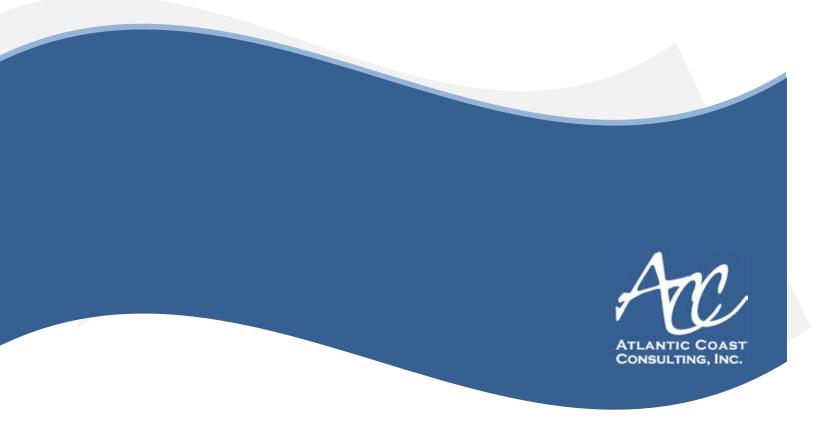


Grumman Road Private Industrial Landfill

Port Wentworth, Georgia PERMIT #: 025-061D(LI) Chatham County

2020 SEMIANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT





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.

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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 in Chatham County. Road. 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 $^{\scriptscriptstyle \perp}$ and Appendix II/IV $^{\scriptscriptstyle 2}$ parameters are provided in the table below.

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

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

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

³ 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 ACM 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 = K (dh/dl) where: v = ground water velocity K = hydraulic conductivity dh/dl = hydraulic gradient $P_e = effective$ porosity

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:

- ± 0.1 standard units for pH
- ± 10% for specific conductance
- ± 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 PiezometerSummary**

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

- 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	Assessment 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	Х	X	
GWC-21	Downgradient	X	X	
GWC-22	Downgradient	Х	X	
MW-23D	Delineation			X
MW-24D	Delineation			X
MW-25D	Delineation			X
MW-26D	Delineation			X
MW-27D	Delineation			Х

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



Table 3 Summary of Groundwater Monitoring Parameters

Appendix III (40 CFR 257)	Appendix IV (40 CFR 257)	State Permit Appendix I and II Metals
Boron	Antimony	Antimony
Calcium	Arsenic	Arsenic
Chloride	Barium	Barium
Fluoride	Beryllium	Chromium
рН	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

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

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



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

Equation

v = K(i) where: v =ground water velocity K =hydraulic conductivity

i = hydraulic gradient P_e = effective porosity

Values Used in Calculation

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

$$v_{max} = (7.60) (0.008)$$
 $v_{max} = 0.30 \text{ ft/day}$ 0.20 $v_{min} = (7.60) (0.004)$ $v_{min} = 0.17 \text{ ft/day}$ 0.20

<u>Notes</u>

- (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 = K(i) where: v =ground water velocity K =hydraulic conductivity

i = hydraulic gradient P_e = effective porosity

Values Used in Calculation

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

$$v_{max} = (7.60) (0.008)$$
 $v_{max} = 0.32 \text{ ft/day}$
 0.20
 $v_{min} = (7.60) (0.003)$ $v_{min} = 0.12 \text{ ft/day}$
 0.20

<u>Notes</u>

- (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

					We	ill ID			
		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9
	Substance	8/19/2020	8/17/2020	8/19/2020	8/19/2020	8/19/2020	8/19/2020	8/18/2020	8/19/2020
	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	<0.00046	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
Appendix IV	Fluoride	0.21	0.079 J	0.17	<0.050	<0.050	<0.050	<0.050	0.092 J
Арр	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

- 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

	Well ID								
		GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20
	Substance	8/18/2020	8/17/2020	8/17/2020	8/18/2020	8/18/2020	8/18/2020	8/18/2020	8/18/2020
	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	<0.00046	<0.000046	<0.00046	0.000068 J	0.0016 J	<0.00046
	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
Appendix IV	Fluoride	<0.050	0.19	<0.050	<0.050	<0.050	<0.050	0.51	<0.050
Арр	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

- 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

		Well ID				
		GWC-21	GWC-22			
Substance		8/18/2020	8/18/2020			
	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			
× I	Cobalt	<0.00038	<0.00038			
Appendix IV	Fluoride	<0.050	<0.050			
Арр	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			

- 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

		Well ID							
		GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9
Substance		9/28/2020	9/28/2020	10/1/2020	9/30/2020	9/30/2020	9/28/2020	9/29/2020	10/1/2020
	Boron	4.6	0.15	5.2	4.0	4.2	0.69	0.024 J	0.028 J
	Calcium	3.3	25.6	48.4	70.4	27.5	70.7	0.18 J	5.5
APPENDIX III	Chloride	113	13.7	15.7	24.1	53.9	13.8	5.4	16.8
END	Fluoride	0.069 J	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
APP	рН	5.86	4.41	5.75	4.99	5.39	5.79	4.60	4.42
	Sulfate	20.0	93.6	178	339	339	71.6	8.6	35.0
	TDS	1450	175	424	652	816	373	33.0	111
	Antimony	<0.0014	<0.00028	<0.00028	0.00030 J	0.00059 J	0.00035 J	0.0016 J	<0.00028
	Arsenic	<0.0039	<0.00078	0.0027 J	0.0017 J	0.0040 J	0.0058	<0.00078	<0.00078
	Barium	0.095	0.050	0.077	0.16	0.092	0.051	0.049	0.15
	Beryllium	<0.00023	0.00021 J	<0.00046	0.000065 J	0.000046 J	<0.00046	0.000075 J	0.00020 J
	Cadmium	<0.00059	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012	<0.00012
APPENDIX IV	Chromium	0.014 J	0.00071 J	0.0020 J	0.0018 J	0.0045 J	0.0024 J	<0.00055	0.0012 J
END	Cobalt	<0.0019	<0.00038	0.00050 J	0.00056 J	<0.00038	<0.00038	<0.00038	0.00099 J
APP	Lead	0.0043 J	<0.000036	0.00026 J	0.0012 J	0.000080 J	0.000043 J	<0.000036	0.000038 J
	Lithium	<0.0040	0.0010 J	0.013 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0019 J
	Molybdenum	<0.0034	<0.00069	0.15	<0.00069	0.00097 J	0.059	<0.00069	<0.00069
	Radium	22.4	2.08	2.60	4.45	6.39	1.29	1.00 U	3.30
	Selenium	0.010 J	<0.0016	<0.0016	<0.0016	0.0023 J	<0.0016	<0.0016	<0.0016
	Thallium	<0.00072	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014
See	Vanadium	0.10	<0.0022	0.0047 J	0.0037 J	0.018	0.0042 J	<0.0022	<0.0022
Note 8	Zinc	0.16	0.0092 J	0.0064 J	<0.0022	<0.0022	0.0092 J	0.056	0.025

- 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

		Well ID							
		GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWC-20
Substance		9/29/2020	9/29/2020	9/28/2020	9/29/2020	9/30/2020	9/30/2020	9/30/2020	9/30/2020
	Boron	1.2	4.7	0.24	0.053	0.86	8.1	0.86	9.9
	Calcium	123	42.0	2.9	30.8	109	177	53.5	292
APPENDIX III	Chloride	143	24.3	4.3	10.6	1.7	39.6	257	34.9
END	Fluoride	<0.050	0.16	<0.050	<0.050	<0.050	<0.050	0.15	<0.050
APP	рН	4.77	3.95	4.76	5.69	6.71	5.47	4.08	6.04
	Sulfate	516	237	25.6	93.5	18.5	736	193	956
	TDS	1100	440	60.0	187	434	1140	752	1860
	Antimony	0.00051 J	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028	<0.00028
	Arsenic	<0.00078	<0.00078	<0.00078	<0.00078	0.24	0.044	0.0012 J	0.31
	Barium	0.14	0.018	0.029	0.026	0.034	0.14	0.035	0.35
	Beryllium	<0.00046	0.00043 J	<0.000046	<0.000046	<0.00046	0.000089 J	0.0013 J	<0.00046
	Cadmium	0.00077 J	<0.00012	<0.00012	0.00012 J	<0.00012	<0.00012	<0.00012	<0.00012
APPENDIX IV	Chromium	0.0011 J	0.00085 J	0.00062 J	<0.00055	0.0016 J	0.00098 J	0.00096 J	0.0013 J
END	Cobalt	0.00055 J	0.00057 J	<0.00038	<0.00038	<0.00038	<0.00038	0.0018 J	<0.00038
APP	Lead	0.00032 J	0.000037 J	0.000064 J	<0.000036	0.000047 J	0.000091 J	0.000060 J	<0.000036
	Lithium	<0.00081	0.00086 J	<0.00081	<0.00081	<0.00081	<0.00081	0.0041 J	<0.00081
	Molybdenum	<0.00069	<0.00069	<0.00069	0.0089 J	0.11	0.15	0.0041 J	0.33
	Radium	8.30	0.845 U	1.28	0.331 U	2.14	2.47	3.09	5.62
	Selenium	0.0024 J	<0.0016	<0.0016	0.0051 J	<0.0016	0.0037 J	<0.0016	<0.0016
	Thallium	0.00017 J	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014	<0.00014
See	Vanadium	0.0023 J	0.0046 J	<0.0022	<0.0022	0.0028 J	0.0028 J	<0.0022	0.0029 J
Note 8	Zinc	0.0031 J	0.0074 J	0.016	<0.0022	0.032	0.0051 J	0.0043 J	0.031

- 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

		Well ID				
		GWC-21	GWC-22			
Substance		9/30/2020	9/30/2020			
	Boron	2.3	0.25			
	Calcium	98.4	20.9			
APPENDIX III	Chloride	23.7	8.5			
END	Fluoride	<0.050	<0.050			
АРР	pН	5.82	4.63			
	Sulfate	306	65.5			
	TDS	634	113			
	Antimony	0.00033 J	0.0016 J			
	Arsenic	0.0029 J	<0.00078			
	Barium	0.19	0.045			
	Beryllium	<0.00046	<0.000046			
	Cadmium	<0.00012	0.00024 J			
APPENDIX IV	Chromium	0.00067 J	0.00064 J			
END	Cobalt	<0.00038	<0.00038			
APP	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	Vanadium	0.0029 J	<0.0022			
Note 8	Zinc	0.0096 J	<0.0022			

- 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

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

- 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							
	Upgradient Wells	GWA-7 and GWA-8					
Monitoring Well Network	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					
	Appendix III (Detection Monitoring)	Boron, Calcium, Chloride, Fluoride, pH, Sulfate, and TDS					
CCR Monitoring Parameters	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.

ACC Project I054-110

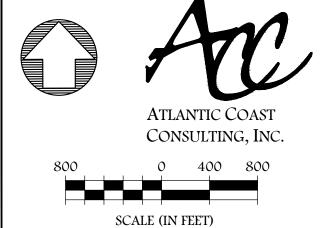


FIGURES





LOCATION IN THE STATE OF GEORGIA (NOT TO SCALE)





NOTES:

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

PROJECT



Georgia Power

GEORGIA POWER COMPANY GRUMMAN ROAD PRIVATE INDUSTRIAL LANDFILL

SITE MAP

PROJECT NO. 1054~110

January 2021

DRAWN BY:

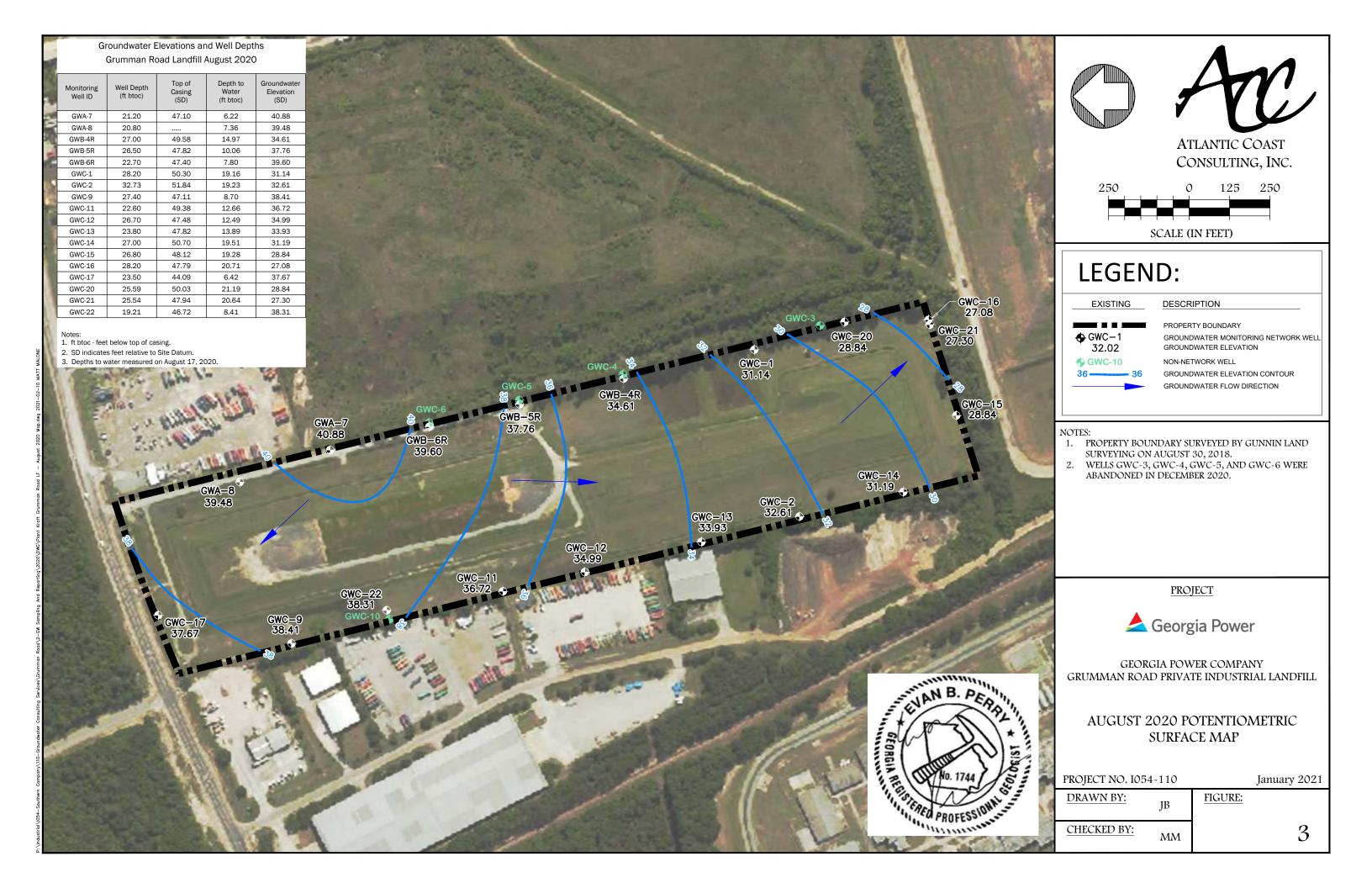
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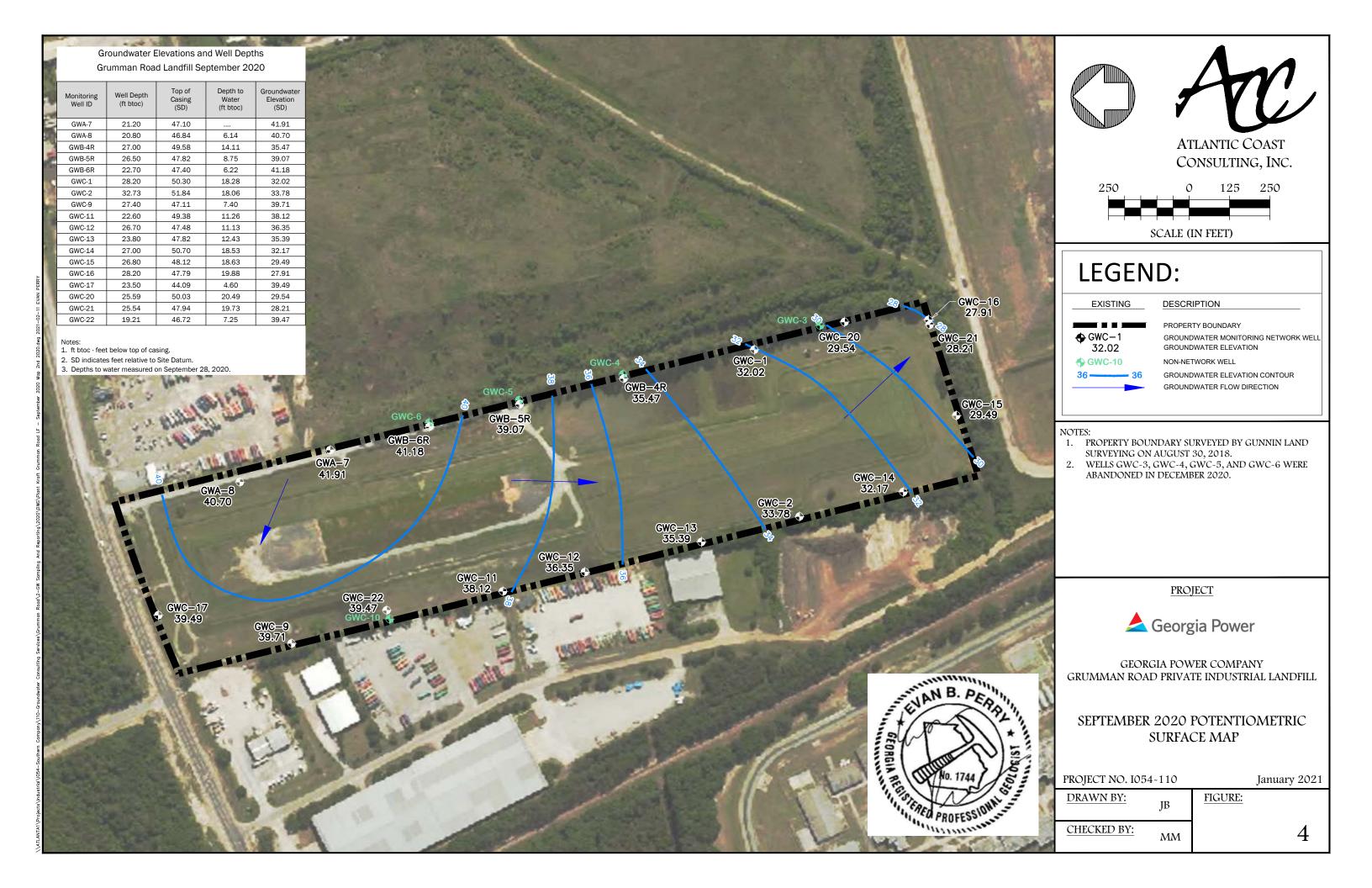
CHECKED BY:

EP

MM









APPENDICES



APPENDIX A

Well Abandonment and Installation Logs



General Information					
Project Name	Grumman Road Well Abandonment	Inspector	Jordan Berisford	Well Id.	GWC-3
Project Number	1054-110	Weather	Sunny	Sheet ¹	of 1
Drilling Company	Cascade	Temperature	70s°F	Started	12/14/2020
Client Name	GA Power	Driller	Tommy Ardito	Completed	12/14/2020
		Well Construction	n Information		
Well Depth (ft)	22.93'	Screen Type	PVC Sch. 40	Grout Type	Portland
Well Casing Dia.	2" L.F. 17.93'	Slot Size (in.)	0.010"	End Cap/Sump	0.30'
Casing Type	PVC	Pack Type & Size	Sand-1A (20/30)	Protective	
Joint Type	Flush Treaded	Seal Type	Bentonite	Casing	4"x4"
Well Screen Dia.	2" L.F. 5'			Well Pad Size	2.75'x3'x4"
	Aba	ndonment Proced	dures and Volumes	-	
Expected Bentonite	Volume 0.4	14 cu ft. Actua	al Bentonite Volume:	0.44 cu ft.	
	Note: DT	W- 20.36' btoc	DTB: 22.93' btoc		
Filled casing to gro	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 of	completion and graded	I to ground surface.			
		Note	es:		
No obstructions no	ted.				



General Information							
Project Name	Grumman Road Well Abandonment	Inspector	Jordan Berisford	Well Id.	GWC-4		
Project Number	1054-110	Weather	Sunny	Sheet ¹	of 1		
Drilling Company	Cascade	Temperature	70s°F	Started	12/14/2020		
Client Name	GA Power	Driller	Tommy Ardito	Completed	12/14/2020		
	Well Construction Information						
Well Depth (ft)	26.83'	Screen Type	PVC Sch. 40	Grout Type	Portland		
Well Casing Dia.	2" L.F. 21.83'	Slot Size (in.)	0.010"	End Cap/Sump	0.30'		
Casing Type	PVC	Pack Type & Size	Sand-1A (20/30)	Protective			
Joint Type	Flush Treaded	Seal Type	Bentonite	Casing	4"x4"		
Well Screen Dia.	2" L.F. 5'	_		Well Pad Size	2.83'x3'x4"		
	Aba	ndonment Proced	dures and Volumes	•	•		
Expected Bentonite	Volume 0.5	3 cu ft. Actua	al Bentonite Volume:	0.53 cu ft.			
	Note: DT	W - 14.52' btoc	DTB: 26.83' btoc				
Filled casing to gro	und surface with bento	onite pellets and hydi	rated with potable water.				
Verified placement	of bentonite with a we	eighted tag line to ens	sure bridging did not occur.				
Removed surface of	Removed surface completion and graded to ground surface.						
		Note	s:				
No obstructions no	ted.						



General Information							
Project Name	Grumman Road Well Abandonment	Inspector	Jordan Berisford	Well Id.	GWC-5		
Project Number	1054-110	Weather	Sunny	Sheet ¹	of 1		
Drilling Company	Cascade	Temperature	70s°F	Started	12/14/2020		
Client Name	GA Power	Driller	Tommy Ardito	Completed	12/14/2020		
Well Construction Information							
Well Depth (ft)	26.91'	Screen Type	PVC Sch. 40	Grout Type	Portland		
Well Casing Dia.	2" L.F. 21.91'	Slot Size (in.)	0.010"	End Cap/Sump	0.30'		
Casing Type	PVC	Pack Type & Size	Sand-1A (20/30)	Protective			
Joint Type	Flush Treaded	Seal Type	Bentonite	Casing	4"x4"		
Well Screen Dia.	2" L.F. 5'			Well Pad Size	3'x3'x4"		
	Aba	indonment Proced	dures and Volumes				
Expected Bentonite			al Bentonite Volume:	0.52 cu ft.			
	Note: D	W - 10.22' btoc	DTB: 26.91' btoc				
Filled casing to gro	und surface with bent	onite pellets and hyd	rated with potable water.				
Verified placement	of bentonite with a w	eighted tag line to en	sure bridging did not occur.				
Removed surface of	Removed surface completion and graded to ground surface.						
	·						
		Note	es:				
No obstructions no	ted.						



General Information						
Project Name	Grumman Ro Abandonmen		Inspector	Jordan Berisford	Well Id.	GWC-6
Project Number	1054-110		Weather	Sunny	Sheet 1	of 1
Drilling Company	Cascade		Temperature	70s°F	Started	12/14/2020
Client Name	GA Power		Driller	Tommy Ardito	Completed	12/14/2020
			Well Construction	n Information		
Well Depth (ft)	22.50'		Screen Type	PVC Sch. 40	Grout Type	Portland
Well Casing Dia.	2" L.F.	17.5'	Slot Size (in.)	0.010"	End Cap/Sump	0.30'
Casing Type	PVC		Pack Type & Size	Sand-1A (20/30)	Protective	
Joint Type	Flush Treaded		Seal Type	Bentonite	Casing	4"x4"
Well Screen Dia.	2" L.F.	5'			Well Pad Size	2.5'x3'x4"
		Aba	indonment Proced	dures and Volumes		
Expected Bentonite				al Bentonite Volume:	0.42 cu ft.	
		Note: DT	W - 7.80' btoc	DTB: 22.50' btoc		
Filled casing to gro	und surface v	vith bent	onite pellets and hyd	rated with potable water.		
Verified placement	of bentonite	with a we	eighted tag line to en	sure bridging did not occur.		
Removed surface of	Removed surface completion and graded to ground surface.					
			Note	2S :		
No obstructions no	ted.					

BORING NUMBER MW-23D

PAGE 1 OF 2

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BH PLOTS - GINT STD US,GDT - 2/3/21 14:53 - C.\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINTCL\PROJECTS\GRUMMAN DRILLING.GP.

ENVIRONMENTAL

PROJECT NAME _ Jordan Berisford **CLIENT** Georgia Power PROJECT NUMBER 1054-110 **PROJECT LOCATION** Grumman Road HOLE SIZE 6 inch **DATE STARTED** 12/15/20 **COMPLETED** 12/17/20 **GROUND ELEVATION** 47.2 ft DRILLING CONTRACTOR Cascade **GROUND WATER LEVELS:** DRILLING METHOD Rotosonic AT TIME OF DRILLING _---LOGGED BY _ Jordan Berisford CHECKED BY __Evan Perry **TAT END OF DRILLING** 19.82 ft / Elev 27.38 ft ▼ AFTER DRILLING 19.93 ft / Elev 27.27 ft **NOTES** Casing Top Elev: 50.2 (ft) SAMPLE TYPE NUMBER BLOW COUNTS (N VALUE) GRAPHIC LOG Casing Type: PVC DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) ■Well Stick up secured with a Elevation (MSL ft) 0 40 80 120160 locking well cap Topsoil fill Air-Knife for utilities prior to drilling 5 Grout: 3.03 cu. ft. <u>1</u>0 10.0 10 SILTY SAND, (SM) yellowish red (5YR SS 20-30 11.0 36.2 4/6), poorly graded, fine grained, dry, SS 30-36 non plastic 12.5 SILTY SAND, (SM) yellowish red (5YR SS 21-22 5/8), poorly graded, fine grained, dry, SS 29-39 non plastic 14 0 33.2 SILTY SAND, (SM) reddish yellow SS 22-15 15 15 (7.5YR 6/6), poorly graded, fine SS 16-25 grained, dry, non plastic SILTY SAND, (SM) brown with red SS 13-23 (7.5YR 4/6), fine to coarse grained, moist, trace mica SS 23-24 18.5 28.7 SS 10-17 SILTY SAND, (SM) 79.9% sand, 20.3% fines, reddish brown (5YR 5/4), SS 16-16 Y 20 20 poorly graded, fine to coarse grained, SS 5-9 wet, non plastic, trace mica, 6.4% clay SS 11-4 SILTY SAND, (SM) pale brown (10YR SS 7-7 7/3), subangular, fine to coarse 7-11 SS grained, saturated, non plastic, trace mica, some coarse sand SS 2-5 25 25 SILTY SAND, (SM) pale brown (10YR 6/3), subangular, fine to coarse SS 6-8 grained, saturated, loose, non plastic, SS 2-2 trace mica, trace coarse sand SS 3-3 SS 3-3 SS 4-4 30 30.0 17.2 30 SILTY SAND, (SM) light yellowish SS 2-2 brown (10YR 6/4), as above SS 5-3 32.5 LEAN CLAY, (CH) pale brown (10YR 14.7 SS 3-8 6/3), soft, medium plasticity, trace SS 7-7 mica, with fine sand 34.0 13.2 SILTY SAND, (SM) pale brown (10YR SS 3-16 Bentonite seal:

BORING NUMBER MW-23D

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Fine sand pack:

■ Sand pack: 1.16

Screened interval

0.33 cu. ft.

cu. ft.

55

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SS

55

1-1

1-3

2-2

2-1

4-4

7-16

8-10

13-17

10-14

17-16

60.0

PROJECT NAME _ Jordan Berisford CLIENT Georgia Power PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road SAMPLE TYPE NUMBER BLOW COUNTS (N VALUE) GRAPHIC LOG DEPTH (ft) Gamma WELL DIAGRAM MATERIAL DESCRIPTION (cps) 35 35 Elevation (MSL ft) 0 40 80 5.41 cu. ft. 7/4), subrounded, fine grained, non SS 15-26 plastic, trace mica 2-10 SS SILTY SAND, (SM) pale brown (2.5Y 7/4), subrounded, fine to coarse 27-18 SS grained, loose, non plastic, trace mica, with medium to coarse sand SS 6-16 (continued) SS 32-33 40 40 SS 6-12 SS 7-8 SS 4-5 SS 4-12 44.0 SILTY SAND, (SM) light olive gray (5Y 6/2), subrounded, medium to coarse SS 7-7 45 45 ENVIRONMENTAL BH PLOTS - GINT STD US.GDT - 2/3/21 14:53 - C.\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINTCL\PROJECTS\GRUMMAN DRILLING.GP \ SS 12-15 grained, very loose, non plastic, some fine sand, as above SS 1-2 47.0 SILTY SAND, (SM) 1.6% gravel, 84.5% sand, 13.9% fines, light gray SS 1-2 48.0 -0.8 SS 2-2 (5Y 7/1) SILTY SAND, (SM) 71.1% sand, 28.8% fines, dark grayish brown (2.5Y SS 3-3 50 50

Bottom of borehole at 60.0 feet.

