	0.03	0.0099	0.0069	<0.01	<0.01
6/6/2003	0.047	<0.01	0.0063	0.16 (o)	0.0065	0.019 (o)	0.082 (o)	<0.01	0.017 (o)
12/12/2003	0.0086	<0.01	<0.01	<0.01	0.0052	0.018 (o)	0.012	<0.01	0.011 (o)
5/26/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	<0.01	0.0074	<0.01	<0.01	<0.01	<0.01
6/21/2005	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
12/12/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
4/4/2006					0.013		<0.01		<0.01
6/27/2006	<0.01	<0.01	<0.01	0.0029	<0.01	<0.01	<0.01	0.0025	<0.01
8/30/2006					0.0039		<0.01		<0.01
12/4/2006	0.0027	<0.01	<0.01	0.0047	0.016	<0.01	0.0031	<0.01	<0.01
2/15/2007					0.017		0.0025		<0.01
6/23/2007	0.0027	<0.01	<0.01	0.0029	0.0076	<0.01	0.0032	<0.01	<0.01
9/11/2007					0.012		<0.01		<0.01
12/11/2007	0.0033	<0.01	<0.01	<0.01	0.017	<0.01	<0.01	<0.01	<0.01
3/11/2008					0.012		<0.01		<0.01
6/23/2008	0.0074	<0.01	<0.01						<0.01
6/24/2008				<0.01	0.0069	<0.01	<0.01	<0.01	
11/3/2008					0.016		0.0032		<0.01
12/4/2008	0.0084	<0.01	<0.01		0.013				<0.01
12/5/2008				<0.01		<0.01	<0.01	<0.01	
3/25/2009					0.014		<0.01		<0.01
7/7/2009	0.023			<0.01					<0.01
7/8/2009		<0.01	<0.01		0.014	<0.01	0.0036	<0.01	
9/14/2009					0.0072		0.0026		<0.01
12/20/2009	0.007			<0.01	0.02	<0.01	0.0031		<0.01
12/21/2009		<0.01	<0.01					<0.01	
3/4/2010					0.023		<0.01		<0.01
6/20/2010	0.0047	<0.01	<0.01	0.0037	0.017	<0.01			<0.01
6/21/2010							0.0025	<0.01	
9/14/2010					0.018		0.0035		<0.01
1/6/2011			0.0028	<0.01					
1/7/2011	0.018	<0.01			0.019	<0.01	0.0036	<0.01	<0.01
4/15/2011					0.019		<0.01		<0.01
7/7/2011	0.019	<0.01	<0.01	0.0045	0.014	0.0036	0.003		<0.01
7/8/2011								0.0031	
9/25/2011					0.015		0.0037		<0.01
1/17/2012	0.0298	<0.01	<0.01	<0.01	0.021	<0.01			<0.01
1/18/2012							<0.01	<0.01	
4/4/2012					0.0191		<0.01		<0.01
7/9/2012	0.14	<0.01	<0.01	0.0026	0.026	0.0059			
7/10/2012							0.0026	<0.01	<0.01
10/9/2012					0.049		0.007		<0.01
1/17/2013		<0.01	<0.01	<0.01					
1/18/2013	0.21				0.036	<0.01	<0.01	<0.01	<0.01

# Prediction Limit

Constituent: Vanadium (mg/L) Analysis Run 2/17/2021 4:15 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWC-12	GWC-13	GWC-1	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
4/5/2013					0.04		<0.01		<0.01
7/16/2013		<0.01	<0.01	<0.01					
7/17/2013	0.18				0.062	<0.01	<0.01	<0.01	<0.01
10/11/2013					0.032		<0.01		<0.01
1/13/2014	0.24	<0.01	<0.01	<0.01		<0.01			
1/14/2014					0.044		<0.01	<0.01	<0.01
4/3/2014					0.077 (o)		0.0032 (J)		0.0015 (J)
7/8/2014		0.0034 (J)	0.002 (J)						
7/9/2014	0.22			0.0041 (J)	0.032	0.0012 (J)	0.0031 (J)	0.0012 (J)	0.0012 (J)
7/10/2014									
10/24/2014					0.045		0.0028 (J)		<0.01
1/12/2015									
1/13/2015	0.19	<0.01	0.0015 (J)	0.0029 (J)		0.0013 (J)			
1/14/2015					0.031		0.0034 (J)	0.002 (J)	<0.01
5/10/2015					0.013				<0.01
5/11/2015							0.0026 (J)		
7/16/2015	0.23	0.0049 (J)	<0.01	0.0034 (J)		<0.01	0.0028 (J)		
7/17/2015					0.028				<0.01
7/18/2015								<0.01	
10/6/2015					0.02		0.0016 (J)		0.0012 (J)
1/17/2016				0.0046 (J)	0.028	0.0013 (J)	0.0029 (J)		
1/18/2016	0.41	0.0058	0.0011 (J)					0.0019 (J)	0.00079 (J)
1/19/2016									
4/26/2016					0.0181		0.00296 (J)		<0.01
7/26/2016			<0.01						
7/27/2016	0.397	0.0058 (J)		0.0064 (J)	0.0189	<0.01			
7/28/2016							0.0026 (J)		<0.01
7/29/2016								0.0031 (J)	
10/24/2016									<0.01
10/25/2016	0.425				0.0206	<0.01	<0.01		
1/3/2017									<0.01
1/4/2017		<0.01		<0.01			<0.01		
1/5/2017			<0.01		0.0172	<0.01		<0.01	
1/6/2017	0.41								
4/3/2017							0.002 (J)		<0.01
4/4/2017				0.0061 (J)	0.0235				
4/5/2017		0.0039 (J)					0.0033 (J)	0.0029 (J)	
4/6/2017	0.297		<0.01						
7/10/2017		0.0062 (J)							
7/11/2017					0.0136	0.0022 (J)			<0.01
7/12/2017			0.0016 (J)	0.0067 (J)			0.0037 (J)		
7/13/2017	0.194							0.0037 (J)	
10/2/2017					0.0175	0.0022 (J)			<0.01
10/3/2017							0.0036 (J)		
10/4/2017	0.316								
1/9/2018	0.194				0.0103	0.0021 (J)			0.0014 (J)
1/10/2018			0.0019 (J)	0.0056 (J)			0.0029 (J)		
1/11/2018		0.0025 (J)						0.0026 (J)	
7/9/2018					0.0078 (J)				<0.01
7/10/2018				0.0056 (J)		0.0025 (J)	0.0025 (J)		
7/11/2018	0.15	0.0059 (J)	0.0097 (J)					0.0032 (J)	
1/16/2019	0.16		<0.01	0.0043 (J)	0.0043 (J)			<0.01	<0.01



# Prediction Limit

Constituent: Vanadium (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
9/29/2000	<0.01	0.06	0.038	0.12	<0.01				
11/21/2000	<0.01	0.068	0.013	0.13	<0.01	<0.01			
1/20/2001	<0.01	0.12	0.038	0.14	<0.01	<0.01			
3/14/2001	<0.01	0.08	0.077 (o)	0.13	<0.01	<0.01			
7/16/2001	<0.01	0.11	0.12 (o)	0.18	<0.01	<0.01			
11/1/2001	<0.01	0.079	0.21 (o)	0.12	<0.01	<0.01			
4/25/2002	<0.01	0.11	0.086 (o)	0.15	<0.01	<0.01			
11/20/2002	0.014	0.15	0.14 (o)	0.15	0.0071	<0.01			
6/6/2003	<0.01	0.12	0.12 (o)	0.11	0.0098	<0.01			
12/12/2003	<0.01	0.13	0.014	0.089	0.0074	<0.01			
5/26/2004	<0.01	0.095	0.06 (o)	0.09	<0.01	<0.01			
12/7/2004	<0.01	0.067	0.054	0.072	<0.01	<0.01			
6/21/2005	<0.01	0.062	0.038	0.04	<0.01	<0.01			
12/12/2005	<0.01	0.09	0.0056	0.021	<0.01	<0.01			
4/4/2006									
6/27/2006	<0.01	0.083	0.0043	0.02	<0.01	<0.01			
8/30/2006									
12/4/2006	<0.01	0.084	0.0044	0.022	<0.01	<0.01			
2/15/2007									
6/23/2007	<0.01	0.081	0.0039	0.027	0.0036	<0.01			
9/11/2007									
12/11/2007	<0.01	0.067	0.0029	0.017	<0.01	<0.01			
3/11/2008									
6/23/2008	<0.01				<0.01				
6/24/2008		0.059	0.003	0.053		<0.01			
11/3/2008									
12/4/2008	<0.01				<0.01	<0.01			
12/5/2008		0.054	<0.01	0.0078					
3/25/2009									
7/7/2009		0.038	<0.01	0.012					
7/8/2009	0.0029				0.0026	<0.01			
9/14/2009									
12/20/2009						<0.01			
12/21/2009	<0.01	0.06	<0.01	0.011	<0.01				
3/4/2010									
6/20/2010	<0.01		<0.01	0.0083	<0.01	<0.01			
6/21/2010		0.036					<0.01	<0.01	<0.01
9/14/2010									
1/6/2011			0.0067		0.003	<0.01			
1/7/2011	<0.01	0.043		0.0079			0.0031	<0.01	0.0029
4/15/2011									
7/7/2011			0.019	0.007	0.004				<0.01
7/8/2011	<0.01	0.044					0.0048	<0.01	0.0046
9/25/2011									
1/17/2012			0.021		<0.01	<0.01			
1/18/2012	<0.01	0.045		0.0116			<0.01	<0.01	<0.01
4/4/2012									
7/9/2012			0.032		0.005	<0.01			
7/10/2012	<0.01	0.048		0.0096			<0.01	<0.01	0.0081
10/9/2012									
1/17/2013			0.034		0.005	<0.01			
1/18/2013	<0.01	0.049		<0.01			<0.01	<0.01	0.0063

# Prediction Limit

Constituent: Vanadium (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
4/5/2013									
7/16/2013			0.021		<0.01				
7/17/2013	<0.01	0.05		<0.01		<0.01	<0.01	<0.01	<0.01
10/11/2013									
1/13/2014			0.008		<0.01	<0.01			
1/14/2014	<0.01	0.067		<0.01			0.006	<0.01	<0.01
4/3/2014									
7/8/2014					0.0024 (J)				
7/9/2014	0.0016 (J)	0.055	0.0052	0.0039 (J)		<0.01	0.0019 (J)		
7/10/2014								0.0053	0.0026 (J)
10/24/2014									
1/12/2015		0.066							0.0031 (J)
1/13/2015			0.0036 (J)		0.0023 (J)	<0.01			
1/14/2015	<0.01			0.005			0.0037 (J)	0.0013 (J)	
5/10/2015									
5/11/2015									
7/16/2015		0.045	0.004 (J)		0.002 (J)	<0.01			
7/17/2015	0.0029 (J)			0.0045 (J)			0.0028 (J)		
7/18/2015								0.0043 (J)	0.003 (J)
10/6/2015									
1/17/2016						<0.01	0.0039 (J)		0.0025 (J)
1/18/2016	<0.01	0.049	0.0069	0.0044 (J)				<0.01	
1/19/2016					0.0025 (J)				
4/26/2016									
7/26/2016					0.0027 (J)				
7/27/2016			0.0046 (J)			<0.01			
7/28/2016	<0.01			0.0038 (J)			0.0022 (J)		0.0024 (J)
7/29/2016		0.0388						0.0052 (J)	
10/24/2016									
10/25/2016									<0.01
1/3/2017			<0.01						
1/4/2017					<0.01		<0.01	<0.01	<0.01
1/5/2017				0.0077 (J)		<0.01			
1/6/2017	<0.01	0.0341							
4/3/2017									
4/4/2017		0.0371				<0.01	0.003 (J)		0.0024 (J)
4/5/2017									
4/6/2017	<0.01		0.0063 (J)	0.0069 (J)	0.0025 (J)			<0.01	
7/10/2017									
7/11/2017					0.0027 (J)			0.0016 (J)	0.003 (J)
7/12/2017	0.0013 (J)	0.0399	0.0064 (J)	0.0098 (J)					
7/13/2017						<0.01	0.0019 (J)		
10/2/2017									0.0028 (J)
10/3/2017									
10/4/2017									
1/9/2018				0.0086 (J)			0.0046 (J)		
1/10/2018			0.0077 (J)			<0.01			0.0026 (J)
1/11/2018	<0.01	0.0327			0.0019 (J)			0.0012 (J)	
7/9/2018									<0.01
7/10/2018			0.016	0.0098 (J)		<0.01	0.0031 (J)		
7/11/2018	<0.01	0.02			0.0021 (J)			0.0025 (J)	
1/16/2019		0.0022 (J)	0.0033 (J)	0.077					



# Prediction Limit

Constituent: Vanadium (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
1/17/2019					0.0021 (J)		0.0022 (J)		
1/18/2019	<0.01							<0.01	
1/21/2019						0.0024 (J)			0.0031 (J)
3/25/2019		0.004 (J)							0.0024 (J)
3/26/2019			0.0058 (J)	0.086			0.0041 (J)		
3/27/2019	<0.01				0.0023 (J)			0.002 (J)	
7/30/2019						<0.01			
10/7/2019									
10/8/2019					<0.01		<0.01		
10/9/2019	<0.01	<0.01	0.033 (J)	0.018 (J)		<0.01		<0.01	<0.01
4/6/2020									
4/7/2020		0.0037 (J)	0.0053 (J)	0.041 (J)	<0.01		<0.01	0.0014 (J)	
4/8/2020	0.0015 (J)					<0.01			<0.01
9/28/2020									
9/29/2020					0.0023 (J)	<0.01			
9/30/2020			0.0037 (J)	0.018			0.0029 (J)	<0.01	0.0029 (J)
10/1/2020	<0.01	0.0047 (J)							

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-4R	GWC-17	GWC-16	GWC-15	GWC-14	GWC-13	GWC-11	GWC-1
9/29/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/21/2000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1/20/2001	<0.01	0.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3/14/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7/16/2001	<0.01	0.059	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/1/2001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.044 (o)	<0.01	<0.01
4/25/2002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11/20/2002		0.061	0.014	<0.01	<0.01	<0.01	0.023	<0.01	<0.01
6/6/2003	0.69 (o)	0.041	0.012	0.035 (o)	<0.01	<0.01	<0.01	<0.01	0.011
12/12/2003	0.12 (o)	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01
5/26/2004	0.013	0.016	<0.01	<0.01	<0.01	<0.01	0.035	<0.01	<0.01
12/7/2004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	0.028 (o)	<0.01
6/21/2005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	<0.01
12/12/2005	0.014	0.017	<0.01	<0.01	0.064 (o)	0.011	0.023	<0.01	<0.01
4/4/2006				<0.01		<0.01			
6/27/2006	0.01	0.11	0.0046	0.077 (o)	0.011	0.0045	0.023	0.0028	<0.01
8/30/2006				0.0027		<0.01			
12/4/2006	0.0065	0.086	0.0071	<0.01	0.0033	<0.01	0.046 (o)	0.0028	<0.01
2/15/2007				0.0032		<0.01			
6/23/2007	0.0049	0.076	0.005	0.0058	0.0029	<0.01	0.036	0.0063	<0.01
9/11/2007				0.0033		<0.01			
12/11/2007	0.0043	0.087	0.0033	<0.01	<0.01	<0.01	0.011	<0.01	<0.01
3/11/2008				<0.01		<0.01			
6/23/2008	0.0025						0.0091	<0.01	
6/24/2008		0.062	0.0037	<0.01	<0.01	<0.01			<0.01
11/3/2008				0.0025		<0.01			
12/4/2008	0.0025					<0.01	0.0038	<0.01	
12/5/2008		0.014	0.0027	<0.01	<0.01				<0.01
3/25/2009				0.0025		<0.01			
7/7/2009	<0.01	0.052							<0.01
7/8/2009			0.0048	<0.01	<0.01	<0.01	<0.01	<0.01	
9/14/2009				<0.01		<0.01			
12/20/2009	0.0031			<0.01	<0.01	<0.01			<0.01
12/21/2009		0.046	0.0032				0.0032	<0.01	
3/4/2010				<0.01		<0.01			
6/20/2010	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01
6/21/2010		0.045	0.0028	<0.01					
9/14/2010				<0.01		<0.01			
1/6/2011							0.004	<0.01	<0.01
1/7/2011	<0.01	0.024	0.003	<0.01	<0.01	<0.01			
4/15/2011				<0.01		<0.01			
7/7/2011	0.0031			<0.01	<0.01	<0.01	0.0037	<0.01	0.0025
7/8/2011		0.023	0.0034						
9/25/2011				0.0028		<0.01			
1/17/2012	0.004				<0.01	<0.01	0.0031	0.0043	<0.01
1/18/2012		0.011	0.0049	0.0029					
4/4/2012				<0.01		<0.01			
7/9/2012	0.0096				<0.01	<0.01	0.003	<0.01	<0.01
7/10/2012		0.024	0.0039	<0.01					
10/9/2012				0.0027		<0.01			
1/17/2013							<0.01	0.0025	<0.01
1/18/2013	0.051	0.011	0.0043	<0.01	<0.01	<0.01			

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-4R	GWC-17	GWC-16	GWC-15	GWC-14	GWC-13	GWC-11	GWC-1
4/5/2013				<0.01		<0.01			
7/16/2013							0.0029	<0.01	<0.01
7/17/2013	0.042	0.0029	0.0035	<0.01	<0.01	<0.01			
10/11/2013				<0.01		<0.01			
1/13/2014	0.0025				0.0025		0.0025	0.0025	0.0025
1/14/2014		0.0025	0.0025	0.0025		0.0025			
4/3/2014				0.0015 (J)		0.0014 (J)			
7/8/2014							0.0018 (J)	0.0011 (J)	
7/9/2014	0.064	0.0051	0.0033	0.0012 (J)	<0.01	0.00086 (J)			<0.01
7/10/2014									
10/24/2014				0.0013 (J)		0.00083 (J)			
1/12/2015		0.0023 (J)							
1/13/2015	0.066				<0.01		0.0028	0.0021 (J)	0.0025
1/14/2015			0.0067	0.0017 (J)		<0.01			
5/10/2015						<0.01			
5/11/2015				0.0015 (J)					
7/16/2015	0.036	0.0021 (J)		<0.01	<0.01		0.0018 (J)	<0.01	<0.01
7/17/2015						<0.01			
7/18/2015			<0.01						
10/6/2015				<0.01		<0.01			
1/17/2016				<0.01	<0.01	<0.01			<0.01
1/18/2016	0.035	0.0092	0.012				0.0017 (J)		
1/19/2016								0.0029	
4/26/2016				<0.01		<0.01			
7/26/2016							0.0028 (J)	<0.01	
7/27/2016	0.0529				<0.01	<0.01			<0.01
7/28/2016				<0.01					
7/29/2016		0.003 (J)	0.0086 (J)						
10/24/2016									
10/25/2016	0.0035 (J)			<0.01	<0.01	<0.01			
1/3/2017									
1/4/2017				0.0025 (J)				<0.01	<0.01
1/5/2017			0.016		<0.01	<0.01	0.0021 (J)		
1/6/2017	0.0235	0.0104							
4/3/2017					<0.01				
4/4/2017		0.0132				<0.01			<0.01
4/5/2017			0.0175	0.0025 (J)					
4/6/2017	0.0829						0.0027 (J)	0.004 (J)	
7/10/2017									
7/11/2017					<0.01	<0.01		<0.01	
7/12/2017		0.0046 (J)		0.002 (J)			0.0043 (J)		<0.01
7/13/2017	0.0853		0.0126						
10/2/2017					<0.01	0.0026 (J)			
10/3/2017				<0.01					
10/4/2017	0.0263								
1/9/2018	0.0665				<0.01	0.0018 (J)			
1/10/2018				0.0016 (J)			0.0021 (J)		0.0014 (J)
1/11/2018		0.0095 (J)	0.012					0.0018 (J)	
7/9/2018						<0.01			
7/10/2018				0.0031 (J)	<0.01				0.0021 (J)
7/11/2018	0.02 (J)	0.0028 (J)	0.011				0.0039 (J)	<0.01	
1/16/2019	0.014 (J)	0.0052 (J)	0.0094 (J)			<0.01	0.047		<0.01