4/2), fine grained, non plastic, some mica, 25.3% clay

grained, non plastic, trace mica, 8%

SILTY SAND, (SM) 84.1% sand,

15.8% fines, gray (2.5Y 6/1), fine

BORING NUMBER MW-24D

PAGE 1 OF 2

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PROJECT NAME _ Jordan Berisford **CLIENT** Georgia Power PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road HOLE SIZE 6 inch **DATE STARTED** 12/17/20 COMPLETED 1/5/21 **GROUND ELEVATION** 45.35 ft DRILLING CONTRACTOR Cascade **GROUND WATER LEVELS:** DRILLING METHOD Rotosonic AT TIME OF DRILLING _---LOGGED BY _ Jordan Berisford CHECKED BY _ Evan Perry **TAT END OF DRILLING** 19.47 ft / Elev 25.88 ft **▼ AFTER DRILLING** 19.58 ft / Elev 25.77 ft **NOTES** Casing Top Elev: SAMPLE TYPE NUMBER 48.54 (ft) BLOW COUNTS (N VALUE) GRAPHIC LOG Casing Type: PVC DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) ■Well Stick up secured with a locking well cap Elevation (MSL ft) 0 40 80 120160 Topsoil fill Air-Knife for utilities prior to drilling 5 BH PLOTS - GINT STD US,GDT - 2/3/21 14:53 - C.\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINTCL\PROJECTS\GRUMMAN DRILLING.GP. Grout: 2.15 cu. ft. <u>1</u>0 10 10.0 SILTY SAND, (SM) pale brown (2.5Y SS 1-3 7/3), fine grained, dry, loose, non SS 4-7 plastic SS 11-16 SS 11-13 SS 8-8 15 SS 8-8 SS 8-3 17.0 SILTY SAND, (SM) 65.4% sand, SS 4-3 34.6% fines, pale brown (2.5Y 7/4), SS 2-3 fine grained, wet, loose, non plastic, 9.7% clay ¥ SS 5-8 20.0 20 25.4 SILTY SAND, (SM) 83.2% sand, SS 1-1 16.7% fines, light yellowish brown SS 1-1 (2.5Y 6/3), saturated, trace mica, 14.2% clay SS 0-1 SS 1-1 SILTY SAND, (SM) yellowish brown SS 1-6 25 25.0 20.4 25 (10YR 5/4), trace mica, some clay SS 6-9 SILTY SAND, (SM) yellowish brown (10YR 5/8), as above SS 2-5 27.0 18.4 SILTY SAND, (SM) yellowish brown SS 6-8 (10YR 5/6), as above SS 6-6 29.5 SS 10-11 30 SILTY SAND, (SM) light yellowish 30 SS 3-6 brown (2.5Y 6/4), as above 31.0 14.4 SILTY SAND, (SM) light yellowish SS 6-8 ENVIRONMENTAL brown (2.5Y 6/4), subrounded, fine to 32.5 12.9 SS 8-9 coarse grained, wet, loose, non plastic, ■Bentonite seal: 6.62 trace mica, with clay SS 12-20 cu. ft. SILTY SAND, (SM) light gray (2.5Y SS 7-11 7/1), well rounded, fine to medium

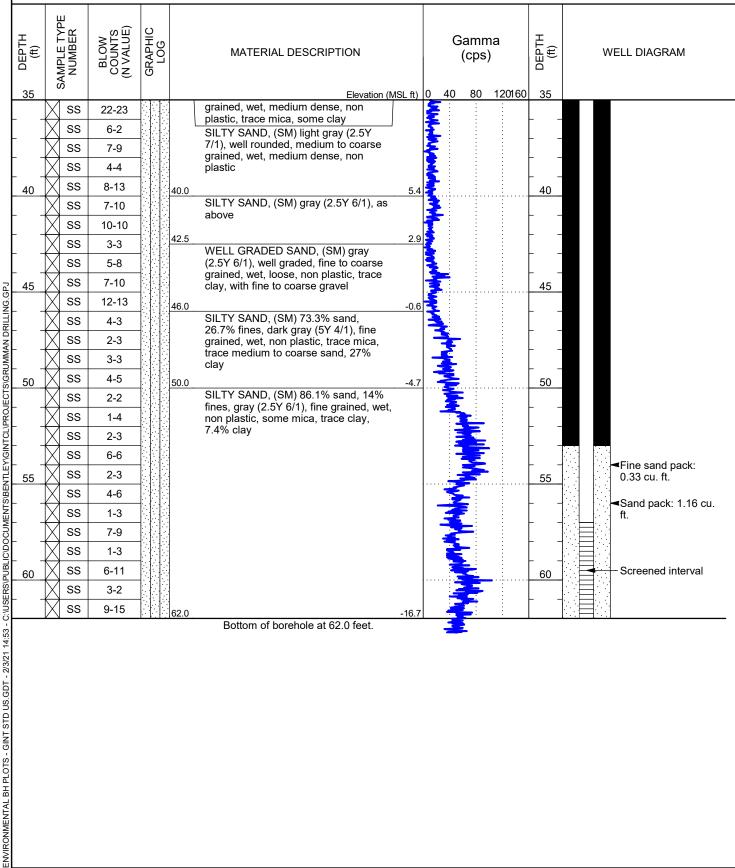
BORING NUMBER MW-24D

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 CLIENT
 Georgia Power
 PROJECT NAME
 Jordan Berisford

PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road



BORING NUMBER MW-25D

PROJECT NAME _ Jordan Berisford

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770-594-5998

CLIENT Georgia Power

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PROJECT NUMBER 1054-110 **PROJECT LOCATION** Grumman Road HOLE SIZE 6 inch **DATE STARTED** 1/5/21 COMPLETED 1/6/21 **GROUND ELEVATION** 45.38 ft DRILLING CONTRACTOR Cascade **GROUND WATER LEVELS:** DRILLING METHOD Rotosonic AT TIME OF DRILLING _---LOGGED BY Jordan Berisford CHECKED BY __Evan Perry **TAT END OF DRILLING** 18.91 ft / Elev 26.47 ft **▼ AFTER DRILLING** 17.95 ft / Elev 27.43 ft **NOTES** Casing Top Elev: SAMPLE TYPE NUMBER 48.33 (ft) BLOW COUNTS (N VALUE) GRAPHIC LOG Casing Type: PVC DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) ■Well Stick up secured with a Elevation (MSL ft) 0 40 80 120160 locking well cap Topsoil fill Air-Knife for utilities prior to drilling 5 Grout: 3.11 cu. ft. <u>1</u>0 10.0 10 SILTY SAND, (SM) brown (7.5YR 5/8), SS 4-13 fine grained, dry, medium dense, non SS 19-22 plastic, with silt 12.0 SILTY SAND, (SM) yellowish red (5YR SS 6-20 5/6), fine grained, dry, medium dense, SS 24-27 non plastic, trace mica, with silt 31 4 SILTY SAND, (SM) brown (7.5YR 4/6), SS 1-1 15 15 as above SS 2-4 SS 8-19 17.0 SILTY SAND, (SM) pale brown (2.5Y SS 25-29 18.0 27.4 7/3), as above SS 2-3 Drillers lost sample SS 2-4 20 20.5 24.9 SILTY SAND, (SC) pale brown (2.5Y SS 1-4 21.0 7/3), as above 6-7 SS CLAYEY SAND, (SM) pale brown (2.5Y 7/3), fine grained, moist, soft, medium plasticity, trace coarse sand, SS 1-2 SS 4-5 with silt 24.0 SILTY SAND, (SM) 83% sand, 16.9% SS 2-2 25 25 fines, pale brown (2.5Y 7/3), fine grained, wet, loose, non plastic, trace SS 4-7 mica, with silt, 8.8% clay SS 1-1 SILTY SAND, (SM) pale brown (2.5Y 7/4), as above SS 2-3 SS 2-2 SS 2-6 30 30 30.0 15.4 SILTY SAND, (SM) pale brown (2.5Y SS 5-7 7/4), fine grained, loose, non plastic, SS 7-9 SILTY SAND, (SM) light gray (2.5Y SS 2-3 7/1), fine to coarse grained, wet, very SS 2-3 loose, non plastic SS 2-2

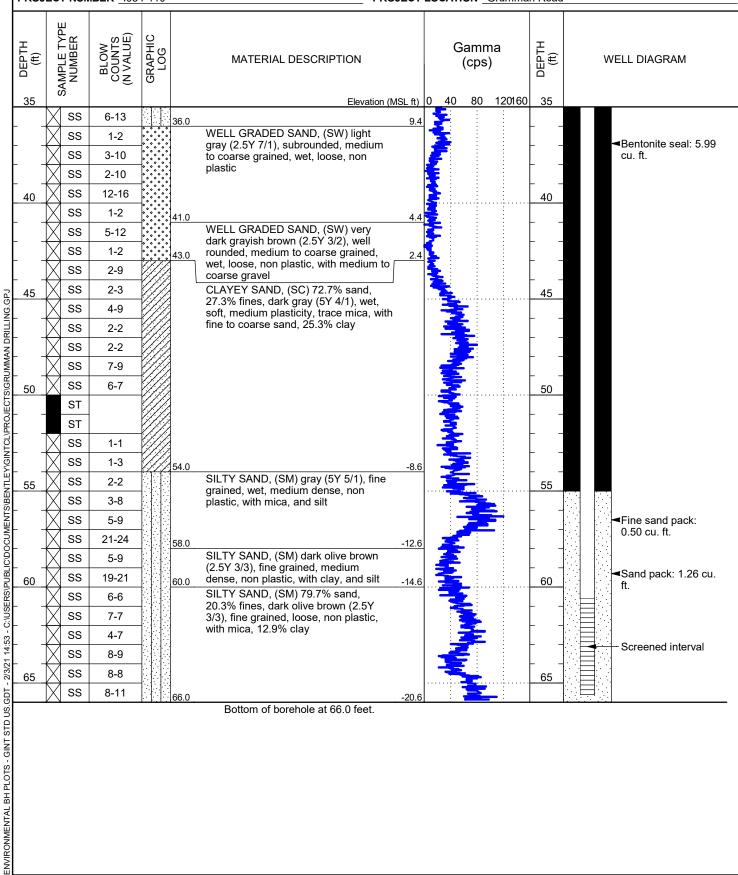
BORING NUMBER MW-25D

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Atlantic Coast Consulting 1150 North Meadow Parkway, Suite 100 Roswell, GA 30076 770-594-5998

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

PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road



BORING NUMBER MW-26D

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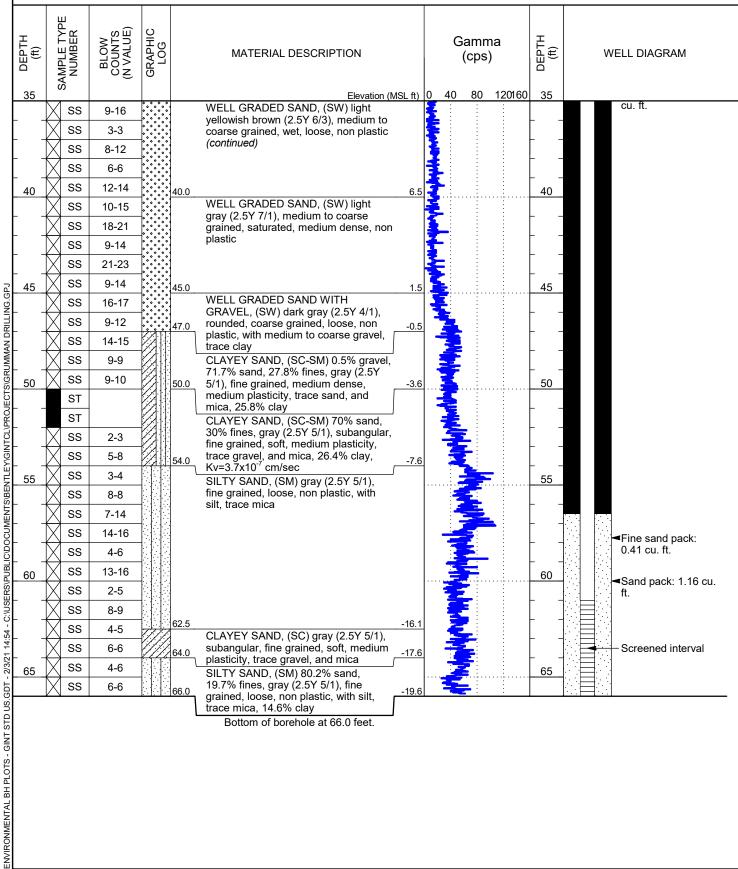
PROJECT NAME _ Jordan Berisford **CLIENT** Georgia Power PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road HOLE SIZE 6 inch **DATE STARTED** 1/8/21 COMPLETED 1/9/21 **GROUND ELEVATION** 46.45 ft DRILLING CONTRACTOR Cascade **GROUND WATER LEVELS:** DRILLING METHOD Rotosonic AT TIME OF DRILLING _---LOGGED BY _Jordan Berisford CHECKED BY _ Evan Perry **TAT END OF DRILLING** 16.94 ft / Elev 29.51 ft **▼ AFTER DRILLING** 16.93 ft / Elev 29.52 ft **NOTES** Casing Top Elev: SAMPLE TYPE NUMBER 49.39 (ft) BLOW COUNTS (N VALUE) GRAPHIC LOG Casing Type: PVC DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) ■Well Stick up secured with a Elevation (MSL ft) 0 40 80 120160 locking well cap Air-Knife for utilities prior to drilling 5 Grout: 1.99 cu. ft. <u>1</u>0 10 10.0 36.5 SILTY SAND, (SM) brown (7.5YR 4/4), SS 11-26 fine to medium grained, dry, dense, SS 34-50 non plastic, trace mica SS 19-21 SS 28-37 14 0 32 5 SILTY SAND, (SM) yellowish red (5YR SS 19-26 15 15 5/8), fine to medium grained, dry, SS 30-34 medium dense, non plastic, trace mica SS 17-18 Ţ 17.0 SILTY SAND, (SM) light brown (7.5YR SS 21-22 6/4), wet, medium dense, as above SS 16-18 19.0 27.5 SILTY SAND, (SM) 80.6% sand, SS 21-25 20.0 26.5 20 19.4% fines, pale brown (10YR 7/3), SS 0-0 medium grained, wet, medium dense, non plastic, 9.1% clay 0-0 SS CLAYEY SAND, (SC) 60.4% sand, 39.7% fines, light gray (2.5Y 7/1), fine SS 0-1 grained, wet, loose, medium plasticity, SS 1-1 with silt, and mica, 36.9% clay, Kv=2.1x10⁻⁷ cm/sec ST 25 25 ST 20.5 CLAYEY SAND, (SC) gray (2.5Y 6/1), loose, medium plasticity, as above SS 1-1 SS 1-1 28.0 18.5 POORLY GRADED SAND, (SP) dark SS 0-1 gray (5YR 4/1), coarse grained, wet, SS 2-2 very loose, non plastic, little clay, and 30 30 fine sand SS 1-1 31.0 SILTY SAND, (SM) dark gray (2.5Y SS 1-2 4/1), fine grained, wet, non plastic, with SS 3-4 WELL GRADED SAND, (SW) light SS 10-11 yellowish brown (2.5Y 6/3), medium to Bentonite seal: 7.37 SS 5-8 coarse grained, wet, loose, non plastic

BORING NUMBER MW-26D

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CLIENT Georgia Power PROJECT NAME Jordan Berisford
PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road



BORING NUMBER MW-27D

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PROJECT NAME _ Jordan Berisford **CLIENT** Georgia Power PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road **DATE STARTED** 1/7/21 COMPLETED 1/8/21 **GROUND ELEVATION** 47.75 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 **TAT END OF DRILLING** 18.71 ft / Elev 29.04 ft **▼ AFTER DRILLING** 18.85 ft / Elev 28.90 ft **NOTES** Casing Top Elev: 50.53 (ft) SAMPLE TYPE NUMBER BLOW COUNTS (N VALUE) GRAPHIC LOG Casing Type: PVC DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) ■Well Stick up secured with a Elevation (MSL ft) 0 40 80 120160 locking well cap Air-Knife for utilities prior to drilling 5 Grout: 2.65 cu. ft. 10 10.0 10 SILTY SAND, (SM) yellowish red (5YR SS 9-8 5/8), fine to medium grained, dry, SS 19-20 medium dense, non plastic SS 16-20 SS 21-23 SS 11-16 15 32.8 15 15.0 SILTY SAND, (SM) 71.4% sand, SS 17-17 28.6% fines, yellowish red (5YR 4/6), SS 8-11 fine to medium grained, dry, loose, non plastic, with silt, and, trace mica, 5.8% SS 11-15 SS 8-9 ¥ SS 10-16 20 SS 8-10 26.8 SILTY SAND, (SM) brownish yellow SS 11-13 (10YR 6/6), fine to medium grained, 10-11 SS wet, loose, non plastic, with silt, and, SS 10-10 24.0 SILTY SAND, (SM) pale brown (2.5Y SS 8-9 25 25 7/3), as above SS 12-13 SS 3-4 27.0 20.8 SILTY SAND, (SM) pale brown (2.5Y SS 3-4 7/3), with clay, as above SS 5-7 SS 11-11 30 30 SS 0-0 31.0 16.8 SILTY SAND, (SM) light brownish gray SS 0-0 (2.5Y 6/2), fine to medium grained, SS 2-2 saturated, very loose, non plastic, with clay, and, trace mica SS 4-6 SS 7-17 35.0

BORING NUMBER MW-27D

Atlantic Coast Consulting PAGE 2 OF 2 1150 North Meadow Parkway, Suite 100 Roswell, GA 30076 770-594-5998 PROJECT NAME _ Jordan Berisford **CLIENT** Georgia Power PROJECT NUMBER 1054-110 PROJECT LOCATION Grumman Road SAMPLE TYPE NUMBER BLOW COUNTS (N VALUE) GRAPHIC LOG DEPTH (ft) Gamma MATERIAL DESCRIPTION WELL DIAGRAM (cps) 35 Elevation (MSL ft) 0 40 80 35 SILTY SAND, (SM) light gray (2.5Y SS 28-26 7/2), fine to medium grained, SS 5-9 saturated, medium dense, non plastic, 10.8 with, trace mica 16-21 SS ■Bentonite seal: 7.12 SILTY SAND, (SM) light yellowish brown (2.5Y 6/4), as above cu. ft. SS 11-20 SS 27-28 40 40.0 40 SILTY SAND, (SM) light gray (5Y 7/2), SS 10-10 medium to coarse grained, saturated, SS 11-10 loose, non plastic SS 10-11 SS 16-21 SS 11-21 45 45 SS 34-36 SS 12-12 47.0

ENVIRONMENTAL BH PLOTS - GINT STD US GDT - 2/3/21 14:54 - C;USERS/PUBLIC/DOCUMENTS/BENTLEY/GINTCL/PROJECTS/GRUMMAN DRILLING.GP. WELL GRADED SAND, (SW) olive SS 13-15 gray (5Y 5/2), subrounded, coarse SS 9-12 grained, loose, non plastic SS 15-16 50 50 ST ST 52.0 SILTY SAND, (SM) 73.3% sand, SS 0-1 26.7% fines, dark gray (5Y 4/1), rounded, coarse grained, wet, loose, SS 3-4 low plasticity, with medium to coarse SS 3-3 55 55 gravel, and mica, 23.3% clay SS 4-5 SS 3-4 SS 3-4 58.0 -10.3 SILTY SAND, (SM) gray (2.5Y 6/1), SS 3-4 fine grained, loose, non plastic, with silt SS 8-12 60 Fine sand pack: SS 3-4 0.41 cu. ft. 6-7 SS SS 4-6 Sand pack: 1.24 cu. SS 5-6 SS 6-5 65 65.0 65 -17.3CLAYEY SAND, (SC) 78.4% sand, SS 5-6 21.6% fines, gray (2.5Y 6/1), fine grained, soft, medium plasticity, trace SS 5-4 Screened interval mica, 13.2% clay SS 6-8 68.0 -20.3 SILTY SAND, (SM) gray (2.5Y 6/1), SS 6-7 fine grained, loose, non plastic, with silt SS 3-5 70 70 -22 3 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 Digitally Dinicola

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

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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 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).

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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 emplaced 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

- ACC (Atlantic Coast Consulting, Inc.), 2019. Supplemental 2019 First Semiannual Groundwater

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Tables

Table 1
Evaluation of Remedial Technologies

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)				
Corrective Measure	Description	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)	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	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

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)				
Corrective Measure	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

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(1)			
Corrective Measure	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

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR 2	257.96(C)(3)	
Corrective Measure	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	Relative Cost
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	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.	Above-ground treatment components may need to be prese for an extended period of time, generating residuals requiring management and disposal. There would be a small disruption industrial area during construction	Low to Medium
Geochemical Approaches (oxygenation by physical means such as air sparging or Waterloo emitters)	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	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	modeling and monitoring may be required to demonstrate that unintended impacts (e.g., release of constituents) are not occurring and	Medium, due to mechanical equipment and possible use of oxygen
Geochemical Approaches (adsorption to, or coprecipitation with iron compounds via injection of treatment chemicals)	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 treatment chemicals.		Low to Medium
Hydraulic Containment (pumpand-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.	components may need to be present for an extended period of time, generating residuals requiring	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

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR	257.96(C)(3)	
Corrective Measure	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	Relative Cost
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

	Regulatory Citation for Criteria:	40 CFR 257.96(C)(2)	40 CFR 2	257.96(C)(3)	
Corrective Measure	Description	Time to Begin/Complete Remedy	Institutional Requirements	Other Environmental or Public Health Requirements	Relative Cost
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

Semiannual Remedy Selection and Design Progress Report Grumman Road Private Industrial Landfill

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 (1)	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	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	
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 pumpand-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	134	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 ⁽¹⁾		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.		Arsenic and molybdenum; creation of more oxidizing conditions	Desktop analysis performed by Anchor QEA

Notes:

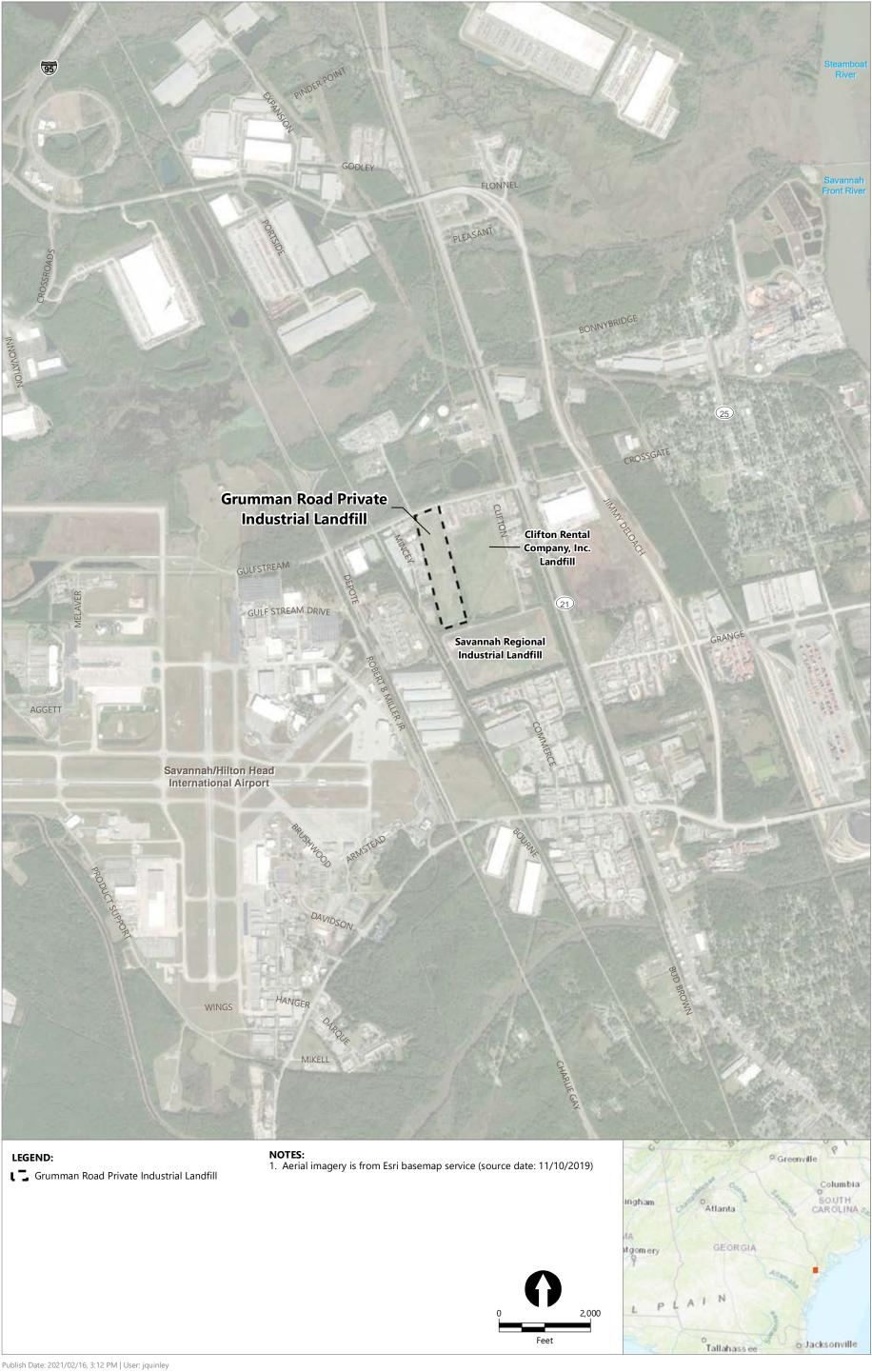
Corrective Measure (CM) codes:

- 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

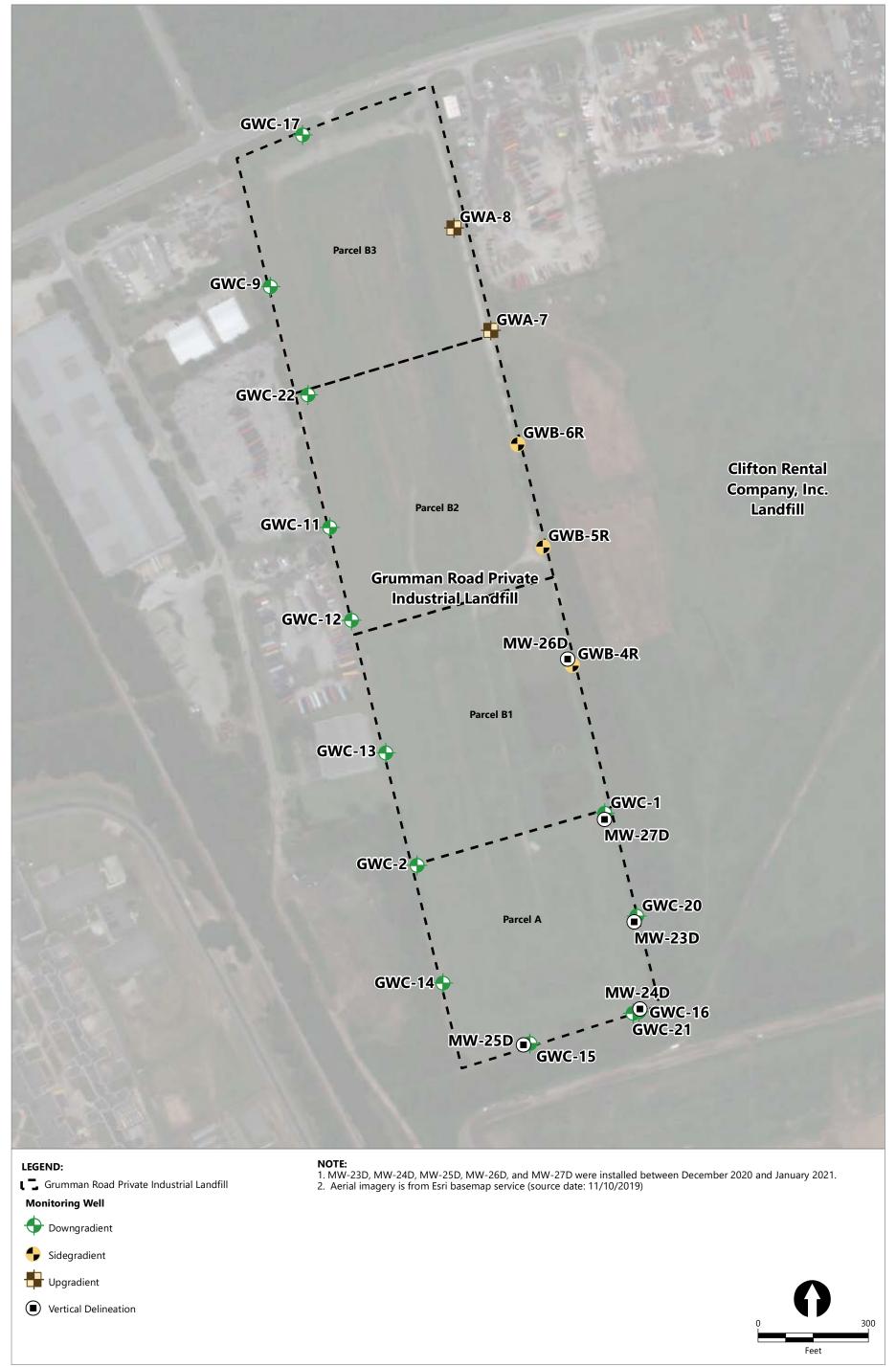
ACM: Assessment of Corrective Measures

SSL: statistically significant level

Figures

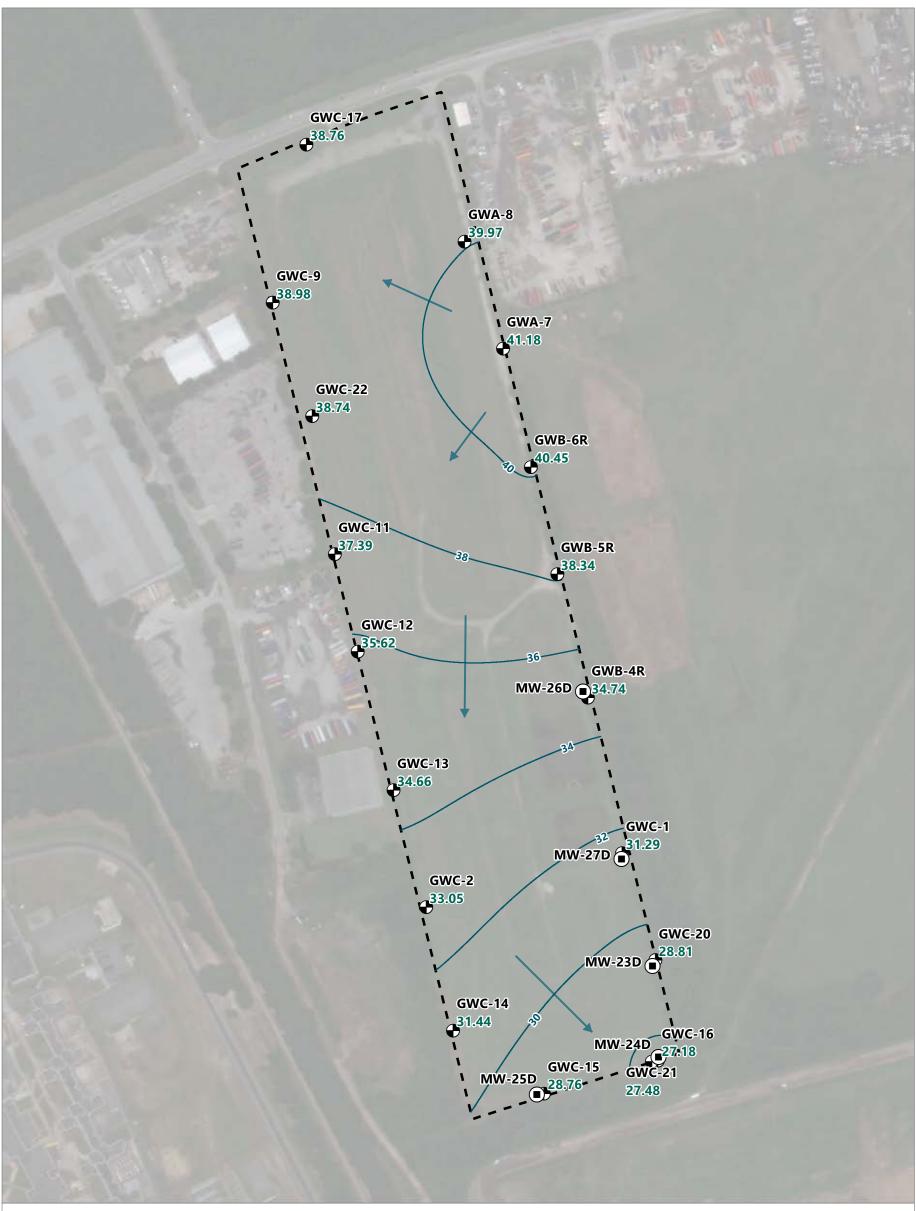


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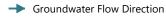




LEGEND:

■ Grumman Road Private Industrial Landfill

Groundwater Contour (NAVD88)





Vertical Delineation Well

NOTES:

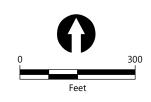
1. Groundwater elevations are from September 2020 sampling event.
2. Groundwater elevation values were converted from "Site Datum" to NAVD88 by subtracting 0.73 foot from the original value.

 Aerial imagery is from Esri online basemap service.
 GWC-21, MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were not used to create groundwater contours.

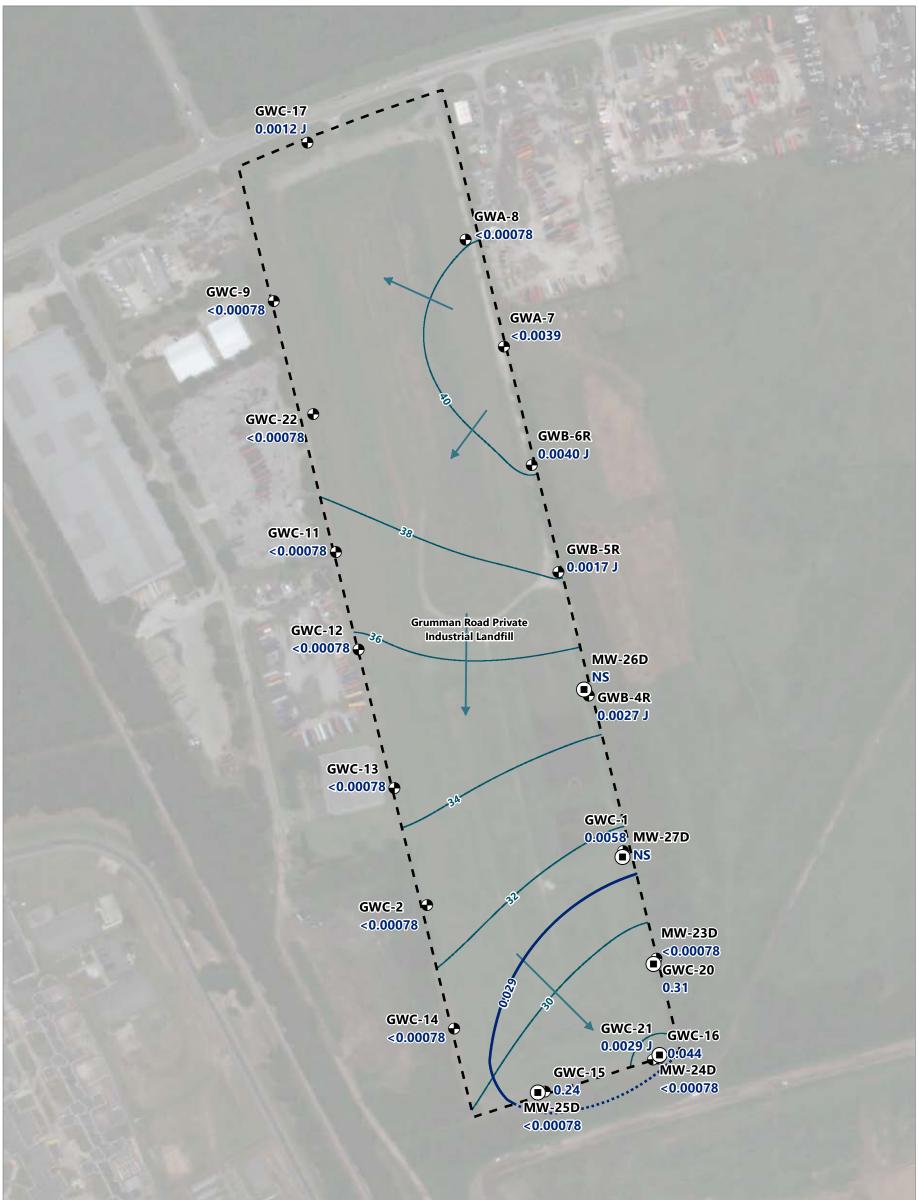
5. MW-23D, MW-24D, MW-25D, MW-26D, and MW-27D were installed between December 2020 and

January 2021.

NAVD88: North American Vertical Datum of 1988



 $Publish \ Date: 2021/02/12, 9:26 \ AM \ | \ User: joliver \\ Filepath: \ \ Corcas \ gis \ \ Corcas \ Grumman \ Potentiometric \ Sept 2020.mxd \\ AQ_SCS_Grumman \ Potentiometric \ Potentiome$



LEGEND:

■ Site Boundary





- Arsenic Isoconcentration Contour
- Projected Arsenic Isoconcentration Contour
- Groundwater Flow Direction
- Groundwater Contour (NAVD88)

NOTES:

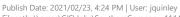
<: Indicates the constituent was analyzed for but not detected above the method detection limit.

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

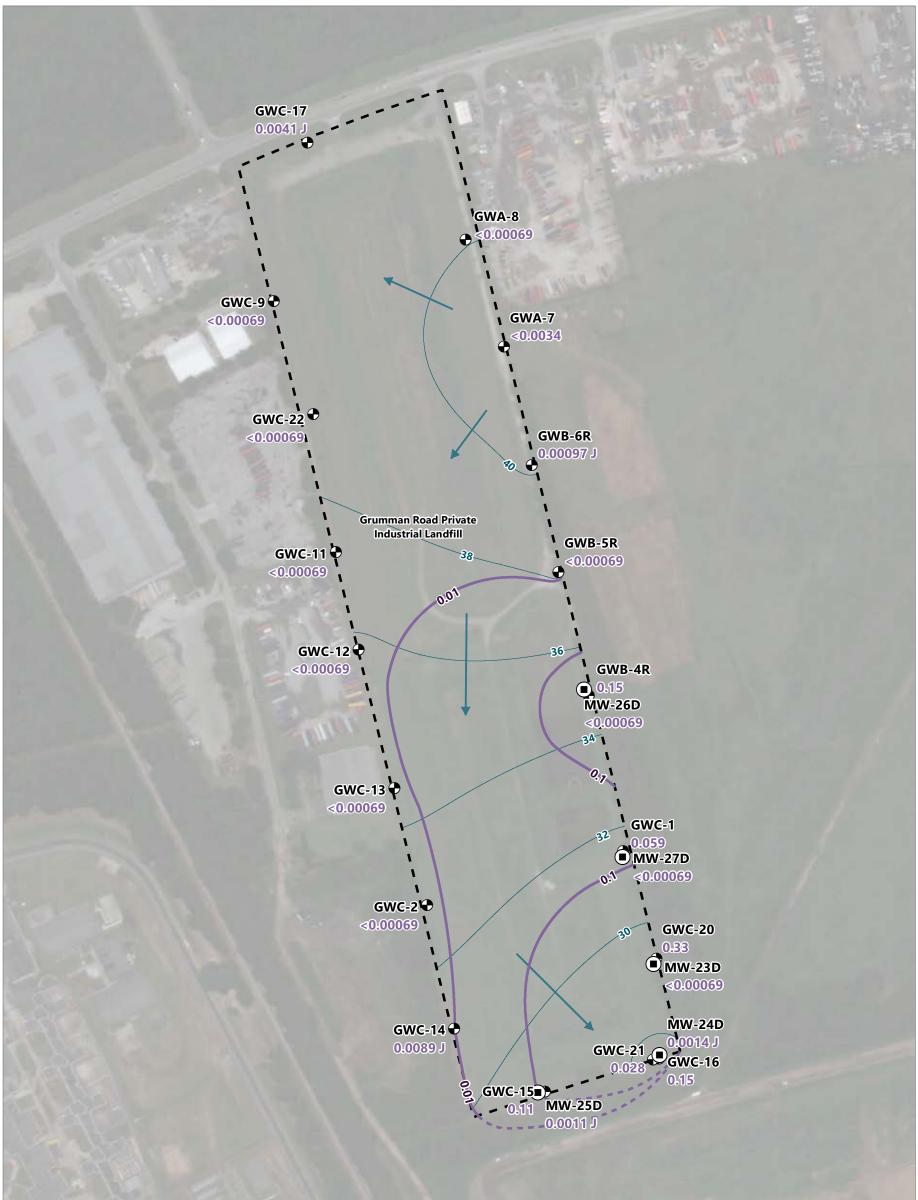
- 1. Grumman Road Private Industrial Landfill arsenic data are from the September/October 2020 sampling event.
- 2. Groundwater elevation contour lines were provided by Atlantic Coast Consulting, Inc.
- 3. Concentrations are reported in mg/L. 4. Site background concentration for arsenic is 0.029 mg/L 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 isocontour.
- 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).





 $Filepath: \cose{GISUobs} Southern Company_1114 \Grumman Road \colored \colored Road \colored Road \colored \color$



LEGEND:

■ Site Boundary





- 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.
- 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 isocontour.
- 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).





Publish Date: 2021/02/24, 9:01 AM | User: jquinley

 $Filepath: \cose{GISVobs} Southern Company_1114 \cose{GISVobs} Southern Company_1114 \cose{GISVobs} Mogls Southern Company_1114 \cose{GISVobs}. Maps \cose{GISVobs} Mogls Southern Company_1114 \cose{GISVobs} Mogls Mogls Southern Company_1114 \cose{GISVobs} Mogls Mogls$

Appendix A Certificate of Authorization



State Board of Registration for Professional Engineers and Land Surveyors

LICENSE NO.

PEF006751

Anchor QEA, LLC

10320 Little Patuxent Parkway Suite 1140 Columbia MD 21044

Engineer Firm

EXP DATE - 06/30/2022 Status: Active Issue Date: 06/18/2015

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

Please make note of the expiration date on your license. It is your responsibility to renew your license before it expires. Please notify the Board if you have a change of address.

Wall certificates suitable for framing are available at cost, see board fee schedule. To order a wall certificate, please order from the web site – www.sos.ga.gov/plb.

Please refer to Board Rules for any continuing education requirements your profession may require.

Georgia State Board of Professional Licensing 237 Coliseum Drive Macon GA 31217 Phone: (404) 424-9966

Phone: (404) 424-996 www.sos.ga.gov/plb

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



Georgia State Board of Registration for Professional Engineers and Land Surveyors

License No. PEF006751 Anchor QEA, LLC

10320 Little Patuxent Parkway Suite 1140 Columbia MD 21044

Engineer Firm

EXP DATE - 06/30/2022 Status: Active Issue Date: 06/18/2015

Appendix B Laboratory Analytical Report





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

Kai Lung

1(704)875-9092

HORIZON Database Administrator

Enclosures

cc: Owens Fuguea, ACC

Kristen Jurinko

Matt Malone, Atlantic Coast Consulting Betsy McDaniel, Atlantic Coast Consulting Evan Perry, Atlantic Coast Consulting Ms. Lauren Petty, Southern Co. Services





CERTIFICATIONS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

Pace Analytical Services Peachtree Corners

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

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

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

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



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



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



SUMMARY OF DETECTION

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
	— — MW-23D			- <u>'</u>		
2517999001	Performed by	CUSTOME			01/25/21 09:36	
	·	R			01/20/21 00:00	
	pН	5.75	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.4	mg/L		01/25/21 16:10	
EPA 6020B	Boron	0.018J	mg/L	0.040		
SM 2450C-2011	Total Dissolved Solids	41.0	mg/L		01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L		01/26/21 18:55	
EPA 300.0 Rev 2.1 1993	Sulfate	5.0	mg/L	1.0	01/26/21 18:55	
2517999002	MW-24D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	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	
2517999003	MW-25D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	6.25	Std. Units		01/25/21 09:36	
PA 6010D	Calcium	4.9	mg/L	1.0	01/25/21 16:20	
PA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:39	
PA 6020B	Molybdenum	0.0011J	mg/L		01/22/21 18:39	
SM 2450C-2011	Total Dissolved Solids	58.0	mg/L		01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L		01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L		01/26/21 19:55	
EPA 300.0 Rev 2.1 1993	Sulfate	1.6	mg/L	1.0	01/26/21 19:55	
2517999004	MW-26D	007015				
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	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	
2517999005	MW-27D					
	Performed by	CUSTOME R			01/25/21 09:36	
	pН	5.68	Std. Units		01/25/21 09:36	
PA 6010D	Calcium	3.0	mg/L	1.0	01/25/21 17:15	
PA 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	



SUMMARY OF DETECTION

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-23D	Lab ID:	92517999001	Collecte	d: 01/21/2	1 09:45	Received: 01/	22/21 09:41 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	•	lytical Services	s - Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	5.75	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA	6010D Prep	aration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, 0	3A				
Calcium	4.4	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:10	7440-70-2	
6020 MET ICPMS	•	Method: EPA lytical Services				PA 3005A			
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:27	7440-38-2	
Boron	0.018J	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:27		
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:27	7439-98-7	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	s - Peachtre	e Corners, 0	βA				
Total Dissolved Solids	41.0	mg/L	10.0	10.0	1		01/22/21 16:42		
300.0 IC Anions 28 Days	•	Method: EPA lytical Services		.1 1993					
Chloride	6.1	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		
Sulfate	5.0	mg/L	1.0	0.50	1		01/26/21 18:55	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-24D	Lab ID:	92517999002	Collecte	d: 01/21/2	1 13:10	Received: 01/	/22/21 09:41 M	atrix: Water	
_			Report						_
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	6.13	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	aration Me	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtree	Corners, 0	GΑ				
Calcium	2.8	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:15	7440-70-2	
6020 MET ICPMS		Method: EPA 6 ytical Services				PA 3005A			
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:33	7440-38-2	
Boron	0.014J	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:33	7440-42-8	
Molybdenum	0.0014J	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:33	7439-98-7	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Anal	ytical Services	- Peachtree	Corners, 0	GΑ				
Total Dissolved Solids	50.0	mg/L	10.0	10.0	1		01/22/21 16:42		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	6.1	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	0.79J	mg/L	1.0	0.50	1		01/26/21 19:40	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-25D	Lab ID:	92517999003	Collecte	d: 01/20/2	1 10:50	Received: 01/	22/21 09:41 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	lytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	6.25	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	thod: El	PA 3010A			
	Pace Anal	lytical Services	- Peachtree	e Corners, (GA				
Calcium	4.9	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:20	7440-70-2	
6020 MET ICPMS		Method: EPA 6 lytical Services				PA 3005A			
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:39	7440-38-2	
Boron	0.013J	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:39	7440-42-8	
Molybdenum	0.0011J	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:39	7439-98-7	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	lytical Services	- Peachtree	e Corners, (GΑ				
Total Dissolved Solids	58.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993					
	Pace Anal	lytical Services	- Asheville						
Chloride	6.1	mg/L	1.0	0.60	1		01/26/21 19:55	16887-00-6	
Fluoride	0.11	mg/L	0.10	0.050	1		01/26/21 19:55	16984-48-8	
Sulfate	1.6	mg/L	1.0	0.50	1		01/26/21 19:55	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-26D	Lab ID:	92517999004	Collecte	d: 01/20/2	1 09:50	Received: 01/	22/21 09:41 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	5.66	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	oaration Me	hod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtree	e Corners, 0	SA.				
Calcium	4.1	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:24	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtree	e Corners, 0	βA				
Boron	0.013J	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	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	ytical Services	- Peachtree	e Corners, (SA.				
Total Dissolved Solids	54.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	6.9	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	1.0	mg/L	1.0	0.50	1		01/26/21 20:10	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-27D	Lab ID:	92517999005	Collecte	d: 01/20/2	1 14:20	Received: 01/	22/21 09:41 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
pH	5.68	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA	6010D Prep	aration Me	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Calcium	3.0	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 17:15	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Prep	aration Me	thod: El	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Boron	0.011J	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	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, (GΑ				
Total Dissolved Solids	43.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	.1 1993					
	Pace Anal	ytical Services	- Asheville						
Chloride	6.1	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	0.88J	mg/L	1.0	0.50	1		01/26/21 20:24	14808-79-8	



GRUMMAN ROAD Project:

Pace Project No.: 92517999

Calcium

Date: 01/27/2021 03:34 PM

QC Batch: 594973 Analysis Method: EPA 6010D QC Batch Method: **EPA 3010A** Analysis Description: 6010D ATL

> Laboratory: Pace Analytical Services - Peachtree Corners, GA

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

METHOD BLANK: 3138783 Matrix: Water

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

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

LABORATORY CONTROL SAMPLE: 3138784

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3138786 3138785

MSD MS

92517417001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Result Conc. 6.7 20 Calcium mg/L 7.7 7.6 98 91 75-125

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.



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 ND	0.0050	0.00078	01/22/21 17:53	
Boron	mg/L	ND	0.040	0.0052	01/22/21 17:53	
Molybdenum	ma/L	ND	0.010	0.00069	01/22/21 17:53	

LABORATORY CONTROL SAMPLE: 3137729

Date: 01/27/2021 03:34 PM

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 SI	PIKE DUPL	ICATE: 3137	730		3137731							
		0054504004	MS	MSD	• • •		•••		0/ 5			
		92517846001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



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

Blank Reporting

ParameterUnitsResultLimitMDLAnalyzedQualifiersTotal Dissolved Solidsmg/LND10.010.001/22/21 16:40

LABORATORY CONTROL SAMPLE: 3137996

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

SAMPLE DUPLICATE: 3137997

Parameter Units Parameter Units Dup Max Result Result RPD Qualifiers

Total Dissolved Solids mg/L ND ND 10

SAMPLE DUPLICATE: 3138171

Date: 01/27/2021 03:34 PM

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

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.



Project: GRUMMAN ROAD

LABORATORY CONTROL SAMPLE: 3130600

Date: 01/27/2021 03:34 PM

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

		Blank	Reporting			
Parameter	Units	Result	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	

LABONATORT CONTROL SAWIFLE.	3139009	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	IKE DUPL	ICATE: 3139	610		3139611							
			MS	MSD								
		92517999001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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 SP	IKE DUPI	LICATE: 3139	612 MS	MSD	3139613							
		92517909004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



QUALIFIERS

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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.

Date: 01/27/2021 03:34 PM



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica 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		

Pace Analytical*

Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-CAR-CS-033-Rev.07 Document Revised: October 28, 2020

Page 1 of 2

Issuing Authority: Pace Carolinas Quality Office

aboratory receiving samples: Asheville	Huntersville Ra	taleigh Mechanicsville Atlanta Kernersville
color Temp Corrected (°C): SDA Regulated Soil (N/A, water sample)	Other: s Intact?	Project #: WO#: 92517999 Date/Initials Person Examining Contents: 2/2/ Other Biological Tissue Frozen? Yes N/A Temp should be above freezing to 6°C Samples out of temp criteria. Samples on ice, cooling process has begun
d samples originate in a quarantine zone within the Uni ☐ Yes ☐ No	ted States: CA, NY, or SC (check	ck maps)? Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
		Comments/Discrepancy:
Chain of Custody Present?	ETTES NO NA	/A 1.
Samples Arrived within Hold Time?	Yes ONO ON/	/A 2.
Short Hold Time Analysis (<72 hr.)?	□Yes ☑No □N//	
Rush Turn Around Time Requested?	□Yes ☑No □N//	
Sufficient Volume?	EYes ONO ON/A	/A 5.
Correct Containers Used?	□Yes □No □N//	
-Pace Containers Used?	No □N/A	
Containers Intact?	ØYes □No □N/8	18 7.
Dissolved analysis: Samples Field Filtered?	□Yes □No □AN/A	
Sample Labels Match COC?	☐Yes □No □N/A	
-Includes Date/Time/ID/Analysis Matrix:	W	
Headspace in VOA Vials (>5-6mm)?	□Yes □No □Ny	A 10.
Trip Blank Present?	□Yes □No □N/	
Trip Blank Custody Seals Present?	□Yes □No □N/A	/A
COMMENTS/SAMPLE DISCREPANCY		Field Data Required? Yes No
SENT NOTIFICATION/RESOLUTION		Lot ID of split containers:
Person contacted:	Date	Lot ID of split containers: te/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 #

Due Date: 01/27/21

CLIENT: GA-GA Power

temil	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	8P2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP45-125 mL Plastic H25O4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CI-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AGIH-1 liter Amber HCI (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG15-1 liter Amber H2SO4 (pH < 2)	AG35-250 mL Amber H2504 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4C! (N/A)(CI-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A - lab)		BP3A-250 mL Plastic (NH2)25O4 (9.3-9.7)	AGDU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1			1			X																						
2	K	1	1			K																						
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9													1															
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.

8
Pace Analytical
www.pacesabs.com

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	ed Client information:		Many Aread Project Information									Section C Invoice information													lege: of					
Compar	Y: GA Power			Attention: Southern Co.															_											
Address	Atlanta, GA	Copy To:	ACC (Contacts				Company Name: REGULATORY									AGE	GENCY												
								Address. F NPDES										_		D WAT	ER	DRINKING	WATER							
Email T	SCS Contacts	Purchase C	inder No.						Pace Refer	Quota				_	_				\neg	-	UST	F	- RC							
Phone:	Fac	Project Nan	ne: G	rumman Ro	oad					Project	E K	evin h	derri	ing	_	_	_			Site	Locati	on		_		1111111				
Reques	ted Due Date/TAT: 3 Day	Project Nun	nber:			Pace	Profile	£ 29	26-1	_	_	_		_		\vdash	STATE: G					<u> </u>								
									_			_	_	_	Т		Rec	uest	ted /	Analy	sis Fil	_	d (Y/N	1)	7//					
	Section D Valid Metrix Required Client Information MATERY DEPRODUCE WATER WANTER WANTE	CODE	valideodes to left)	сомясов		COMPOS	rt	COLLECTION			Pn	eserv	rative	98		N/A	3000								(W)					
ITEM#	SAMPLE ID one of the control of the	OL WP AR OT TS	MATRIX CODE (New valle)		TIME	DATE	TIME	SAMPLE TEMP AT COL	# OF CONTAINERS	Unpreserved	H ₂ SO ₄	Ę.	Nach-	Methanol		Analysis Test	ide/Fluoride/Suffate	pp. II + As + Mo	pp. III + Mo						Residual Chlorine (Y/N)			1999 10/Leb L.D.		
1	MW-23D		\top		-	1-21-21	0945	-	3		7	H	+	1		-	x x	×	ń	+	11	+	$^{+}$	+	Ť	- 100		5.75		
2	MW-24D					1-21-21	_	\vdash	3		V	П	\top	$^{+}$	Н	_	x x	×	П	\top	3	\top	\top		\Box			6.13		
3	MW-25D					1-20-11			3		7	П	\top	Т	П	1	x x	×	П	\neg		1	П	\Box	П		pH			
4	MW-26D					6840		3	3 / /			П	1	x x	П	х		П	Т	П		pH= 5.66								
5	MW-27D					1-20-21	1420		3	И	. ~				П	- [x x		х		П	\top		П	П	O.	pH=	5-68		
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F-ALL-Q-020rev.07, 15-Feb-2007

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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

Ken Hung

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



CERTIFICATIONS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

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

Indiana Certification
Iowa Certification #: 391

Kansas/TNI Certification #: E-10358 Kentucky Certification #: KY90133 KY WW Permit #: KY0098221 KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012 Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020 Maryland Certification #: 308

Massachusetts Certification #: M-PA1457 Michigan/PADEP Certification #: 9991 Missouri Certification #: 235

Montana Certification #: Cert0082 Nebraska Certification #: NE-OS-29-14 Nevada Certification #: PA014572018-1 New Hampshire/TNI Certification #: 297617 New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457 New York/TNI Certification #: 10888 North Carolina Certification #: 42706 North Dakota Certification #: R-190 Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 Rhode Island Certification #: 65-00282

South Dakota Certification
Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad Wyoming Certification #: 8TMS-L

Pace Analytical Services Charlotte

9800 Kincey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706 North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

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

Pace Analytical Services Peachtree Corners

110 Technology Pkwy, Peachtree Corners, GA 30092

Florida DOH Certification #: E87315 Georgia DW Inorganics Certification #: 812 Georgia DW Microbiology Certification #: 812 North Carolina Certification #: 381 South Carolina Certification #: 98011001

Virginia Certification #: 460204



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



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
2491455004	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
2491455005	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
2491455006	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



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A		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
2491455008	GWC-15	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
2491455009	GWC-14	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
2491455010	GWC-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
2491455011	GWC-17	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
2491455012	GWC-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
2491455013	GWC-11	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
	_	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
2491455014	GWC-22	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
2491455015	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
2491455016	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
2491455017	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
2491455018	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
2491455019	GWC-1	EPA 6020B	CW1	12	PASI-GA
		EPA 7470A	VB	1	PASI-GA
		EPA 9315	LAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 300.0 Rev 2.1 1993	CDC	1	PASI-A
92491455020	GWC-9	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
2491455021	GWB-5R	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
2491455022	GWA-7	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
2491455023	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
2491455024	GWB-6R	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

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



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491455001	DUP-1					
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 ±	pCi/L		09/02/20 07:43	
		0.356				
		(0.629) C:87% T:NA				
EPA 9320	Radium-228	0.401 ±	pCi/L		09/09/20 13:44	
2.710020	radiani 220	0.482	PO#2		00/00/20 10:11	
		(1.01)				
		C:62%				
Total Radium Calculation	Total Radium	T:77% 0.876 ±	pCi/L		09/10/20 13:24	
Total Radium Calculation	Total Radium	0.838	pCI/L		09/10/20 13:24	
		(1.64)				
2491455002	EB-1-8-18-20	. ,				
EPA 9315	Radium-226	0.181 ±	pCi/L		09/02/20 18:01	
		0.115				
		(0.185)				
EDA 0220	Dodium 220	C:86% T:NA 0.645 ±	~C:/I		00/00/20 12:10	
EPA 9320	Radium-228	0.645 ± 0.510	pCi/L		09/09/20 13:10	
		(1.01)				
		C:65%				
T D	T I.D II	T:81%	0:"		00/40/00 40 04	
Total Radium Calculation	Total Radium	0.826 ± 0.625	pCi/L		09/10/20 13:24	
		(1.20)				
92491455003	GWA-8					
	pН	4.23	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.051	mg/L	0.010		
EPA 6020B	Beryllium	0.00019J	mg/L	0.0030		
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 ±	pCi/L		09/02/20 18:01	
		0.340				
		(0.198) C:81% T:NA				
EPA 9320	Radium-228	0.987 ±	pCi/L		09/09/20 12:06	
L17(3020	radiani 220	0.488	POWE		00/00/20 12:00	
		(0.830)				
		C:63%				
Total Radium Calculation	Total Radium	T:79% 2.63 ±	pCi/L		09/10/20 13:24	
Total Radium Calculation	Iolai Radiuiii	0.828	pCi/L		09/10/20 13.24	
		(1.03)				
EPA 300.0 Rev 2.1 1993	Fluoride	0.079J	mg/L	0.10	08/20/20 22:47	
2491455004	GWC-13					
	рН	4.65	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.024	mg/L	0.010	08/21/20 19:14	
	Chromium	0.00077J	mg/L	0.010	08/21/20 19:14	
EPA 6020B EPA 6020B	Chromium	0.000773	mg/L		08/21/20 19:14	

REPORT OF LABORATORY ANALYSIS



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Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2491455004	GWC-13					
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	1.60% 1.42 ± 0.660 (1.06)	pCi/L		09/10/20 13:24	
2491455005	GWC-12					
	рН	3.94	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.018	mg/L	0.010		
EPA 6020B	Beryllium	0.00046J	mg/L	0.0030	08/21/20 19:20	
EPA 6020B	Chromium	0.0010J	mg/L		08/21/20 19:20	
EPA 6020B	Cobalt	0.00060J	mg/L	0.0050		
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	
2491455006	GWC-16					
	рН	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	
PA 6020B	Molybdenum	0.15	mg/L		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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Lab Sample ID	Client Sample ID					
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
2491455006	GWC-16					
EPA 9320	Radium-228	1.63 ±	pCi/L		09/09/20 15:09	
		0.625 (0.970)				
		C:69%				
Fatal Dadium Calculation	Total Dadium	T:82% 4.24 ± 1.09	~ C:/I		00/40/00 40-04	
Total Radium Calculation	Total Radium	4.24 ± 1.09 (1.11)	pCi/L		09/10/20 13:24	
2491455007	GWC-21					
	рH	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	
PA 6020B	Selenium	0.013	mg/L	0.010	08/21/20 19:31	
EPA 9315	Radium-226	1.89 ±	pCi/L		09/02/20 18:00	
		0.372				
		(0.243)				
.DV 0330	Radium-228	C:96% T:NA 1.38 ±	~C:/I		00/00/20 45:00	
EPA 9320	Radium-228	0.583	pCi/L		09/09/20 15:09	
		(0.956)				
		C:69%				
		T:81%				
Total Radium Calculation	Total Radium	3.27 ±	pCi/L		09/10/20 13:24	
		0.955				
		(1.20)				
2491455008	GWC-15					
	рН	6.39	Std. Units		08/20/20 17:18	
PA 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 ±	pCi/L		09/02/20 18:00	
		0.129				
		(0.182)				
EPA 9320	Radium-228	C:94% T:NA 1.55 ±	pCi/L		09/09/20 15:10	
_I	Naululli-220	0.588	PCI/L		03/03/20 13.10	
		(0.892)				
		C:66%				
		T:87%				
otal Radium Calculation	Total Radium	1.84 ±	pCi/L		09/10/20 13:24	
		0.717				
0.404.455000	01110 44	(1.07)				
2491455009	GWC-14					
-D	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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Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2491455009	GWC-14					
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	
		C:84% T:NA				
EPA 9320	Radium-228	0.343 ± 0.564 (1.23) C:69%	pCi/L		09/09/20 15:10	
		T:66%				
Total Radium Calculation	Total Radium	0.731 ± 0.716 (1.43)	pCi/L		09/10/20 13:24	
2491455010	GWC-2					
	рН	4.60	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.050	mg/L	0.010	08/21/20 20:00	
PA 6020B	Beryllium	0.000051J	mg/L	0.0030	08/21/20 20:00	
EPA 9315	Radium-226	0.377 ± 0.150 (0.200) C:86% T:NA	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	0.709 ± 0.486 (0.941) C:71% T:79%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	1.09 ± 0.636 (1.14)	pCi/L		09/10/20 13:24	
2491455011	GWC-17					
	рН	4.31	Std. Units		08/20/20 17:18	
PA 6020B	Barium	0.074	mg/L	0.010	08/21/20 20:05	
PA 6020B	Beryllium	0.0016J	mg/L	0.0030	08/21/20 20:05	
PA 6020B	Chromium	0.0011J	mg/L	0.010	08/21/20 20:05	
PA 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		08/21/20 20:05	
EPA 6020B	Molybdenum	0.00092J	mg/L		08/21/20 20:05	
PA 6020B	Selenium	0.0020J	mg/L		08/21/20 20:05	
PA 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) C:71% T:60%	pCi/L		09/09/20 15:10	