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-4R	GWC-17	GWC-16	GWC-15	GWC-14	GWC-13	GWC-11	GWC-1
1/17/2019				<0.01	<0.01			<0.01	
1/18/2019									
1/21/2019									
3/25/2019	<0.05 (o)	0.0078 (J)							
3/26/2019			0.0057 (J)	<0.01	<0.01	<0.01	0.03		<0.01
3/27/2019								<0.01	
7/30/2019									
10/7/2019									
10/8/2019	0.095			0.01	0.0051 (J)	0.0052 (J)	0.053	0.0061 (J)	
10/9/2019		0.0064 (J)	0.011						0.0057 (J)
4/6/2020	<0.01								
4/7/2020		<0.01		<0.01	<0.01	<0.01		<0.01	<0.01
4/8/2020			<0.01				0.023		
9/28/2020	0.16						0.016		0.0092 (J)
9/29/2020						<0.01		0.0031 (J)	
9/30/2020			0.0043 (J)	0.0051 (J)	0.032				
10/1/2020		0.0064 (J)							

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-8 (bg)	GWC-9	GWB-5R	GWC-2	GWC-12	GWB-6R	GWC-20	GWC-22	GWC-21
9/29/2000	<0.01	<0.01	0.026 (o)		0.38 (o)	<0.02 (o)			
11/21/2000		<0.01	<0.01	0.021 (o)	0.077 (o)	0.024 (o)			
1/20/2001	0.025 (o)	<0.01	0.031 (o)	<0.01	0.23 (o)	<0.02 (o)			
3/14/2001	<0.01	<0.01	0.063 (o)	<0.01	0.24 (o)	<0.02 (o)			
7/16/2001	<0.01	<0.01	0.08 (o)	<0.01	0.053 (o)	<0.02 (o)			
11/1/2001	<0.01	<0.01	0.16 (o)	<0.01	0.022 (o)	<0.02 (o)			
4/25/2002	<0.01	<0.01	<0.01	<0.01	1.2 (o)	<0.02 (o)			
11/20/2002	0.016 (o)	0.033 (o)	0.14 (o)	<0.01	0.045 (o)	0.028 (o)			
6/6/2003	0.032 (o)	<0.01	0.51 (o)	<0.01	0.042 (o)	0.032 (o)			
12/12/2003	0.019 (o)	<0.01	<0.01	<0.01	<0.01	<0.01 (o)			
5/26/2004	<0.01	<0.01	0.036 (o)	<0.01	<0.01	<0.01 (o)			
12/7/2004	<0.01	<0.01	0.069 (o)	<0.01	<0.01	0.012 (o)			
6/21/2005	<0.01	<0.01	0.076 (o)	<0.01	<0.01	<0.01 (o)			
12/12/2005	0.01	0.032 (o)	<0.01	0.012	<0.01	<0.01 (o)			
4/4/2006	<0.01								
6/27/2006	0.0043	0.018 (o)	0.01	<0.01	0.012 (o)	0.0071			
8/30/2006	0.017 (o)								
12/4/2006	0.0053	0.0044	0.0035	<0.01	0.0067	0.0096			
2/15/2007	0.0045								
6/23/2007	0.0043	0.0041	0.0032	<0.01	0.025 (o)	0.094 (o)			
9/11/2007	0.004								
12/11/2007	0.0048	0.0039	0.0079	<0.01	0.0038	0.042 (o)			
3/11/2008	0.0043								
6/23/2008	0.0037	<0.01			0.0051				
6/24/2008			<0.01	<0.01		0.098 (o)			
11/3/2008	0.0032								
12/4/2008	0.0029	0.0039		<0.01	<0.01				
12/5/2008			<0.01			0.047 (o)			
3/25/2009	0.0055								
7/7/2009	0.0028		<0.01			0.024 (o)			
7/8/2009		<0.01		<0.01	<0.01				
9/14/2009	0.0027								
12/20/2009	0.0029			<0.01					
12/21/2009		0.004	<0.01		0.013 (o)	0.049 (o)			
3/4/2010	0.0042								
6/20/2010	0.0027	<0.01	<0.01	<0.01	<0.01	0.045 (o)			
6/21/2010							<0.01	<0.01	0.04 (o)
9/14/2010	<0.01								
1/6/2011			<0.01	<0.01					
1/7/2011	0.0032	0.0032			0.004	0.0044	<0.01	0.019	<0.01
4/15/2011	<0.01								
7/7/2011	0.005		0.0027		0.0028	0.003	<0.01		
7/8/2011		0.0025					0.086 (J,o)	0.1 (o)	0.0044
9/25/2011	0.0041								
1/17/2012	0.0043		0.0039	<0.01	0.0043				
1/18/2012		0.0045				0.0048	<0.01	0.0051	<0.01
4/4/2012	<0.01								
7/9/2012			<0.01	<0.01	<0.01				
7/10/2012	0.0028	<0.01				<0.01	<0.01	0.01	<0.01
10/9/2012	0.0033								
1/17/2013			<0.01	<0.01	0.0033				
1/18/2013	0.0038	0.0029				0.0028	0.0032	0.0036	<0.01

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-8 (bg)	GWC-9	GWB-5R	GWC-2	GWC-12	GWB-6R	GWC-20	GWC-22	GWC-21
4/5/2013	0.0026								
7/16/2013			0.0032		0.0028				
7/17/2013	<0.01	<0.01		<0.01		<0.01	<0.01	0.0025	<0.01
10/11/2013	0.0046								
1/13/2014			0.0025	0.0025	0.0025				
1/14/2014	0.0025	0.0025				0.0025	0.0025	0.0025	0.0025
4/3/2014	0.0029								
7/8/2014					0.002 (J)				
7/9/2014	0.002 (J)	0.0016 (J)	0.00076 (J)	0.00058 (J)		0.00093 (J)			0.00084 (J)
7/10/2014							<0.01	0.024	
10/24/2014	0.0031								
1/12/2015							<0.01		
1/13/2015			0.0036	0.0024 (J)	0.0079				
1/14/2015	0.003	0.0024 (J)				0.0023 (J)		0.0016 (J)	0.0018 (J)
5/10/2015	0.0028								
5/11/2015									
7/16/2015			<0.01	<0.01	0.0026				
7/17/2015	0.0018 (J)	0.0031				<0.01			<0.01
7/18/2015							<0.01	0.014	
10/6/2015	0.0018 (J)								
1/17/2016				<0.01			<0.01		<0.01
1/18/2016	0.0028	0.0059	<0.01		0.0025	0.0029		<0.01	
1/19/2016									
4/26/2016	<0.01								
7/26/2016									
7/27/2016			0.0015 (J)	0.0018 (J)	0.0021 (J)				
7/28/2016	0.0018 (J)	0.0019 (J)				<0.01	<0.01		<0.01
7/29/2016								0.0129	
10/24/2016	0.0024 (J)								
10/25/2016							<0.01		
1/3/2017	0.0035 (J)		<0.01						
1/4/2017					0.0025 (J)		<0.01	0.006 (J)	<0.01
1/5/2017				<0.01		<0.01			
1/6/2017		0.0026 (J)							
4/3/2017	0.0041 (J)								
4/4/2017				0.0015 (J)			<0.01		0.0015 (J)
4/5/2017					0.0026 (J)				
4/6/2017		0.0047 (J)	0.0023 (J)			0.0032 (J)		0.0031 (J)	
7/10/2017					0.0023 (J)				
7/11/2017	0.0029 (J)						<0.01	0.0029 (J)	
7/12/2017		0.003 (J)	<0.01			0.002 (J)			
7/13/2017				0.0014 (J)					0.002 (J)
10/2/2017	0.0026 (J)						<0.01		
10/3/2017									
10/4/2017									
1/9/2018	0.0035 (J)					0.0036 (J)			0.0016 (J)
1/10/2018			0.0022 (J)	<0.01			0.0034 (J)		
1/11/2018		0.0046 (J)			0.0031 (J)			0.0106	
7/9/2018	0.0022 (J)						<0.01		
7/10/2018			<0.01	<0.01		0.0055 (J)			<0.01
7/11/2018		0.0033 (J)			0.0036 (J)			0.0057 (J)	
1/16/2019	0.0037 (J)		<0.01			<0.01			

# Prediction Limit

Constituent: Zinc (mg/L) Analysis Run 2/17/2021 4:16 PM View: PL's State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-8 (bg)	GWC-9	GWB-5R	GWC-2	GWC-12	GWB-6R	GWC-20	GWC-22	GWC-21
1/17/2019					0.0032 (J)				<0.01
1/18/2019		0.0025 (J)						0.0024 (J)	
1/21/2019				<0.01			<0.01		
3/25/2019	<0.01						<0.01		
3/26/2019			<0.01			<0.01			<0.01
3/27/2019		0.0026 (J)			0.0031 (J)			<0.01	
7/30/2019				0.0067 (J)					
10/7/2019	0.0077 (J)								
10/8/2019									0.0071 (J)
10/9/2019		0.0054 (J)	0.0081 (J)	0.005 (J)	0.0057 (J)	0.016 (J)	0.0049 (J)	0.0079 (J)	
4/6/2020	<0.01								
4/7/2020			<0.01		<0.01	<0.01		<0.01	<0.01
4/8/2020		<0.01		<0.01			<0.01		
9/28/2020	0.0092 (J)								
9/29/2020				0.056	0.0074 (J)				
9/30/2020			<0.01			<0.01	0.031	<0.01	0.0096 (J)
10/1/2020		0.025							

FIGURE E.



# State Trend Test Summary - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:28 PM

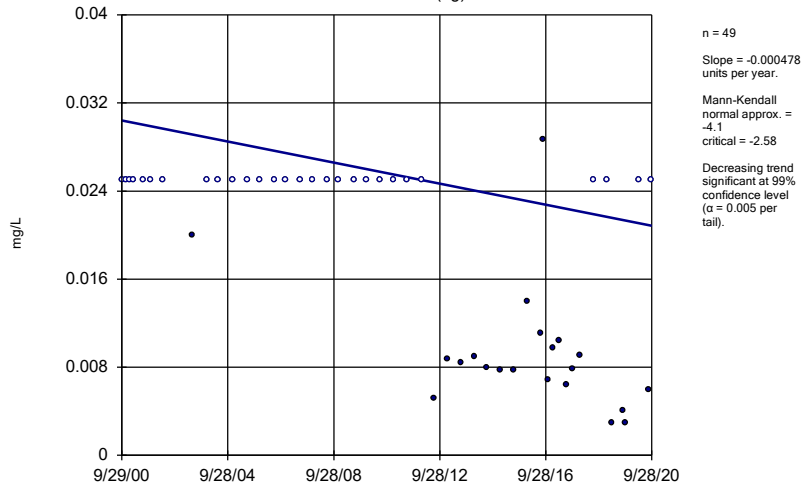
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	GWA-7 (bg)	-0.000478	-4.1	-2.58	Yes	49	57.14	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWA-8 (bg)	0	-3.216	-2.58	Yes	70	91.43	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWC-15	0.003848	7.868	2.58	Yes	50	50	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWC-16	-0.001273	-2.969	-2.58	Yes	69	0	n/a	n/a	0.01	NP
Barium (mg/L)	GWA-8 (bg)	-0.0029	-8.428	-2.58	Yes	69	0	n/a	n/a	0.01	NP
Barium (mg/L)	GWC-20	0.008044	224	139	Yes	29	0	n/a	n/a	0.01	NP
Zinc (mg/L)	GWA-8 (bg)	-0.0002021	-3.834	-2.58	Yes	62	25.81	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-9	-0.0002436	-3.281	-2.58	Yes	42	42.86	n/a	n/a	0.01	NP

# State Trend Test Summary - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:28 PM

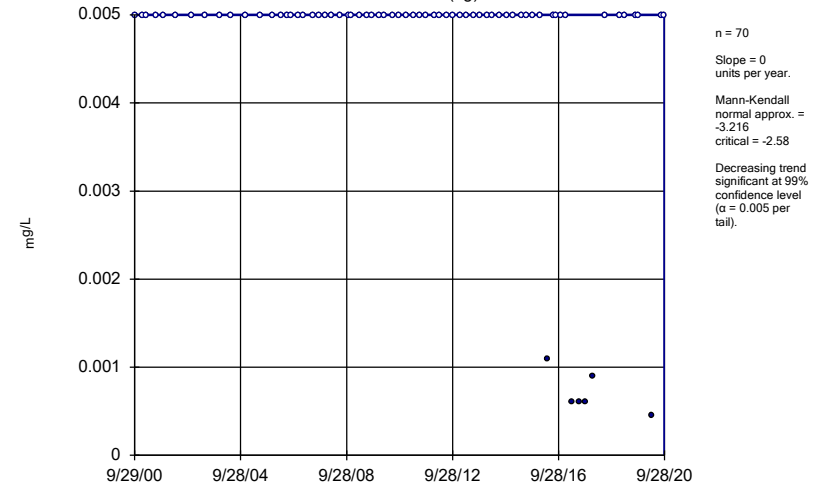
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
<b>Arsenic (mg/L)</b>	<b>GWA-7 (bg)</b>	<b>-0.000478</b>	<b>-4.1</b>	<b>-2.58</b>	<b>Yes</b>	<b>49</b>	<b>57.14</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>0</b>	<b>-3.216</b>	<b>-2.58</b>	<b>Yes</b>	<b>70</b>	<b>91.43</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.003848</b>	<b>7.868</b>	<b>2.58</b>	<b>Yes</b>	<b>50</b>	<b>50</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>-0.001273</b>	<b>-2.969</b>	<b>-2.58</b>	<b>Yes</b>	<b>69</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Arsenic (mg/L)	GWC-20	0.01725	123	139	No	29	3.448	n/a	n/a	0.01	NP
Barium (mg/L)	GWA-7 (bg)	-0.0002048	-0.3474	-2.58	No	48	0	n/a	n/a	0.01	NP
<b>Barium (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>-0.0029</b>	<b>-8.428</b>	<b>-2.58</b>	<b>Yes</b>	<b>69</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
<b>Barium (mg/L)</b>	<b>GWC-20</b>	<b>0.008044</b>	<b>224</b>	<b>139</b>	<b>Yes</b>	<b>29</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Zinc (mg/L)	GWA-7 (bg)	0.001011	2.325	2.58	No	43	30.23	n/a	n/a	0.01	NP
<b>Zinc (mg/L)</b>	<b>GWA-8 (bg)</b>	<b>-0.0002021</b>	<b>-3.834</b>	<b>-2.58</b>	<b>Yes</b>	<b>62</b>	<b>25.81</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>
Zinc (mg/L)	GWC-15	0	0.5524	2.58	No	46	86.96	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-2	0	-1.981	-2.58	No	42	76.19	n/a	n/a	0.01	NP
Zinc (mg/L)	GWC-20	0	16	111	No	25	80	n/a	n/a	0.01	NP
<b>Zinc (mg/L)</b>	<b>GWC-9</b>	<b>-0.0002436</b>	<b>-3.281</b>	<b>-2.58</b>	<b>Yes</b>	<b>42</b>	<b>42.86</b>	<b>n/a</b>	<b>n/a</b>	<b>0.01</b>	<b>NP</b>

Sen's Slope Estimator  
 GWA-7 (bg)



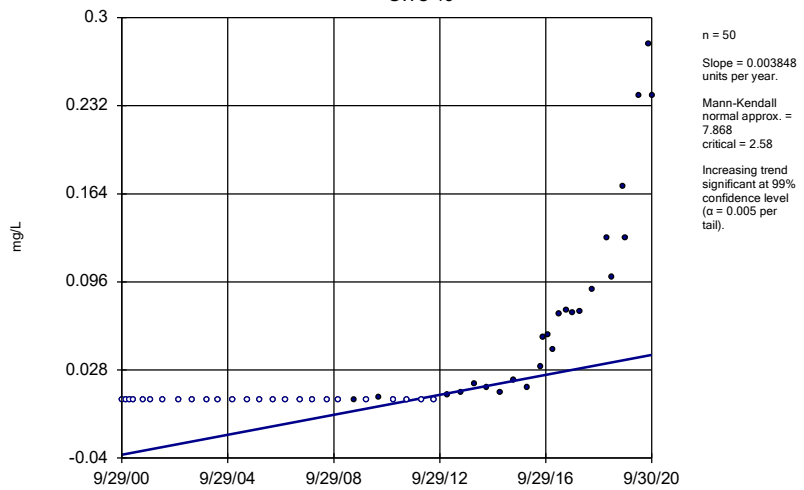
Constituent: Arsenic Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWA-8 (bg)



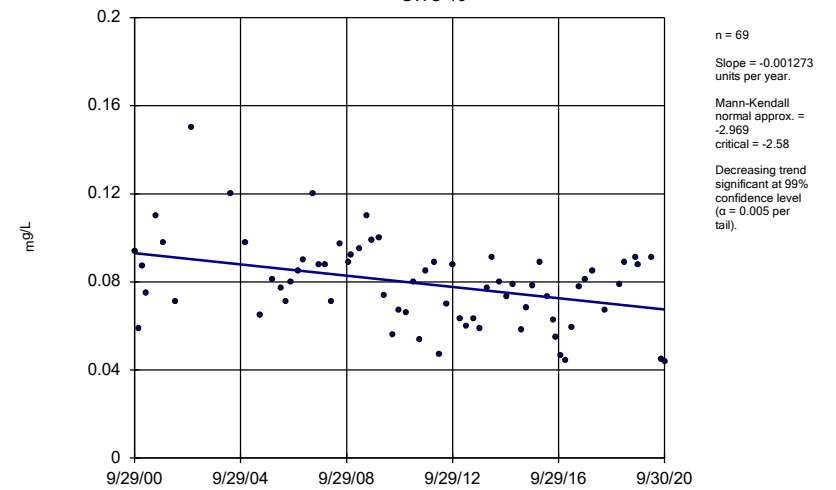
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWC-15



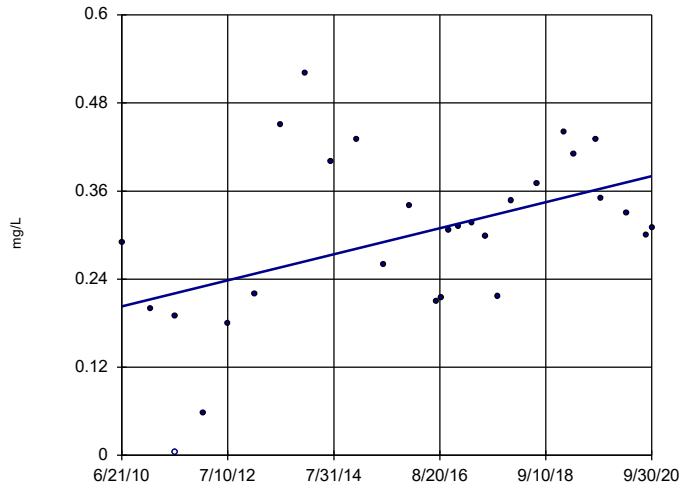
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWC-16



Constituent: Arsenic Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

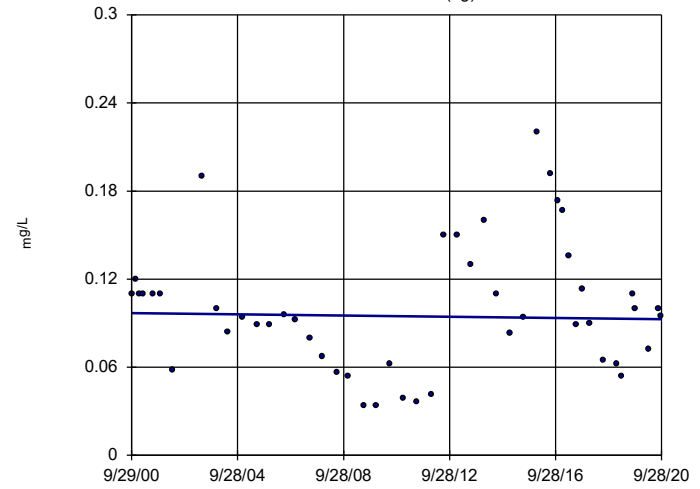
Sen's Slope Estimator  
 GWC-20



n = 29  
 Slope = 0.01725  
 units per year.  
 Mann-Kendall  
 statistic = 123  
 critical = 139  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Arsenic Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