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2491455011	GWC-17					
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	
2491455012	GWC-20					
	рН	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	
PA 6020B	Chromium	0.0011J	mg/L	0.010	08/21/20 20:11	
PA 6020B	Molybdenum	0.097	mg/L	0.010	08/21/20 20:11	
EPA 9315	Radium-226	3.09 ± 0.537 (0.138) C:97% T:NA	pCi/L		09/02/20 18:01	
EPA 9320	Radium-228	3.77 ± 0.976 (0.980) C:69% T:77%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	6.86 ± 1.51 (1.12)	pCi/L		09/10/20 13:24	
2491455013	GWC-11					
	рH	4.41	Std. Units		08/20/20 17:18	
PA 6020B	Antimony	0.00064J	mg/L	0.0030	08/25/20 16:20	
PA 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	
PA 6020B	Chromium	0.0015J	mg/L	0.010		
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	
PA 6020B	Molybdenum	0.00077J	mg/L	0.010		
PA 6020B	Selenium	0.0028J	mg/L	0.010	08/25/20 16:20	
PA 6020B	Thallium	0.00021J	mg/L	0.0010		
EPA 9315	Radium-226	3.22 ± 0.562 (0.179) C:89% T:NA	pCi/L	0.0010	09/02/20 17:59	
EPA 9320	Radium-228	3.54 ± 1.00 (1.17) C:58% T:80%	pCi/L		09/09/20 15:10	
Total Radium Calculation	Total Radium	6.76 ± 1.56 (1.35)	pCi/L		09/10/20 13:24	
2491455014	GWC-22					
	рН	4.52	Std. Units		08/20/20 17:18	
PA 6020B	Antimony	0.0022J	mg/L	0.0030	08/25/20 16:43	
PA 6020B	Barium	0.085	mg/L	0.010	08/25/20 16:43	
PA 6020B	Beryllium	0.000076J	mg/L	0.0030	08/25/20 16:43	
PA 6020B	Cadmium	0.00024J	mg/L	0.0025	08/25/20 16:43	
PA 6020B	Chromium	0.0002 4 3	mg/L	0.010	08/25/20 16:43	
	Canoniani	0.000303 0.00072J	mg/L	0.0050		

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID	-		5		Ouglifiere
Method	Parameters —	Result	Units	Report Limit	Analyzed ·	Qualifiers
2491455014	GWC-22					
EPA 6020B	Thallium	0.00017J	mg/L	0.0010	08/26/20 16:49	
EPA 9315	Radium-226	4.29 ± 0.717	pCi/L		09/02/20 17:59	
		(0.153)				
		C:87% T:NA				
EPA 9320	Radium-228	3.36 ±	pCi/L		09/09/20 15:10	
		0.984				
		(1.23) C:68%				
		T:68%				
otal Radium Calculation	Total Radium	7.65 ± 1.70	pCi/L		09/10/20 13:24	
		(1.38)				
2491455015	EB-2-8-18-20					
PA 6020B	Antimony	0.00059J	mg/L	0.0030	08/25/20 16:48	
EPA 9315	Radium-226	0.0983 ±	pCi/L		09/02/20 17:59	
		0.0893 (0.156)				
		C:82% T:NA				
PA 9320	Radium-228	-0.000828 ±	pCi/L		09/09/20 15:10	
		0.364				
		(0.850) C:64%				
		T:88%				
otal Radium Calculation	Total Radium	0.0983 ±	pCi/L		09/10/20 13:24	
		0.453				
		(1.01)				
2491455016	DUP-2					
PA 6020B	Antimony	0.00062J	mg/L	0.0030	08/25/20 16:54	
PA 6020B	Barium	0.083	mg/L	0.010	08/25/20 16:54	
PA 6020B	Beryllium	0.000063J	mg/L	0.0030	08/25/20 16:54	
PA 6020B	Cadmium	0.00019J	mg/L	0.0025	08/25/20 16:54	
PA 6020B	Chromium	0.00070J 0.00066J	mg/L	0.010	08/25/20 16:54	
PA 6020B PA 9315	Lead Radium-226	4.34 ±	mg/L pCi/L	0.0050	08/26/20 17:00 09/02/20 17:59	
.i A 9515	Nadidili-220	0.723	poi/L		09/02/20 17.59	
		(0.166)				
	B !!	C:90% T:NA	0.4		00/00/00 / 7 / 0	
EPA 9320	Radium-228	5.03 ± 1.20 (0.992)	pCi/L		09/09/20 15:10	
		C:68%				
		T:75%				
otal Radium Calculation	Total Radium	9.37 ± 1.92	pCi/L		09/10/20 13:24	
		(1.16)				
2491455017	FB-1-8-19-20					
PA 6020B	Antimony	0.0019J	mg/L	0.0030	08/27/20 15:43	
PA 9315	Radium-226	0.0591 ±	pCi/L		09/03/20 16:47	
		0.0951 (0.185)				
		C:94% T:NA				

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
2491455017	FB-1-8-19-20					
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	
2491455018	FB-2-8-19-20					
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	
2491455019	GWC-1					
	рН	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		
EPA 6020B	Chromium	0.0028J	mg/L		08/27/20 15:54	
EPA 6020B	Molybdenum	0.061	mg/L	0.010		
EPA 6020B	Selenium	0.0020J	mg/L	0.010		
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	
2491455020	GWC-9					
	рН	4.58	Std. Units		08/20/20 17:18	
EPA 6020B	Barium	0.17	mg/L	0.010	08/27/20 16:00	
PA 6020B	Beryllium	0.00022J	mg/L	0.0030	08/27/20 16:00	
PA 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	

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2491455020	GWC-9					
EPA 9315	Radium-226	1.20 ±	pCi/L		09/03/20 16:47	
		0.267 (0.192)				
		C:90% T:NA				
EPA 9320	Radium-228	1.14 ±	pCi/L		09/09/20 15:08	
		0.521 (0.849)				
		C:59%				
		T:83%				
Total Radium Calculation	Total Radium	2.34 ± 0.788	pCi/L		09/10/20 15:11	
		(1.04)				
EPA 300.0 Rev 2.1 1993	Fluoride	0.092J	mg/L	0.10	08/21/20 23:45	
2491455021	GWB-5R					
	рН	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		
EPA 6020B	Chromium	0.0012J	mg/L	0.010		
EPA 6020B	Lead	0.000079J	mg/L	0.0050	08/27/20 16:25	
EPA 9315	Radium-226	1.97 ± 0.388	pCi/L		09/03/20 16:47	
		(0.210)				
		C:82% T:NA				
EPA 9320	Radium-228	0.521 ± 0.444	pCi/L		09/09/20 15:08	
		(0.882)				
		C:65%				
Taral Davidson Oalandadan	Tatal Dadiona	T:73%	~ 0:4		00/40/00 45 44	
Total Radium Calculation	Total Radium	2.49 ± 0.832	pCi/L		09/10/20 15:11	
		(1.09)				
2491455022	GWA-7					
	рН	5.81	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0060J	mg/L	0.025	08/27/20 16:30	D3
PA 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
PA 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	
		C:90% T:NA				
EPA 9320	Radium-228	1.23 ±	pCi/L		09/09/20 15:08	
		0.583				
		(0.978) C:66%				
		T:89%				
Total Radium Calculation	Total Radium	5.45 ± 1.71	pCi/L		09/11/20 13:22	
EPA 300.0 Rev 2.1 1993	Fluoride	(1.65) 0.21	mg/L	0.10	08/22/20 23:51	
2491455023	GWB-4R		<i>y.</i> –	21.0	· · ··	
ETJ T JJUEJ	р Н	5.70	Std. Units		08/20/20 17:18	
	μι	5.70	Jiu. Ullis		00/20/20 17.10	

REPORT OF LABORATORY ANALYSIS



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491455023	GWB-4R					
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	
PA 6020B	Molybdenum	0.16	mg/L	0.010	08/27/20 16:36	
EPA 9315	Radium-226	1.89 ± 0.368 (0.222) C:94% T:NA	pCi/L		09/03/20 18:44	
EPA 9320	Radium-228	1.21 ± 0.552 (0.915) C:67% T:77%	pCi/L		09/09/20 15:08	
otal 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	
2491455024	GWB-6R					
	рН	5.21	Std. Units		08/20/20 17:18	
EPA 6020B	Arsenic	0.0036J	mg/L	0.0050	08/27/20 16:42	
PA 6020B	Barium	0.064	mg/L	0.010	08/27/20 16:42	
PA 6020B	Beryllium	0.000050J	mg/L	0.0030	08/27/20 16:42	
PA 6020B	Chromium	0.0037J	mg/L	0.010	08/27/20 16:42	
PA 6020B	Lead	0.00014J	mg/L	0.0050	08/27/20 16:42	
PA 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%	pCi/L		09/09/20 15:08	
Total Radium Calculation	Total Radium	T:79% 4.53 ± 1.10 (1.02)	pCi/L		09/10/20 15:11	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: DUP-1	Lab ID:	92491455001	Collecte	ed: 08/17/20	00:00	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	s - Peachtre	e Corners, G	βA				
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	0.023	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	0.000073J	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	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Meth	nod: EF	PA 7470A			
	Pace Analy	ytical Services	s - Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:08	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
- -	Pace Analy	ytical Services	s - Asheville	:					
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 21:54	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: EB-1-8-18-20	Lab ID:	92491455002	Collecte	ed: 08/18/20	00:00	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical I	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, G	βA				
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	
7470 Mercury	Analytical I	Method: EPA	7470A Pre	paration Meth	nod: EF	PA 7470A			
	Pace Analy	tical Services	- Peachtre	e Corners, G	SA.				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:10	7439-97-6	
300.0 IC Anions 28 Days	Analytical I	Method: EPA 3	300.0 Rev 2	2.1 1993					
•		tical Services							
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 22:07	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWA-8	Lab ID:	92491455003	Collecte	ed: 08/17/20	14:59	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
ЭН	4.23	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	S A				
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	
_ithium	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	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:13	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	0.079J	mg/L	0.10	0.050	1		08/20/20 22:47	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-13	Lab ID:	92491455004	Collecte	ed: 08/17/20	16:16	Received: 08/	/19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
Н	4.65	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
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	
₋ead	0.000076J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:14	7439-92-1	
_ithium	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	
Γhallium	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 Prej	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	€A.				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:15	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
-	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:01	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-12	Lab ID:	92491455005	Collecte	ed: 08/17/20	17:25	Received: 08/	/19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL .	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
рН	3.94	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
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	
_ithium	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	
7470 Mercury	Analytical	Method: EPA 7	470A Pre	paration Met	nod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:17	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	0.19	mg/L	0.10	0.050	1		08/20/20 23:14	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-16	Lab ID:	92491455006	Collecte	ed: 08/18/20	09:32	Received: 08/	/19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL .	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
Н	5.52	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
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	
3arium	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	
₋ead	0.00017J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:25	7439-92-1	
_ithium	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	
Γhallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 19:25	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	'470A Pre _l	paration Met	nod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:25	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
•	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:28	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-21	Lab ID:	92491455007	Collecte	ed: 08/18/20	10:58	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
рН	5.82	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	€A				
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	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:27	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
•	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:41	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-15	Lab ID:	92491455008	3 Collecte	ed: 08/18/20	12:56	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte)					
pΗ	6.39	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, G	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:48	7440-36-0	
Arsenic	0.28	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:48	7440-38-2	
Barium	0.030	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	0.0018J	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	
_ead	0.000090J	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:48	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:48	7439-93-2	
Molybdenum	0.12	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:48	7439-98-7	
Selenium	0.0022J	mg/L	0.010	0.0016	1	08/20/20 14:56	08/21/20 19:48	7782-49-2	
Γhallium	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 Prej	paration Met	nod: EF	PA 7470A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:29	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	s - Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/20/20 23:55	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-14	Lab ID:	92491455009	Collecte	ed: 08/18/20	14:24	Received: 08/	/19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	;					
Н	5.56	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	SA.				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 19:54	7440-36-0	
Arsenic	0.0012J	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 19:54	7440-38-2	
Barium	0.028	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	0.00059J	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	
₋ead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 19:54	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 19:54	7439-93-2	
Molybdenum	0.017	mg/L	0.010	0.00069	1	08/20/20 14:56	08/21/20 19:54	7439-98-7	
Selenium	0.0029J	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	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:32	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 00:35	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-2	Lab ID:	92491455010	Collecte	ed: 08/18/20	15:23	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	;					
рН	4.60	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	S A				
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	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EF	PA 7470A			
•	-	ytical Services							
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:34	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
-	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 00:49	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-17	Lab ID:	92491455011	Collecte	ed: 08/18/20	14:50	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte)					
рН	4.31	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, C	βA				
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	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	hod: EF	PA 7470A			
-		lytical Services							
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:36	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	s - Asheville						
Fluoride	0.51	mg/L	0.10	0.050	1		08/21/20 01:02	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-20	Lab ID:	92491455012	Collecte	ed: 08/18/20	16:36	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte						
Н	5.89	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/20/20 14:56	08/21/20 20:11	7440-36-0	
Arsenic	0.30	mg/L	0.0050	0.00078	1	08/20/20 14:56	08/21/20 20:11	7440-38-2	
Barium	0.38	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	0.0011J	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	
₋ead	ND	mg/L	0.0050	0.000036	1	08/20/20 14:56	08/21/20 20:11	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	08/20/20 14:56	08/21/20 20:11	7439-93-2	
Molybdenum	0.097	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	
Γhallium	ND	mg/L	0.0010	0.00014	1	08/20/20 14:56	08/21/20 20:11	7440-28-0	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	nod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/21/20 08:05	08/21/20 13:39	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
•	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 01:43	16984-48-8	
		=							



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-11	Lab ID:	92491455013	Collecte	ed: 08/18/20	10:45	Received: 08/	/19/20 12:45 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	lytical Services	- Charlotte						
Н	4.41	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	lytical Services	- Peachtre	e Corners, C	SA.				
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	
.ead	0.00035J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 16:32	7439-92-1	
ithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:05	08/25/20 16:20	7439-93-2	
/lolybdenum	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	
-hallium	0.00021J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 16:32	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Anal	lytical Services	- Peachtre	e Corners, G	SA.				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:38	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
,	•	lytical Services							
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 02:23	16984-48-8	
		-							



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-22	Lab ID:	92491455014	Collecte	ed: 08/18/20	14:30	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	s - Charlotte)					
рН	4.52	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, G	βA				
Antimony	0.0022J	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	0.085	mg/L	0.010	0.00071	1	08/24/20 15:05	08/25/20 16:43	7440-39-3	
Beryllium	0.000076J	mg/L	0.0030	0.000046	1	08/24/20 15:05	08/25/20 16:43	7440-41-7	
Cadmium	0.00024J	mg/L	0.0025	0.00012	1	08/24/20 15:05	08/25/20 16:43	7440-43-9	
Chromium	0.00056J	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	
_ead	0.00072J	mg/L	0.0050	0.000036	1	08/24/20 15:05	08/26/20 16:49	7439-92-1	
_ithium	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	
Γhallium	0.00017J	mg/L	0.0010	0.00014	1	08/24/20 15:05	08/26/20 16:49	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	s - Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:40	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	s - Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 02:37	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: EB-2-8-18-20	Lab ID:	92491455015	Collecte	ed: 08/18/20	16:50	Received: 08/	19/20 12:45 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical I	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, G	βA				
Antimony	0.00059J	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	
7470 Mercury	Analytical I	Method: EPA 7	470A Pre	paration Metl	nod: EF	PA 7470A			
	Pace Analy	tical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:47	7439-97-6	
300.0 IC Anions 28 Days	Analytical I	Method: EPA 3	300.0 Rev 2	2.1 1993					
·		tical Services							
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 03:17	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: DUP-2	Lab ID:	92491455016	6 Collecte	ed: 08/18/20	00:00	Received: 08/	19/2 <mark>0 12:45 Ma</mark>	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	ytical Services	s - Peachtre	e Corners, G	βA				
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	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Meth	nod: EF	PA 7470A			
	Pace Analy	ytical Services	s - Peachtre	e Corners, G	SA.				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 08:50	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
·	Pace Analy	ytical Services	s - Asheville	;					
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 03:31	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: FB-1-8-19-20	Lab ID:	92491455017	Collecte	ed: 08/19/20	10:30	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical I	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, G	βA				
Antimony	0.0019J	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	
7470 Mercury	Analytical I	Method: EPA	7470A Pre	paration Meth	nod: EF	PA 7470A			
·	Pace Analy	tical Services	- Peachtre	e Corners, G	SA.				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:02	7439-97-6	
300.0 IC Anions 28 Days	Analytical I	Method: EPA 3	300.0 Rev 2	2.1 1993					
•		tical Services							
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:05	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: FB-2-8-19-20	Lab ID:	92491455018	Collecte	ed: 08/19/20	09:00	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS	Analytical	Method: EPA	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	s - Peachtre	e Corners, 0	βA				
Antimony	0.00060J	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	
7470 Mercury	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	s - Peachtre	e Corners, 0	€A				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:04	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
•	Pace Anal	ytical Services	s - Asheville	:					
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:18	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-1	Lab ID:	92491455019	Collecte	ed: 08/19/20	09:35	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	;					
pH	5.73	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	€A				
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	
7470 Mercury	Analytical	Method: EPA 7	7470A Prej	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	€A				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:06	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:32	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWC-9	Lab ID:	92491455020	Collecte	ed: 08/19/20	09:20	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Analy	ytical Services	- Charlotte	;					
рН	4.58	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
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 7	470A Prep	paration Met	nod: EF	PA 7470A			
	Pace Analy	ytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:09	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	0.092J	mg/L	0.10	0.050	1		08/21/20 23:45	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWB-5R	Lab ID:	92491455021	Collecte	ed: 08/19/20	11:58	Received: 08/	/20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	:					
Н	5.14	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:25	7440-36-0	
Arsenic	0.0019J	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:25	7440-38-2	
Barium	0.10	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	0.0012J	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	
₋ead	0.000079J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:25	7439-92-1	
_ithium	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	
Γhallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:25	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	nod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:16	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	ND	mg/L	0.10	0.050	1		08/21/20 23:59	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWA-7	Lab ID:	92491455022	Collecte	d: 08/19/20	10:30	Received: 08/	20/2 <mark>0 12:20 Ma</mark>	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Analy	ytical Services	- Charlotte						
рН	5.81	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	aration Met	hod: Ef	PA 3005A			
	Pace Analy	ytical Services	- Peachtree	e Corners, G	βA				
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
7470 Mercury	Analytical	Method: EPA 7	470A Prep	aration Met	nod: EF	PA 7470A			
	Pace Analy	ytical Services	- Peachtree	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:18	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993					
	Pace Analy	ytical Services	- Asheville						
Fluoride	0.21	mg/L	0.10	0.050	1		08/22/20 23:51	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWB-4R	Lab ID:	92491455023	Collecte	ed: 08/19/20	11:45	Received: 08/	/20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte	•					
Н	5.70	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:36	7440-36-0	
Arsenic	0.0033J	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:36	7440-38-2	
Barium	0.076	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	0.0022J	mg/L	0.010	0.00055	1	08/24/20 15:10	08/27/20 16:36	7440-47-3	
Cobalt	0.00072J	mg/L	0.0050	0.00038	1	08/24/20 15:10	08/27/20 16:36	7440-48-4	
_ead	0.00048J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:36	7439-92-1	
_ithium	0.014J	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:36	7439-93-2	
Molybdenum	0.16	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	
Γhallium	ND	mg/L	0.0010	0.00014	1	08/24/20 15:10	08/27/20 16:36	7440-28-0	
7470 Mercury	Analytical	Method: EPA	7470A Prej	paration Met	nod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:20	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical Services	- Asheville						
Fluoride	0.17	mg/L	0.10	0.050	1		08/23/20 00:06	16984-48-8	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Sample: GWB-6R	Lab ID:	92491455024	Collecte	ed: 08/19/20	14:00	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte)					
Н	5.21	Std. Units			1		08/20/20 17:18		
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, G	SA.				
Antimony	ND	mg/L	0.0030	0.00028	1	08/24/20 15:10	08/27/20 16:42	7440-36-0	
Arsenic	0.0036J	mg/L	0.0050	0.00078	1	08/24/20 15:10	08/27/20 16:42	7440-38-2	
Barium	0.064	mg/L	0.010	0.00071	1	08/24/20 15:10	08/27/20 16:42	7440-39-3	
Beryllium	0.000050J	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	0.0037J	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	
₋ead	0.00014J	mg/L	0.0050	0.000036	1	08/24/20 15:10	08/27/20 16:42	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	08/24/20 15:10	08/27/20 16:42	7439-93-2	
Molybdenum	0.0010J	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	
Γhallium	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 7	470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA				
Mercury	ND	mg/L	0.00020	0.000078	1	08/24/20 11:30	08/25/20 09:23	7439-97-6	
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
-	Pace Anal	ytical Services	- Asheville	:					
Fluoride	ND	mg/L	0.10	0.050	1		08/23/20 00:21	16984-48-8	
		-							



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

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

_		Blank	Reporting			0 110
Parameter	Units	Result	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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SF	PIKE DUPLIC	CATE: 2977	589		2977590							
			MS	MSD								
	9	2491389001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.11	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	

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

MATRIX SPIKE & MATRIX	SFIRE DUFLIC	CATE: 2977	MS	MSD	2977590							
	9	2491389001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	PIKE DUPLIC	CATE: 2980	654		2980655							
	_		MS	MSD								
	9	2491455013	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

MATRIX SPIKE & MATRIX	SPIKE DUPI	LICATE: 2980		MCD	2980655							
		92491455013	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

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

_		Blank	Reporting			
Parameter	Units	Result	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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	IKE DUPL	ICATE: 2980	661		2980662							
			MS	MSD								
		92491663009	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

MATRIX SPIKE & MATRIX	SPIKE DUPI	LICATE: 2980			2980662							
Parameter	Units	92491663009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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	

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.



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

Blank Reporting
Parameter Units Result Limit M

 Parameter
 Units
 Result
 Limit
 MDL
 Analyzed
 Qualifiers

 Mercury
 mg/L
 ND
 0.00020
 0.000078
 08/21/20 12:32

LABORATORY CONTROL SAMPLE: 2977871

Date: 09/22/2020 07:34 AM

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977872 2977873

MS MSD

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

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Mercury

Date: 09/22/2020 07:34 AM

QC Batch: 561894 Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury

ND

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

mg/L

Associated Lab Samples: 92491455013, 92491455014, 92491455015, 92491455016, 92491455017, 92491455018, 92491455019,

92491455020, 92491455021, 92491455022, 92491455023, 92491455024

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury mg/L ND 0.00020 0.000078 08/25/20 08:19

0.0025

LABORATORY CONTROL SAMPLE: 2980089

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2980090 2980091 MSD MS 92491616002 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD

0.0025

0.0023

0.0026

90

102

75-125

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.

Qual

20

12



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

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 Reporting Result
 Limit
 MDL
 Analyzed
 Qualifiers

 mg/L
 ND
 0.10
 0.050
 08/20/20 16:29

Fluoride mg/L ND 0.10 0.050 08/20/20 16:29

LABORATORY CONTROL SAMPLE: 2977011

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977012 2977013

MS MSD 92490037006 Spike Spike MS

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977014 2977015

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

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Fluoride

Date: 09/22/2020 07:34 AM

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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Fluoride mg/L ND 0.10 0.050 08/21/20 01:16

LABORATORY CONTROL SAMPLE: 2977017

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

2.5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977018 2977019

mg/L

MSD MS 92491455012 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Result RPD Result Conc. Conc. % Rec % Rec Limits **RPD** Qual

2.5

2.5

98

99

90-110

10

2.5

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2977020 2977021

ND

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

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



GRUMMAN ROAD SCAN EVENT 2020 Project:

EPA 300.0 Rev 2.1 1993

Pace Project No.:

QC Batch Method:

92491455

QC Batch: 561506

Analysis Method:

Analysis Description:

EPA 300.0 Rev 2.1 1993

Laboratory:

300.0 IC Anions Pace Analytical Services - Asheville

0.050

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

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

92491455017, 92491455018, 92491455019, 92491455020, 92491455021

Blank

Reporting Limit

2.4

MS

Result

2978315

MS

Result

Result

MDL

98

MS

% Rec

% Rec

Analyzed 08/21/20 17:28 Qualifiers

Fluoride

Fluoride

Units mg/L

Units

mg/L

92491393004

92491663005

Result

Result

Units

Units

ND

0.10

LABORATORY CONTROL SAMPLE: Parameter

Parameter

Parameter

Date: 09/22/2020 07:34 AM

Parameter

2978311

Spike Conc.

2.5

LCS Result

LCS % Rec % Rec Limits

Qualifiers

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2978312

MS

Spike

Conc.

MSD

Spike

Conc.

2978313 MSD

Result

MSD

% Rec

% Rec

90-110

% Rec Limits

Max **RPD** RPD

Qual

10 M1

Fluoride mg/L 0.17 2.5 2.5 3.0 3.0 112 112 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

2978314 MS Spike

Conc.

MSD

Spike Conc. MSD

Result

MS MSD

% Rec

Max RPD Limits RPD Qual 10 90-110

Fluoride 2.5 2.7 0.060J 2.5 2.7 105 106 mg/L

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Fluoride mg/L ND 0.10 0.050 08/22/20 16:53

LABORATORY CONTROL SAMPLE: 2979653

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2979654 2979655

MSD MS 92491912001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Conc. Result Result **RPD** RPD Result % Rec % Rec Limits Qual 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

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

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



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: DUP-1 PWS:	Lab ID: 9249 Site ID:	1455001 Collected: 08/17/20 00:00 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.475 ± 0.356 (0.629) C:87% T:NA	pCi/L	09/02/20 07:43	3 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.401 ± 0.482 (1.01) C:62% T:77%	pCi/L	09/09/20 13:44	1 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.876 ± 0.838 (1.64)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: EB-1-8-18-20 PWS:	Lab ID: 9249 Site ID:	1455002 Collected: 08/18/20 00:00 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.181 ± 0.115 (0.185) C:86% T:NA	pCi/L	09/02/20 18:0	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.645 ± 0.510 (1.01) C:65% T:81%	pCi/L	09/09/20 13:10	0 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.826 ± 0.625 (1.20)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWA-8 PWS:	Lab ID: 924914 Site ID:	55003 Collected: 08/17/20 14:59 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	1.64 ± 0.340 (0.198) C:81% T:NA	pCi/L	09/02/20 18:01	1 13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	0.987 ± 0.488 (0.830) C:63% T:79%	pCi/L	09/09/20 12:06	5 15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	2.63 ± 0.828 (1.03)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-13 PWS:	Lab ID: 9249 Site ID:	1455004 Collected: 08/17/20 16:16 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.429 ± 0.150 (0.162) C:83% T:NA	pCi/L	09/02/20 18:0	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.986 ± 0.510 (0.897) C:68% T:80%	pCi/L	09/09/20 15:0	9 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	$1.42 \pm 0.660 (1.06)$	pCi/L	09/10/20 13:2	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-12 PWS:	Lab ID: 924914 Site ID:	55005 Collected: 08/17/20 17:25 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	0.630 ± 0.176 (0.152) C:88% T:NA	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	1.62 ± 0.620 (0.917) C:70% T:70%	pCi/L	09/09/20 15:09	15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	2.25 ± 0.796 (1.07)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-16 PWS:	Lab ID: 924914 Site ID:	55006 Collected: 08/18/20 09:32 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	2.61 ± 0.460 (0.136) C:101% T:NA	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	1.63 ± 0.625 (0.970) C:69% T:82%	pCi/L	09/09/20 15:09	9 15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	4.24 ± 1.09 (1.11)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-21 PWS:	Lab ID: 9249 Site ID:	1455007 Collected: 08/18/20 10:58 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.89 ± 0.372 (0.243) C:96% T:NA	pCi/L	09/02/20 18:00	0 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.38 ± 0.583 (0.956) C:69% T:81%	pCi/L	09/09/20 15:09	9 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	3.27 ± 0.955 (1.20)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-15 PWS:	Lab ID: 9249149 Site ID:	55008 Collected: 08/18/20 12:56 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.285 ± 0.129 (0.182) C:94% T:NA	pCi/L	09/02/20 18:00	13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	1.55 ± 0.588 (0.892) C:66% T:87%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	1.84 ± 0.717 (1.07)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-14 PWS:	Lab ID: 9249 Site ID:	1455009 Collected: 08/18/20 14:24 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.388 ± 0.152 (0.201) C:84% T:NA	pCi/L	09/02/20 18:0	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.343 ± 0.564 (1.23) C:69% T:66%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.731 ± 0.716 (1.43)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-2 PWS:	Lab ID: 92491 Site ID:	455010 Collected: 08/18/20 15:23 Sample Type:	Received:	08/19/20 12:45 I	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg		•		
Radium-226	EPA 9315	0.377 ± 0.150 (0.200) C:86% T:NA	pCi/L	09/02/20 18:01	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.709 ± 0.486 (0.941) C:71% T:79%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	1.09 ± 0.636 (1.14)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-17 PWS:	Lab ID: 9249 Site ID:	1455011 Collected: 08/18/20 14:50 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.97 ± 0.377 (0.171) C:93% T:NA	pCi/L	09/02/20 18:01	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.14 ± 0.669 (1.24) C:71% T:60%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	3.11 ± 1.05 (1.41)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-20 PWS:	Lab ID: 9249 Site ID:	1455012 Collected: 08/18/20 16:36 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.09 ± 0.537 (0.138) C:97% T:NA	pCi/L	09/02/20 18:0	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	3.77 ± 0.976 (0.980) C:69% T:77%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	6.86 ± 1.51 (1.12)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-11 PWS:	Lab ID: 92491 Site ID:	1455013 Collected: 08/18/20 10:45 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.22 ± 0.562 (0.179) C:89% T:NA	pCi/L	09/02/20 17:59	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	3.54 ± 1.00 (1.17) C:58% T:80%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	6.76 ± 1.56 (1.35)	pCi/L	09/10/20 13:24	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-22 PWS:	Lab ID: 9249 Site ID:	1455014 Collected: 08/18/20 14:30 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	4.29 ± 0.717 (0.153) C:87% T:NA	pCi/L	09/02/20 17:59	9 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	3.36 ± 0.984 (1.23) C:68% T:68%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	7.65 ± 1.70 (1.38)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: EB-2-8-18-20 PWS:	Lab ID: 9249 Site ID:	1455015 Collected: 08/18/20 16:50 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.0983 ± 0.0893 (0.156) C:82% T:NA	pCi/L	09/02/20 17:59	9 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	-0.000828 ± 0.364 (0.850) C:64% T:88%	pCi/L	09/09/20 15:10	0 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.0983 ± 0.453 (1.01)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: DUP-2 PWS:	Lab ID: 92491 4 Site ID:	455016 Collected: 08/18/20 00:00 Sample Type:	Received:	08/19/20 12:45	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	4.34 ± 0.723 (0.166) C:90% T:NA	pCi/L	09/02/20 17:59	9 13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	5.03 ± 1.20 (0.992) C:68% T:75%	pCi/L	09/09/20 15:10	15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	9.37 ± 1.92 (1.16)	pCi/L	09/10/20 13:24	4 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: FB-1-8-19-20 PWS:	Lab ID: 9249145 Site ID:	5017 Collected: 08/19/20 10:30 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				
Radium-226	EPA 9315	0.0591 ± 0.0951 (0.185) C:94% T:NA	pCi/L	09/03/20 16:47	7 13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	0.0611 ± 0.357 (0.819) C:66% T:80%	pCi/L	09/09/20 12:02	2 15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	0.120 ± 0.452 (1.00)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: FB-2-8-19-20 PWS:	Lab ID: 92491 Site ID:	455018 Collected: 08/19/20 09:00 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	ervices - Greensburg				
Radium-226	EPA 9315	-0.0223 ± 0.145 (0.305) C:87% T:NA	pCi/L	09/03/20 16:47	7 13982-63-3	
	Pace Analytical S	ervices - Greensburg				
Radium-228	EPA 9320	0.820 ± 0.441 (0.761) C:62% T:78%	pCi/L	09/09/20 12:02	2 15262-20-1	
	Pace Analytical S	ervices - Greensburg				
Total Radium	Total Radium Calculation	0.820 ± 0.586 (1.07)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-1 PWS:	Lab ID: 9249 Site ID:	1455019 Collected: 08/19/20 09:35 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.08 ± 0.260 (0.235) C:87% T:NA	pCi/L	09/03/20 16:47	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.830 ± 0.488 (0.892) C:63% T:77%	pCi/L	09/09/20 12:02	2 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	1.91 ± 0.748 (1.13)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWC-9 PWS:	Lab ID: 92491455 Site ID:	Collected: 08/19/20 09:20 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Serv	ices - Greensburg				
Radium-226	EPA 9315	1.20 ± 0.267 (0.192) C:90% T:NA	pCi/L	09/03/20 16:47	7 13982-63-3	
	Pace Analytical Serv	ices - Greensburg				
Radium-228	EPA 9320	1.14 ± 0.521 (0.849) C:59% T:83%	pCi/L	09/09/20 15:08	3 15262-20-1	
	Pace Analytical Serv	ices - Greensburg				
Total Radium	Total Radium Calculation	2.34 ± 0.788 (1.04)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWB-5R PWS:	Lab ID: 9249 Site ID:	1455021 Collected: 08/19/20 11:58 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.97 ± 0.388 (0.210) C:82% T:NA	pCi/L	09/03/20 16:4	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.521 ± 0.444 (0.882) C:65% T:73%	pCi/L	09/09/20 15:08	8 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.49 ± 0.832 (1.09)	pCi/L	09/10/20 15:1	1 7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWA-7 PWS:	Lab ID: 92491 Site ID:	455022 Collected: 08/19/20 10:30 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	4.22 ± 1.13 (0.672) C:90% T:NA	pCi/L	09/10/20 15:09	13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	1.23 ± 0.583 (0.978) C:66% T:89%	pCi/L	09/09/20 15:08	15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	5.45 ± 1.71 (1.65)	pCi/L	09/11/20 13:22	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWB-4R PWS:	Lab ID: 9249145 Site ID:	5023 Collected: 08/19/20 11:45 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	rvices - Greensburg				
Radium-226	EPA 9315	1.89 ± 0.368 (0.222) C:94% T:NA	pCi/L	09/03/20 18:44	13982-63-3	
	Pace Analytical Ser	rvices - Greensburg				
Radium-228	EPA 9320	1.21 ± 0.552 (0.915) C:67% T:77%	pCi/L	09/09/20 15:08	3 15262-20-1	
	Pace Analytical Ser	rvices - Greensburg				
Total Radium	Total Radium Calculation	3.10 ± 0.920 (1.14)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Sample: GWB-6R PWS:	Lab ID: 9249 Site ID:	11455024 Collected: 08/19/20 14:00 Sample Type:	Received:	08/20/20 12:20	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.78 ± 0.640 (0.184) C:88% T:NA	pCi/L	09/03/20 18:4	5 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.754 ± 0.462 (0.836) C:61% T:79%	pCi/L	09/09/20 15:08	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	4.53 ± 1.10 (1.02)	pCi/L	09/10/20 15:11	7440-14-4	



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

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

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 411439 Analysis Method: EPA 9320

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023,

92491455024

METHOD BLANK: 1990347 Matrix: Water

Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023,

92491455024

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.274 ± 0.326 (0.685) C:63% T:88%
 pCi/L
 09/09/20 12:01

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



EPA 9315

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 411373

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455001

METHOD BLANK: 1989993 Matrix: Water

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

Analysis Method:

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 411436 Analysis Method: EPA 9320

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455019, 92491455011, 92491455012, 92491455013, 92491455014, 92491455015, 92491455016

METHOD BLANK: 1990343 Matrix: Water

Associated Lab Samples: 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010,

92491455011, 92491455012, 92491455013, 92491455014, 92491455015, 92491455016

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-228
 0.245 ± 0.335 (0.716) C:71% T:90%
 pCi/L
 09/09/20 15:09

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



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 411375 Analysis Method: EPA 9315

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023,

92491455024

METHOD BLANK: 1989998 Matrix: Water

Associated Lab Samples: 92491455017, 92491455018, 92491455019, 92491455020, 92491455021, 92491455022, 92491455023,

92491455024

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.135 ± 0.115 (0.203) C:91% T:NA
 pCi/L
 09/03/20 16:47

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

QC Batch: 411374 Analysis Method: EPA 9315

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008, 92491455009, 92491455010, 92491455011, 92491455012, 92491455013, 92491455014, 92491455015,

92491455016

METHOD BLANK: 1989996 Matrix: Water

Associated Lab Samples: 92491455002, 92491455003, 92491455004, 92491455005, 92491455006, 92491455007, 92491455008,

92491455009, 92491455010, 92491455011, 92491455012, 92491455013, 92491455014, 92491455015,

92491455016

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.241 ± 0.165 (0.285) C:87% T:NA
 pCi/L
 09/02/20 18:01

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



QUALIFIERS

Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

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

Date: 09/22/2020 07:34 AM

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.



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

₋ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
92491455003	GWA-8			-	
2491455004	GWC-13				
2491455005	GWC-12				
2491455006	GWC-16				
2491455007	GWC-21				
2491455008	GWC-15				
2491455009	GWC-14				
2491455010	GWC-2				
2491455011	GWC-17				
2491455012	GWC-20				
2491455013	GWC-11				
2491455014	GWC-22				
2491455019	GWC-1				
2491455020	GWC-9				
2491455020 2491455021	GWB-5R				
2491455021	GWA-7				
2491455022 2491455023	GWB-4R				
	GWB-4R GWB-6R				
2491455024	GVVD-OK				
2491455001	DUP-1	EPA 3005A	561324	EPA 6020B	561396
2491455002	EB-1-8-18-20	EPA 3005A	561324	EPA 6020B	561396
2491455003	GWA-8	EPA 3005A	561324	EPA 6020B	561396
2491455004	GWC-13	EPA 3005A	561324	EPA 6020B	561396
2491455005	GWC-12	EPA 3005A	561324	EPA 6020B	561396
2491455006	GWC-16	EPA 3005A	561324	EPA 6020B	561396
2491455007	GWC-21	EPA 3005A	561324	EPA 6020B	561396
2491455008	GWC-15	EPA 3005A	561324	EPA 6020B	561396
2491455009	GWC-14	EPA 3005A	561324	EPA 6020B	561396
2491455010	GWC-2	EPA 3005A	561324	EPA 6020B	561396
2491455011	GWC-17	EPA 3005A	561324	EPA 6020B	561396
2491455012	GWC-20	EPA 3005A	561324	EPA 6020B	561396
2491455013	GWC-11	EPA 3005A	561963	EPA 6020B	562039
2491455014	GWC-22	EPA 3005A	561963	EPA 6020B	562039
2491455015	EB-2-8-18-20	EPA 3005A	561963	EPA 6020B	562039
2491455016	DUP-2	EPA 3005A	561963	EPA 6020B	562039
2491455017	FB-1-8-19-20	EPA 3005A	561964	EPA 6020B	562041
2491455018	FB-2-8-19-20	EPA 3005A	561964	EPA 6020B	562041
2491455019	GWC-1	EPA 3005A	561964	EPA 6020B	562041
2491455020	GWC-9	EPA 3005A	561964	EPA 6020B	562041
2491455021	GWB-5R	EPA 3005A	561964	EPA 6020B	562041
2491455022	GWA-7	EPA 3005A	561964	EPA 6020B	562041
2491455023	GWB-4R	EPA 3005A	561964	EPA 6020B	562041
2491455024 2491455024	GWB-6R	EPA 3005A	561964	EPA 6020B	562041
2491455001	DUP-1	EPA 7470A	561377	EPA 7470A	561555
2491455002	EB-1-8-18-20	EPA 7470A	561377	EPA 7470A	561555
2491455002 2491455003	GWA-8	EPA 7470A EPA 7470A	561377	EPA 7470A EPA 7470A	561555
2491455003 2491455004	GWC-13	EPA 7470A EPA 7470A	561377	EPA 7470A EPA 7470A	561555
<u> </u>	GVVC-13	EFA /4/UA	301377	LFA 1410A	301333

REPORT OF LABORATORY ANALYSIS

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Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica 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
2491455009	GWC-14	EPA 7470A	561377	EPA 7470A	561555
2491455010	GWC-2	EPA 7470A	561377	EPA 7470A	561555
2491455011	GWC-17	EPA 7470A	561377	EPA 7470A	561555
2491455012	GWC-20	EPA 7470A	561377	EPA 7470A	561555
2491455013	GWC-11	EPA 7470A	561894	EPA 7470A	562048
2491455014	GWC-22	EPA 7470A	561894	EPA 7470A	562048
2491455015	EB-2-8-18-20	EPA 7470A	561894	EPA 7470A	562048
2491455016	DUP-2	EPA 7470A	561894	EPA 7470A	562048
2491455017	FB-1-8-19-20	EPA 7470A	561894	EPA 7470A	562048
2491455018	FB-2-8-19-20	EPA 7470A	561894	EPA 7470A	562048
2491455019	GWC-1	EPA 7470A	561894	EPA 7470A	562048
2491455020	GWC-9	EPA 7470A	561894	EPA 7470A	562048
2491455021	GWB-5R	EPA 7470A	561894	EPA 7470A	562048
2491455022	GWA-7	EPA 7470A	561894	EPA 7470A	562048
2491455023	GWB-4R	EPA 7470A	561894	EPA 7470A	562048
2491455024	GWB-6R	EPA 7470A	561894	EPA 7470A	562048
2491455001	DUP-1	EPA 9315	411373		
2491455002	EB-1-8-18-20	EPA 9315	411374		
2491455003	GWA-8	EPA 9315	411374		
2491455004	GWC-13	EPA 9315	411374		
2491455005	GWC-12	EPA 9315	411374		
2491455006	GWC-16	EPA 9315	411374		
2491455007	GWC-21	EPA 9315	411374		
2491455008	GWC-15	EPA 9315	411374		
2491455009	GWC-14	EPA 9315	411374		
2491455010	GWC-2	EPA 9315	411374		
2491455011	GWC-17	EPA 9315	411374		
2491455012	GWC-20	EPA 9315	411374		
2491455013	GWC-11	EPA 9315	411374		
2491455014	GWC-22	EPA 9315	411374		
2491455015	EB-2-8-18-20	EPA 9315	411374		
2491455016	DUP-2	EPA 9315	411374		
2491455017	FB-1-8-19-20	EPA 9315	411375		
2491455018	FB-2-8-19-20	EPA 9315	411375		
2491455019	GWC-1	EPA 9315	411375		
2491455020	GWC-9	EPA 9315	411375		
2491455021	GWB-5R	EPA 9315	411375		
2491455022	GWA-7	EPA 9315	411375		
2491455023	GWB-4R	EPA 9315	411375		
2491455024	GWB-6R	EPA 9315	411375		
2491455001	DUP-1	EPA 9320	411435		
2491455002	EB-1-8-18-20	EPA 9320	411435		
2491455003	GWA-8	EPA 9320	411435		



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Date: 09/22/2020 07:34 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
92491455004	GWC-13	EPA 9320	411436	_	
92491455005	GWC-12	EPA 9320	411436		
2491455006	GWC-16	EPA 9320	411436		
2491455007	GWC-21	EPA 9320	411436		
2491455008	GWC-15	EPA 9320	411436		
2491455009	GWC-14	EPA 9320	411436		
2491455010	GWC-2	EPA 9320	411436		
2491455011	GWC-17	EPA 9320	411436		
2491455012	GWC-20	EPA 9320	411436		
2491455013	GWC-11	EPA 9320	411436		
2491455014	GWC-22	EPA 9320	411436		
2491455015	EB-2-8-18-20	EPA 9320	411436		
2491455016	DUP-2	EPA 9320	411436		
2491455017	FB-1-8-19-20	EPA 9320	411439		
2491455018	FB-2-8-19-20	EPA 9320	411439		
2491455019	GWC-1	EPA 9320	411439		
2491455020	GWC-9	EPA 9320	411439		
2491455021	GWB-5R	EPA 9320	411439		
2491455022	GWA-7	EPA 9320	411439		
2491455023	GWB-4R	EPA 9320	411439		
2491455024	GWB-6R	EPA 9320	411439		
2491455001	DUP-1	Total Radium Calculation	413343		
2491455002	EB-1-8-18-20	Total Radium Calculation	413343		
2491455003	GWA-8	Total Radium Calculation	413343		
2491455004	GWC-13	Total Radium Calculation	413343		
2491455005	GWC-12	Total Radium Calculation	413343		
2491455006	GWC-16	Total Radium Calculation	413343		
2491455007	GWC-21	Total Radium Calculation	413343		
2491455008	GWC-15	Total Radium Calculation	413343		
2491455009	GWC-14	Total Radium Calculation	413343		
2491455010	GWC-2	Total Radium Calculation	413343		
2491455011	GWC-17	Total Radium Calculation	413343		
2491455012	GWC-20	Total Radium Calculation	413343		
2491455013	GWC-11	Total Radium Calculation	413343		
2491455014	GWC-22	Total Radium Calculation	413343		
2491455015	EB-2-8-18-20	Total Radium Calculation	413343		
2491455016	DUP-2	Total Radium Calculation	413343		
2491455017	FB-1-8-19-20	Total Radium Calculation	413382		
2491455018	FB-2-8-19-20	Total Radium Calculation	413382		
2491455019	GWC-1	Total Radium Calculation	413382		
2491455020	GWC-9	Total Radium Calculation	413382		
2491455021	GWB-5R	Total Radium Calculation	413382		
2491455022	GWA-7	Total Radium Calculation	413546		
2491455023	GWB-4R	Total Radium Calculation	413382		
2491455024	GWB-6R	Total Radium Calculation	413382		
2491455001	DUP-1	EPA 300.0 Rev 2.1 1993	561236		



Project: GRUMMAN ROAD SCAN EVENT 2020

Pace Project No.: 92491455

Date: 09/22/2020 07:34 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica 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		

Sample Condition Upon Recei Pace Analytical Client Name: 61A Power

WO#: 92491455

92491455

Courier: Fed Ex UPS USPS Clie Tracking #:	nt T Commercial	Pace Other	1	Prop Due c	Z (en vizita en come se
Custody Seal on Cooler/Box Present:	no Seals	s intact: 70s	on [Proj. Name	
Packing Material: Bubble Wrap Bubble		Cher ZID	60		
Thermometer Used	Type of Ice: Wel	· · · · · · · · · · · · · · · · · · ·	1	ples on ice, cooling	process has begun
Cooler Temperature 2013,711.3 Temp should be above freezing to 6kc	Biological Tissue	is Frozen: Yes No Comments:		Date and Initials of	erson examining
Chain of Custody Present:	ATES DNO DNIA	1,			
Chain of Custody Filled Out:	ÉVES □NO □N/A	2.			
Chain of Custody Relinquished:	deres □no □n/A	3.			
Sampler Name & Signature on COC:	ATTES ONO ONA	4.			
Samples Arrived within Hold Time:	Ø¥es □No □N/A	5.			
Short Hold Time Analysis (<72hr):	☐Yes ØN6 ☐N/A	6.			
Rush Turn Around Time Requested:	□Yes ØN □N/A	7.			
Sufficient Volume:	ÆYes □No □N/A	8.			
Correct Containers Used:	ATTES ONO ON/A	9.			
-Pace Containers Used:	ÆYes □No □N/A				
Containers Intact:	ÆYes □no □n/A	10.			
Filtered volume received for Dissolved tests	□Yes □No ZHA	11.			
Sample Labels match COC:	□Yes ZH6 □N/A	12 DUPI, EB-1 Container	1 Con	6-16, GWC-	zimetals
	<u>M</u>	container	Ma	hed.	perpropres.
All containers needing preservation have been checked.	ATOM ONA				
All containers needing preservation are found to be in compliance with EPA recommendation.	GYES DNO DN/A				
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes □No	initial when completed		f of added ervative	
Samples checked for dechlorination:	□Yes □No ŒNA	14.			
Headspace in VOA Vials (>6mm):	□Yes □No ŒWA				
Trip Blank Present:	□Yes □No ☑N/A	16.			
Trip Blank Custody Seals Present	∐Yes □No ØM/A	:		:	
Pace Trip Blank Lot # (if purchased):					
Client Notification/ Resolution:	The Appropriate and		Field	Data Required?	Y / N
Person Contacted:	Date/T	ime:		-asa myyunou:	. 1 / N
Comments/ Resolution:	-				
	437 YOUNGER WAS TO SEE THE SEE				
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	To a transfer of the second se	:			
Project Manager Review:			_	Date:	and the state of t
Note: Whenever there is a discrepancy affecting North Co Certification Office (i.e. out of hold, incorrect preservative	arolina compliance sam	ples, a copy of this form	wil be	ent to the North Caro	lina DEHNR
				F-ALLC003rev.	, 11September2008



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT, All relevant fields must be completed accurately.

	: 1				Please noie		122	*	5	•	*		a	5	•	3	2	1	ITEM#	and the control of th	77 SO		Requested	Phone:	Email O		Address.	Company:	Required Cil	1
			AND THE RESIDENCE AND ADDRESS OF THE PROPERTY		when the last sample for the event has been taken.	ADDITIONAL COMMENTS	(swc-20	CWC-17	SMC-2	hl - JMJ	GWC-15	A.W. 2(SM-1C	JL-12	ENC 12 Prop GWC-13		Freth 5 15-70 EB-1-8-18-70			SALLSOLO SAL			Requested Due Date/TAT: 10 Day	L	SCS Contacts	The state of the s	Atlanta, GA	AND THE PROPERTY OF THE PROPER	Required Client Information:	PACE ANALYTICAL TOPS
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PRINT Name of SAMPLER:	SAMPLER NAME AND SIGNATURE		··		8-1	P	-			_		77		0 1725	~~~	0 1454	8	2		- X				rt 2020						The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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		,		EN THIN THE EXTREMENTATION OF THE STATE OF T	hen the last sample for the event has	ADDITIONAL COMMENTS						THE LEGISLATION OF THE PROPERTY OF THE PROPERT		Dpp-2	FB-2-8-18-7	5wc-22	らかこう	SAMPLE ID (A-Z 0-9 / -) Sample IDs MUST BE UNIQUE		Section D Required Client Information	WANTED TO THE RESERVE OF THE PROPERTY OF THE P	Date/TAT: 10 Day	Fax:	SCS Contacts	THE PROPERTY OF THE PROPERTY O	Atlanta, GA	Required Client Information:	www.pacelabs.com
			THE RESIDENCE OF THE PROPERTY		has been taken.		THE TAX IN T				THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TO THE PERS				20			SCHESCUD SI. OIL OIL WHEE WP WAR OT TRESUE 19	WASTE WATER W	Valid Matrix Cod			_	7			20 20 6	va .
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	•		(211	RELANGUESHIPS,	Z Z		1				L	_				MATRIX CODE (see v. SAMPLE TYPE (G=GR)				. I	- 1	der No		ACC Contacts	vject info	
					1	SHIPS			1									3	COMPOSITE				Grumman Road			ntacts 8	mation	
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SIGNA	PRINT	LER NA			\mathcal{L}	NOUL			1					1	288	81800	₹.	<u> </u>	§	COLLECTED			Scan Event 2020					
SIGNATURE of SAMPLER	PRINT Name of SAMPLER:	SAMPLER NAME AND SIGNATURE			8				1					<u> </u>			Sender City	######################################	ELSO-CO.	0		distribution and the second	nt 2020					
AMPLES	AMPLER	IGNATU			811/11	DATE			1		-			_	0 /	50	7	ሕ SAMPLE TEMP AT COLLI	EĞTÎÛN									
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Custody Seal on Cooler/Box Present:	San	nple Condition Upon Recel	WO#:92491455
Courier:   Fed Ex	Face Analytical Client Name:	· CAPAULL	PM: KLH1 Due Date: 09/02/2
Tracking #:  Custody Seal on Cooler/Box Present:   yes	Silontitanio		CLIENT: GA-GA Power
Packing Material:   Bubble Wrap   Bubble Bags   None   Other Thermometer Used   Type of face: Wet   Blue   None   Biological Tissue is Frozen: Yes   No   Comments:   Contents   Date and Initially 6 of Jerson examining contents	Tracking #:	· · · · · · · · · · · · · · · · · · ·	Proj. Due Dale: Proj. Name:
Type of Ice: Wet Blue None Bloogleaf Tresue is Frozen: Yes No Comments:  Cooler Temperature 1 / C Biological Tiesue is Frozen: Yes No Comments:  Chain of Custody Present: Bve Inc Inva 1.  Chain of Custody Present: Bve Inc Inva 3.  Chain of Custody Relinquished: Bve Inc Inva 3.  Samples Arrived within Hold Time: Bve Inc Inva 4.  Samples Arrived within Hold Time: Bve Inc Inva 6.  Rush Turn Around Time Requested: Bve Inc Inva 8.  Sufficient Volume: Bve Inc Inva 8.  Sufficient Volume: Bve Inc Inva 8.  Correct Containers Used: Bve Inc Inva 9.  -Pace Containers Used: Bve Inc Inva Inva Inva Inva Inva Inva Inva Inva	Custody Seal on Cooler/Box Present:	no Seals intact: yes	no discontinue de la constantina del constantina de la constantina de la constantina de la constantina del constantina de la constantina del constantina del constantina de la constantina del c
Coler Temperature 1 C Biological Tissue is Frozan: Yes No Comments:  Chain of Custody Present:	Packing Material: Bubble Wrap Bubble	Bags None Other	
Cooler Temperature	Thermometer Used 233	Type of Ice: (Wet) Blue None	
Chain of Custody Filled Out:  Chain of Custody Relinquished:  CY6s	Cooler Temperature  Temp should be above freezing to 6°C	_	contents
Chain of Custody Relinquished:  Sampler Name & Signature on COC:  Cygo No ONA 4.  Sampler Arrived within Hold Time:  Yes ONO ONA 5.  Short Hold Time Analysis (<72hr):  Yes ONO ONA 6.  Rush Turn Around Time Requested:  Yes ONO ONA 7.  Sufficient Volume:  Yes ONO ONA 6.  Correct Containers Used:  Yes ONO ONA 9.  Pace Containers Used:  Yes ONO ONA 10.  Containers Intact:  Filtered volume recaived for Dissolved tests  Yes ONO ONA 11.  Sample Labels match COC:  Includes date/time/ID/Analysis Matrix:  All containers needing preservation have been checked.  All containers needing preservati	Chain of Custody Present:	Erres □No □N/A 1.	
Sampler Name & Signature on COC:	Chain of Custody Filled Out:	ØYes □No □N/A 2.	:
Samples Arrived within Hold Time:	Chain of Custody Relinquished:	☐Yes □No □N/A 3.	-
Short Hold Time Analysis (<72hr):	Sampler Name & Signature on COC:	□Yes □No □N/A 4.	· ·
Rush Turn Around Time Requested:	Samples Arrived within Hold Time:	ÖYes □No □N/A 5.	
Sufficient Volume:  Correct Containers Used:  -Pace Co	Short Hold Time Analysis (<72hr):	☐Yes ☐N/A 6.	
Correct Containers Used:  -Pace Containers Used:  -Pace Containers Intact:  -Pace Containers Int	Rush Turn Around Time Requested:	□Yes ⊟No □N/A 7.	
-Pace Containers Used:  -Pace Containers Intact:  -Pace Containers Intaction Into Intaction Into Intaction Into Intition Into Intition Into Intition I	Sufficient Volume:	ØYes □No □N/A 8.	
Containers Intact:    Pres   No   No   No   No   No	Correct Containers Used:	Yes □NO □N/A 9.	
Filtered volume received for Dissolved tests    Yes   DNo   DN/A   11.	-Pace Containers Used:	4DYes DNo DN/A	
Sample Labels match COC:  -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked.  All containers needing preservation are found to be in compliance with EPA recommendation.	Containers Intact:	eres Eno En/A 10.	
-Includes date/time/ID/Analysis Matrix:  All containers needing preservation have been checked.  All containers needing preservation are found to be in compliance with EPA recommendation.  exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)  Samples checked for dechlorination:  Headspace in VOA Vials ( >6mm):  Trip Blank Present:  Trip Blank Custody Seals Present  Pace Trip Blank Lot # (if purchased):  Client Notification/ Resolution:  Person Contacted:  Date/Time:	Filtered volume received for Dissolved tests	□Yes □No ĽN/A 11.	
-Includes date/time/ID/Analysis Matrix:  All containers needing preservation have been checked.  All containers needing preservation are found to be in compliance with EPA recommendation.  exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)  Samples checked for dechlorination:  Headspace in VOA Vials ( >6mm):  Trip Blank Present:  Trip Blank Custody Seals Present  Pace Trip Blank Lot # (if purchased):  Client Notification/ Resolution:  Person Contacted:  Date/Time:	Sample Labels match COC:	MYes ONO DNA 12.0hly 4 CI	onlainers for GWB-GK Areson'
All containers needing preservation have been checked.  All containers needing preservation are found to be in compliance with EPA recommendation.  Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)  Exceptions: VOA, coliform, TOC, O&G, WI-DRO		V note as 1	sted on COC
compliance with EPA recommendation.    Yes   No   Initial when completed   Initial when complete	All containers needing preservation have been checked.		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)  Samples checked for dechlorination:    Yes   No   A   14.     Headspace in VOA Vials ( >6mm):	All containers needing preservation are found to be in compliance with EPA recommendation.	□Yes □No □N/A	
Headspace in VOA Vials ( >6mm):	exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)		1' '
Headspace in VOA Vials ( >6mm):	Samples checked for dechlorination:	□Yes □No IØNIA 14.	
Trip Blank Present:			
Trip Blank Custody Seals Present		□Yes □No □NA 16.	
Pace Trip Blank Lot # (if purchased):  Client Notification/ Resolution:  Person Contacted:  Date/Time:	'	□Yes □No LIN/A	i.
Client Notification/ Resolution: Field Data Required? Y / N  Person Contacted:			
Person Contacted: Date/Time:			Field Data Required? Y / N
	<b></b>	Date/Time:	
		٧	

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)

Project Manager Review:

Date:

## CHAIN-OF-CUSTODY / Analytical Request Document The Chain-Of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

							SWA 7	LWB-GR WG			5 GWB-5R WG		6 <i>wc-1</i>  W 6	-8-19-70 W	FB-1-3-19-20 V C	#s_m	s (o left)		requested one Later IA1; To pay	Fax: Project Name:	. OCO COINACIS		copy to: ACC Contacts	Report To:		Pace Analytical
SAMPLER NAME AND SIGNATURE  PRINT Name of SAMPLER: O LUQUES.  SIGNATURE of SAMPLER:		ACC 8/20/10	RELINQUISHED BY / AFFILIATION DATE	No.				3-14-70 1400	a service seri	AND PROPERTY.		sel mineral	3AD 0035	3-14-72 0900	8-14-70 1030	DATE TIME DATE TIME SAMPLE TEMP AT COLLECTION	COLLECTED	THE REPORT OF THE PROPERTY OF		Grumman Road - Scan Event 2020			niacts	niacts	ansiön:	CHAIN-OF-C The Chain-of-Custody is
DATE Signed		220 KINNIN PARCE	TIME ACCEPTED BY / AFFILATION												2	# OF CONTAINERS Unpreserved H ₂ SO ₄ HNO ₃ HCI NaOH Na ₂ S ₂ O ₃ Methanol Other Analysis Test  Tuoride 300.0  pp. IV Meters 6020/7470 AD 226/228	Preservatives >	Requested /	Pax: 4 Profile #: 2926-1	Washed Kevin Herring	Pace Quote Reference:	7.00/e53:	Company Name:	Attention: Southern Co.	Section C	CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.
		3/20/2/12/2	OATE TIME										200000000000000000000000000000000000000		CMS-Pps			Requested Analysis Filtered (Y/N)		ago a	LIST   RCRA	NPDES F GRO	REGULATORY AGENCY		=-1	cument accurately.
Temp in *C Received on ice (Y/N) stody Sealed Cooler (Y/N) emples intact (Y/N)			SAMPLE CONDITIONS		=Hq	<b>-</b> H0	<b>D14</b> =	в яш.		ηŀ	まれ ぎ	X 4. 1 = Ho	- h	pH= %A	- H= - 1/A	Residual Chlorine (Y/N)			QA THE		<b>दा</b>	GROUND WATER DRINKING WATER	1CY		Page: of	i.