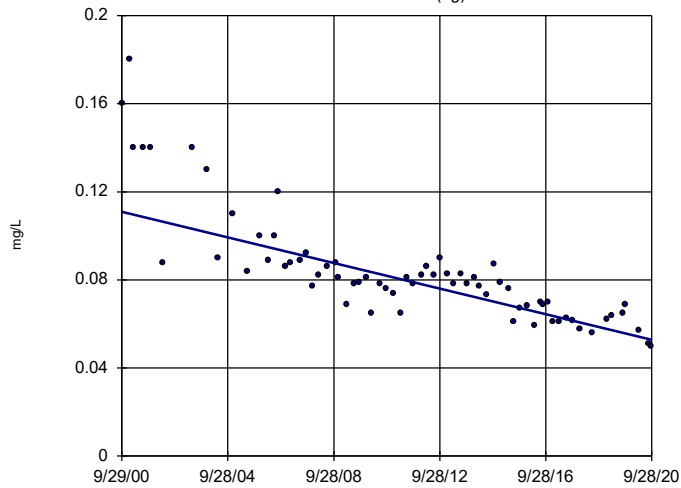
Sen's Slope Estimator  
 GWA-7 (bg)



n = 48  
 Slope = -0.0002048  
 units per year.  
 Mann-Kendall  
 normal approx. =  
 -0.3474  
 critical = -2.58  
 Trend not sig-  
 nificant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Barium Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

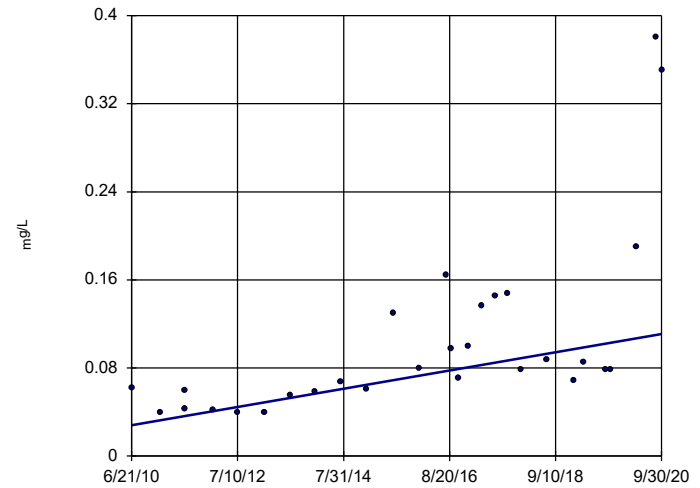
Sen's Slope Estimator  
 GWA-8 (bg)



n = 69  
 Slope = -0.0029  
 units per year.  
 Mann-Kendall  
 normal approx. =  
 -8.428  
 critical = -2.58  
 Decreasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

Constituent: Barium Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

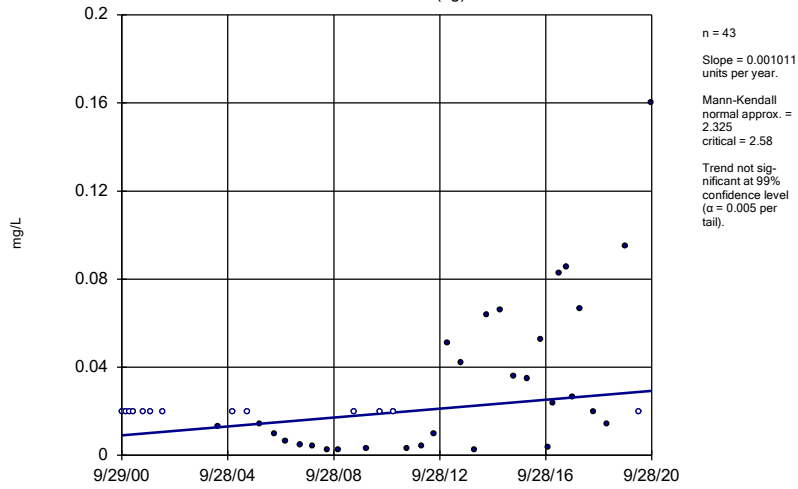
Sen's Slope Estimator  
 GWC-20



n = 29  
 Slope = 0.008044  
 units per year.  
 Mann-Kendall  
 statistic = 224  
 critical = 139  
 Increasing trend  
 significant at 99%  
 confidence level  
 ( $\alpha = 0.005$  per  
 tail).

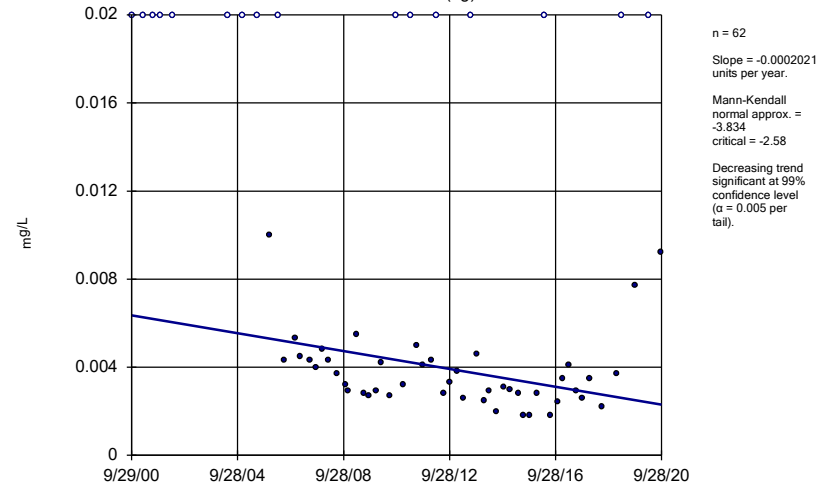
Constituent: Barium Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWA-7 (bg)



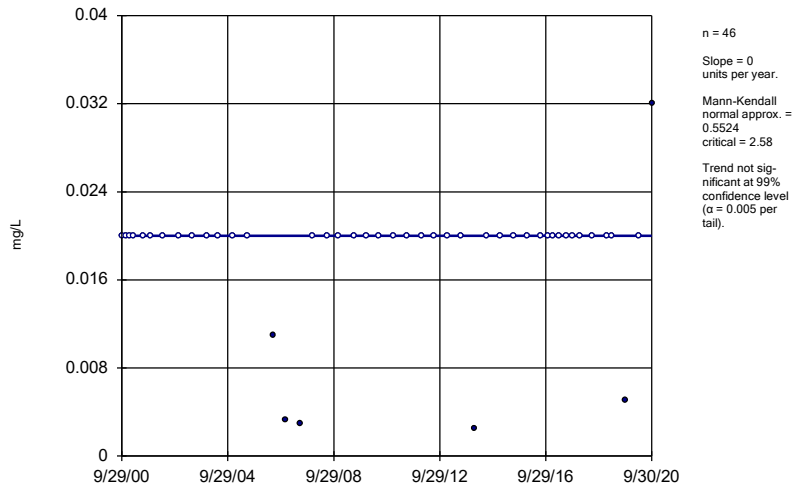
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 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWA-8 (bg)



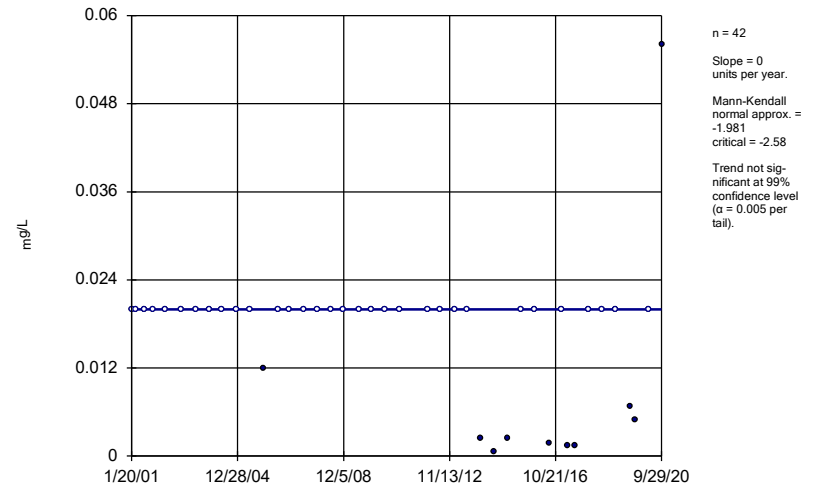
Constituent: Zinc Analysis Run 2/17/2021 4:27 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWC-15



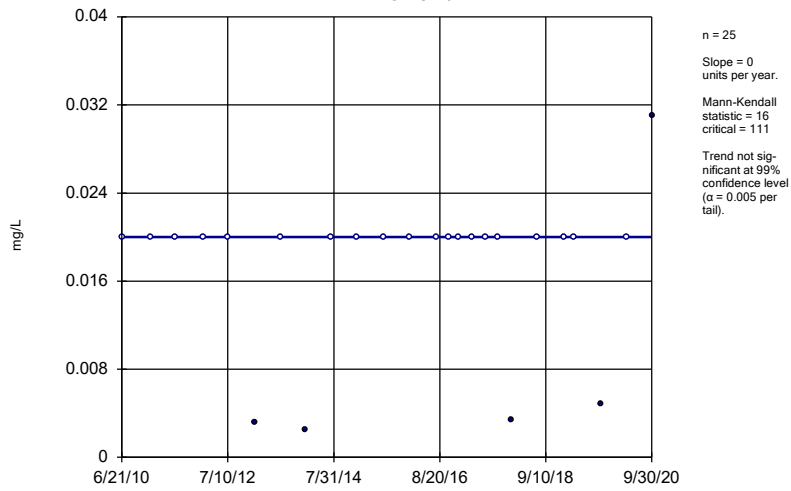
Constituent: Zinc Analysis Run 2/17/2021 4:27 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
 GWC-2



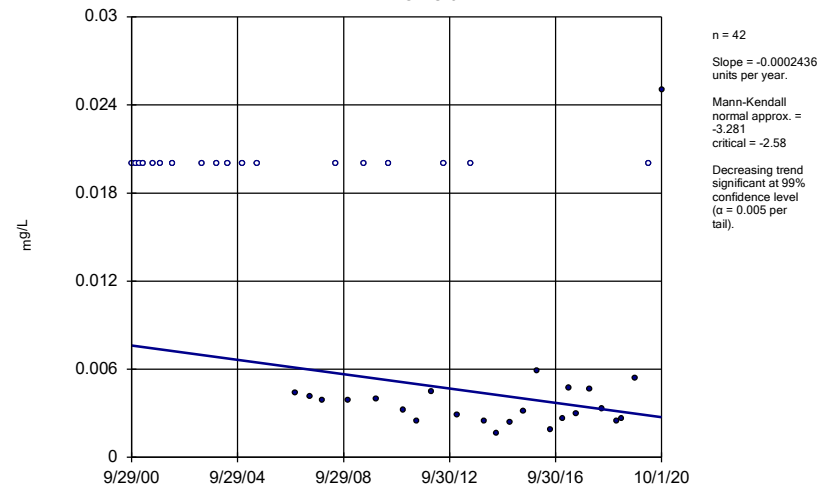
Constituent: Zinc Analysis Run 2/17/2021 4:27 PM View: Trend Tests - State PL Exceedances  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-20



Constituent: Zinc Analysis Run 2/17/2021 4:27 PM View: Trend Tests - State PL Exceedances  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-9



Constituent: Zinc Analysis Run 2/17/2021 4:27 PM View: Trend Tests - State PL Exceedances  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

FIGURE F.

# Federal Interwell Prediction Limits - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	GWC-1	35.8	9/28/2020	70.7	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-11	35.8	9/29/2020	123	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-12	35.8	9/29/2020	42	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-15	35.8	9/30/2020	109	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-16	35.8	9/30/2020	177	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-17	35.8	9/30/2020	53.5	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-20	35.8	9/30/2020	292	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-21	35.8	9/30/2020	98.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWB-4R	35.8	10/1/2020	48.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWB-5R	35.8	9/30/2020	70.4	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
pH (SU)	GWC-12	6.43	9/29/2020	3.95	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-15	6.43	9/30/2020	6.71	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-17	6.43	9/30/2020	4.08	Yes	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-11	160	9/29/2020	516	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-12	160	9/29/2020	237	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-16	160	9/30/2020	736	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-17	160	9/30/2020	193	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-20	160	9/30/2020	956	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-21	160	9/30/2020	306	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-4R	160	10/1/2020	178	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-5R	160	9/30/2020	339	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWB-6R	160	9/30/2020	339	Yes	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2



# Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	GWC-1	21.8	9/28/2020	0.69	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-11	21.8	9/29/2020	1.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-12	21.8	9/29/2020	4.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-13	21.8	9/28/2020	0.24	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-14	21.8	9/29/2020	0.053	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-15	21.8	9/30/2020	0.86	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-16	21.8	9/30/2020	8.1	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-17	21.8	9/30/2020	0.86	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-2	21.8	9/29/2020	0.024J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-20	21.8	9/30/2020	9.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-21	21.8	9/30/2020	2.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-22	21.8	9/30/2020	0.25	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWC-9	21.8	10/1/2020	0.028J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-4R	21.8	10/1/2020	5.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-5R	21.8	9/30/2020	4	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Boron (mg/L)	GWB-6R	21.8	9/30/2020	4.2	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-1</b>	<b>35.8</b>	<b>9/28/2020</b>	<b>70.7</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-11</b>	<b>35.8</b>	<b>9/29/2020</b>	<b>123</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-12</b>	<b>35.8</b>	<b>9/29/2020</b>	<b>42</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-13	35.8	9/28/2020	2.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-14	35.8	9/29/2020	30.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-15</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>109</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-16</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>177</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-17</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>53.5</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-2	35.8	9/29/2020	0.18J	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWC-20</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>292</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWC-21</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>98.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWC-22	35.8	9/30/2020	20.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Calcium (mg/L)	GWC-9	35.8	10/1/2020	5.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Calcium (mg/L)</b>	<b>GWB-4R</b>	<b>35.8</b>	<b>10/1/2020</b>	<b>48.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Calcium (mg/L)</b>	<b>GWB-5R</b>	<b>35.8</b>	<b>9/30/2020</b>	<b>70.4</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Calcium (mg/L)	GWB-6R	35.8	9/30/2020	27.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-1	260	9/28/2020	13.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-11	260	9/29/2020	143	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-12	260	9/29/2020	24.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-13	260	9/28/2020	4.3	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-14	260	9/29/2020	10.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-15	260	9/30/2020	1.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-16	260	9/30/2020	39.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-17	260	9/30/2020	257	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-2	260	9/29/2020	5.4	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-20	260	9/30/2020	34.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-21	260	9/30/2020	23.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-22	260	9/30/2020	8.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWC-9	260	10/1/2020	16.8	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-4R	260	10/1/2020	15.7	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-5R	260	9/30/2020	24.1	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Chloride (mg/L)	GWB-6R	260	9/30/2020	53.9	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Fluoride (mg/L)	GWC-1	0.5492	9/28/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-11	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2

# Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Fluoride (mg/L)	GWC-12	0.5492	9/29/2020	0.16	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-13	0.5492	9/28/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-14	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-15	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-16	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-17	0.5492	9/30/2020	0.15	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-2	0.5492	9/29/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-20	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-21	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-22	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWC-9	0.5492	10/1/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-4R	0.5492	10/1/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-5R	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
Fluoride (mg/L)	GWB-6R	0.5492	9/30/2020	0.1ND	No	30	-2.25	0.7283	23.33	Kaplan-Meier	ln(x)	0.0004702	Param Inter 1 of 2
pH (SU)	GWC-1	6.43	9/28/2020	5.79	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-11	6.43	9/29/2020	4.77	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-12</b>	<b>6.43</b>	<b>9/29/2020</b>	<b>3.95</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-13	6.43	9/28/2020	4.76	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-14	6.43	9/29/2020	5.69	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-15</b>	<b>6.43</b>	<b>9/30/2020</b>	<b>6.71</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-16	6.43	9/30/2020	5.47	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
<b>pH (SU)</b>	<b>GWC-17</b>	<b>6.43</b>	<b>9/30/2020</b>	<b>4.08</b>	<b>Yes</b>	<b>28</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.004098</b>	<b>NP Inter (normality) 1 of 2</b>
pH (SU)	GWC-2	6.43	9/29/2020	4.6	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-20	6.43	9/30/2020	6.04	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-21	6.43	9/30/2020	5.82	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-22	6.43	9/30/2020	4.63	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWC-9	6.43	10/1/2020	4.42	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-4R	6.43	10/1/2020	5.75	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-5R	6.43	9/30/2020	4.99	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
pH (SU)	GWB-6R	6.43	9/30/2020	5.39	No	28	n/a	n/a	0	n/a	n/a	0.004098	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-1	160	9/28/2020	71.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-11</b>	<b>160</b>	<b>9/29/2020</b>	<b>516</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-12</b>	<b>160</b>	<b>9/29/2020</b>	<b>237</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-13	160	9/28/2020	25.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-14	160	9/29/2020	93.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-15	160	9/30/2020	18.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-16</b>	<b>160</b>	<b>9/30/2020</b>	<b>736</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-17</b>	<b>160</b>	<b>9/30/2020</b>	<b>193</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-2	160	9/29/2020	8.6	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWC-20</b>	<b>160</b>	<b>9/30/2020</b>	<b>956</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWC-21</b>	<b>160</b>	<b>9/30/2020</b>	<b>306</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Sulfate (mg/L)	GWC-22	160	9/30/2020	65.5	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Sulfate (mg/L)	GWC-9	160	10/1/2020	35	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
<b>Sulfate (mg/L)</b>	<b>GWB-4R</b>	<b>160</b>	<b>10/1/2020</b>	<b>178</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWB-5R</b>	<b>160</b>	<b>9/30/2020</b>	<b>339</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
<b>Sulfate (mg/L)</b>	<b>GWB-6R</b>	<b>160</b>	<b>9/30/2020</b>	<b>339</b>	<b>Yes</b>	<b>26</b>	<b>n/a</b>	<b>n/a</b>	<b>0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.002308</b>	<b>NP Inter (normality) 1 of 2</b>
Total Dissolved Solids (mg/L)	GWC-1	3660	9/28/2020	373	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-11	3660	9/29/2020	1100	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-12	3660	9/29/2020	440	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-13	3660	9/28/2020	60	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2

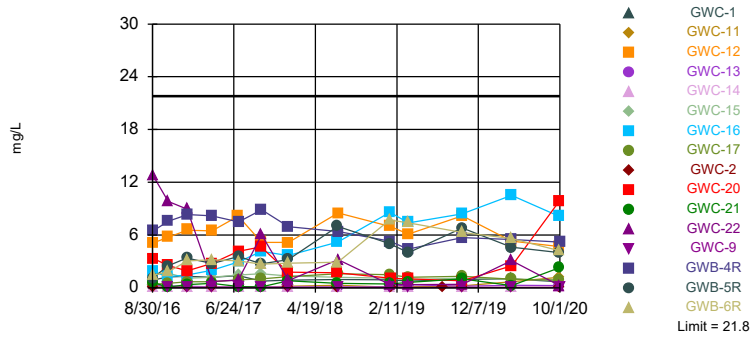
# Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:21 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Total Dissolved Solids (mg/L)	GWC-14	3660	9/29/2020	187	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-15	3660	9/30/2020	434	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-16	3660	9/30/2020	1140	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-17	3660	9/30/2020	752	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-2	3660	9/29/2020	33	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-20	3660	9/30/2020	1860	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-21	3660	9/30/2020	634	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-22	3660	9/30/2020	113	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWC-9	3660	10/1/2020	111	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-4R	3660	10/1/2020	424	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-5R	3660	9/30/2020	652	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	GWB-6R	3660	9/30/2020	816	No	26	n/a	n/a	0	n/a	n/a	0.002308	NP Inter (normality) 1 of 2