"Importent Note: By signing this form you are accepting Paca's NET 30 day payment terms and agreeing to tate charges of 1.5% per month to day involved the paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Face Analytical ...

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

	1989998	0.135	0.113	0.203	2.34	₹Ž	Pass
dethod Blank Assessment	MB Sample ID	MB concentration:	M/B Counting Uncertainty:	MB MDC:	MB Numerical Performance Indicator:	MB Status vs Numerical Indicator;	MB Status vs. MDC:

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 (ACV/m1):
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.
MSD Target Conc. (pCi/L, g, F):
MS Spike Uncertainty (calculated):
MSD Spike Uncertainty (calculated);
Sample Result:
Sample Result Counting Uncertainty (pCi/L, g, F):
Sample Matrix Spike Result:
Matrix Spike Result Counting Uncertainty (pCi/L, g, F):
Sample Matrix Spike Duplicate Result:
Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):
MS Numerical Performance Indicator:
MSD Numerical Performance Indicator:
MS Percent Recovery:
MSD Percent Recovery:
MS Status vs Numerical Indicator;
MSD Status vs Numerical Indicator:
MS Status vs Recovery:
MSD Status vs Recovery:
MS/MSD Upper % Recovery Limits:
MS/MSD Lower % Recovery Limits:

Laboratory Control Sample Assessment

MSD Spike Uncertainty (calculated);	Sample Result	Sample Result Counting Uncertainty (PCI/L, g. F):	Matrix Spike Result Counting Uncertainty (ACI)	Sample Matrix Spike Dunitrate Descrit-	Matrix Spike Duplicate Result Counting Uncertainty (pCt/L, q, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator.	MS Percent Recovery	MSD Percent Recovery	MS Status vs Numerical Indicator	MSD Status on Numerical Indicator	MC States of Bosons	MOD Settle to December	MCMCD Trees & December 1 in the	MSMSD Lower & Recovery Limits	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Enter Duplicate     Sample 10	sample IDs if     Sample MS I O	other than Sample MSD I O	LCS/LCSD in [ ] Sample Matrix Solike Bestitt:	the space below.		Matrix Soike Duplicate Result Condition Described Action 19	92491393012	(Based on the Per		MS/ MSD Dinicate Status or DDD.	S CALLO
LCSD (T OF N)?	LCSSSSS	9/4/2020	24.045	0.10	0.502	4.785	0.057	4.098	0.782	-1.72	85.64%	N/A	Pass	125%	75%				0.684	0.375 L	0.377 the	0.254	See Below ##	(1.327) OF	57.84%	ΑŅ	Fail	25%
		Count Date:	Decay Corrected Spike Concentration (pCi/mL):	Voiume Used (mL):	Aliquot Volume (L. g. F):	larget Conc. (pCI/L, g, F):	Uncertainty (Calculated):	Result (pC/L, g, F):	LCS/LCSD Counting Uncertainty (PCVL, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits:	Lower % Recovery Limits:	Duplicate Sample Assessment	Sample I.D.:	Duplicate Sample I.D. 92491393012DUP	Sample Result (pCi/L, g, F):	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCi/L. g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):		Duplicate Numerical Performance Indicator:		Duplicate Status vs Numerical Indicator:	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:

MAN GIA/2008

2000/H/2000

TAR_55839_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

TAR DW QC Printed: 9/4/2020 9:32 AM

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Face Analytical

Sample Matrix Spike Control Assessm Ra-226 LAL 9/3/2020 55839 DW 0.135 0.113 0.203 2.34 N/A Pass Test: Analyst: Date: Worklist: Matrix: MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs. MDC: MB concentration: MB Sample ID MB MDC: Laboratory Control Sample Assessment Method Blank Assessment

MS/MSD 2		***************************************	****																											
MS/MSD 1																														
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	Sample Result Counting Uncertainty (pCVL, g, F):	Sample Matrix Spike Result;	Marrix 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:
														z	LCSD55839															

94/2020 19-033 24.045 0.10 0.502 4.785 0.057 4.098 0.782 -1.72 85.64% N/A Pass 12.25%

Uncertainty (Calculated):
Result (pCi/L, g, F):
LCS/LCSD Counting Uncertainty (pCi/L, g, F):
Numerical Performance Indicator:

Percent Recovery: Status vs Numerical Indicator: Status vs Recovery: Upper % Recovery Limits: Lower % Recovery Limits:

Count Date: Spike I.D.:

Decay Corrected Spike Concentration (pCi/mL):

Volume Used (mL): Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):

Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample MS I.D. Sample MS I.D. Sample MS I.D. Sample MSD I.D. Sample MSD I.D. Sample Matrix Spike Result Matrix Spike Duplicate Result Duplicate Result Counting Uncertainty (pCil., 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: MS/ MSD Duplicate Status vs RPD: Ws MSD	
	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.	
	Sample I.D.         92491653008         Enter Duplicate           Sample I.D.         92491653008DUP         sample IDs if           (pCil., g, F):         0.457         other than           (pCil., g, F):         0.143         LCSACSD in           (pCil., g, F):         0.359         the space below.           (pCil., g, F):         0.256         the space below.           s below RL?         See Bglow ##         9249163008DUP           ce indicator:         0.728 > 0.4         92491633008DU           cal Indicator:         26.34%         92491633008DU           tkts vs RPD:         Faiir**         25%           f ethber the sample or duplicate results are below.         ff either the sample or duplicate results are below.	
Duplicate Sample Assessment	Sample I.D.: 92491663008 Enter Duplicate Sample I.D.: 92491663008 Pample IDs if Sample Result (pCiV., g. F): 0.457 Other than Sample Result Counting Uncertainty (pCiV., g. F): 0.143 LCSr.CSD in Sample Duplicate Result (pCiV., g. F): 0.255 Are sample and/or duplicate results below RL? Duplicate RPD: Duplicate RPD: Duplicate RPD: Duplicate Status vs RPD: Duplicate Status vs RPD: Pairw: 9/8 RPD. Limit; 25%  ### Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.	

An 9/4/2020

sprecision: N\A

***Batch must be te-prepped due to unacceptable

Comments:

0202/17/2000

TAR_55839_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

TAR DW QC Printed: 9/4/2020 9:31 AM

1 of 1

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Ra-226

Test

Face Analytical

Analyst Date: Worklist Matrix:

MB Sample iD
MB concentration:
M/B Counting Uncertainty:
M/B MDC:

Method Blank Assessment

MB Numerical Performance Indicator: MB Status vs Numerical Indicator: MB Status vs. MDC:

Laboratory Control Sample Assessment

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MS/MSD 2																												
MS/MSD 1																												
Sample Matrix Spike Control Assessment	Sample Collection Date:	Sample I.D.	Sample MS I.D.	Sample MSD 1.D.	Spike I.D.:	MS/MSD Decay Corrected Spike Concentration (pCi/mL):	Spike Volume Used in MS (mL):	Spike Volume Used in MSD (mL):	MS Aliquot (L, g, F):	MS Target Conc.(pCi/L, g, F):	MSD Aliquot (L, g, F):	MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result:	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Result:	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSD Status vs Recovery:
														z	LCSD55837													
LAL	9/1/2020	55837	Α			1989993	0.067	0.195	0.481	79'0	A/A	Pass		SD (Y or N)?	LCS55837	9/2/2020	19-033	24.045	0.10	0.508	4.738	0.057	5.286	0.868	1.24	111.58%	A/N	Pass

													_					_											_
Sample Result:	Sample Result Counting Uncertainty (pCl/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	4	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:
LCSD55837																		_	sample IDs if	other than	LCS/LCSD in	the space below.			92490963004	92490963004DUP			
LCS55837	9/2/2020	19-033	24.045	0.10	0.508	4.738	0.057	5.286	0.868	1.24	111.58%	A/N	Pass	125%	75%			Sample I.D.: 92490963004	92490963004DUP	0.116	0.301	0.448	0.277	See Below 推	-1,591	117.70%	A/A	Fail**	25%
	Count Date:	Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Alfquot Volume (L, g, F):	Target Conc. (pCi/L, g, F):	Uncertainty (Calculated):	Result (pCi/L, g, F):	LCS/LCSD Counting Uncertainty (pCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator.	Status vs Recovery:	Upper % Recovery Limits:	Lower % Recovery Limits:	Duplicate Sample Assessment	-	Sample I.D.:	Duplicate Sample I.D. 32490963004DUP	Sample Result (pCi/L, g, F):	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performance Indicator:	Duplicate RPD:	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPD:	% RPD Limit

	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:	
ın.	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
	MS/ MSD Duplicate Status vs Numerical Indicator:	
	MS/ MSD Duplicate Status vs RPD:	
	#=: - 000 %	

DO2/214 WAY

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

Comments:

UAM9/2/2020

TAR_55837_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

1 of 1

TAR DW QC Printed: 9/2/2020 1:00 PM

Ra-226	LAL 9/1/2020 55837	2
Test	Analyst Date: Worklist	MatilX.

Face Analytical

1989993 0.067 0.195 0.481 0.67 N/A Pass

M/B Counting Uncertainty: M/B MDC:

MB Sample ID

Method Blank Assessment

MB Numerical Performance Indicator:
MB Status vs Numerical Indicator:
MB Status vs. MDC:

Laboratory Control Sample Assessment

Analyst Must Manually Enter All Fields Highlighted in Yellow.

	Sample Matrix Soike Control Assessment	MS/MSD 1	MS/MSD 2
	Sample Collection Date:		
	Sample LD.		
	Sample MS 1.D.		
	Sample MSD I.U.		
	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.(pCVL, g, F):		
	MSD Aliquot (L, g, F):		
	MSD Target Conc. (pCi/L, g, F):		
	MS Spike Uncertainty (calculated):		
	MSD Spike Uncertainty (calculated):		
55837	Sample Result:		
020	Sample Result Counting Uncertainty (pCi/L, g, F):		
33	Sample Matrix Spike Result:		
545	Matrix Spike Result Counting Uncertainty (pCVL, g, F):		
	Sample Matrix Spike Duplicate Result:		
<u>-</u>	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
97	MS Numerical Performance Indicator:		
28	MSD Numerical Performance Indicator:		
83	MS Percent Recovery:		
50	MSD Percent Recovery:		
13	MS Status vs Numerical Indicator:		
%97	MSD Status vs Numerical Indicator.		
. ₹	MS Status vs Recovery:		
85	MSD Status vs Recovery:		
2%	MS/MSD Upper % Recovery Limits:		
70	MS/MSD Lower % Recovery Limits:		

	IND Spine Officeral in Concusted):
λ	MSD Spike Uncertainty (calculated):
LCSD55837	Sample Result:
9/2/2020	Sample Result Counting Uncertainty (pCi/L, g, F):
19-033	Sample Matrix Spike Result:
24.045	Matrix Spike Result Counting Uncertainty (pCVL, g, F):
0.10	Sample Matrix Spike Duplicate Result:
0.501	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):
4.797	MS Numerical Performance Indicator:
0.058	MSD Numerical Performance Indicator:
4.329	MS Percent Recovery:
0.805	MSD Percent Recovery:
-1.13	MS Status vs Numerical Indicator:
90.26%	MSD Status vs Numerical Indicator.
N/A	MS Status vs Recovery:
Pass	MSD Status vs Recovery:
125%	MS/MSD Upper % Recovery Limits:
75%	MS/MSD Lower % Recovery Limits:

9/2/2020 19-033 24.045 0.10 0.057 6.286 0.868 1.24 111.58% N/A Pass 1125%

Uncertainty (Calculated):
Result (pCi/L, g, F):
LCS/LCSD Counting Uncertainty (pCi/L, g, F):

Numerical Performance Indicator: Percent Recovery: Status vs Numerical Indicator:

Status vs Recovery. Upper % Recovery Limits: Lower % Recovery Limits:

Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):

Volume Used (mL):

Count Date: Spike I.D.:

Decay Corrected Spike Concentration (pCi/mL):

Modito Spire	Marin Sping	Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.		Matrix Spike	92490963004	92490963004DUP (Based o	
		LCS55837	LCSD55837	5.286	0.868	4,329	0,805	õ	1.584	21.13%	ΑN
hand Comment Accomment	ouplicate of tiple Assessment	Sample I.D.:	Duplicate Sample 1.D.	Sample Result (pCi/l, g, F):	Sample Result Counting Uncertainty (pCVL, g, F):	Sample Duplicate Result (pCi/L, g, F):	Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	Are sample and/or duplicate results below RL?	Duplicate Numerical Performanca Indicator:	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:
Sample I.D.: LCS55837 Sample I.D.: LCS55837 Sample I.D.: LCSD55837 Sample I.D.: LCSD55837 Sample I.Ds if Sample Result (pCl/L, g, F): 5.286 LCS.LCSD in mole Duplicate Result (pCl/L, g, F): 4.329 the space below. LCS.LCSD in and/or duplicate results below RI.? NO Short and/or duplicate results below RI.? NO Short and/or duplicate results below RI.? NO Short and/or adplicate RPD: 1.13% 92490953004 Cate Status vs RPD: Pass	LCS5837 Enter Duplicate LCS055837 sample IDs if 5,286 LCS/LCSD in 6,868 LCS/LCSD in 4,329 the space below. 0,805 NO 1,584 92490963004DUP N/A Pass	LCSD55837 sample IDs if 5,286 other than 0,888 LCS/LCSD in 4,329 the space below. NO 1,584 92490963004DUP N/A Pass	5.286 other than 0.888 LCS/LCSD in 4.329 the space below. 0.805 NO 1.584 92490963004DUP N/A Pass	0.868 LCS/LCSD in 4.329 the space below. 0.805 NO 1.584 <u>92490863004DUP</u> 21.13% <u>92490863004DUP</u> N/A Pass	4,329 the space below. 0,805 NO 1,584 92490963004DUP NA Pass	0.805 NO 1.584 <u>92490963004</u> 21.13% <u>92490963004DUP</u> N/A Pass	NO 1.584 92490363004 21.13% 92490963004DUP N/A Pass	1.584 9 <u>2490663004</u> 21.13% <u>9<u>2490663004DUP</u> N/A Pass</u>	21.13% <u>92490963004DUP</u> N/A Pass		

	Matrix Spike/Matrix Spike Duplicate Sample Assessment	
ē	Sample J.D.	
<u>.</u>	Sample MS I.D.	
	Sample MSD I.D.	
_	Sample Matrix Spike Result:	
š	Matrix Spike Result Counting Uncertainty (pCi/l., g, F):	
	Sample Matrix Spike Duplicate Result:	
	Matrix Spike Duplicate Result Counting Uncertainty (pCVL, g, F):	
4	Duplicate Numerical Performance Indicator:	
B	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	
1	MS/ MSD Duplicate Status vs Numerical Indicator:	
	MS/ MSD Duplicate Status vs RPD:	
	2000 %	

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

Comments:

12/2000

TAR_55837_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

TAR_55838_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

Face Analytical"

**Quality Control Sample Performance Assessment** 

Analyst Must Manually Enter All Fields Highlighted in Yellow.

LAL 9/2/2020 Ra-226 55838 DW 0.161 0.285 2.94 N/A Pass 0.241 Test: Analyst: Date: Worklist: Matrix: MB concentration: M/B Counting Uncertainty: MB MDC: MB Numerical Performance Indicator; MB Status vs Numerical Indicator: MB Status vs. MDC; MB Sample ID Method Blank Assessment

	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. (pCl/L, g, F):		
	MS Spike Uncertainty (calculated):		
Z	MSD Spike Uncertainty (calculated):		
LCSD55838	Sample Result.		
	Sample Result Counting Uncertainty (pCi/L, g, F):		
	Sample Matrix Spike Result:		
	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):		
	Sample Matrix Spike Duplicate Result:		
	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):		
	MS Numerical Performance Indicator:		
	MSD Numerical Performance Indicator:		
	MS Percent Recovery:		
	MSD Percent Recovery:		
	MS Status vs Numerical Indicator:		
	MSD Status vs Numerical Indicator:		
	MS Status vs Recovery:		
	MSD Status vs Recovery:		
	MS/MSD Upper % Recovery Limits:		
	MS/MSD Lower % Recovery Limits:		

9/2/2020 19-033 24.045 0.10 0.501 4.798 0.058 4.336 0.343 -2.60 90.37% N/A Pass 125% 75%

Result (pCi/L, g, F): LCS/LCSD Counting Uncertainty (pCi/L, g, F):

Numerical Performance Indicator:

Percent Recovery: Status vs Numerical Indicator: Status vs Recovery: Upper % Recovery Limits: Lower % Recovery Limits:

Volume Used (mL):
Aliquot Volume (L, g, F):
Target Conc. (pCiVL, g, F):
Uncertainty (Calculated):

Decay Corrected Spike Concentration (pCV/mL):

Count Date: Spike 1.D.:

Laboratory Control Sample Assessment

Duplicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	Sample I.D.: 92491663005 Enter Duplicate	Enter Duplicate	Sample I.D.
Duplicate Sample I.D. 92491663005DUP sample IDs if	92491663005DUP	sample IDs if	Sample MS I.D.
Sample Result (pCi/L, g, F):	0.117	other than	Sample MSD I.D.
Sample Result Counting Uncertainty (pCt/L, g, F):	0.110	LCS/LCSD in	Sample Matrix Spike Result:
Sample Duplicate Result (pCt/L, g, F):	0.098	the space below.	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F);	0.087		Sample Matrix Spike Duplicate Result:
Are sample and/or duplicate results below RL?	See Below #		Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):
Duplicate Numerical Performance Indicator;	0.253	92491663005	Duplicate Numerical Performance Indicator:
Duplicate RPD:	16.83%	2491663005DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:
Duplicate Status vs Numerical Indicator:	V/V		MS/ MSD Duplicate Status vs Numerical Indicator:
Duplicate Status vs RPD:	Pass		MS/ MSD Duplicate Status vs RPD:
% RPD Limit:	25%		% RPD Limit:

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

Comments:

An 9/3/2020

Analyst Must Manually Enter All Fields Highlighted in Yellow.

LAL 9/2/2020 Test

Pace Analytical

55838 Analyst: Oate:

Worklist: Matrix:

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

Method Blank Assessment

MS/MSD 2 MS/MSD 1 Sample I.D. Sample MS I.D. MSD Aliquot (L, g, F): Sample Result Counting Uncertainty (pCi/L, g, F): Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Matrix Spike Duplicate Result Counting Uncertainty (pC/IL, g, F):

MS Numerical Performance Indicator: Sample Collection Date: Sample MSD I.D. Spike 1.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 Target Conc. (pCi/L, g, F): MS Spike Uncertainty (calculated) MSD Spike Uncertainty (calculated): Sample Result: Sample Matrix Spike Result Sample Matrix Spike Duplicate Result: 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 Sample Matrix Spike Control Assessment

LCSD55838

(V or N)

Laboratory Control Sample Assessment

9/2/2020 19-033 24.045 0.10 0.501 4.798 0.058

Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):

Volume Used (mL):

Decay Corrected Spike Concentration (pCi/mL):

Count Date Spike I.D. Uncertainty (Calculated): Result (pCi/L, g, F): -2.60 90.37%

Percent Recovery: Status vs Numericai Indicator: Status vs Recovery:

0343

LCS/LCSD Counting Uncertainty (pCVL, g, F):

Numerical Performance Indicator:

9922020 19-033 24.045 0.10 0.509 4.720 0.057 4.783 0.364 0.36 101.35% N/A Pass 75% N/A Pass 125% 75% Sample I.D.:

Duplicate Sample I.D.:

Sample Result (pCi/I., g, F):

Sample Result (pCi/I., g, F):

Sample Duplicate Result (pCi/I., g, F):

Sample Duplicate Result (pCi/I., g, F): Upper % Recovery Limits: Lower % Recovery Limits: Duplicate Sample Assessment

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: Matrix Spike Result Counting Uncertainty (pCi/L, g, F): Matrix Spike Duplicate Result Counting Uncertainty (pCiA, g, F): Sample Matrix Spike Duplicate Result Matrix Spike/Matrix Spike Duplicate Sample Assessment Enter Duplicate sample IDs if LCS/LCSD in the space below other than LCS55838 LCSD55838 4.336 0.343 4.783 0.364 NO -1.753 11.46% NA Pass 25%

Are sample and/or duplicate results below RL?

Duplicate Numerical Performance Indicator: (Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:

Duplicate Status vs Numerical Indicator: Duplicate Status vs RPD: % RPD Limit:

Sample I.D. Sample MS I.D.

Sample MSD I.D. Sample Matrix Spike Result

MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits:

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

Comments:

AN 9/3/2020

TAR_55838_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

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## Face Analytical

# Quality Control Sample Performance Assessment

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

1990342 0.664 0.374 0.672 3.48 Fail* Pass

MB concentration: M/B 2 Sigma CSU: MB MDC:

MB Sample ID

Method Blank Assessment

MB Status vs Numerical Indicator; MB Status vs. MDC;

Laboratory Control Sample Assessmen

MB Numerical Performance Indicator:

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MS/MSD 2																														
MS/MSD 1																														
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 (pCl/mL):	Spike Volume Used in MS (mL):	Spike Volume Used in MSD (mL):	MS Aliquot (L. g, F):	MS Target Conc.(pCi/L, g, F):	MSD Aliquot (L, g, F);	MSD Target Conc. (pCi/L, g, F):	MS Spike Uncertainty (calculated):	MSD Spike Uncertainty (calculated):	Sample Result:	Sample Result 2 Sigma CSU (pCI/L, g, F):	Sample Matrix Spike Result:	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator;	MSD Status vs Numerical Indicator:	MS Stalus vs Recovery:	MSD Slatus vs Recovery:	MS/MSD Upper % Recovery Limits:	MS/MSD Lower % Recovery Limits:
														>	LCSD55851	9/9/2020	20-030	38.472	0.10	0.803	4.789	0.235	4.322	1.030	-0.87	90.24%	A/N	Pass	135%	%09

Uncertainty (Calculated):

Result (pCi/L, g, F): LCS/LCSD 2 Sigma CSU (pCi/L, g, F);

Percent Recovery: Status vs Numerical Indicator:

Numerical Performance Indicator.

Upper % Recovery Limits: Lower % Recovery Limits:

Status vs Recovery:

Volume Used (mL): Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):

Count Date: Spike I.D.:

Decay Corrected Spike Concentration (pCi/mL):

ample 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:	2 Sigma CSU (pCi/L, g, F):	Duplicate Numerical Performance Indicator:	MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Status vs Numerical Indicator.	MS/ MSD Duplicate Status vs RPD:	% RPD Limit
Matrix Spike/Matrix Spike Duplicate Sample Assessment				·		Sample Ma	Matrix Spike Duplicate Result 2 Sigma CSU (pC/I/L, g, F);	Duplicate Numer	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duplicate Sta	MS/ MSI	
	Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.				٠.			
	LCS55851	LCSD55851	5.598	1.288	4.322	1.030	9	1.516	26.80%	Pass	Pass	36%
Duplicate Sample Assessment	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:	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator:	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.

6 of 10

Ra-228 NELAC DW2 Printed: 9/10/2020 8:20 AM

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

Pace Analytical memorate com

MS/MSD 2

		MS/MSD 1																													
		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:	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:	•
																<b>,</b>	LCSD55852	9/9/2020	20-030	38.470	0,10	0.802	4,799	0.235	5,838	1.350	1,47	121.64%	N/A	Pass	
0	Ka-228	۸AL	9/2/2020	55852	ΙM			1990343	0.245	0.335	0.716	1.43	Pass	Pass		CSD (Y or N)?	LCS55852	9/9/2020	20-030	38.470	0.10	0,801	4.804	0.235	4.151	1.079	-1.16	86.42%	∀/N	Pass	
The state of the s	lest	Analyst:	Date:	Worklist:	Matrix	-	Method Blank Assessment	MB Sample ID	MB concentration:	M/B 2 Sigma CSU:	MB MDC:	MB Numerical Performance Indicator;	MB Status vs Numerical Indicator:	MB Status vs. MDC;		Laboratory Control Sample Assessment		Count Date:	Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L, g, F):	Target Conc. (pCVL, g, F):	Uncertainty (Calculated):	Result (pCi/L, g, F):	LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	Numerical Performance Indicator:	Percent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	•

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 (pCVL, 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:
9/9/2020	20-030	38,470	0,10	0.802	4,799	0.235	5.838	1.360	1,47	121.64%	ΝΆ	Pass	135%	909		Enter Duplicate	sample IDs if	other than	LCS/LCSD in	the space below.							
9/9/2020	20-030	38.470	0.10	0,801	4.804	0.235	4.151	1.079	-1.16	86.42%	V/V	Pass	135%	%09		LCS55852	LCSD55852	4.151	1.079	5.838	1,360	2	-1.903	33.85%	Pass	Pass	36%
Count Date:	Spike I.D.:	Decay Corrected Spike Concentration (pCi/mL):	Volume Used (mL):	Aliquot Volume (L, g, F):	Target Coric. (pCt/L, g, F):	Uncertainty (Calculated):	Result (pCi/l, g, F):	LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	Numerical Performance Indicator:	Persent Recovery:	Status vs Numerical Indicator:	Status vs Recovery:	Upper % Recovery Limits:	Lower % Recovery Limits:	Duplicate Sample Assessment	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:	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD;	Duplicate Status vs Numerical Indicator:	Duplicate Status vs RPD:	% RPD Limit:

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Comments:

9010 m Ra-228_55852_W.xls Ra-228 (R086-8 04Sep2019).xls

Ra-228 NELAC DW2 Printed: 9/10/2020 8:17 AM

VAL 9/2/2020 55853 WT Test Date: Worklist: Matrix: **Analyst**:

	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 Allquot (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):		
Υ	MSD Spike Uncertainty (calculated):		
LCSD55853	Sample Result:	•	
9/9/2020	Sample Result 2 Sigma CSU (pCi/L, g, F):		
20-030	Sample Matrix Spike Result;		
38.472	Matrix Spike Result 2 Sigma CSU (pCI/L, g, F):		
0.10	Sample Matrix Spike Duplicate Result:		
0.812	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
4.736	MS Numerical Performance Indicator:		
0.232	MSD Numerical Performance Indicator:		
5.603	MS Percent Recovery:		
1.205	MSD Percent Recovery:		
1.38	MS Status vs Numerical Indicator:		
118.30%	MSD Status vs Numerical Indicator:		
۷/X	MS Status vs Recovery:		
Pass	MSD Status vs Recovery:		
135%	MS/MSD Upper % Recovery Limits:		
60%	MSMSD Lower & Decorporationity	-	

9/9/2020 20-030 38.472

Count Date:

Spike LD:

Decay Corrected Spike Concentration (pCi/mL):

0.10 0.810 4.748 0.233 4.963

Aliquot Volume (L, g, F): Target Conc. (pCl/L, g, F):

Uncertainty (Calculated): Result (pCi/L, g, F):

Volume Used (mL):

0.326 0.685 1.65 Pass Pass

MB Numerical Performance Indicator:
MB Status vs Numerical Indicator:
MB Status vs. MDC;

Laboratory Control Sample Assessmen

0.274

MB Sample 1D

Method Blank Assessment

MB concentration:

M/B 2 Sigma CSU: MB MDC:

	Matrix Spike/Matrix Spike Duplicate Sample Assessment
	MS/MSD Lower % Recovery Limits:
	MS/MSD Upper % Recovery Limits:
<del>-</del>	MSD Status vs Recovery:

N/A Pass 135% 60%

104.53% N/A Pass 135% 60%

Upper % Recovery Limits: Lower % Recovery Limits:

0.37

Percent Recovery: Status vs Recovery:

LCS/LCSD 2 Sigma CSU (pCi/L, g, F):

Numerical Performance Indicator: Status vs Numerical Indicator MS/ MSD Duplicate Status vs RPD: , % RPD Limit

	Matrix Spike/Matrix Spike Duplicate Sample Assessment	Enter Duplicate Sample I.D.	Jess .	other than Sample MSD LD	LCS/LCSD in Sample Matrix Spike Result:	the space below. Matrix Spike Result 2 Sigma CSU (pCi) or EV	Sample Matrix Spike Dublicate Result	Matrix Spike Duplicate Result 2 Signa CSU (p.C.II., p. F):	Dunlicate Numerical Performance Indicator	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:	MS/ MSD Duolicate Status vs Numerical Indicator	MS/ MSD Dunifrate Status vs BPD:	
		_	153 sample IDs if			the space							•••
1		: LCS55853	. LCSD55853	4.963	1,118	5.603	1.205	8	: 0.762	•	: Pass	Pass	7000
Direction Committee Access	Dublicate dample Assessment	Sample I.D.:	Duplicate Sample 1,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;	(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	Duplicate Status vs Numerical Indicator;	Duplicate Status vs RPD:	###   CGG 76

చ	9 &p(	2/0 M	16
## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.	Comments:		

6 of 10

Ra-228 NELAC DW2 Printed: 9/10/2020 1:14 PM





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

Ken Hung

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





## **CERTIFICATIONS**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

**Pace Analytical Services Charlotte** 

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

North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

**Pace Analytical Services 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



## **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



## **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



## **SUMMARY OF DETECTION**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92491818001	GWA-7					
	рН	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	
2491818002	GWB-5R					
	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	



## **ANALYTICAL RESULTS**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Date: 08/27/2020 01:02 PM

Sample: GWA-7	Lab ID:	92491818001	Collecte	ed: 08/19/20	0 10:30	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	)					
рН	5.81	Std. Units			1		08/20/20 16:59		
6020 MET ICPMS, Dissolved	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: Ef	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
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	
7470 Mercury, Dissolved	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Mercury, Dissolved	ND	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 09:53	7439-97-6	



## **ANALYTICAL RESULTS**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Date: 08/27/2020 01:02 PM

Sample: GWB-5R	Lab ID:	92491818002	Collecte	ed: 08/19/20	11:58	Received: 08/	20/20 12:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	)					
рН	5.14	Std. Units			1		08/20/20 17:00		
6020 MET ICPMS, Dissolved	Analytical	Method: EPA	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	ЭΑ				
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	0.0019J	mg/L	0.0050	0.00078	1	08/24/20 12:49	08/24/20 18:10	7440-38-2	
Barium, Dissolved	0.098	mg/L	0.010	0.00071	1	08/24/20 12:49	08/24/20 18:10	7440-39-3	
Beryllium, Dissolved	0.000058J	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	0.0029J	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	0.00089J	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	
7470 Mercury, Dissolved	Analytical	Method: EPA	7470A Pre	paration Met	hod: EF	PA 7470A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Mercury, Dissolved	0.00011J	mg/L	0.00020	0.000078	1	08/26/20 12:00	08/27/20 10:03	7439-97-6	



### **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 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

Date: 08/27/2020 01:02 PM

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	

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**



# **QUALITY CONTROL DATA**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Date: 08/27/2020 01:02 PM

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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 S	PIKE DUPLI	CATE: 2980	616		2980617							
Parameter	Units	92491818002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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	

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**



### **QUALITY CONTROL DATA**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Date: 08/27/2020 01:02 PM

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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Mercury, Dissolved mg/L ND 0.00020 0.00078 08/27/20 09:48

LABORATORY CONTROL SAMPLE: 2982839

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2982840 2982841

MS MSD

92491818001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Conc. Result Result **RPD** RPD Qual Result % Rec % Rec Limits

Mercury, Dissolved mg/L ND 0.0025 0.0025 0.0023 99 91 75-125 8 20

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

### **REPORT OF LABORATORY ANALYSIS**



### **QUALIFIERS**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

### **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**

Date: 08/27/2020 01:02 PM



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD - SCAN EVENT 2020

Pace Project No.: 92491818

Date: 08/27/2020 01:02 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92491818001 92491818002	GWA-7 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

# Sample Condition Upon Receipt

-7	Sampl	e condition open ked	e ipi
Pace Analytical	Client Name: _	GA Power	WO#:92491818

Custody Seal on Cooler/Box Present:  yes	no Seals	intact:  yes _	I IIV
Packing Material: Bubble Wrap Bubble	e Bags None	Other	
Thermometer Used 233	Type of Ice: Wet	Blue None	Samples on ice, cooling process has begun
Cooler Temperature 2 / / C	Biological Tissue	is Frozen: Yes No Comments:	Date and initials of person examining contents:
Chain of Custody Present:	(Tyes DNo DN/A	1.	
Chain of Custody Filled Out:	ElYes Ono On/A	2.	
Chain of Custody Relinquished:	EYes ONO ON/A	3.	
Sampler Name & Signature on COC:	DYes DNo DN/A	4.	
Samples Arrived within Hold Time:	DYes ONO ON/A	5.	-
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☐N/A	6.	
Rush Turn Around Time Requested:	☐Yes ₩No ☐N/A	7.	
Sufficient Volume:	AINO ONO ESYCE	8.	
Correct Containers Used:	THES DNO DNIA	9.	
-Pace Containers Used:	EYes □No □N/A		
Containers Intact:	ETTES ONO ONA	10.	
Filtered volume received for Dissolved tests	Dyes ONO ONIA	11.	
Sample Labels match COC:	☐Yes ☐No ☐N/A	12.	
-Includes date/time/ID/Analysis Matrix:	$\mathcal{N}$		
All containers needing preservation have been checked.	Tyes ONO ONA	13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	.DYes ONO ON/A		
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes □₩o	Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	AND OND ESY		
Headspace in VOA Vials ( >6mm):	DYES DNO DNIA		
Trip Blank Present:	Dyes DNo DNA	7	
Trip Blank Custody Seals Present	Dyes DNo DN/A	111	
Pace Trip Blank Lot # (if purchased):			
Client Notification/ Resolution:			Field Data Required? Y / N
Person Contacted:	Date/	Time:	

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

Pace Analytical*

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

*Checkgnark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation

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

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

Project #

Due Date: 09/03/20

CLIENT: GA-GA Power

	(I-D) (N/N) (O-)	BP4U-125 mt repres	8P3U-250 mL Plastic Unpresented	BP2U-500 mL Plastic Unpreserved (N/A)	sesses. Her Plastic Unpreserved (N/A)	10-10   Colorate H2504 (pH < 2) (G-1)	BPAS-125 mt reconstructor	6P3N-250 mL plastic HNOS (Pri	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	POMC-125 mt Plastic NaOH (pH > 12) (G-)	wright-wide mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (G-)	liter Amber HCI (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	4635.1 liter Amber H2504 (pH < 2)	Acase, 750 mL Amber H2504 (pH < 2)	AGRAIDGEAN-250 mt Amber NH4G (N/A)(CI-)	DESH-40 ML VOA HO (N/A)	VG9T-40 mL VOA Na25203 (N/A)	VG9U-40 mL VOA Unp (N/A)	OCSP-40 ML VOA H3PO4 (N/A)	VOTAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 viels per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A - lab)	SP2T-250 ml Sterile Plastic (N/A-lab)	187	BPSA-250 mL Plastic (NH2)2XX (5-1)	AGOU-100 mt Amber Cripros
1	K	1			1	1	Z	Z	1	1	1	1	1	4	1	1	*	4	+	+	+	+	+	+	+	1	1	-
2	1	V			1		1	1	1	1	1	1	-1	4	+	1	X	4	+	+	+	+	+	+	1	X	1	
3	1	1		T	1		1	1	1	1	1	1	_	1	A	X	X	4	+	+	+	+	+	+	+	K	1	-
1	1	1		1	1		/	1	1	1	1		_	7	1	1	4	4	-	+	+	+	+	-	+	K	1	-
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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.



# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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# **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)¹ and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)². 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**

¹USEPA, 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

²USEPA, 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

							Anal	yses	
SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	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)	Χ	Χ		Χ
491455	EB-1-8-18-20	8/18/2020	92491455002	WQ	EB	Χ	Χ		Χ
491455	GWA-8	8/17/2020	92491455003	GW		Х	Χ		Χ
491455	GWC-13	8/17/2020	92491455004	GW		Х	Χ		Χ
491455	GWC-12	8/17/2020	92491455005	GW		Х	Χ		Χ
491455	GWC-16	8/18/2020	92491455006	GW		Х	Χ		Χ
491455	GWC-21	8/18/2020	92491455007	GW		Х	Χ		Χ
491455	GWC-15	8/18/2020	92491455008	GW		Х	Χ		Χ
491455	GWC-14	8/18/2020	92491455009	GW		Χ	Χ		Χ
491455	GWC-2	8/18/2020	92491455010	GW		Χ	Χ		Χ
491455	GWC-17	8/18/2020	92491455011	GW		Χ	Χ		Χ
491455	GWC-20	8/18/2020	92491455012	GW		Х	Χ		Χ
491455	GWC-11	8/18/2020	92491455013	GW		Х	Χ		Χ
491455	GWC-22	8/18/2020	92491455014	GW		Х	Χ		Χ
491455	EB-2-8-18-20	8/18/2020	92491455015	WQ	EB	Х	Χ		Χ
491455	DUP-2	8/18/2020	92491455016	GW	FD (GWC-22)	Х	Χ		Χ
491455	FB-1-8-19-20	8/19/2020	92491455017	WQ	FB	Х	Χ		Χ
491455	FB-2-8-19-20	8/19/2020	92491455018	WQ	FB	Χ	Χ		Χ
491455	GWC-1	8/19/2020	92491455019	GW		Х	Χ		Χ
491455	GWC-9	8/19/2020	92491455020	GW		Х	Χ		Χ
491455	GWB-5R	8/19/2020	92491455021	GW		Х	Χ		Х
491455	GWA-7	8/19/2020	92491455022	GW		Х	Χ		Х
491455	GWB-4R	8/19/2020	92491455023	GW		Х	Χ		Х
491455	GWB-6R	8/19/2020	92491455024	GW		Х	Χ		Х
491818	GWA-7	8/19/2020	92491818001	GW		Х			
491818	GWB-5R	8/19/2020	92491818002	GW		Х			

### Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

 $\mathsf{GW}-\mathsf{Groundwater}$ 

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	Constituent	New RL	New MDL	Qualifier	Reason
	Identification			or MDC		
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

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWA-7
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 16.1 ft
Total Depth: 21.1 ft

Initial Depth to Water: 6.26 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 18 ft Estimated Total Volume Pumped:

6.75 liter

Flow Cell Volume: 90 ml Final Flow Rate: 225 ml/min Final Draw Down: 4.1 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Sunny 80s

, sample time 1035. Field filtered metals

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3	
8/19/2020	00:00	5.78 pH	27.75 °C	1,658.9	0.11 mg/L		102.1 mV	6.26 ft	225.00 ml/min
10:05 AM	00.00	5.76 pm	21.15	μS/cm	U.IIIIIg/L		102.11110	0.2011	223.00 1111/111111
8/19/2020	05:00	5.77 pH	26.28 °C	1,720.5	0.06 mg/L	21.00 NTU	81.2 mV	6.60 ft	225.00 ml/min
10:10 AM	03.00	5.77 pm	20.20 C	μS/cm	0.00 mg/L	21.00 NTO	01.2 111	0.00 10	223.00 1111/111111
8/19/2020	10:00	5.81 pH	26.47 °C	1,598.1	0.04 mg/L	69.00 NTU	72.9 mV	6.60 ft	225.00 ml/min
10:15 AM	10:00	3.61 pH	20.47 0	μS/cm	0.04 mg/L	09.00 1110	72.9 1110	0.00 11	223.00 1111/111111
8/19/2020	15:00	5.81 pH	26.87 °C	1,607.9	0.03 mg/L	155.00 NTU	69.1 mV	6.60 ft	225.00 ml/min
10:20 AM	13.00	5.61 pm	20.87	μS/cm	0.03 Hig/L	155.00 1410	09.1 1110	0.00 10	223.00 111/111111
8/19/2020	20:00	5.81 pH	26.94 °C	1,597.0	0.03 mg/L	186.00 NTU	65.1 mV	6.60 ft	225.00 ml/min
10:25 AM	20.00	5.61 pm	20.94 0	μS/cm	0.03 Hig/L	100.00 1110	05.1 1110	0.00 11	223.00 111/111111
8/19/2020	25:00	5.81 pH	26.96 °C	1,596.5	0.02 mg/L	199.00 NTU	61.5 mV	6.60 ft	225.00 ml/min
10:30 AM	23.00	5.61 pm	20.90 C	μS/cm	0.02 Hig/L	199.00 N10	01.51110	0.00 11	223.00 1111/111111
8/19/2020	30:00	5.81 pH	26.97 °C	1,610.4	0.03 mg/l	210.00 NTU	57.6 mV	6.60 ft	225.00 ml/min
10:35 AM	30.00	5.61 pm	20.97	μS/cm	0.03 mg/L	210.00 N10	57.0 IIIV	0.00 10	223.00 1111/111111

# **Samples**

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

Project: 2020 Scan

Operator Name: O. Fuquea

Location Name: GWA-8
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 15.9 ft
Total Depth: 20.9 ft

Initial Depth to Water: 7.36 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 18.4 ft Estimated Total Volume Pumped:

9 liter

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 19 in Instrument Used: Aqua TROLL 400

Serial Number: 714344

### **Test Notes:**

### **Weather Conditions:**

91F clear.

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

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

Product Name: Low-Flow System

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

Pump Information:

Pump Model/Type

Peristaltic

Project Information:
Operator Name Zack Davis

Company NameAtlantic Coast ConsultingTubing TypepolyProject NameGrumman RoadTubing Diameter0.17 inSite NameGrumman RoadTubing Length23.0 ft

Latitude 0° 0' 0"
Longitude 0° 0' 0"
Sonde SN 601533

Turbidity Make/Model HACH2100Q Pump placement from TOC 21 ft

Well Information: Pumping Information:

Final Pumping Rate 200 mL/min Well ID GWB-4R Well diameter Total System Volume 0.1926587 L 2 in Calculated Sample Rate Well Total Depth 23.3 ft 300 sec Stabilization Drawdown Screen Length 5 ft 4.1 in Depth to Water 14.99 ft **Total Volume Pumped** 36 L

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond μS	/cmTurb 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** 

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

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWB-5R

Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft

Top of Screen: 21.5 ft Total Depth: 26.5 ft

Initial Depth to Water: 10.39

ft

Pump Type: Peri

**Tubing Type: Poly** 

Pump Intake From TOC: 24 ft
Estimated Total Volume Pumped:

36 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min

Final Draw Down: 1 in

Instrument Used: Aqua TROLL 400

Serial Number: 714344

# **Test Notes:**

# Low-Flow Readings:

Date Time	Elapsed Time	рН	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	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
11:18 AM	01.11.24	5.14 pm	25.50 0	320.17 μ0/0111	0.07 mg/L	30.40 1110	41.5111	10.00 10	200.00 1111/111111
8/19/2020	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
11:23 AM	01.10.24	3.13 pm	23.91 C	313.97 μ3/011	0.00 mg/L	34.00 1110	40.5 1117	10.00 10	200.00 1111/111111
8/19/2020	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
11:28 AM	01.21.24	3.14 pm	24.01 0	300.27 μ3/0111	0.00 Hig/L	34.00 1110	39.2 IIIV	10.00 10	200.00 111/111111
8/19/2020	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
11:33 AM	01.20.24	3.14 pm	24.07 0	303.03 µ3/стт	0.00 Hig/L	30.20 1110	30.3 IIIV	10.00 10	200.00 1111/111111
8/19/2020	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
11:38 AM	01.51.24	5.14 pm	24.00 0	300.77 до/стт	0.00 mg/L	42.50 1110	37.2 IIIV	10.00 10	200.00 111/111111
8/19/2020	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
11:43 AM	01.50.24	3.14 pm	24.13 0	303.30 µ3/сті	0.00 mg/L	44.50 1110	34.4 IIIV	10.00 10	200.00 1111/111111
8/19/2020	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
11:48 AM	01.41.24	3.13 pm	24.24 0	309.00 µ3/ст	0.03 Hig/L	30.00 1110	33.3 IIIV	10.00 10	200.00 111/111111
8/19/2020	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
11:53 AM	01.70.24	5.15 pri	24.00 0	311.71 μο/οπ	0.00 mg/L	37.30 NTO	55.0 IIIV	10.00 10	200.00 111/111111
8/19/2020	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
11:58 AM	01.51.24	3.13 pri	24.20 0	514.52 μ3/611	0.03 Hig/L	39.00 NTO	33.0 1110	10.00 10	200.00 1111/111111

# Samples

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

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWB-6R
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 17.7 ft

Total Depth: 22.7 ft Initial Depth to Water: 7.81 ft Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 20 ft Estimated Total Volume Pumped:

32 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 2.3 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

# **Test Notes:**

Sunny, sample time-1400

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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	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
12:35 PM	01.15.00	5.21 pn	27.00 C	040.20 μ3/0111	0.10 mg/L	10.00 N10	93.4 1110	6.00 II	200.00 111/111111
8/19/2020	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
12:40 PM 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	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
12:50 PM	01.00.00	0.22 pri	20.11	осс.от родон	0.00 mg/L	0.011110		0.00 11	200.00 111,711111
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	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
1:05 PM				реготор		0.2			
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				0/				0.00%	
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	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
1:20 PM		- '		, , , , , , , , , , , , , , , , , , ,					
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					2.12 "			0.00 (:	
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	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
1:35 PM									
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								0.00%	
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	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
1:50 PM		F.		111111 p. 1111		,			
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:
-	

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

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-1
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 23.1 ft
Total Depth: 28.1 ft

Initial Depth to Water: 19.23 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 25.6 ft Estimated Total Volume Pumped:

9 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 714344

### **Test Notes:**

# Low-Flow Readings:

Date Time	Elapsed Time	рН	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

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

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC 2 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 26.4 ft

Total Depth: 31.4 ft

Initial Depth to Water: 19.21 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 28.9 ft Estimated Total Volume Pumped:

6126.667 ml

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.09 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

**Weather Conditions:** 

92F clear

# Low-Flow Readings:

Date Time	Elapsed Time	рН	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

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

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-9
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 20.7 ft

Total Depth: 25.7 ft

Initial Depth to Water: 8.73 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 23 ft Estimated Total Volume Pumped:

7800 ml

Flow Cell Volume: 90 ml Final Flow Rate: 130 ml/min Final Draw Down: 15.87 ft Instrument Used: Aqua TROLL 400

Serial Number: 714302

**Test Notes:** Purged well dry

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-9
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 20.7 ft
Total Depth: 25.7 ft

Initial Depth to Water: 9.63 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 23 ft Estimated Total Volume Pumped:

2.6 liter

Flow Cell Volume: 90 ml Final Flow Rate: 130 ml/min Final Draw Down: 4.44 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

# **Test Notes:**

Sunny, sample time 0920

# **Low-Flow Readings:**

Date Time	e Time   Elapsed Time	Hq	Temperature	Specific	RDO	Turbidity	ORP	Depth To	Flow	
		μ		Conductivity	Concentration			Water		
		+/- 0.1	+/- 100	+/- 5 %	+/- 10 %	+/- 10	+/- 300	+/- 0.3		
8/19/2020	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	
9:00 AM	00.00	0.21 pm	25.44 0	2.39 μ3/6/11			100.01117	9.05 11	130.00 111/111111	
8/19/2020	05:00	05:00	4.55 pH	24.28 °C 16	168.57 µS/cm	1.24 mg/L	6.51 NTU	86.2 mV	10.3 ft	130.00 ml/min
9:05 AM		4.55 pm	24.20 0	100.07 μο/οιτί	1.24 mg/L	0.011410	00.2 1117	10.0 10	100.00 111/111111	
8/19/2020	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	
9:10 AM	10.00	4.50 pri	24.00 0	107.07 μ3/6/11	0.01 mg/L	4.03 1110	05.1111	10.5 10	130.00 1111/111111	
8/19/2020	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	
9:15 AM	15.00	4.56 pm 24.	24.20 0	100.07 μ3/6/11	0.55 Hig/L	4.44 NTO	03.3 1117	11.4011	130.00 111/111111	
8/19/2020	20:00	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	
9:20 AM	20.00	4.55 pri	24.17 0	107.21 μο/οπ	0.55 Hig/L	5. <del>7</del> 5 N T O	00.0 1110	11.010	130.00 1111/111111	

# **Samples**

Sample ID:	Description:

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-11
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 17.55 ft
Total Depth: 22.55 ft

Initial Depth to Water: 12.64 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 20 ft Estimated Total Volume Pumped:

11.7 liter

Flow Cell Volume: 90 ml Final Flow Rate: 130 ml/min Final Draw Down: 35.5 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Sunny, sample time-1045

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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	01:15:00	4.83 pH	27.04 °C	1,056.8	0.31 mg/L	7.92 NTU	112.4 mV	15.60 ft	130.00 ml/min
10:30 AM	01.15.00	4.03 μπ	27.04 0	μS/cm	0.51 mg/L	7.92 NTO	112.41110	15.00 11	130.00 111/111111
8/18/2020	01:20:00	4.82 pH	26.70 °C	1,109.6	0.35 mg/L	6.55 NTU	112.3 mV	15.60 ft	130.00 ml/min
10:35 AM		4.02 pm	20.70 C	μS/cm	0.55 Hig/L		112.31117		
8/18/2020	01:25:00	:25:00 4.83 pH	26.87 °C	1,124.8	0.29 mg/L	4.95 NTU	114.3 mV	15.60 ft	130.00 ml/min
10:40 AM	01.25.00	4.05 pm		μS/cm	0.29 mg/L	4.93 NTO	114.51110	15.60 11	130.00 111/111111
8/18/2020	01:30:00	00 4.84 pH	26.33 °C	1,078.5	0.35 mg/L	4.41 NTU	113.2 mV	15.60 ft	130.00 ml/min
10:45 AM				μS/cm					130.00 111/111111

# **Samples**

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

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-12
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 21.7 ft
Total Depth: 26.7 ft

Initial Depth to Water: 12.45 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 23 ft Estimated Total Volume Pumped:

6 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 6.6 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Cloudy, sample time-1725

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
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Test Date / Time: 8/17/2020 3:41:32 PM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-13 Well Diameter: 2 in Screen Length: 5 ft Top of Screen: 19.1 ft Total Depth: 24.1 ft

Initial Depth to Water: 13.91 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 22 ft Estimated Total Volume Pumped:

8750 ml

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 0.59 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

**Weather Conditions:** 

91F clear

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
GWC-13	Collect at 1616

Test Date / Time: 8/18/2020 1:34:30 PM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-14
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 22 ft

Total Depth: 27 ft

Initial Depth to Water: 19.51 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 24.5 ft Estimated Total Volume Pumped:

10000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.49 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

Weather Conditions:

91F cloudy

# Low-Flow Readings:

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
GWC-14	Collected at 1424

Test Date / Time: 8/18/2020 12:27:02 PM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-15
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 21.8 ft

Total Depth: 26.8 ft

Initial Depth to Water: 19.32 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 24.0 ft Estimated Total Volume Pumped:

4425 ml

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.28 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

**Weather Conditions:** 

89F cloudy

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
GWC-15	Collected at 1256.

Test Date / Time: 8/18/2020 9:07:24 AM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-16
Well Diameter: 2 in
Casing Type: pvc
Screen Length: 5 ft
Top of Screen: 23.2 ft

Total Depth: 28.2 ft

Initial Depth to Water: 20.9 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 25 ft Estimated Total Volume Pumped:

13 liter

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.1 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

Weather Conditions: 80F OVERCAST

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
GWC-16	Collected at 0932

Product Name: Low-Flow System

Date: 2020-08-18 14:49:20

Pump Information:

Pump Model/Type

Tubing Diameter

Tubing Length

Tubing Type

Peristaltic Pump

poly

20 ft

.17 in

20.98 ft

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

H 2100Q Pump placement from TOC

Well Information: Pumping Information:

Final Pumping Rate Well ID GWC-17 185 mL/min Well diameter Total System Volume 0.1836426 L 2 in Calculated Sample Rate Well Total Depth 22.98 ft 300 sec Stabilization Drawdown Screen Length 5 ft 0 in Depth to Water 7.70 ft 5.55 L **Total Volume Pumped** 

Low-Flow Sampling Stabilization Summary

	Time	Elapsed	Temp C	рН	SpCond µS/	cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			+/- 100%	+/- 0.1	+/- 5%	+/- 10		+/- 10%	+/- 100%
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** 

Test Date / Time: 8/18/2020 3:56:44 PM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-20
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 19.9 ft

Total Depth: 24.9 ft

Initial Depth to Water: 21.31 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 22.9 ft Estimated Total Volume Pumped:

10 liter

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.29 ft Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

**Weather Conditions:** 

92F clear

# **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
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GWC-20	Collected at 1636				
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# **Low-Flow Test Report:**

Test Date / Time: 8/18/2020 10:03:22 AM

**Project:** Grumman Road **Operator Name:** O. Fuquea

Location Name: GWC-21
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 18.8 ft

Total Depth: 23.8 ft

Initial Depth to Water: 20.6 ft

Pump Type: Peri Tubing Type: Poly

Pump Intake From TOC: 23.2 ft Estimated Total Volume Pumped:

13 liter

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 714344

**Test Notes:** 

**Weather Conditions:** 

84 Cloudy.

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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.

Created using VuSitu from In-Situ, Inc.

# **Low-Flow Test Report:**

Test Date / Time: 8/18/2020 12:20:54 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-22
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 13.3 ft
Total Depth: 18.6 ft

Initial Depth to Water: 8.42 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 16 ft Estimated Total Volume Pumped:

21.45 liter

Flow Cell Volume: 90 ml Final Flow Rate: 165 ml/min Final Draw Down: 2.16 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

#### **Test Notes:**

Sunny, sample time-1430, DUP-2 here

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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	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
1:35 PM				·					
8/18/2020	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
1:40 PM	01.20.00	4.00 pm	25.50 0	304.07 μ0/0111	0.17 mg/L	3.51 1410	130.0 111	0.00 11	103.00 1111/111111
8/18/2020	01:25:00	4 F7 ml l	29.38 °C	624 676/am	0.47 mg/l	2.22 NTU	136.1 mV	8.60 ft	165.00 ml/min
1:45 PM	01.25.00	4.57 pH	29.36 C	624.67 μS/cm	0.17 mg/L	2.22 NTU	130.11111	8.6011	165.00 111/111111
8/18/2020	04.20.00	4.50 -11	20.44.90	CO2 70C/	0.40/	4 OF NEU	407.0\/	0.00.#	405.00 1/
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	04.25.00	4.57 -11	20.00.00	750.000/	0.40/	4 04 NTU	442.0 \/	0.00.#	405.001/
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	04.40.00	4.57 -11	00.74.00	040.04 0/	0.45//	4 00 NTU	4440>/	0.00.0	405.00
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	04.45.00	4.55 -11	20.02.00	070.000/	0.45/	4 CO NEU	447.5	0.00.#	405.001/
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	04.50.00	4.55 -11	20.70.00	040.040/	0.45/	0.00 NTU	450.4 \/	0.00.#	405.00 1/
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	04.55.00	4.55	00.00.00	050.400/	0.45/	4 00 NTU	450.0\/	0.00.0	405.00
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 22 6	
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				1,028.6					
2:25 PM	02:05:00	4.53 pH	30.57 °C	μS/cm	0.18 mg/L	2.22 NTU	162.2 mV	8.60 ft	165.00 ml/min
8/18/2020	00.40.00	4.50 -11	04.57.00	1,047.1	0.00 //	0.40 NTU	404.0>/	0.00.0	405.00
2:30 PM	02:10:00	4.52 pH	31.57 °C	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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Created using VuSitu from In-Situ, Inc.



SITE:		Grumman Rd	
TECHNICIAN:		OFUGUER.	
WATER LEVEL:		Solars Mion	
WATER LEVEL S/N:		327814	
		127363	
		714344	
INSTRUMENT S/N:			M = = 11
INSTRUMENT TYPE:			Hogua Troll
CAL. SOLUTION/S:	ID: (01).	LOT#: OGE438 EXP. DATE:	
	ID: PHI	LOT #: OG DOYC EXP. DATE:	4/22
	1D: PH 7	LOT#: 96 K72 1 EXP. DATE:	11/21
	ID: 01-10	LOT#: 961648 EXP. DATE:	17/21
	ID: add	LOT#: 06.0570 EXP. DATE:	1/21
	ID:	LOT #: EXP. DATE:  LOT #: EXP. DATE:	
		EAT. DATE.	
Calibration Date:	8-11-10	0.001	
RDO	100% sat. = 96	48 /0	
PH CONDUCTIVITY	4.00 = 4.31	7.00 = 7.10	10.00 = 9.97
CONDUCTIVITY	1449 8		
ORP (mV	7	43	
Calibration Date:	8-18-20		
	: 100% sat. = 1/1	470%	
			10.00 = 9.98
	4.00 = 41.00		10.00 = 770
	1440.		
ORP (mV)		715-5	
Calibration Date:	8-19-70		
RDO	: 100% sat. = 95	5.56	
PH	4.00 = 4.6	3 7.00 = 6.92	10.00 = 9.69 98
	1424.6		
		232,5	
Calibration Date:			
RDO	100% sat. =		
PH	4.00 =	7.00 =	10.00 =
CONDUCTIVITY			
ORP (mV)			
Calibration Date:			
	100% sat. =		
	4.00 =	7.00 =	10.00 =
CONDUCTIVITY			
ORP (mV)			



SITE:		Grumman Rd.			
TECHNICIAN:	O. FUQUEA				
	15.34				
INSTRUMENT S/N:	1712	00063431			
INSTRUMENT TYPE: CAL. SOLUTION:	O NTU - LOT #	NA EXP. DATE: N	lew DI water		
CAL. SOLUTION.	10 NTU - LOT #	EXP. DATE:	lew Di water		
	20 NTU - LOT #	EXP. DATE:			
	201110-2011	* LOT # NOT I	READABLE		
		13 (1) 15 (1) 15 (1) 15 (1)			
Calibration Date:	8-17-20				
	Calibation Solution	Instrument Reading			
	0.0	0.0	NTU		
	10.0	9.9	NTU		
	20.0	19.7	NTU		
	1.101				
Calibration Date:	8-18-20	1 60 00 00 00 00			
	Calibation Solution	Instrument Reading			
	0.0	0.1	NTU		
	10.0	9.91	NTU		
	20.0	70.0	NTU		
Calibration Date:	8-19-20				
	Calibation Solution	Instrument Reading			
	0.0	0.02	NTU		
	10.0	9.94	NTU		
	20.0	20.06	NTU		
Calibration Date:					
	Calibation Solution	Instrument Reading			
	0.0		NTU		
	10.0		NTU		
	20.0		NTU		
Calibration Date:					
Cambration Date:	Calibation Solution	Instrument Reading			
	0.0	instrument Reading	NTU		
	10.0		NTU		
	20.0		NTU		
Calibration Date:		A Section of			
	Calibation Solution	Instrument Reading			
	0.0		NTU		
	10.0		NTU		
	20.0		NTU		



SITE:			Grumman Rd	
TECHNICIAN:		J132.10	stol	
WATER LEVEL:		501.9.1		
VATER LEVEL S/N:		207304		
INSTRUMENT S/N:		714302		
NSTRUMENT TYPE:	Smartroll			1,3,4
CAL. SOLUTION/S:	ID: px7 4	LOT # : 9668041	EXP. DATE:	12/21
	ID: plt 7	LOT#: 961072	EXP. DATE:	4/21
	1D: PH 10	LOT # : 961648		12/21
	ID: 0/2/	LOT#: 96454		9/10
	ID: (071	LOT#: 06F43		5/21
	ID:	LOT#:	EXP. DATE:	
	ID:	LOT#:	EXP, DATE:	
libration Date: 8	117/20			
	100% sat. = 96.5	3		
	4.00 = 4.01	7.00 = -	7 N	10.00 = 9,93
CONDUCTIVITY		7.00 - 7		10.00 - 11 1
ORP (mV)	228.1			
J ()				
alibration Date: $\delta$	118/20			
	: 100% sat. = / UL)	18		
	4.00 = 4.10		7.13	10.00 = 10.00
CONDUCTIVITY				LVII
	729	.3		
VIII.				
alibration Date:	8/19/20			
RDO	: 100% sat. = 1 £	0.411		
PH	4.00 = "3.98	7.00 =	6.98	10.00 = 10.00
ORP (mV	1419	5		
Table Villa				
alibration Date:				
	: 100% sat. =			
	4.00 =	7.00 =		10.00 =
	)			
Siti (iiiv	-			
alibration Date:				
RDO	: 100% sat. =			
PH	: 4.00 =	7.00 =		10.00 =
CONDUCTIVITY	3			
ORP (mV				
OIN (IIIV	/			