Within Limit

Prediction Limit  
Interwell Non-parametric

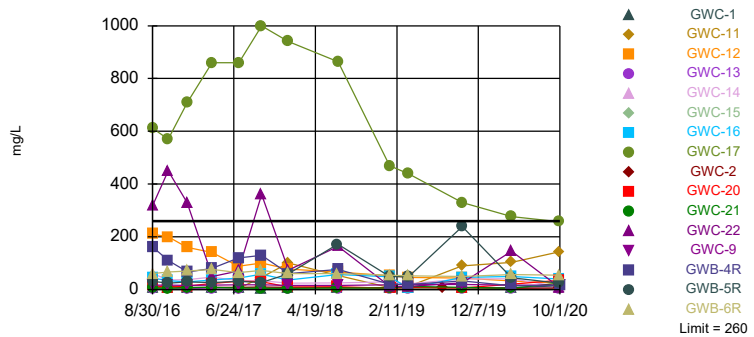


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 26 background values. Annual per-constituent alpha = 0.07127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

Constituent: Boron Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Prediction Limit  
Interwell Non-parametric

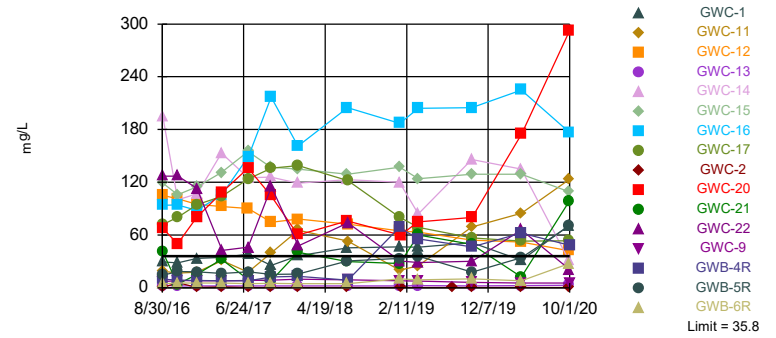


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 26 background values. Annual per-constituent alpha = 0.07127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

Constituent: Chloride Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Exceeds Limit: GWC-1, GWC-11, GWC-12, GWC-15, GWC-16, GWC-17, GWC-20, GWC-21, GWB-4R, GWB-5R

Prediction Limit  
Interwell Non-parametric



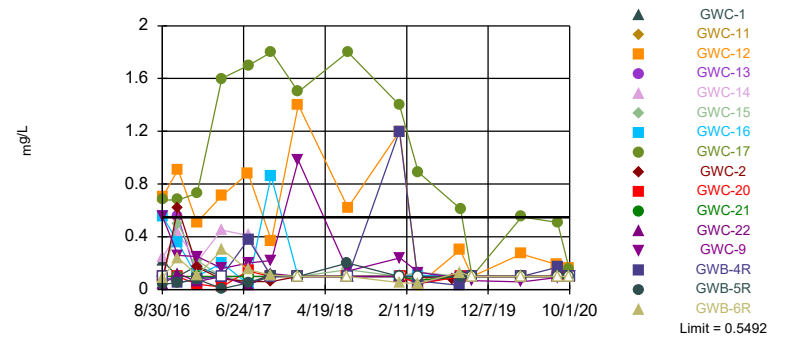
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 26 background values. Annual per-constituent alpha = 0.07127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

Constituent: Calcium Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Within Limit

Hollow symbols indicate censored values.

Prediction Limit  
Interwell Parametric

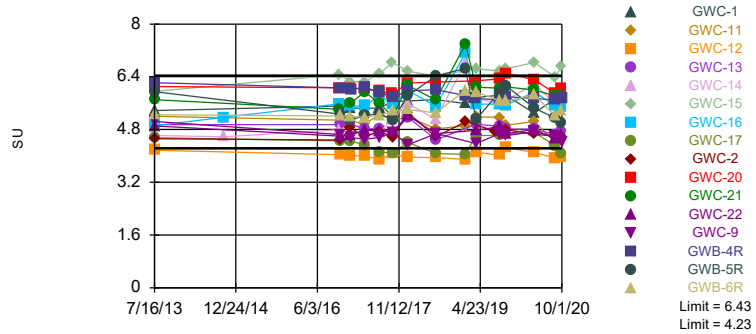


Background Data Summary (based on natural log transformation) (after Kaplan-Meier Adjustment): Mean=-2.25, Std. Dev.=0.7283, n=30, 23.33% NDs. Normality test: Shapiro Wilk @alpha = 0.01, calculated = 0.9352, critical = 0.9. Kappa = 2.266 (c=7, w=16, 1 of 2, event alpha = 0.05132). Report alpha = 0.007498. Individual comparison alpha = 0.0004702. Comparing 16 points to limit.

Constituent: Fluoride Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Exceeds Limits: GWC-12, GWC-15, GWC-17

Prediction Limit  
Interwell Non-parametric

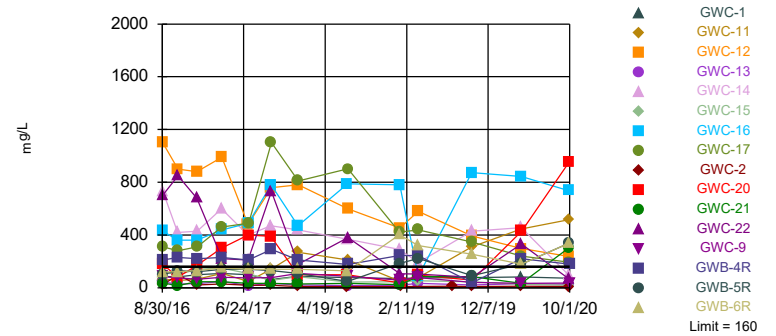


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 28 background values. Annual per-constituent alpha = 0.127. Individual comparison alpha = 0.004098 (1 of 2). Comparing 16 points to limit.

Constituent: pH Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Exceeds Limit: GWC-11, GWC-12, GWC-16, GWC-17, GWC-20, GWC-21, GWC-4R, GWC-5R, GWC-6R

Prediction Limit  
Interwell Non-parametric



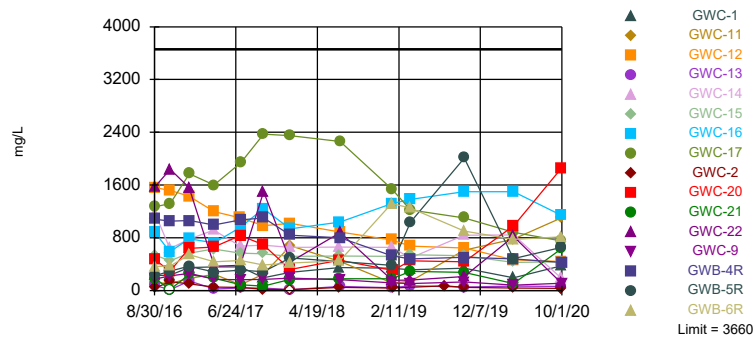
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 26 background values. Annual per-constituent alpha = 0.07127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

Constituent: Sulfate Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Hollow symbols indicate censored values.

Within Limit

Prediction Limit  
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 26 background values. Annual per-constituent alpha = 0.07127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

Constituent: Total Dissolved Solids Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road















# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-1	GWB-6R	GWA-8 (bg)	GWB-5R	GWC-11	GWC-13	GWC-9	GWC-12	GWC-22
8/30/2016	0.22 (J)	0.09 (J)	0.1 (J)	0.04 (J)					
8/31/2016					<0.1	<0.1	0.55	0.7	0.04 (J)
9/1/2016									
10/24/2016			0.18 (J)						
10/25/2016	<0.1								
10/26/2016		0.24 (J)		0.05 (J)	<0.1	0.55		0.91	0.12 (J)
10/27/2016							0.26 (J)		
1/3/2017			0.18 (J)	0.08 (J)					
1/4/2017	0.18 (J)				<0.1			0.51	0.06 (J)
1/5/2017		0.11 (J)				0.09 (J)			
1/6/2017							0.25 (J)		
4/3/2017			0.12 (J)						
4/4/2017	<0.1								
4/5/2017								0.71	
4/6/2017		0.3		0.006 (J)	<0.1	<0.1	0.16 (J)		<0.1
7/10/2017								0.88	
7/11/2017			0.39		<0.1				0.03 (J)
7/12/2017	0.04 (J)	0.15 (J)		0.05 (J)		<0.1	0.2 (J)		
7/13/2017									
10/2/2017			0.12 (J)						
10/3/2017	<0.1	0.11 (J)		0.11 (J)	<0.1				
10/4/2017						<0.1	0.22 (J)	0.37	0.12 (J)
1/9/2018		<0.1	0.21 (J)						
1/10/2018	<0.1			<0.1		<0.1			
1/11/2018					<0.1		0.98	1.4	<0.1
7/9/2018			0.04 (J)						
7/10/2018	<0.1	<0.1		0.2 (J)					
7/11/2018					<0.1	<0.1	0.14 (J)	0.62	<0.1
1/16/2019	<0.1	0.053 (J)	<0.1	<0.1		<0.1			
1/17/2019					<0.1			1.2	
1/18/2019							0.24 (J)		<0.1
1/21/2019									
3/25/2019			0.082 (J)						
3/26/2019	0.051 (J)	0.046 (J)		<0.1		0.052 (J)			
3/27/2019					<0.1		0.13 (J)	0.036 (J)	<0.1
7/30/2019									
8/26/2019			0.13						
8/27/2019	<0.1	0.13 (J)			<0.1	<0.1		0.3	0.1
8/28/2019				0.097 (J)			0.088 (J)		
10/7/2019			<0.1						
10/8/2019					<0.1	<0.1			
10/9/2019	<0.1	<0.1		<0.1			0.068 (J)	<0.1	<0.1
4/6/2020			0.089 (J)						
4/7/2020	<0.1	<0.1		<0.1	<0.1			0.27 (J)	<0.1
4/8/2020						<0.1	0.058 (J)		
8/17/2020			0.079 (J)			<0.1		0.19	
8/18/2020					<0.1				<0.1
8/19/2020	<0.1	<0.1		<0.1			0.092 (J)		
9/28/2020	<0.1		<0.1			<0.1			
9/29/2020					<0.1			0.16	
9/30/2020		<0.1		<0.1					<0.1
10/1/2020							<0.1		

# Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-2	GWA-7 (bg)	GWC-20	GWC-17	GWC-16	GWC-15	GWC-21	GWB-4R	GWC-14
8/30/2016									
8/31/2016	0.07 (J)								
9/1/2016		<0.1	<0.1	0.68	0.55	<0.1	<0.1	<0.1	0.25 (J)
10/24/2016									
10/25/2016		0.07 (J)	<0.1		0.36	0.5	<0.1		0.43
10/26/2016	0.62			0.68				0.05 (J)	
10/27/2016									
1/3/2017									
1/4/2017			0.04 (J)		0.1 (J)		<0.1		
1/5/2017	0.17 (J)			0.73		0.22 (J)			0.21 (J)
1/6/2017		0.2 (J)						0.08 (J)	
4/3/2017						<0.1			
4/4/2017	0.08 (J)		0.02 (J)				<0.1	<0.1	0.45
4/5/2017				1.6	0.2 (J)				
4/6/2017		0.05 (J)							
7/10/2017									
7/11/2017			0.14 (J)			0.06 (J)			0.41
7/12/2017					0.04 (J)			0.38	
7/13/2017	0.06 (J)	0.41		1.7			<0.1		
10/2/2017			<0.1			<0.1			<0.1
10/3/2017	0.06 (J)				0.86		<0.1		
10/4/2017		0.04 (J)		1.8				<0.1	
1/9/2018		0.46				<0.1	<0.1		<0.1
1/10/2018	<0.1		<0.1		<0.1				
1/11/2018				1.5				<0.1	
7/9/2018			<0.1						<0.1
7/10/2018	<0.1				<0.1	0.15 (J)	<0.1		
7/11/2018		<0.1		1.8				<0.1	
1/16/2019		0.49		1.4				1.2	<0.1
1/17/2019					<0.1	<0.1	<0.1		
1/18/2019									
1/21/2019	<0.1		<0.1						
3/25/2019		0.21 (J)	0.043 (J)					0.064 (J)	
3/26/2019				0.89	0.11 (J)	0.13 (J)	0.071 (J)		0.13 (J)
3/27/2019									
7/30/2019	0.083 (J)								
8/26/2019		<0.1							
8/27/2019	<0.1					<0.1		0.031 (J)	<0.1
8/28/2019			<0.1	0.61	<0.1		<0.1		
10/7/2019									
10/8/2019		<0.1			<0.1	<0.1	<0.1		<0.1
10/9/2019	<0.1		<0.1	<0.1				<0.1	
4/6/2020		0.13 (J)							
4/7/2020					<0.1	<0.1	<0.1	<0.1	<0.1
4/8/2020	<0.1		<0.1	0.55					
8/17/2020									
8/18/2020	<0.1		<0.1	0.51	<0.1	<0.1	<0.1		<0.1
8/19/2020		0.21						0.17	
9/28/2020		0.069 (J)							
9/29/2020	<0.1								<0.1
9/30/2020			<0.1	0.15	<0.1	<0.1	<0.1		
10/1/2020								<0.1	

# Prediction Limit

Constituent: pH (SU) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal

Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-14	GWC-22	GWB-4R	GWC-21	GWC-11	GWC-20	GWC-1	GWC-17	GWB-5R
7/16/2013	4.62	4.91	6.22	5.71	5.2	6.1	5.38	4.55	5.95
10/11/2014	4.58								
10/24/2016									
10/25/2016	4.79			5.41		6.06	5.51		
10/26/2016		4.6	6.06		5.08			4.45	5.27
10/27/2016									
1/3/2017									5.09
1/4/2017		4.63		5.6	5.06	6.05	5.46		
1/5/2017	4.73							4.45	
1/6/2017			6.02						
4/3/2017									
4/4/2017	4.68		6.08	5.94		6.03	5.43		
4/5/2017								4.33	
4/6/2017		4.79			4.97				5.22
7/10/2017									
7/11/2017	4.72	4.73			5.26	5.96			
7/12/2017			5.93				5.46		5.29
7/13/2017				5.6				4.11	
10/2/2017	5.13					5.88			
10/3/2017				5.18	5.07		5.65		5.08
10/4/2017		4.74	5.77					4.09	
1/9/2018	5.59			6.14					
1/10/2018						6.21	5.67		5.83
1/11/2018		5.22	5.98		5.18			4.4	
7/9/2018	5.11					6.24			
7/10/2018				5.7			5.71		6.42
7/11/2018		4.68	6.01		4.82			4.07	
1/16/2019	6.82		5.83				5.59	4.05	6.66
1/17/2019				7.39	4.91				
1/18/2019		6.98 (o)							
1/21/2019						7.73 (o)			
3/25/2019			5.74			6.28			
3/26/2019	5.74			6.08			5.77	4.62	5.1
3/27/2019		4.77			5.18				
7/30/2019									
8/26/2019									
8/27/2019	5.58	4.89	5.7		5.17		5.84		
8/28/2019				6.05		6.34		4.62	5.95
10/7/2019									
10/8/2019	5.68			6.09	4.93				
10/9/2019		4.68	5.79			6.5	5.82	4.66	6.11
4/6/2020									
4/7/2020	6.2	4.8	5.74	6	5.05		5.3		5.45
4/8/2020						6.31		4.71	
8/17/2020									
8/18/2020	5.56	4.52		5.82	4.41	5.89		4.31	
8/19/2020			5.7				5.73		5.14 (D)
9/28/2020							5.79		
9/29/2020	5.69				4.77				
9/30/2020		4.63		5.82		6.04		4.08	4.99
10/1/2020			5.75						

# Prediction Limit

Constituent: pH (SU) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWC-2	GWC-16	GWB-6R	GWC-13	GWC-15	GWC-12	GWC-9	GWA-8 (bg)	GWA-7 (bg)
7/16/2013	4.52	4.92	5.25	4.95	5.96	4.17	5.05		
10/11/2014		5.17						4.42	
10/24/2016								4.36	
10/25/2016		5.58			6.46				6.17
10/26/2016	4.48		5.21	4.95		4.04			
10/27/2016							4.65		
1/3/2017								4.28	
1/4/2017		5.51				4.01			
1/5/2017	4.85		5.2	4.97	6.25				
1/6/2017							4.56		6.16
4/3/2017					6.25			4.29	
4/4/2017	4.58								
4/5/2017		5.51		4.81		4			
4/6/2017			5.17				4.5		6.26
7/10/2017						3.89			
7/11/2017					6.5			4.35	
7/12/2017		5.84	5.24	4.83			4.56		
7/13/2017	4.74								5.99
10/2/2017					6.83			4.32	
10/3/2017	4.57	5.55	5.36						
10/4/2017				4.71		4.06	4.72		6.16
1/9/2018			5.4		6.57			4.44	6.43
1/10/2018	5.31	5.99		5.17					
1/11/2018						3.96	4.34		
7/9/2018								4.4	
7/10/2018	4.58	5.5	5.31		6.42				
7/11/2018				4.49		3.95	4.68		6.1
1/16/2019			5.99	6.45 (o)				6.16 (o)	6.05
1/17/2019		7.13			8.44 (o)	3.89			
1/18/2019							6.87 (o)		
1/21/2019	5.05								
3/25/2019								4.4	6.06
3/26/2019		5.57	5.94	4.96	6.65				
3/27/2019						4.11	4.38		
7/30/2019	4.74								
8/26/2019								4.26	5.91
8/27/2019	4.77		5.67	4.9	6.57	4.02			
8/28/2019		5.57					4.68		
10/7/2019								4.24	
10/8/2019		5.54		4.81	6.65				5.74
10/9/2019	4.79		5.66			4.25	4.62		
4/6/2020								4.52	6.02
4/7/2020		5.94	5.86		6.83	4.1			
4/8/2020	4.66			4.81			4.73		
8/17/2020				4.65		3.94		4.23	
8/18/2020	4.6	5.52			6.39				
8/19/2020			5.21				4.58		5.81 (D)
9/28/2020				4.76				4.41	5.86
9/29/2020	4.6					3.95			
9/30/2020		5.47	5.39		6.71				
10/1/2020							4.42		











FIGURE G.

# Federal Trend Test Summary - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:25 PM

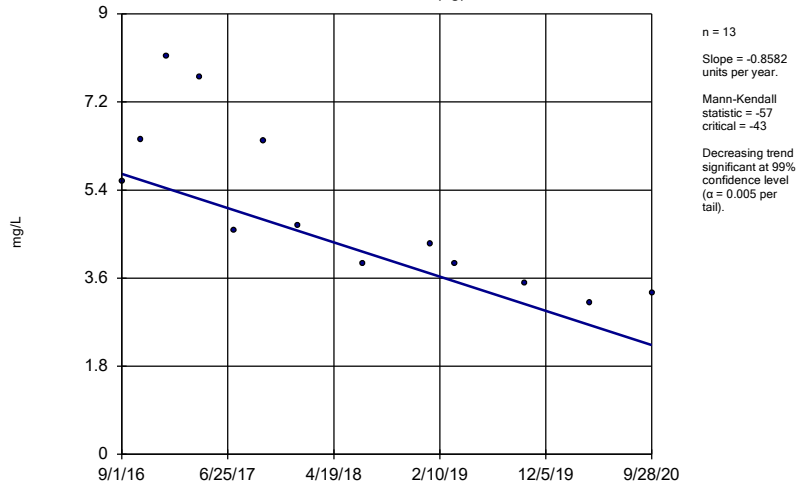
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	2.404	45	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-1	7.096	46	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-11	18.54	52	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-12	-14.86	-76	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-16	33.97	47	43	Yes	13	0	n/a	n/a	0.01	NP
pH (SU)	GWA-7 (bg)	-0.09426	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-11	90.66	44	43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-12	-183.6	-62	-43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-6R	29.16	44	43	Yes	13	0	n/a	n/a	0.01	NP

# Federal Trend Test Summary - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/17/2021, 4:25 PM

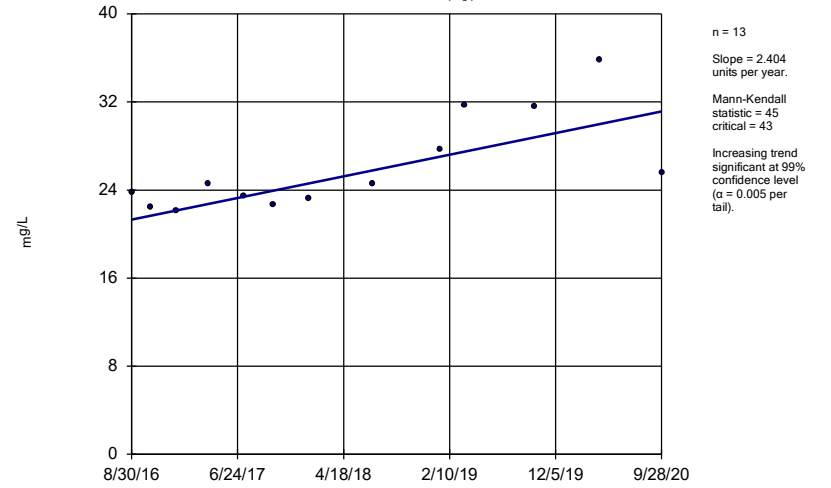
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	2.404	45	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-1	7.096	46	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-11	18.54	52	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-12	-14.86	-76	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-15	0	0	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-16	33.97	47	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-17	-7.952	-22	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-20	13.21	22	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWC-21	10.66	25	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWB-4R	11.14	38	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWB-5R	7.096	39	43	No	13	0	n/a	n/a	0.01	NP
pH (SU)	GWA-7 (bg)	-0.09426	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (SU)	GWA-8 (bg)	-0.00534	-6	-48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	GWC-12	-0.0104	-13	-53	No	15	0	n/a	n/a	0.01	NP
pH (SU)	GWC-15	0.09104	43	48	No	14	0	n/a	n/a	0.01	NP
pH (SU)	GWC-17	-0.003342	-3	-53	No	15	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-7 (bg)	-4.311	-28	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWA-8 (bg)	-5.525	-22	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-11	90.66	44	43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-12	-183.6	-62	-43	Yes	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-16	104.4	36	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-17	-21.55	-9	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-20	8.539	4	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWC-21	7.935	19	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-4R	-8.849	-10	-43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-5R	24.49	24	43	No	13	0	n/a	n/a	0.01	NP
Sulfate (mg/L)	GWB-6R	29.16	44	43	Yes	13	0	n/a	n/a	0.01	NP

Sen's Slope Estimator  
GWA-7 (bg)



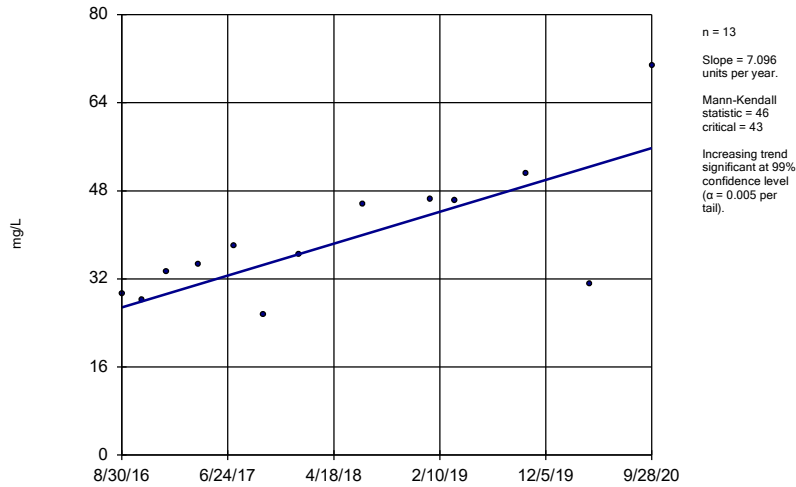
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWA-8 (bg)



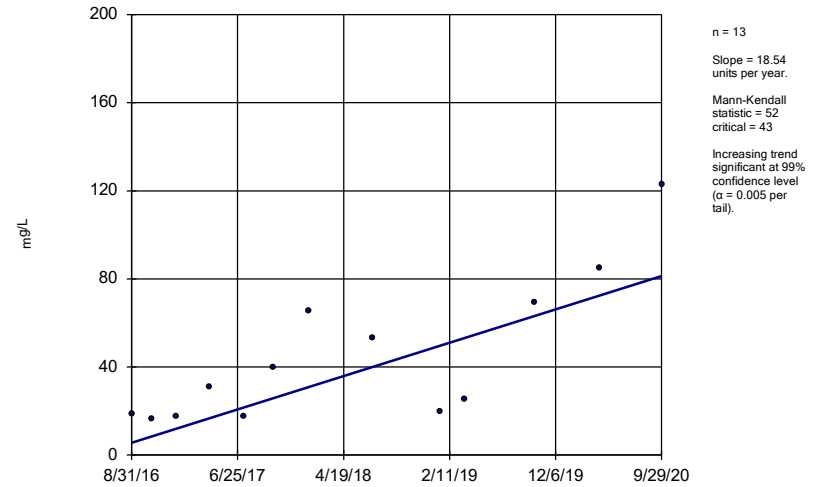
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-1



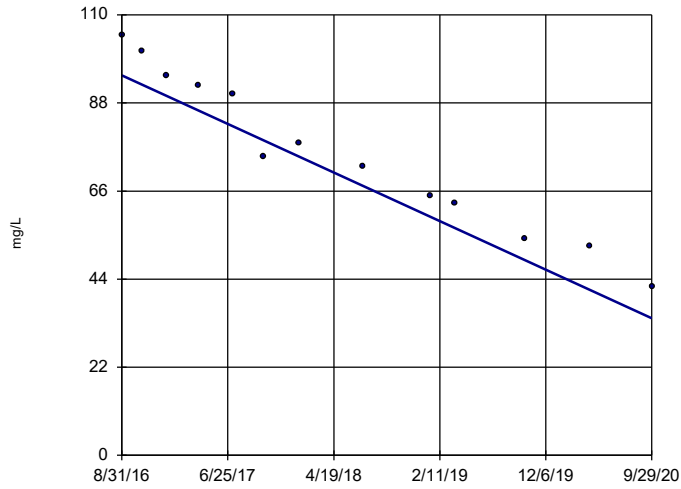
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-11



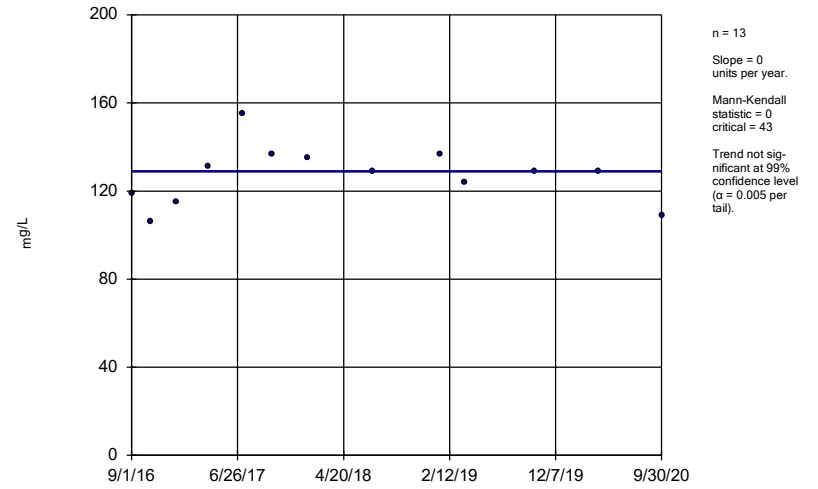
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-12



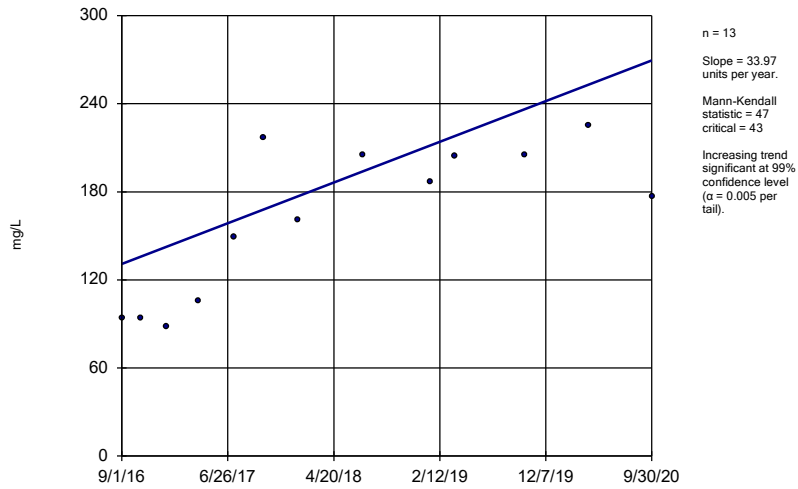
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-15



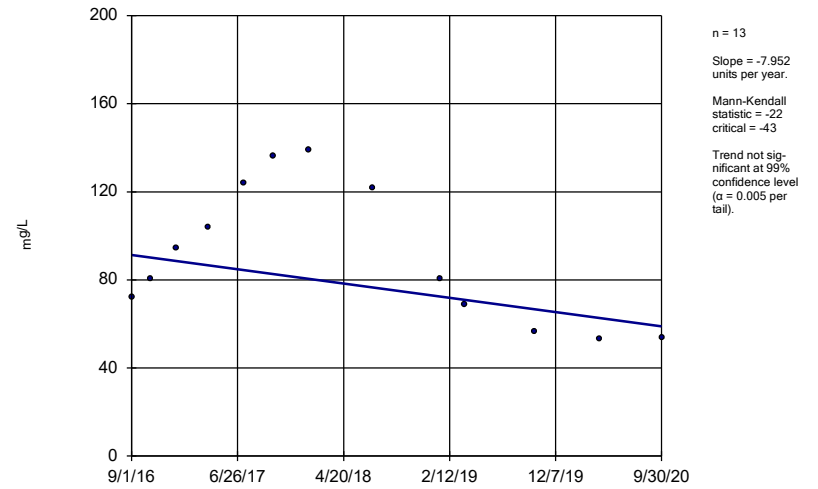
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-16



Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

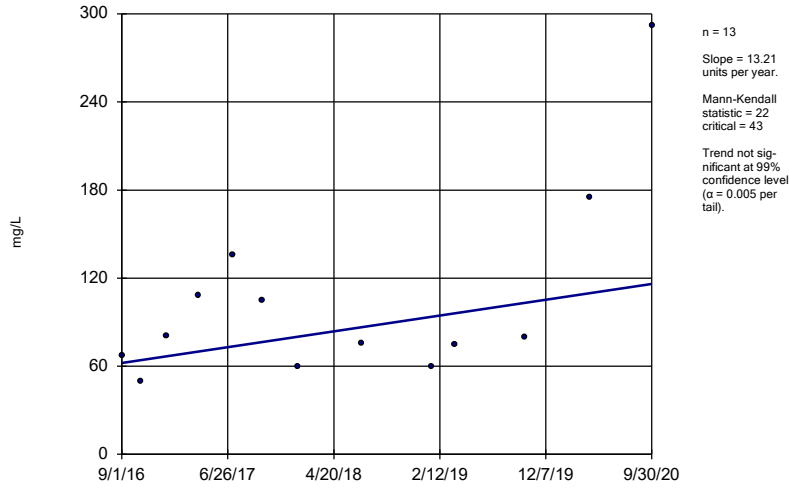
Sen's Slope Estimator  
GWC-17



Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

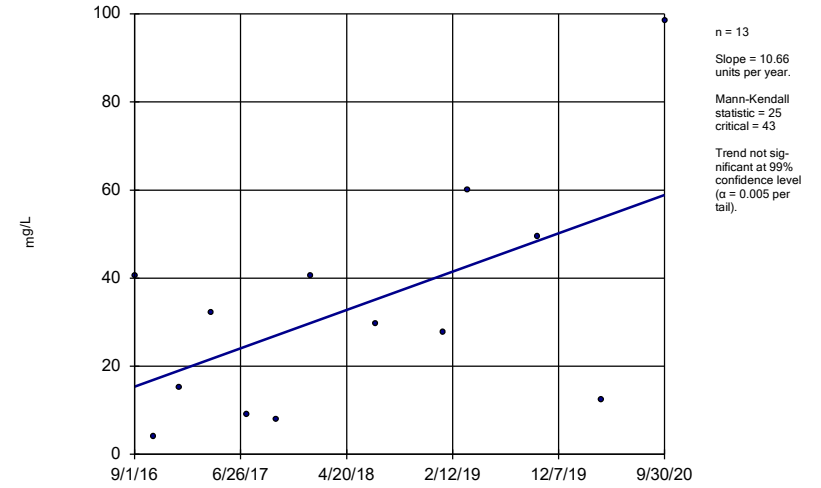


Sen's Slope Estimator  
GWC-20



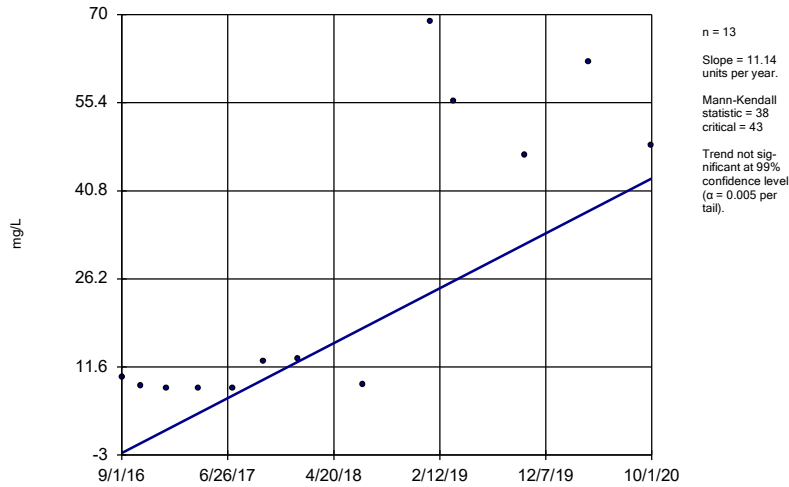
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-21



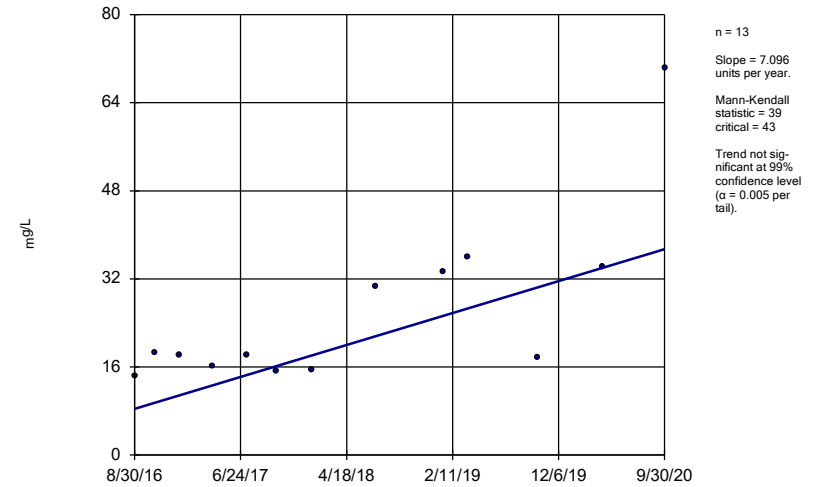
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWB-4R



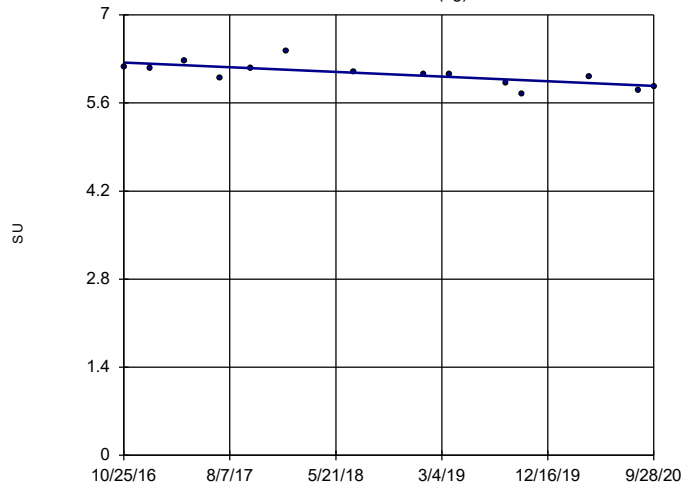
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWB-5R



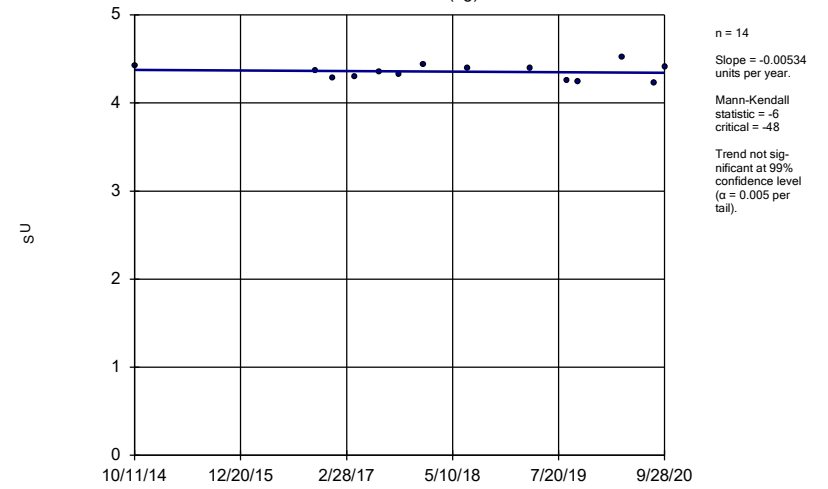
Constituent: Calcium Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWA-7 (bg)



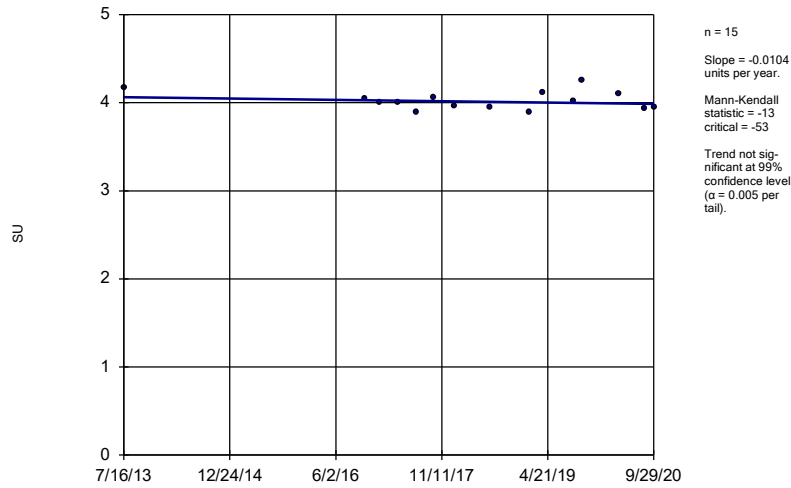
Constituent: pH Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWA-8 (bg)



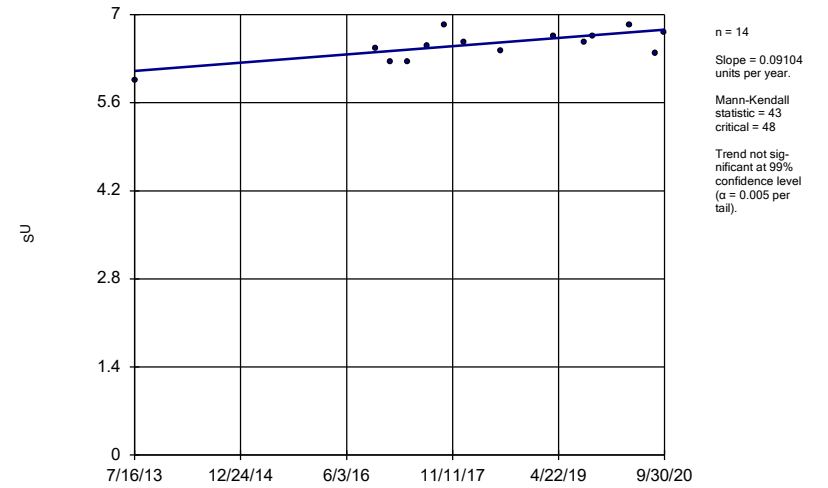
Constituent: pH Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-12



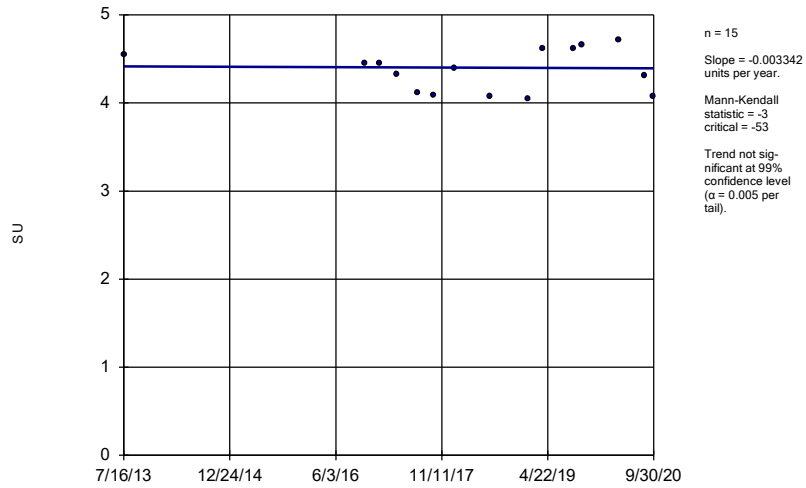
Constituent: pH Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-15



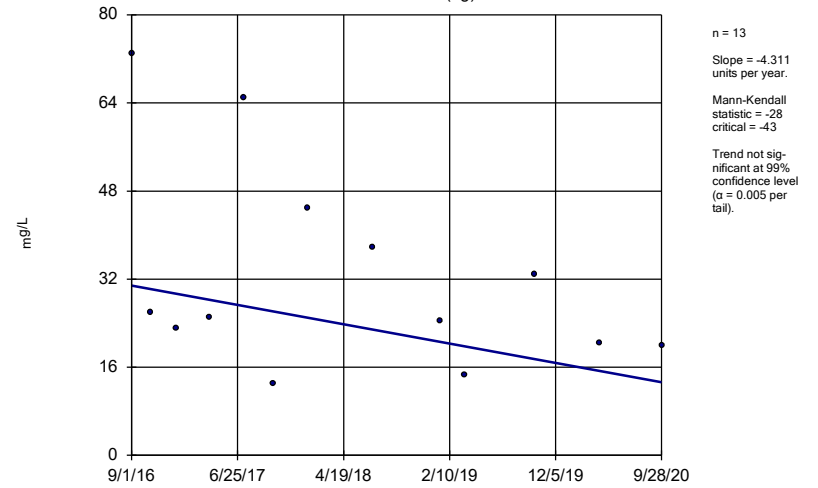
Constituent: pH Analysis Run 2/17/2021 4:23 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-17



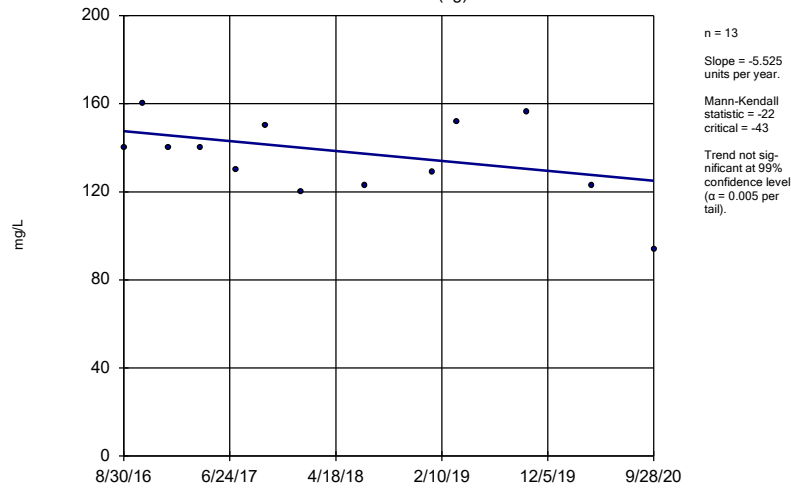
Constituent: pH Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWA-7 (bg)



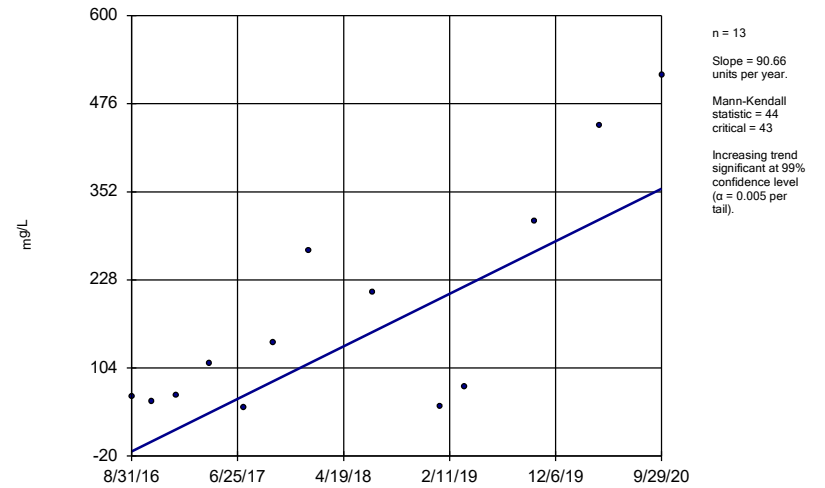
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWA-8 (bg)



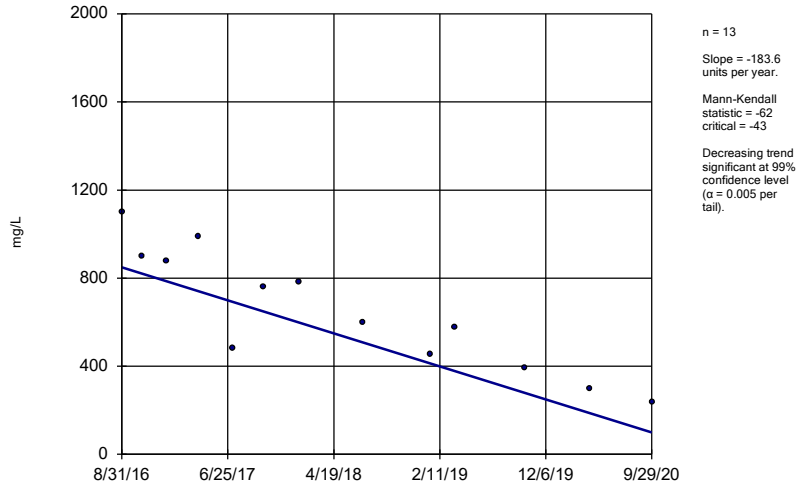
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-11



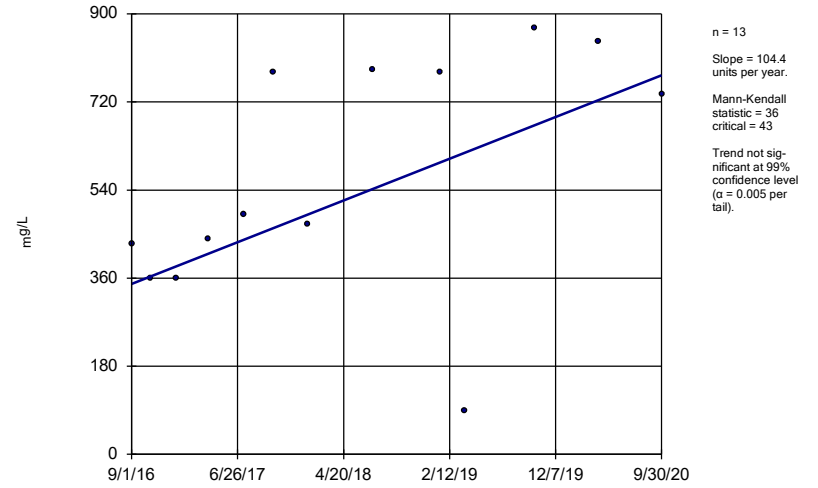
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-12



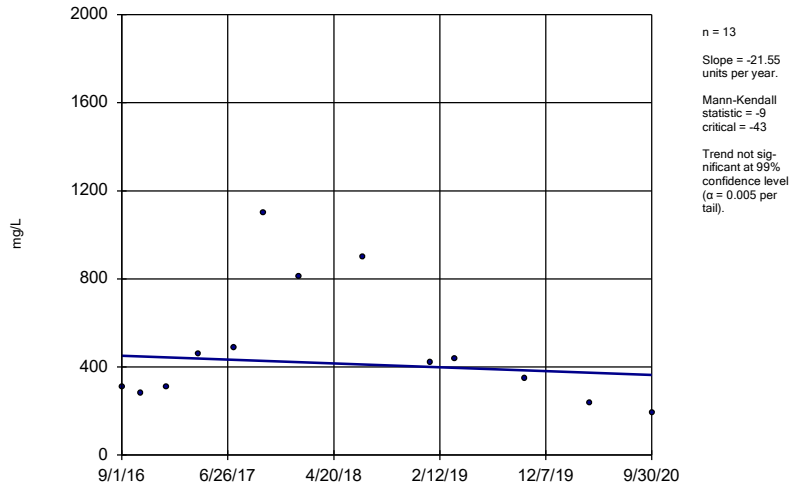
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-16



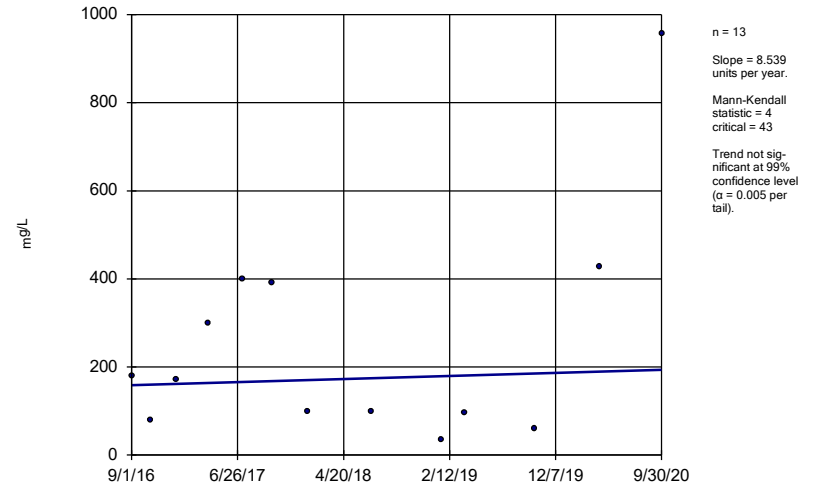
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-17



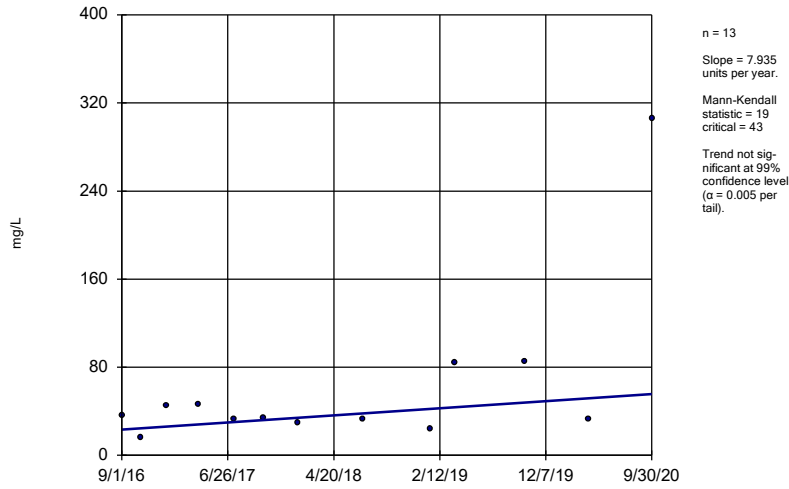
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sen's Slope Estimator  
GWC-20



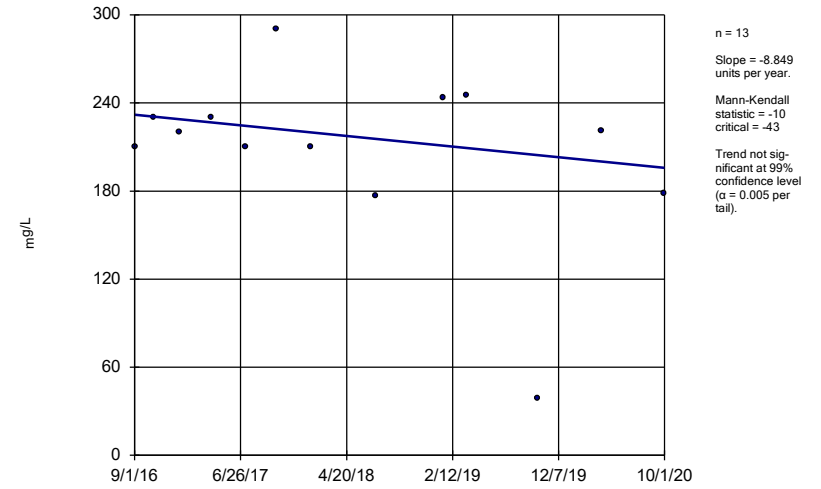
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWC-21



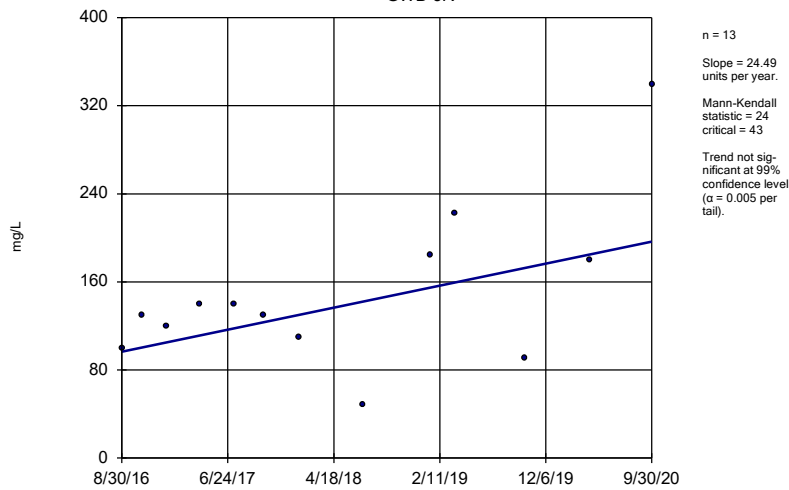
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWB-4R



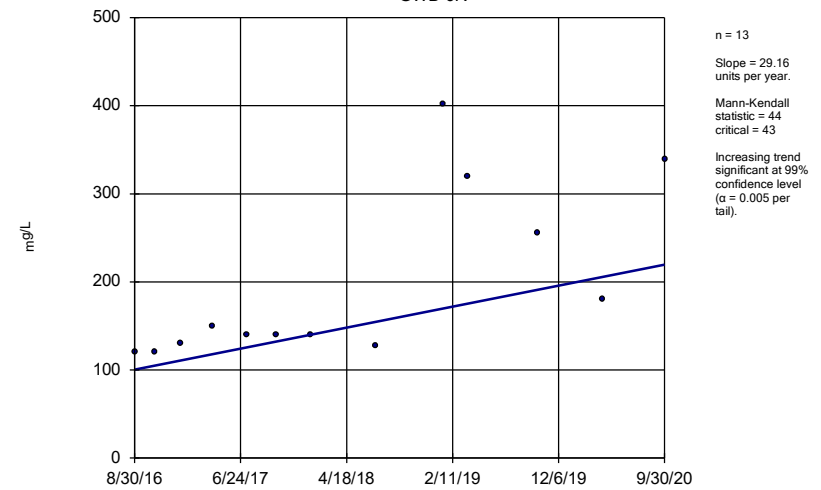
Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWB-5R



Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sen's Slope Estimator GWB-6R



Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal  
Grumman Road Landfill Client: Southern Company Data: Grumman Road

FIGURE H.

# Tolerance Limit Summary Table

Grumman Road Landfill    Client: Southern Company    Data: Grumman Road    Printed 2/1/2021, 1:50 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	n/a	0.003	119	n/a	n/a	94.96	n/a	n/a	0.002234	NP Inter
Arsenic (mg/L)	n/a	0.0287	119	n/a	n/a	77.31	n/a	n/a	0.002234	NP Inter
Barium (mg/L)	n/a	0.22	117	n/a	n/a	0	n/a	n/a	0.002475	NP Inter
Beryllium (mg/L)	n/a	0.003	39	n/a	n/a	53.85	n/a	n/a	0.1353	NP Inter
Cadmium (mg/L)	n/a	0.0025	37	n/a	n/a	94.59	n/a	n/a	0.1499	NP Inter
Chromium (mg/L)	n/a	0.068	118	n/a	n/a	63.56	n/a	n/a	0.002352	NP Inter
Cobalt (mg/L)	n/a	0.0102	38	n/a	n/a	52.63	n/a	n/a	0.1424	NP Inter
Combined Radium 226 + 228 (pCi/L)	n/a	33.8	26	n/a	n/a	0	n/a	n/a	0.2635	NP Inter
Fluoride (mg/L)	n/a	0.49	30	n/a	n/a	23.33	n/a	n/a	0.2146	NP Inter
Lead (mg/L)	n/a	0.013	115	n/a	n/a	76.52	n/a	n/a	0.002743	NP Inter
Lithium (mg/L)	n/a	0.03	26	n/a	n/a	76.92	n/a	n/a	0.2635	NP Inter
Mercury (mg/L)	n/a	0.0002	22	n/a	n/a	86.36	n/a	n/a	0.3235	NP Inter
Molybdenum (mg/L)	n/a	0.01	26	n/a	n/a	88.46	n/a	n/a	0.2635	NP Inter
Selenium (mg/L)	n/a	0.0438	119	n/a	n/a	83.19	n/a	n/a	0.002234	NP Inter
Thallium (mg/L)	n/a	0.001	58	n/a	n/a	93.1	n/a	n/a	0.05105	NP Inter
Vanadium (mg/L)	n/a	0.425	111	n/a	n/a	64.86	n/a	n/a	0.003368	NP Inter
Zinc (mg/L)	n/a	0.16	105	n/a	n/a	27.62	n/a	n/a	0.004581	NP Inter

FIGURE I.



<b>GRUMMAN ROAD LANDFILL GWPS</b>			
<b>Constituent Name</b>	<b>MCL</b>	<b>Background Limit</b>	<b>GWPS</b>
Antimony, Total (mg/L)	0.006	0.003	0.006
Arsenic, Total (mg/L)	0.01	0.029	0.029
Barium, Total (mg/L)	2	0.22	2
Beryllium, Total (mg/L)	0.004	0.003	0.004
Cadmium, Total (mg/L)	0.005	0.0025	0.005
Chromium, Total (mg/L)	0.1	0.068	0.1
Cobalt, Total (mg/L)	n/a	0.01	0.01
Combined Radium, Total (pCi/L)	5	33.8	33.8
Fluoride, Total (mg/L)	4	0.49	4
Lead, Total (mg/L)	n/a	0.013	0.013
Lithium, Total (mg/L)	n/a	0.03	0.03
Mercury, Total (mg/L)	0.002	0.0002	0.002
Molybdenum, Total (mg/L)	n/a	0.01	0.01
Selenium, Total (mg/L)	0.05	0.044	0.05
Thallium, Total (mg/L)	0.002	0.001	0.002
Vanadium (mg/L)	n/a	0.43	0.43
Zinc (mg/L)	n/a	0.16	0.16

*\*Highlighted cells indicated Background is higher than MCLs.*

*\*MCL = Maximum Contaminant Level*

*\*GWPS - Groundwater Protection Standard*

FIGURE J.

# Appendix II and IV Confidence Interval Summary Table - Significant Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	GWC-15	0.1476	0.05755	0.029	Yes 17	0.1099	0.07879	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	GWC-16	0.089	0.0466	0.029	Yes 18	0.07044	0.01771	0	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-20	0.3663	0.2809	0.029	Yes 17	0.3236	0.06818	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-1	0.1716	0.07167	0.01	Yes 13	0.1216	0.06717	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-15	0.1145	0.0908	0.01	Yes 13	0.1026	0.01591	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-16	0.1953	0.1126	0.01	Yes 13	0.154	0.05558	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-20	0.2598	0.1032	0.01	Yes 13	0.1815	0.1053	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWC-21	0.06514	0.01913	0.01	Yes 13	0.04214	0.03094	0	None	No	0.01	Param.
Molybdenum (mg/L)	GWB-4R	0.15	0.0209	0.01	Yes 13	0.06482	0.05453	0	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	GWA-7 (bg)	0.003	0.0017	0.006	No 17	0.002571	0.0008176	76.47	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-1	0.003	0.00061	0.006	No 17	0.002704	0.0008382	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-11	0.003	0.00051	0.006	No 17	0.001724	0.001246	47.06	None	No	0.01	NP (normality)
Antimony (mg/L)	GWC-13	0.003	0.0006	0.006	No 17	0.002859	0.0005821	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-14	0.003	0.003	0.006	No 18	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-16	0.003	0.003	0.006	No 18	0.003	0	100	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-2	0.003	0.0016	0.006	No 17	0.002818	0.0005175	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-20	0.003	0.0019	0.006	No 17	0.002935	0.0002668	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-21	0.003	0.00033	0.006	No 17	0.002843	0.0006476	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-22	0.003	0.0022	0.006	No 17	0.002573	0.0008769	76.47	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWC-9	0.003	0.0016	0.006	No 17	0.002761	0.0007121	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-4R	0.003	0.0003	0.006	No 17	0.002841	0.0006548	94.12	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-5R	0.003	0.00054	0.006	No 17	0.002696	0.0008579	88.24	None	No	0.01	NP (NDs)
Antimony (mg/L)	GWB-6R	0.003	0.00059	0.006	No 17	0.002858	0.0005845	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWA-7 (bg)	0.01003	0.004246	0.029	No 17	0.008241	0.006088	23.53	Kaplan-Meierx^(1/3)		0.01	Param.
Arsenic (mg/L)	GWA-8 (bg)	0.005	0.0009	0.029	No 18	0.003569	0.002086	66.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-1	0.0058	0.0018	0.029	No 16	0.0046	0.006187	0	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-12	0.005	0.0009	0.029	No 17	0.004253	0.001664	82.35	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWC-13	0.005	0.0006	0.029	No 17	0.004481	0.001465	88.24	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWC-14	0.0026	0.0017	0.029	No 18	0.002363	0.001043	11.11	None	No	0.01	NP (normality)
<b>Arsenic (mg/L)</b>	<b>GWC-15</b>	<b>0.1476</b>	<b>0.05755</b>	<b>0.029</b>	<b>Yes 17</b>	<b>0.1099</b>	<b>0.07879</b>	<b>0</b>	<b>None</b>	<b>sqrt(x)</b>	<b>0.01</b>	<b>Param.</b>
<b>Arsenic (mg/L)</b>	<b>GWC-16</b>	<b>0.089</b>	<b>0.0466</b>	<b>0.029</b>	<b>Yes 18</b>	<b>0.07044</b>	<b>0.01771</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Arsenic (mg/L)	GWC-17	0.005	0.0011	0.029	No 17	0.002589	0.001853	35.29	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-2	0.005	0.00094	0.029	No 17	0.004231	0.001715	82.35	None	No	0.01	NP (NDs)
<b>Arsenic (mg/L)</b>	<b>GWC-20</b>	<b>0.3663</b>	<b>0.2809</b>	<b>0.029</b>	<b>Yes 17</b>	<b>0.3236</b>	<b>0.06818</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Arsenic (mg/L)	GWC-21	0.00419	0.002641	0.029	No 17	0.004106	0.001342	35.29	Kaplan-MeierNo		0.01	Param.
Arsenic (mg/L)	GWC-22	0.005	0.0006	0.029	No 17	0.002975	0.002038	47.06	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWC-9	0.005	0.00084	0.029	No 17	0.004755	0.001009	94.12	None	No	0.01	NP (NDs)
Arsenic (mg/L)	GWB-4R	0.003241	0.0018	0.029	No 17	0.002521	0.00115	11.76	None	No	0.01	Param.
Arsenic (mg/L)	GWB-5R	0.005	0.001	0.029	No 17	0.002406	0.001814	23.53	None	No	0.01	NP (normality)
Arsenic (mg/L)	GWB-6R	0.00259	0.001237	0.029	No 17	0.002943	0.001663	29.41	Kaplan-Meierx^(1/3)		0.01	Param.
Barium (mg/L)	GWA-7 (bg)	0.147	0.08279	2	No 16	0.1149	0.04934	0	None	No	0.01	Param.
Barium (mg/L)	GWA-8 (bg)	0.06557	0.05823	2	No 18	0.0619	0.006073	0	None	No	0.01	Param.
Barium (mg/L)	GWC-1	0.05709	0.05031	2	No 17	0.0537	0.005409	0	None	No	0.01	Param.
Barium (mg/L)	GWC-11	0.116	0.06249	2	No 17	0.08923	0.04267	0	None	No	0.01	Param.
Barium (mg/L)	GWC-12	0.0191	0.017	2	No 17	0.01841	0.00374	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-13	0.02514	0.02028	2	No 17	0.02271	0.003874	0	None	No	0.01	Param.
Barium (mg/L)	GWC-14	0.038	0.0248	2	No 18	0.03612	0.01865	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-15	0.04776	0.03849	2	No 17	0.04312	0.007403	0	None	No	0.01	Param.
Barium (mg/L)	GWC-16	0.1226	0.05782	2	No 16	0.0999	0.0697	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWC-17	0.1149	0.04739	2	No 17	0.08628	0.05882	0	None	sqrt(x)	0.01	Param.
Barium (mg/L)	GWC-2	0.057	0.049	2	No 16	0.0535	0.007975	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-20	0.164	0.078	2	No 17	0.1374	0.09319	0	None	No	0.01	NP (normality)
Barium (mg/L)	GWC-21	0.0927	0.04919	2	No 17	0.07652	0.04397	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWC-22	0.09837	0.06303	2	No 17	0.0807	0.0282	0	None	No	0.01	Param.
Barium (mg/L)	GWC-9	0.2639	0.1907	2	No 17	0.2273	0.05839	0	None	No	0.01	Param.
Barium (mg/L)	GWB-4R	0.09313	0.07851	2	No 17	0.08629	0.01261	0	None	ln(x)	0.01	Param.
Barium (mg/L)	GWB-5R	0.1569	0.09433	2	No 17	0.1295	0.05651	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	GWB-6R	0.107	0.013	2	No 17	0.07405	0.04251	0	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWA-7 (bg)	0.003	0.0003	0.004	No 13	0.001908	0.001288	53.85	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWA-8 (bg)	0.00024	0.00019	0.004	No 13	0.0004169	0.0007763	7.692	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-12	0.0008417	0.0005038	0.004	No 13	0.00068	0.000238	0	None	sqrt(x)	0.01	Param.
Beryllium (mg/L)	GWC-13	0.003	0.000058	0.004	No 13	0.002774	0.000816	92.31	None	No	0.01	NP (NDs)
Beryllium (mg/L)	GWC-14	0.003	0.00009	0.004	No 13	0.002327	0.001279	76.92	None	No	0.01	NP (NDs)
Beryllium (mg/L)	GWC-16	0.003	0.000068	0.004	No 13	0.0009827	0.0014	30.77	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results Page 2

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Beryllium (mg/L)	GWC-17	0.002825	0.00159	0.004	No 13	0.002277	0.0009284	0	None	ln(x)	0.01	Param.
Beryllium (mg/L)	GWC-2	0.003	0.000088	0.004	No 14	0.001972	0.001433	64.29	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-22	0.003	0.000076	0.004	No 13	0.001449	0.001495	46.15	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWC-9	0.0003	0.0002	0.004	No 13	0.0002508	0.00004856	0	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-4R	0.003	0.0001	0.004	No 13	0.001685	0.001481	53.85	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-5R	0.003	0.000076	0.004	No 13	0.0008324	0.001238	23.08	None	No	0.01	NP (normality)
Beryllium (mg/L)	GWB-6R	0.003	0.00005	0.004	No 13	0.002546	0.001109	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWA-7 (bg)	0.0025	0.0007	0.005	No 13	0.002177	0.0007981	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWC-1	0.0025	0.0001	0.005	No 13	0.002128	0.0009069	84.62	None	No	0.01	NP (NDs)
Cadmium (mg/L)	GWC-11	0.0007867	0.000195	0.005	No 13	0.0005485	0.0006203	7.692	None	x^(1/3)	0.01	Param.
Cadmium (mg/L)	GWC-14	0.0025	0.00012	0.005	No 13	0.001245	0.001209	46.15	None	No	0.01	NP (normality)
Cadmium (mg/L)	GWC-22	0.0025	0.0001	0.005	No 13	0.0007346	0.001013	23.08	None	No	0.01	NP (normality)
Cadmium (mg/L)	GWB-4R	0.0025	0.00009	0.005	No 13	0.001775	0.001132	69.23	None	No	0.01	NP (normality)
Chromium (mg/L)	GWA-7 (bg)	0.04075	0.0199	0.1	No 16	0.03145	0.01716	0	None	sqrt(x)	0.01	Param.
Chromium (mg/L)	GWA-8 (bg)	0.01	0.00071	0.1	No 18	0.006892	0.004525	66.67	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-1	0.0024	0.0016	0.1	No 17	0.002647	0.002187	5.882	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-11	0.01	0.0007	0.1	No 17	0.004628	0.004614	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-12	0.0028	0.00085	0.1	No 17	0.002761	0.003484	17.65	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-13	0.01	0.0007	0.1	No 17	0.005192	0.004681	47.06	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-14	0.01	0.00074	0.1	No 18	0.003926	0.004425	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-15	0.01	0.0012	0.1	No 17	0.004424	0.004252	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-16	0.01	0.00098	0.1	No 18	0.004982	0.004621	38.89	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-17	0.01	0.0009	0.1	No 17	0.003953	0.004165	29.41	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-2	0.01	0.00069	0.1	No 17	0.006178	0.00471	58.82	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-20	0.01	0.00089	0.1	No 17	0.004694	0.004578	41.18	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-21	0.01	0.00065	0.1	No 17	0.005088	0.004776	41.18	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-22	0.01	0.00057	0.1	No 17	0.005022	0.004838	47.06	None	No	0.01	NP (normality)
Chromium (mg/L)	GWC-9	0.01	0.001	0.1	No 17	0.004376	0.004297	35.29	None	No	0.01	NP (normality)
Chromium (mg/L)	GWB-4R	0.0106	0.0022	0.1	No 17	0.007	0.004547	0	None	No	0.01	NP (normality)
Chromium (mg/L)	GWB-5R	0.004847	0.001087	0.1	No 17	0.008741	0.01682	23.53	Kaplan-Meier	ln(x)	0.01	Param.
Chromium (mg/L)	GWB-6R	0.006321	0.001915	0.1	No 17	0.005429	0.005535	0	None	ln(x)	0.01	Param.
Cobalt (mg/L)	GWA-7 (bg)	0.006264	0.002786	0.01	No 12	0.004525	0.002216	8.333	None	No	0.01	Param.
Cobalt (mg/L)	GWA-8 (bg)	0.005	0.0004	0.01	No 13	0.002542	0.002369	46.15	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-11	0.005	0.0004	0.01	No 13	0.003942	0.002011	76.92	None	No	0.01	NP (NDs)
Cobalt (mg/L)	GWC-12	0.001378	0.0008286	0.01	No 13	0.001103	0.0003691	0	None	No	0.01	Param.
Cobalt (mg/L)	GWC-14	0.005	0.0003	0.01	No 13	0.004638	0.001304	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	GWC-17	0.006347	0.003084	0.01	No 13	0.004715	0.002194	0	None	No	0.01	Param.
Cobalt (mg/L)	GWC-2	0.005	0.00032	0.01	No 14	0.003384	0.002258	64.29	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-22	0.005	0.0007	0.01	No 13	0.003034	0.002215	53.85	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWC-9	0.0021	0.00099	0.01	No 13	0.001444	0.0003785	0	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-4R	0.0024	0.00072	0.01	No 13	0.001371	0.001185	7.692	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-5R	0.005	0.00053	0.01	No 13	0.00343	0.001963	53.85	None	No	0.01	NP (normality)
Cobalt (mg/L)	GWB-6R	0.005	0.00038	0.01	No 13	0.004645	0.001281	92.31	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	GWA-7 (bg)	16.53	5.477	33.8	No 13	11.79	9.412	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWA-8 (bg)	2.796	1.947	33.8	No 13	2.372	0.5715	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-1	2.337	1.578	33.8	No 13	1.958	0.5104	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-11	6.68	2.756	33.8	No 13	4.718	2.638	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-12	3.043	1.816	33.8	No 13	2.43	0.8249	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-13	1.373	0.7793	33.8	No 13	1.076	0.3993	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-14	1.273	0.7216	33.8	No 13	0.9973	0.3707	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-15	1.87	1.103	33.8	No 13	1.486	0.5156	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-16	4.17	1.72	33.8	No 13	2.244	0.923	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWC-17	4.199	2.777	33.8	No 13	3.488	0.956	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-2	1.021	0.6234	33.8	No 13	0.8223	0.2675	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-20	4.25	1.613	33.8	No 13	2.932	1.773	0	None	No	0.01	Param.

# Appendix II and IV Confidence Interval Summary Table - All Results Page 3

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Combined Radium 226 + 228 (pCi/L)	GWC-21	2.454	1.093	33.8	No 13	1.774	0.9153	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWC-22	7.65	3	33.8	No 13	5.675	1.933	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWC-9	4.024	2.285	33.8	No 13	3.278	1.619	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWB-4R	5.1	2.32	33.8	No 13	3.512	1.207	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	GWB-5R	3.897	2.048	33.8	No 13	3.048	1.498	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	GWB-6R	4.892	2.351	33.8	No 13	3.622	1.708	0	None	No	0.01	Param.
Fluoride (mg/L)	GWA-7 (bg)	0.2394	0.0727	4	No 15	0.1826	0.1508	26.67	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	GWA-8 (bg)	0.162	0.07275	4	No 15	0.1347	0.08331	20	Kaplan-Meier	x^(1/3)	0.01	Param.
Fluoride (mg/L)	GWC-1	0.18	0.051	4	No 15	0.1061	0.0433	73.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-12	0.8352	0.2789	4	No 15	0.5571	0.4105	6.667	None	No	0.01	Param.
Fluoride (mg/L)	GWC-13	0.55	0.09	4	No 15	0.1261	0.1179	80	None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-14	0.41	0.1	4	No 15	0.1853	0.1346	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-15	0.15	0.06	4	No 15	0.1373	0.1064	66.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-16	0.36	0.1	4	No 15	0.2013	0.2248	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-17	1.383	0.577	4	No 15	0.98	0.5947	6.667	None	No	0.01	Param.
Fluoride (mg/L)	GWC-2	0.17	0.07	4	No 15	0.1295	0.1381	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-20	0.14	0.043	4	No 15	0.08953	0.03071	73.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-21	0.1	0.071	4	No 15	0.09807	0.007488	93.33	None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-22	0.12	0.06	4	No 15	0.09133	0.02642	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-9	0.289	0.1025	4	No 15	0.2357	0.2393	6.667	None	ln(x)	0.01	Param.
Fluoride (mg/L)	GWB-4R	0.17	0.064	4	No 15	0.185	0.292	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-5R	0.11	0.05	4	No 15	0.08887	0.04317	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-6R	0.1483	0.06391	4	No 15	0.1219	0.06612	40	Kaplan-Meier	ln(x)	0.01	Param.
Lead (mg/L)	GWA-7 (bg)	0.008665	0.003602	0.013	No 15	0.006133	0.003736	0	None	No	0.01	Param.
Lead (mg/L)	GWA-8 (bg)	0.005	0.0001	0.013	No 18	0.003372	0.002369	66.67	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-1	0.005	0.00012	0.013	No 17	0.004133	0.00193	82.35	None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-11	0.00035	0.0002	0.013	No 17	0.0008112	0.001578	11.76	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.000081	0.013	No 17	0.001755	0.002298	29.41	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-13	0.005	0.00013	0.013	No 17	0.001791	0.002165	29.41	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-14	0.005	0.00051	0.013	No 18	0.003933	0.002056	77.78	None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-15	0.005	0.0001	0.013	No 17	0.00244	0.002489	47.06	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-16	0.005	0.0001	0.013	No 18	0.002033	0.002436	38.89	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-17	0.005	0.0001	0.013	No 17	0.003031	0.002432	58.82	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-2	0.005	0.0002	0.013	No 17	0.003579	0.00227	70.59	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-20	0.005	0.00018	0.013	No 17	0.003566	0.002291	70.59	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-21	0.005	0.00009	0.013	No 17	0.002707	0.002508	52.94	None	No	0.01	NP (normality)
Lead (mg/L)	GWC-22	0.001039	0.0003389	0.013	No 17	0.0009476	0.001238	5.882	None	ln(x)	0.01	Param.
Lead (mg/L)	GWC-9	0.005	0.000096	0.013	No 17	0.002735	0.00248	52.94	None	No	0.01	NP (normality)
Lead (mg/L)	GWB-4R	0.005914	0.002171	0.013	No 16	0.004042	0.002877	12.5	None	No	0.01	Param.
Lead (mg/L)	GWB-5R	0.005	0.0002	0.013	No 17	0.002211	0.002209	35.29	None	No	0.01	NP (normality)
Lead (mg/L)	GWB-6R	0.005	0.00014	0.013	No 17	0.002258	0.002376	41.18	None	No	0.01	NP (normality)
Lithium (mg/L)	GWA-8 (bg)	0.03	0.001	0.03	No 13	0.01664	0.01503	53.85	None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-12	0.03	0.00091	0.03	No 13	0.01438	0.01505	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-17	0.007059	0.005156	0.03	No 13	0.006108	0.00128	0	None	No	0.01	Param.
Lithium (mg/L)	GWC-9	0.002114	0.00182	0.03	No 12	0.001967	0.0001875	0	None	No	0.01	Param.
Lithium (mg/L)	GWB-4R	0.014	0.0039	0.03	No 13	0.008254	0.004467	0	None	No	0.01	NP (normality)
Lithium (mg/L)	GWB-5R	0.03	0.0027	0.03	No 13	0.01589	0.01362	46.15	None	No	0.01	NP (normality)
Mercury (mg/L)	GWA-7 (bg)	0.0002	0.0001	0.002	No 11	0.0001736	0.00005372	72.73	None	No	0.006	NP (normality)
Mercury (mg/L)	GWC-1	0.0002	0.0002	0.002	No 11	0.0001855	0.00004824	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWC-13	0.0002	0.0002	0.002	No 11	0.0001936	0.00002111	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWC-9	0.0002	0.0002	0.002	No 11	0.0001864	0.00004523	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWB-4R	0.0002	0.0002	0.002	No 11	0.0001863	0.00004553	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	GWB-6R	0.0002	0.0002	0.002	No 11	0.0001857	0.00004734	90.91	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	GWA-7 (bg)	0.01	0.0098	0.01	No 13	0.008646	0.003261	76.92	None	No	0.01	NP (NDs)
<b>Molybdenum (mg/L)</b>	<b>GWC-1</b>	<b>0.1716</b>	<b>0.07167</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1216</b>	<b>0.06717</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>

# Appendix II and IV Confidence Interval Summary Table - All Results Page 4

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Molybdenum (mg/L)	GWC-11	0.01	0.0018	0.01	No 13	0.008659	0.00328	84.62	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-13	0.01	0.0056	0.01	No 13	0.009662	0.00122	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-14	0.028	0.0024	0.01	No 13	0.01004	0.01059	0	None	No	0.01	NP (normality)
<b>Molybdenum (mg/L)</b>	<b>GWC-15</b>	<b>0.1145</b>	<b>0.0908</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1026</b>	<b>0.01591</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWC-16</b>	<b>0.1953</b>	<b>0.1126</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.154</b>	<b>0.05558</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
Molybdenum (mg/L)	GWC-17	0.01	0.0024	0.01	No 13	0.007309	0.003627	61.54	None	No	0.01	NP (normality)
<b>Molybdenum (mg/L)</b>	<b>GWC-20</b>	<b>0.2598</b>	<b>0.1032</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.1815</b>	<b>0.1053</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWC-21</b>	<b>0.06514</b>	<b>0.01913</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.04214</b>	<b>0.03094</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>Param.</b>
<b>Molybdenum (mg/L)</b>	<b>GWB-4R</b>	<b>0.15</b>	<b>0.0209</b>	<b>0.01</b>	<b>Yes 13</b>	<b>0.06482</b>	<b>0.05453</b>	<b>0</b>	<b>None</b>	<b>No</b>	<b>0.01</b>	<b>NP (normality)</b>
Molybdenum (mg/L)	GWB-5R	0.01	0.0012	0.01	No 13	0.009323	0.002441	92.31	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWB-6R	0.01	0.001	0.01	No 13	0.008044	0.003737	76.92	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWA-7 (bg)	0.031	0.0078	0.05	No 17	0.01734	0.01126	29.41	None	No	0.01	NP (normality)
Selenium (mg/L)	GWA-8 (bg)	0.01	0.0013	0.05	No 18	0.009017	0.002862	88.89	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-1	0.0052	0.0018	0.05	No 17	0.004365	0.005511	11.76	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-11	0.009451	0.003586	0.05	No 17	0.008276	0.005737	23.53	Kaplan-Meier	sqrt(x)	0.01	Param.
Selenium (mg/L)	GWC-12	0.01	0.0025	0.05	No 17	0.008612	0.003093	82.35	Kaplan-Meier	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-14	0.004985	0.002799	0.05	No 18	0.004016	0.001997	5.556	None	sqrt(x)	0.01	Param.
Selenium (mg/L)	GWC-15	0.01	0.0029	0.05	No 17	0.008182	0.003504	52.94	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-16	0.006266	0.003664	0.05	No 18	0.004965	0.00215	5.556	None	No	0.01	Param.
Selenium (mg/L)	GWC-17	0.01	0.0013	0.05	No 17	0.006141	0.004273	52.94	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-2	0.01	0.0035	0.05	No 17	0.009147	0.002422	88.24	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-20	0.01	0.0014	0.05	No 17	0.007465	0.004049	70.59	None	No	0.01	NP (normality)
Selenium (mg/L)	GWC-21	0.02215	0.01282	0.05	No 17	0.01748	0.007441	0	None	No	0.01	Param.
Selenium (mg/L)	GWC-22	0.01	0.0023	0.05	No 17	0.008053	0.003628	76.47	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWC-9	0.01	0.01	0.05	No 17	0.01	0	100	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWB-4R	0.01	0.0033	0.05	No 17	0.006294	0.003358	41.18	None	No	0.01	NP (normality)
Selenium (mg/L)	GWB-5R	0.01	0.0073	0.05	No 17	0.008965	0.002515	82.35	None	No	0.01	NP (NDs)
Selenium (mg/L)	GWB-6R	0.05	0.0033	0.05	No 17	0.01051	0.01074	70.59	None	No	0.01	NP (normality)
Thallium (mg/L)	GWA-7 (bg)	0.001	0.0005	0.002	No 13	0.0009615	0.0001387	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWA-8 (bg)	0.001	0.00006	0.002	No 13	0.0007825	0.0004134	76.92	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-1	0.001	0.000054	0.002	No 13	0.0007814	0.0004154	76.92	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-11	0.001	0.00007	0.002	No 13	0.0005306	0.0004543	46.15	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-12	0.001	0.00013	0.002	No 13	0.0004985	0.0004152	38.46	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-14	0.001	0.00007	0.002	No 13	0.0008562	0.0003511	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-16	0.001	0.00006	0.002	No 13	0.0008546	0.0003549	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-17	0.001	0.000066	0.002	No 13	0.0005768	0.000476	53.85	None	No	0.01	NP (normality)
Thallium (mg/L)	GWC-2	0.001	0.00011	0.002	No 14	0.0009364	0.0002379	92.86	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-21	0.001	0.00005	0.002	No 13	0.0009269	0.0002635	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWC-22	0.001	0.000065	0.002	No 13	0.0006524	0.0004584	61.54	None	No	0.01	NP (normality)
Thallium (mg/L)	GWB-4R	0.001	0.00007	0.002	No 13	0.0008569	0.0003492	84.62	None	No	0.01	NP (NDs)
Thallium (mg/L)	GWB-5R	0.001	0.00031	0.002	No 13	0.0008744	0.0003109	84.62	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWA-7 (bg)	0.326	0.1554	0.43	No 14	0.2474	0.1235	0	None	sqrt(x)	0.01	Param.
Vanadium (mg/L)	GWA-8 (bg)	0.01	0.0014	0.43	No 15	0.008813	0.003135	86.67	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-1	0.006019	0.003669	0.43	No 12	0.005842	0.002371	16.67	Kaplan-Meier	No	0.01	Param.
Vanadium (mg/L)	GWC-11	0.01	0.0021	0.43	No 12	0.004258	0.003471	25	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-12	0.00535	0.00299	0.43	No 12	0.005342	0.00261	16.67	Kaplan-Meier	No	0.01	Param.
Vanadium (mg/L)	GWC-13	0.01	0.0016	0.43	No 12	0.007267	0.004003	58.33	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-14	0.01891	0.008918	0.43	No 15	0.01391	0.007371	13.33	None	No	0.01	Param.
Vanadium (mg/L)	GWC-15	0.01	0.0021	0.43	No 14	0.00555	0.004013	42.86	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-16	0.01	0.0026	0.43	No 15	0.004877	0.003229	26.67	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-17	0.01	0.0024	0.43	No 12	0.005817	0.003718	41.67	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-2	0.01	0.0024	0.43	No 12	0.009367	0.002194	91.67	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-20	0.01	0.0024	0.43	No 14	0.005293	0.003647	35.71	None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-21	0.00373	0.002297	0.43	No 12	0.004825	0.003221	25	Kaplan-Meier	ln(x)	0.01	Param.
Vanadium (mg/L)	GWC-22	0.01	0.0014	0.43	No 12	0.006158	0.004136	50	None	No	0.01	NP (normality)

# Appendix II and IV Confidence Interval Summary Table - All Results Page 5

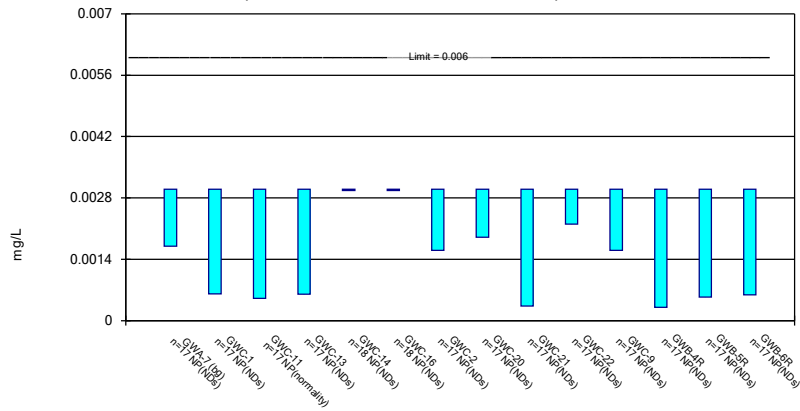
Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Vanadium (mg/L)	GWC-9	0.01	0.0015	0.43	No 12	0.008567	0.003348	83.33	None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWB-4R	0.03662	0.009413	0.43	No 12	0.02302	0.01734	8.333	None	No	0.01	Param.
Vanadium (mg/L)	GWB-5R	0.0119	0.004362	0.43	No 12	0.009083	0.008257	8.333	None	ln(x)	0.01	Param.
Vanadium (mg/L)	GWB-6R	0.03198	0.006264	0.43	No 12	0.02425	0.02861	0	None	ln(x)	0.01	Param.
Zinc (mg/L)	GWA-7 (bg)	0.08526	0.01857	0.16	No 13	0.05192	0.04485	7.692	None	No	0.01	Param.
Zinc (mg/L)	GWA-8 (bg)	0.01	0.0024	0.16	No 15	0.005093	0.003237	20	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-1	0.01	0.0021	0.16	No 12	0.0082	0.003256	66.67	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-11	0.01	0.0029	0.16	No 12	0.007325	0.003446	58.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-12	0.0074	0.0023	0.16	No 12	0.004008	0.002446	8.333	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-13	0.047	0.0021	0.16	No 12	0.01572	0.01858	0	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-14	0.01	0.0052	0.16	No 15	0.00864	0.002895	80	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-15	0.032	0.0051	0.16	No 14	0.01122	0.006121	85.71	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-16	0.01	0.0025	0.16	No 15	0.00712	0.003725	53.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-17	0.01378	0.007908	0.16	No 12	0.01084	0.003739	8.333	None	No	0.01	Param.
Zinc (mg/L)	GWC-2	0.056	0.0015	0.16	No 12	0.01103	0.01462	50	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-20	0.031	0.0049	0.16	No 14	0.01066	0.006229	78.57	None	No	0.01	NP (NDs)
Zinc (mg/L)	GWC-21	0.01	0.0016	0.16	No 12	0.00765	0.003682	58.33	None	No	0.01	NP (normality)
Zinc (mg/L)	GWC-22	0.008393	0.003302	0.16	No 12	0.007625	0.003513	33.33	Kaplan-Meier	No	0.01	Param.
Zinc (mg/L)	GWC-9	0.00774	0.002518	0.16	No 12	0.005958	0.006392	8.333	None	ln(x)	0.01	Param.
Zinc (mg/L)	GWB-4R	0.009883	0.004867	0.16	No 12	0.007375	0.003197	8.333	None	No	0.01	Param.
Zinc (mg/L)	GWB-5R	0.01	0.0022	0.16	No 12	0.007842	0.003569	66.67	None	No	0.01	NP (normality)
Zinc (mg/L)	GWB-6R	0.007346	0.001628	0.16	No 12	0.007767	0.004243	50	Kaplan-Meier	No	0.01	Param.



### Non-Parametric Confidence Interval

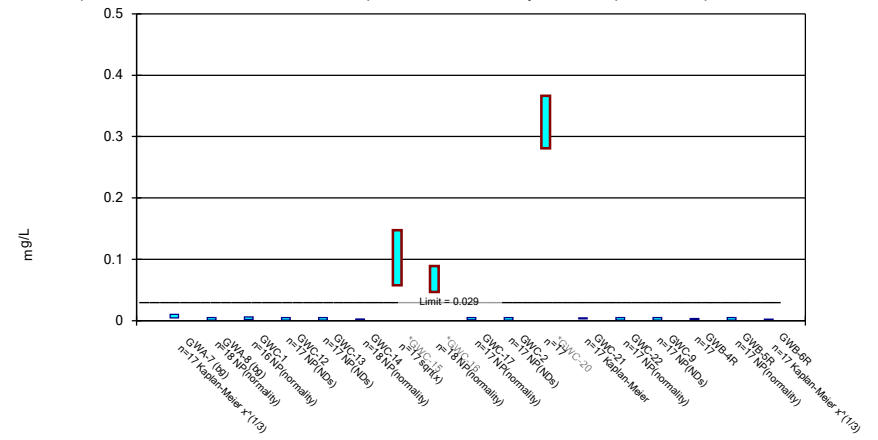
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

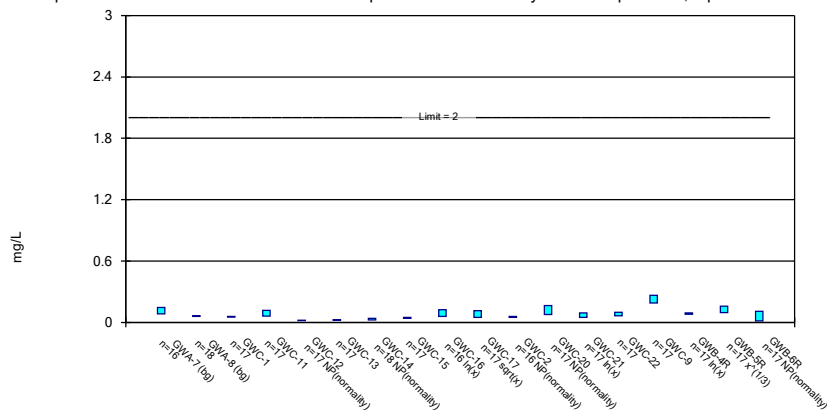
Compliance limit is exceeded.\* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

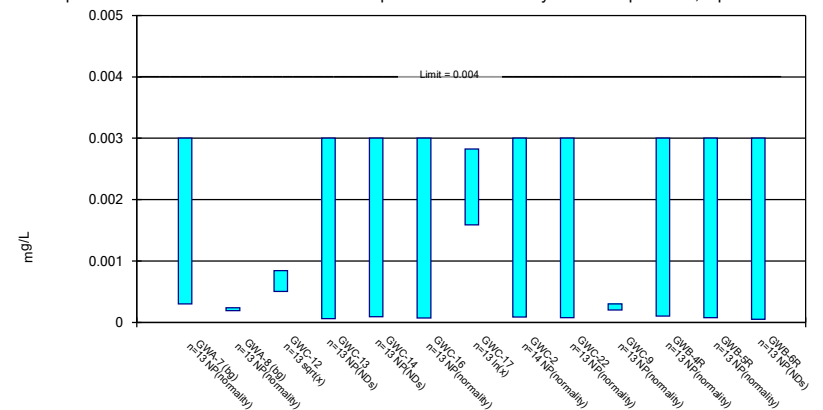
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Constituent: Barium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

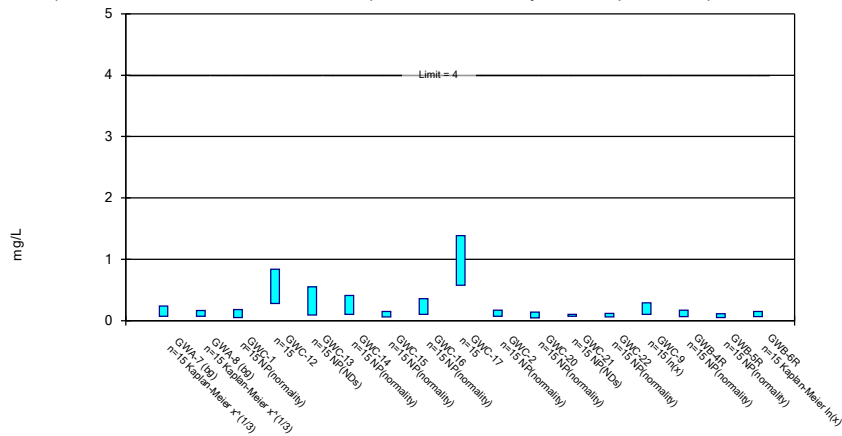


Constituent: Beryllium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road



### Parametric and Non-Parametric (NP) Confidence Interval

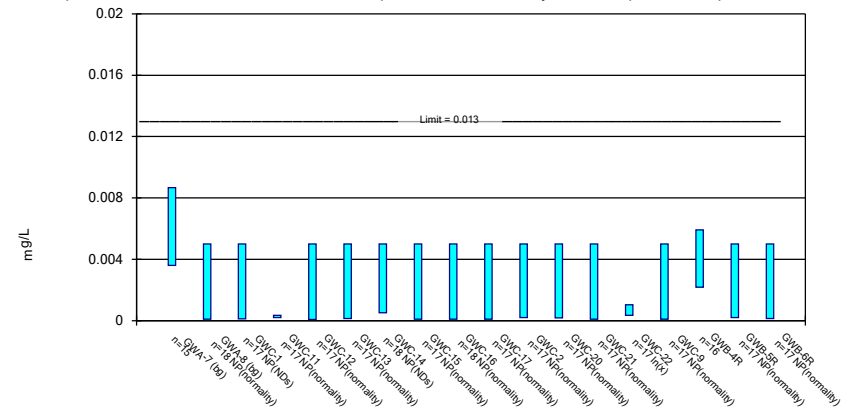
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

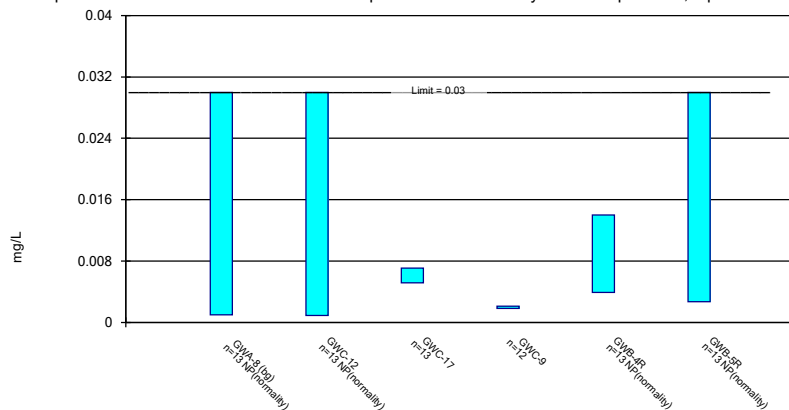
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lead Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

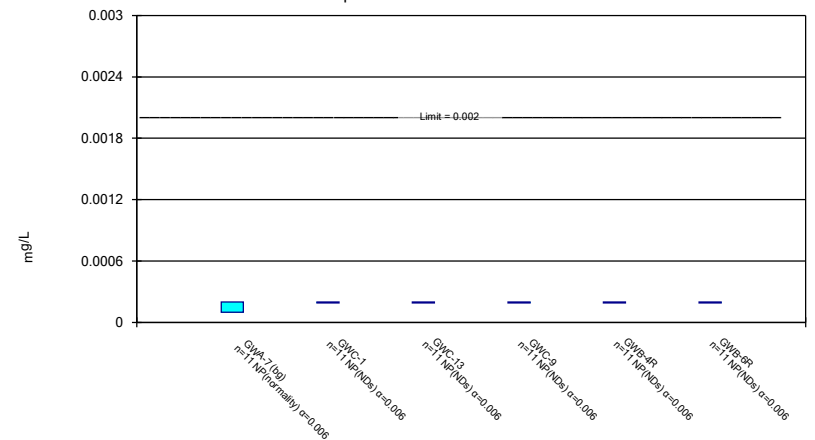
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Non-Parametric Confidence Interval

Compliance Limit is not exceeded.

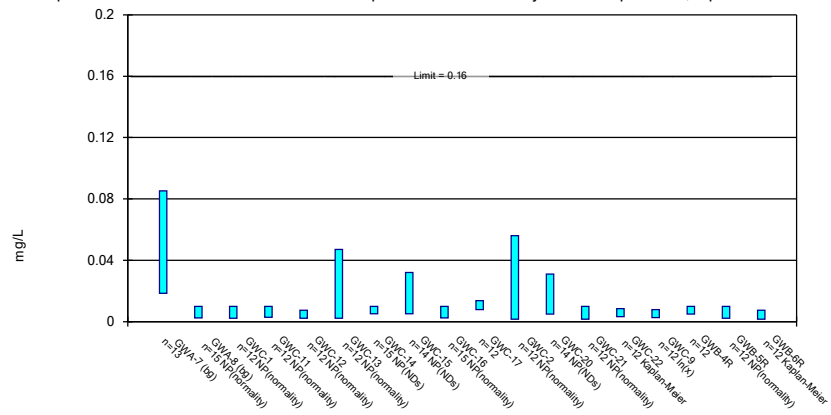


Constituent: Mercury Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road



### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Zinc Analysis Run 2/1/2021 1:53 PM View: Confidence Interval - State  
 Grumman Road Landfill Client: Southern Company Data: Grumman Road



Roswell, GA  
1150 Northmeadow  
Pkwy, Suite 100  
Roswell, GA 30076  
Phone: 770.594.5998

Savannah, GA  
7 East Congress Street  
Suite 801  
Savannah, GA 31401  
Phone: 912.236.3471

Knoxville, TN  
212 S. Peters Road  
Suite 203  
Knoxville, TN 37923  
Phone: 865.531.9143