SITE: TECHNICIAN:	Grumman Rd.				
INSTRUMENT S/N:	449				
INSTRUMENT TYPE:	HACH 2100 Q	November 1980 Annual Property Control of the Contro			
CAL. SOLUTION:	O NTU - LOT # NA	EXP. DATE: New DI water			
	10 NTU - LOT # 40136	EXP. DATE: 8/2/			
	20 NTU - LOT # A 6139	EXP. DATE: 3/1 (			

Calibration Date: 8/17/20

Calibation Solution	Instrument Reading	
0.0	0.29	NTU
10.0	9.98	NTU
20.0	19.9	NTU

Calibration Date: 8/18

Ü.	Calibation Solution	Instrument Reading	
E	0.0	0.24	NTU
0	10.0	16.3	NTU
Ε	20.0	24.3	NTU

Calibration Date: 8/19

Calibation Solution	Instrument Reading	
0.0	0,42	NTU
10.0	10.5	NTU
20.0	20.9	NTU

Calibration Date:

Calibation Solution	Instrument Reading	
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

Calibation Solution	Instrument Reading	-
0.0		NTU
10.0		NTU
20.0		NTU

Calibration Date:

	Instrument Reading	Calibation Solution
NT		0.0
NT		10.0
NT		20.0



SITE:		Grui	nman Rd				
TECHNICIAN:		EDis					
		C .					
WATER LEVEL:		Dolm 17					
WATER LEVEL S/N:		337343					
INSTRUMENT S/N:							
INSTRUMENT TYPE:							
CAL. SOLUTION/S:	ID: 94 4-0	LOT #: ()G DO46	EXP. DATE:	04/22			
	ID: 04 7.0	LOT#: 9616721	EXP. DATE:				
	1D: DH 10.0	LOT#: 966 COUR	EXP. DATE:	12/21			
	ID: CONU	LOT#: 068 438	EXP. DATE:	5/21			
	ID: ORP	LOT#: OGD 570	EXP. DATE:	1/21			
	ID:	LOT#:	EXP. DATE:				
	ID:	LOT#:	EXP. DATE:				
alibration Date: 4	11112						
		191 01 01	41.				
		1.91 at 96.7			10.		
	4.00 = 4,80	7.00 = 7.0		10.00 =	10.78		
CONDUCTIVITY		4143					
ORP (mV)	240:18	0,6					
	also las						
alibration Date:		. 7	411				
	100% sat. = 1	2 %	84 mg	4	1-0-		
	4.00 = 4.79	7.00 = 7.6%	5	10.00 =	10.63		
CONDUCTIVITY							
ORP (mV)	240=192.	7					
alibration Date: 🛭			2 6 (2)				
RDO:	100% sat. = 7.4	length out of	1.00%				
	4.00 = 4.79 L		25	10.00 =	10,55		
CONDUCTIVITY			3				
	240 -			<b>→</b>			
V.7.5.							
alibration Date:							
	100% sat. =						
	4.00 =	7.00 -		40.00			
		7.00 =	_	10.00 =			
CONDUCTIVITY:				_			
ORP (mV)				_			
alibration Date:							
	4000/						
DH,	100% sat. =	2,20		-,61			
	4.00 =	7.00 =		10.00 =			
CONDUCTIVITY: ORP (mV)	4.00 =	7.00 =		10.00 =			



SITE:		Grumman Rd.
TECHNICIAN:		7 Dars
INSTRUMENT S/N: INSTRUMENT TYPE CAL. SOLUTION:	O NTU - LOT # NA	EXP. DATE: New DI wa
	10 NTU - LOT # 1013	
	20 NTU - LOT # ♠ 0 (3	39 EXP. DATE: \(\frac{\gamma}{2}\)   Z/
Calibration Date:	8/17/20 Calibation Solution	Instrument Reading
	0.0	O.12 NTU
	10.0	9.71 NTU
	20.0	70.9 NTU
Calibration Date:	8/18/20	
	Calibation Solution	Instrument Reading
	0.0	O·12 NTU
	10.0	9.44 NTU
	20.0	23.2 NTU
Calibration Date:	4   14   10 Calibation Solution	Instrument Reading
	0.0	6,\(\(\(\(\(\(\(\(\)\\\\\\\\\\\\\\\\\\\\
	10.0	Ol( NTU
	20.0	10.7 NTU
Calibration Date:	Calibation Solution	Instrument Reading
	0.0	NTU
	10.0	NTU
	20.0	NTU
Calibration Date:	Calibation Solution	Instrument Reading
	0.0	NTU
	10.0	NTU
	20.0	NTU
Calibration Date:	Calibation Solution	Instrument Reading
	0.0	NTU
		(1)

10.0 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

Testa Faster

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





#### **CERTIFICATIONS**

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

**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

**Pace Analytical Services Asheville** 

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648 Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

**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

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

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

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

Virginia Certification #: 460204



#### **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



#### **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
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
2498084011	DUP-1	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
2498084012	GWC-21	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084013	GWC-15	EPA 6010D	DRB	
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084014	GWC-16	EPA 6010D	DRB	
	EPA 6020B	CW1	1:	
		SM 2450C-2011	AW1	
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084015	GWC-20	EPA 6010D	DRB	
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084016	GWB-4R	EPA 6010D	DRB	
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084017	EB-2-9-30-20	EPA 6010D	DRB	
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084018	DUP-2	EPA 6010D	DRB	
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	•
		EPA 300.0 Rev 2.1 1993	CDC	;
2498084019	GWC-17	EPA 6010D	DRB	
		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
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084020	GWC-22	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084021	GWB-6R	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084022	GWB-5R	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084023	FB-2-9-30-20	EPA 6010D	DRB	1
		EPA 6020B	CW1	15
		SM 2450C-2011	AW1	1
		EPA 300.0 Rev 2.1 1993	CDC	3
92498084024	GWC-9	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



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters	Result _	Units	Report Limit	Analyzed	Qualifier
2498084001	GWA-7					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	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	
2498084002	GWC-13					
	Performed by	CUSTOME R			10/12/20 16:37	
	pН	4.76	Std. Units		10/12/20 16:37	
PA 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	
2498084003	GWA-8					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	4.41	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	25.6	mg/L	1.0	10/05/20 22:11	
PA 6020B	Barium	0.050	mg/L	0.010	10/06/20 19:39	
PA 6020B	Beryllium	0.00021J	mg/L	0.0030	10/06/20 19:39	
PA 6020B	Boron	0.15	mg/L	0.040	10/06/20 19:39	
PA 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	
2498084004	GWC-1					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	5.79	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	70.7	mg/L		10/05/20 22:24	

#### **REPORT OF LABORATORY ANALYSIS**

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Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2498084004	GWC-1					
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	
PA 6020B	Lead	0.000043J	mg/L	0.0050	10/06/20 19:45	
PA 6020B	Molybdenum	0.059	mg/L	0.010	10/06/20 19:45	
PA 6020B	Vanadium	0.0042J	mg/L	0.010	10/06/20 19:45	
PA 6020B	Zinc	0.0092J	mg/L	0.010	10/06/20 19:45	
M 2450C-2011	Total Dissolved Solids	373	mg/L	10.0	10/02/20 17:27	
PA 300.0 Rev 2.1 1993	Chloride	13.8	mg/L	1.0	10/01/20 22:27	
PA 300.0 Rev 2.1 1993	Sulfate	71.6	mg/L	1.0	10/01/20 22:27	
2498084006	GWC-12					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	3.95	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	42.0	mg/L	1.0	10/05/20 22:33	
PA 6020B	Barium	0.018	mg/L	0.010	10/06/20 19:56	
PA 6020B	Beryllium	0.00043J	mg/L	0.0030	10/06/20 19:56	
PA 6020B	Boron	4.7	mg/L	0.040	10/06/20 19:56	
PA 6020B	Chromium	0.00085J	mg/L	0.010	10/06/20 19:56	
PA 6020B	Cobalt	0.00057J	mg/L	0.0050	10/06/20 19:56	
PA 6020B	Lead	0.000037J	mg/L	0.0050	10/06/20 19:56	
PA 6020B	Lithium	0.00086J	mg/L	0.030	10/06/20 19:56	
PA 6020B	Vanadium	0.0046J	mg/L	0.010	10/06/20 19:56	
PA 6020B	Zinc	0.0074J	mg/L	0.010	10/06/20 19:56	
M 2450C-2011	Total Dissolved Solids	440	mg/L	10.0	10/02/20 17:28	
PA 300.0 Rev 2.1 1993	Chloride	24.3	mg/L	1.0	10/01/20 22:56	
PA 300.0 Rev 2.1 1993	Fluoride	0.16	mg/L	0.10	10/01/20 22:56	
PA 300.0 Rev 2.1 1993	Sulfate	237	mg/L	5.0	10/02/20 07:09	
		231	mg/L	3.0	10/02/20 07:09	
2498084007	GWC-11 Performed by	CUSTOME			10/12/20 16:37	
	nu	R 4.77	Ctd Unita		10/10/00 16:07	
DA 6010D	pH Coloium	4.77	Std. Units	4.0	10/12/20 16:37	
PA 6010D	Calcium	123	mg/L		10/05/20 22:37	
PA 6020B	Antimony	0.00051J	mg/L		10/06/20 20:02	
PA 6020B	Barium	0.14	mg/L		10/06/20 20:02	
PA 6020B	Boron	1.2	mg/L	0.040	10/06/20 20:02	
PA 6020B	Chromium	0.00077J	mg/L	0.0025	10/06/20 20:02	
PA 6020B	Chromium	0.0011J	mg/L	0.010	10/06/20 20:02	
PA 6020B	Cobalt	0.00055J	mg/L	0.0050	10/06/20 20:02	
PA 6020B	Lead	0.00032J	mg/L	0.0050	10/06/20 20:02	
PA 6020B	Selenium	0.0024J	mg/L		10/06/20 20:02	
PA 6020B	Thallium	0.00017J	mg/L	0.0010	10/06/20 20:02	
PA 6020B	Vanadium	0.0023J	mg/L		10/06/20 20:02	
PA 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	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92498084007	GWC-11			- '		
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	
2498084008	GWC-14					
	Performed by	CUSTOME			10/12/20 16:37	
	рН	R 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
2498084009	GWC-2	50.5	mg/L	1.0	10/01/20 20:20	1411
2490004009	Performed by	CUSTOME			10/12/20 16:37	
	r chomica by	R			10/12/20 10.57	
	рН	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	
2498084010	EB-1-9-29-20					
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	
2498084011	DUP-1					
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		10/02/20 17:28	
EPA 300.0 Rev 2.1 1993	Chloride	24.4	mg/L		10/02/20 01:06	
EPA 300.0 Rev 2.1 1993	Fluoride	0.16	mg/L		10/02/20 01:06	
EPA 300.0 Rev 2.1 1993	Sulfate	241	mg/L		10/02/20 08:06	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters —	Result _	Units	Report Limit	Analyzed	Qualifier
2498084012	GWC-21					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	5.82	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	98.4	mg/L	1.0	10/08/20 01:13	
PA 6020B	Antimony	0.00033J	mg/L	0.0030	10/07/20 17:11	В
PA 6020B	Arsenic	0.0029J	mg/L	0.0050	10/07/20 17:11	
PA 6020B	Barium	0.19	mg/L	0.010	10/07/20 17:11	
PA 6020B	Boron	2.3	mg/L	0.040	10/07/20 17:11	
PA 6020B	Chromium	0.00067J	mg/L	0.010	10/07/20 17:11	
PA 6020B	Lead	0.000054J	mg/L	0.0050	10/07/20 17:11	
PA 6020B	Molybdenum	0.028	mg/L	0.010	10/07/20 17:11	
PA 6020B	Selenium	0.0061J	mg/L	0.010	10/07/20 17:11	
PA 6020B	Vanadium	0.0029J	mg/L	0.010	10/07/20 17:11	
PA 6020B	Zinc	0.0096J	mg/L	0.010	10/07/20 17:11	
M 2450C-2011	Total Dissolved Solids	634	mg/L	20.0	10/03/20 16:26	
PA 300.0 Rev 2.1 1993	Chloride	23.7	mg/L	1.0	10/06/20 22:58	
PA 300.0 Rev 2.1 1993	Sulfate	306	mg/L	7.0	10/07/20 09:18	
498084013	GWC-15					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	6.71	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	109	mg/L	1.0	10/08/20 01:17	
PA 6020B	Arsenic	0.24	mg/L	0.0050	10/07/20 17:17	
PA 6020B	Barium	0.034	mg/L	0.010	10/07/20 17:17	
PA 6020B	Boron	0.86	mg/L	0.040	10/07/20 17:17	
PA 6020B	Chromium	0.0016J	mg/L	0.010	10/07/20 17:17	
PA 6020B	Lead	0.000047J	mg/L	0.0050	10/07/20 17:17	
PA 6020B	Molybdenum	0.11	mg/L	0.010	10/07/20 17:17	
PA 6020B	Vanadium	0.0028J	mg/L	0.010	10/07/20 17:17	
PA 6020B	Zinc	0.032	mg/L	0.010	10/07/20 17:17	
M 2450C-2011	Total Dissolved Solids	434	mg/L	10.0	10/03/20 16:26	
PA 300.0 Rev 2.1 1993	Chloride	1.7	mg/L	1.0	10/06/20 23:41	
PA 300.0 Rev 2.1 1993	Sulfate	18.5	mg/L	1.0	10/06/20 23:41	
498084014	GWC-16					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	5.47	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	177	mg/L	1.0	10/08/20 01:31	
PA 6020B	Arsenic	0.044	mg/L	0.0050	10/07/20 17:22	
PA 6020B	Barium	0.14	mg/L	0.010	10/07/20 17:22	
PA 6020B	Beryllium	0.000089J	mg/L	0.0030	10/07/20 17:22	
PA 6020B	Boron	8.1	mg/L	0.040	10/07/20 17:22	
PA 6020B	Chromium	0.00098J	mg/L	0.010	10/07/20 17:22	
PA 6020B	Lead	0.000091J	mg/L	0.0050	10/07/20 17:22	
PA 6020B	Molybdenum	0.15	mg/L	0.010	10/07/20 17:22	
PA 6020B	Selenium	0.0037J	mg/L	0.010	10/07/20 17:22	
PA 6020B	Vanadium	0.0028J	mg/L	0.010	10/07/20 17:22	

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Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92498084014	GWC-16					
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	
2498084015	GWC-20					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	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	
2498084016	GWB-4R					
	Performed by	CUSTOME			10/12/20 16:37	
	рН	R 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	0.00273	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	0.0020J	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	0.00473 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		10/07/20 00:53	
EPA 300.0 Rev 2.1 1993	Sulfate	178	mg/L		10/07/20 10:01	
2498084017	EB-2-9-30-20	-	J			
EPA 6010D	Calcium	0.30J	mg/L	1.0	10/08/20 01:44	
EPA 6020B	Boron	0.061	mg/L		10/07/20 17:39	
EPA 6020B	Zinc	0.0027J	mg/L		10/07/20 17:39	
2498084018	DUP-2					
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		10/07/20 17:45	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2498084018	DUP-2					
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	
PA 300.0 Rev 2.1 1993	Chloride	35.4	mg/L	1.0	10/07/20 01:22	
PA 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	
2498084019	GWC-17					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	4.08	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	53.5	mg/L	1.0	10/08/20 01:53	
PA 6020B	Arsenic	0.0012J	mg/L	0.0050	10/07/20 17:51	
PA 6020B	Barium	0.035	mg/L	0.010	10/07/20 17:51	
PA 6020B	Beryllium	0.0013J	mg/L	0.0030	10/07/20 17:51	
PA 6020B	Boron	0.86	mg/L	0.040	10/07/20 17:51	
PA 6020B	Chromium	0.00096J	mg/L	0.010	10/07/20 17:51	
PA 6020B	Cobalt	0.0018J	mg/L	0.0050	10/07/20 17:51	
PA 6020B	Lead	0.000060J	mg/L	0.0050	10/07/20 17:51	
PA 6020B	Lithium	0.0041J	mg/L	0.030	10/07/20 17:51	
PA 6020B	Molybdenum	0.0041J	mg/L	0.010	10/07/20 17:51	
PA 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	
PA 300.0 Rev 2.1 1993	Chloride	257	mg/L	6.0	10/07/20 10:29	
PA 300.0 Rev 2.1 1993	Fluoride	0.15	mg/L	0.10	10/07/20 01:37	
PA 300.0 Rev 2.1 1993	Sulfate	193	mg/L	6.0	10/07/20 10:29	
498084020	GWC-22					
	Performed by	CUSTOME R			10/12/20 16:37	
	рН	4.63	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	20.9	mg/L	1.0	10/08/20 01:58	
PA 6020B	Antimony	0.0016J	mg/L	0.0030	10/07/20 18:14	В
PA 6020B	Barium	0.045	mg/L		10/07/20 18:14	
PA 6020B	Boron	0.25	mg/L		10/07/20 18:14	
PA 6020B	Cadmium	0.00024J	mg/L		10/07/20 18:14	
PA 6020B	Chromium	0.00064J	mg/L		10/07/20 18:14	
PA 6020B	Lead	0.00023J	mg/L		10/07/20 18:14	
M 2450C-2011	Total Dissolved Solids	113	mg/L		10/03/20 16:27	
PA 300.0 Rev 2.1 1993	Chloride	8.5	mg/L		10/07/20 01:51	
EPA 300.0 Rev 2.1 1993	Sulfate	65.5	mg/L		10/07/20 01:51	
2498084021	GWB-6R		-			
	Performed by	CUSTOME			10/12/20 16:37	
	рН	R 5.39	Std. Units		10/12/20 16:37	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID	Client Sample ID					
Method	Parameters	Result _	Units	Report Limit	Analyzed	Qualifier
2498084021	GWB-6R					
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	В
PA 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	
PA 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	
PA 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	
PA 6020B	Selenium	0.0023J	mg/L	0.010	10/07/20 18:20	
PA 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	
2498084022	GWB-5R		3			
	Performed by	CUSTOME			10/12/20 16:37	
	рH	R 4.99	Std. Units		10/12/20 16:37	
EPA 6010D	Calcium	70.4		1.0	10/12/20 16:37	
			mg/L	1.0		D
EPA 6020B	Antimony	0.00030J	mg/L	0.0030	10/07/20 18:25	В
EPA 6020B	Arsenic	0.0017J	mg/L	0.0050	10/07/20 18:25	
PA 6020B	Barium	0.16	mg/L	0.010	10/07/20 18:25	
PA 6020B	Beryllium	0.000065J	mg/L	0.0030	10/07/20 18:25	
PA 6020B	Boron	4.0	mg/L	0.040	10/07/20 18:25	
PA 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	
PA 6020B	Lead	0.0012J	mg/L	0.0050	10/07/20 18:25	
PA 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	
PA 300.0 Rev 2.1 1993	Chloride	24.1	mg/L	1.0	10/07/20 02:49	
PA 300.0 Rev 2.1 1993	Sulfate	339	mg/L	7.0	10/07/20 11:26	
2498084023	FB-2-9-30-20	0.0001	,,	0.040	10/07/00 10 01	
PA 6020B	Boron	0.030J	mg/L	0.040	10/07/20 18:31	
2498084024	GWC-9	CUSTOME			10/10/00 16:07	
	Performed by	R			10/12/20 16:37	
	рН	4.42	Std. Units		10/12/20 16:37	
PA 6010D	Calcium	5.5	mg/L	1.0	10/08/20 02:29	
PA 6020B	Barium	0.15	mg/L	0.010	10/07/20 18:37	
PA 6020B	Beryllium	0.00020J	mg/L	0.0030	10/07/20 18:37	
PA 6020B	Boron	0.028J	mg/L	0.040	10/07/20 18:37	
PA 6020B	Chromium	0.0012J	mg/L	0.010	10/07/20 18:37	
PA 6020B	Cobalt	0.00099J	mg/L	0.0050	10/07/20 18:37	
PA 6020B	Lead	0.000038J	mg/L	0.0050	10/07/20 18:37	
PA 6020B	Lithium	0.0019J	mg/L	0.030	10/07/20 18:37	
	Zinc	0.025				



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92498084024	GWC-9					
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	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWA-7	Lab ID:	92498084001	Collecte	d: 09/28/2	0 15:20	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Pace Ana	Method: lytical Services	- Charlotte						
Performed by	CUSTOME				1		10/12/20 16:37		
рН	R 5.86	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	3.3	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:02	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6 lytical Services				PA 3005A			
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	0.095	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	4.6	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	0.014J	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	0.0043J	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	0.010J	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	0.10	mg/L	0.050	0.011	5	10/02/20 15:00	10/06/20 19:16	7440-62-2	
Zinc	0.16	mg/L	0.050	0.011	5	10/02/20 15:00	10/06/20 19:16	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 24 lytical Services		e Corners, (	GΑ				
Total Dissolved Solids	1450	mg/L	50.0	50.0	1		10/02/20 17:27		
300.0 IC Anions 28 Days	•	Method: EPA 3 lytical Services		.1 1993					
Chloride	113	mg/L	2.0	1.2	2		10/02/20 06:40	16887-00-6	
Fluoride	0.069J	mg/L	0.10	0.050	1		10/01/20 21:43		
Sulfate	20.0	mg/L	1.0	0.50	1		10/01/20 21:43		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-13	Lab ID:	92498084002	Collecte	d: 09/28/20	0 16:40	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method: llytical Services	- Charlotte						
Performed by	CUSTOME R				1		10/12/20 16:37		
рН	4.76	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	2.9	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:07	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6				A 3005A			
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	0.029	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	0.24	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	0.00062J	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	
_ead	0.000064J	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:22	7439-92-1	
_ithium	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		10/06/20 19:22		
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	0.016	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:22	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 24 llytical Services		e Corners, 0	GΑ				
Total Dissolved Solids	60.0	mg/L	10.0	10.0	1		10/02/20 17:27		
300.0 IC Anions 28 Days	•	Method: EPA 3		.1 1993					
Chloride	4.3	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	25.6	mg/L	1.0	0.50	1		10/01/20 21:58	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWA-8	Lab ID:	92498084003	Collecte	ed: 09/28/20	16:04	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:	Charlatta						
		liyticai Services	- Chanolle						
Performed by	CUSTOME R				1		10/12/20 16:37		
рН	4.41	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prei	paration Me	thod: EF	PA 3010A			
	-	lytical Services							
Calcium	25.6	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:11	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pres	paration Met	hod: EF	PA 3005A			
<del>-</del>	-	lytical Services							
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		
Barium	0.050	mg/L	0.010	0.00070	1	10/02/20 15:00	10/06/20 19:39		
Beryllium	0.00021J	mg/L	0.0030	0.000046	1		10/06/20 19:39		
Boron	0.15	mg/L	0.040	0.0052	1	10/02/20 15:00			
Cadmium	ND	mg/L	0.0025	0.00012	1		10/06/20 19:39		
Chromium	0.00071J	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:39		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:39		
_ead	ND	mg/L	0.0050	0.00036	1	10/02/20 15:00	10/06/20 19:39		
_ithium	0.0010J	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:39		
Molybdenum	ND	mg/L	0.010	0.00069	1		10/06/20 19:39		
Selenium	ND	mg/L	0.010	0.0016	1	10/02/20 15:00			
Thallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 19:39		
√anadium	ND	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:39		
Zinc	0.0092J	mg/L	0.010	0.0022	1		10/06/20 19:39		
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Total Dissolved Solids	175	mg/L	10.0	10.0	1		10/02/20 17:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
•	Pace Ana	lytical Services	- Asheville						
Chloride	13.7	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		
Sulfate	93.6	mg/L	2.0	1.0	2		10/02/20 06:55		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-1	Lab ID:	92498084004	Collecte	d: 09/28/20	0 17:08	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method: lytical Services	- Charlotte						
Performed by	CUSTOME R				1		10/12/20 16:37		
рН	5.79	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	70.7	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:24	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6 lytical Services				A 3005A			
Antimony	0.00035J	mg/L	0.0030	0.00028	1	10/02/20 15:00	10/06/20 19:45	7440-36-0	
Arsenic	0.0058	mg/L	0.0050	0.00078	1	10/02/20 15:00	10/06/20 19:45	7440-38-2	
Barium	0.051	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	0.69	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	0.0024J	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	
_ead	0.000043J	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:45	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 19:45	7439-93-2	
Molybdenum	0.059	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	0.0042J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:45	7440-62-2	
Zinc	0.0092J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:45	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2- lytical Services		e Corners, 0	GA				
Total Dissolved Solids	373	mg/L	10.0	10.0	1		10/02/20 17:27		
300.0 IC Anions 28 Days	•	Method: EPA 3		.1 1993					
Chloride	13.8	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	71.6	mg/L	1.0	0.50	1		10/01/20 22:27		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: FB-1-9-28-20	Lab ID:	92498084005	Collecte	ed: 09/28/20	16:55	Received: 09/	30/20 11:47 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical I	Method: EPA 6	010D Pre	paration Met	hod: Ef	PA 3010A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	€A				
Calcium	ND	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:28	7440-70-2	
6020 MET ICPMS	Analytical I	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	βA				
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		
_ead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:51		
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	
2540C Total Dissolved Solids	Analytical I	Method: SM 24	50C-2011						
	Pace Analy	tical Services	- Peachtre	e Corners, C	βA				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/02/20 17:27		
300.0 IC Anions 28 Days	Analytical I	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Analy	tical 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		
Sulfate	ND	mg/L	1.0	0.50	1		10/01/20 22:41		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-12	Lab ID:	92498084006	Collecte	ed: 09/29/20	0 09:35	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method:	- Charlotte						
Performed by	CUSTOME	ny noar Corvioco	Ondriotto		1		10/12/20 16:37		
pΗ	R 3.95	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	6010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	GΑ				
Calcium	42.0	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:33	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Prep	paration Met	thod: EF	PA 3005A			
	Pace Ana	llytical Services	- Peachtre	e Corners, C	GΑ				
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	0.018	mg/L	0.010	0.00071	1	10/02/20 15:00	10/06/20 19:56	7440-39-3	
Beryllium	0.00043J	mg/L	0.0030	0.000046	1		10/06/20 19:56	7440-41-7	
Boron	4.7	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		10/06/20 19:56		
Chromium	0.00085J	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 19:56		
Cobalt	0.00057J	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 19:56	7440-48-4	
_ead	0.000037J	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 19:56	7439-92-1	
Lithium	0.00086J	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	0.0046J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:56	7440-62-2	
Zinc	0.0074J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 19:56	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2							
	Pace Ana	llytical Services	- Peachtre	e Corners, (	GΑ				
Total Dissolved Solids	440	mg/L	10.0	10.0	1		10/02/20 17:28		
300.0 IC Anions 28 Days	•	Method: EPA 3							
	Pace Ana	llytical Services	- Asheville						
Chloride	24.3	mg/L	1.0	0.60	1		10/01/20 22:56	16887-00-6	
Fluoride	0.16	mg/L	0.10	0.050	1		10/01/20 22:56	16984-48-8	
Sulfate	237	mg/L	5.0	2.5	5		10/02/20 07:09	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-11	Lab ID:	92498084007	Collecte	d: 09/29/2	0 12:20	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method:	- Charlotte						
Performed by	CUSTOME R	•			1		10/12/20 16:37		
pΗ	4.77	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	123	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:37	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6				PA 3005A			
Antimony	0.00051J	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	0.14	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	1.2	mg/L	0.040	0.0052	1	10/02/20 15:00	10/06/20 20:02	7440-42-8	
Cadmium	0.00077J	mg/L	0.0025	0.00012	1	10/02/20 15:00	10/06/20 20:02	7440-43-9	
Chromium	0.0011J	mg/L	0.010	0.00055	1	10/02/20 15:00	10/06/20 20:02	7440-47-3	
Cobalt	0.00055J	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/06/20 20:02	7440-48-4	
₋ead	0.00032J	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/06/20 20:02	7439-92-1	
∟ithium	ND	mg/L	0.030	0.00081	1	10/02/20 15:00	10/06/20 20:02		
Molybdenum	ND	mg/L	0.010	0.00069	1	10/02/20 15:00	10/06/20 20:02	7439-98-7	
Selenium	0.0024J	mg/L	0.010	0.0016	1	10/02/20 15:00	10/06/20 20:02	7782-49-2	
Thallium	0.00017J	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/06/20 20:02	7440-28-0	
Vanadium	0.0023J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 20:02	7440-62-2	
Zinc	0.0031J	mg/L	0.010	0.0022	1	10/02/20 15:00	10/06/20 20:02	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2 llytical Services		e Corners, (	GA				
Total Dissolved Solids	1100	mg/L	50.0	50.0	1		10/02/20 17:28		
300.0 IC Anions 28 Days	•	Method: EPA 3		.1 1993					
Chloride	143	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		
Sulfate	516	mg/L	11.0	5.5	11		10/02/20 07:23		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-14	Lab ID:	92498084008	Collecte	ed: 09/29/2	0 14:42	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method:	- Charlotte						
Performed by	CUSTOME	,			1		10/12/20 16:37		
рН	R 5.69	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	30.8	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:41	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6				PA 3005A			
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	0.026	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	0.053	mg/L	0.040	0.0052	1	10/02/20 15:00	10/07/20 10:37	7440-42-8	
Cadmium	0.00012J	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	
_ead	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	0.0089J	mg/L	0.010	0.00069	1	10/02/20 15:00	10/05/20 18:40	7439-98-7	
Selenium	0.0051J	mg/L	0.010	0.0016	1	10/02/20 15:00	10/05/20 18:40	7782-49-2	
Гhallium	ND	mg/L	0.0010	0.00014	1	10/02/20 15:00	10/05/20 18:40	7440-28-0	
/anadium	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	
2540C Total Dissolved Solids	•	Method: SM 2		e Corners, (	GA				
Total Dissolved Solids	187	mg/L	10.0	10.0	1		10/02/20 17:28		
300.0 IC Anions 28 Days	•	Method: EPA 3							
Chloride	10.6	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		
Sulfate	93.5	mg/L	1.0	0.50	1		10/01/20 23:25		M1



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-2	Lab ID:	92498084009	Collecte	ed: 09/29/2	0 15:05	Received: 09/	30/20 11:47 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method: lytical Services	- Charlotte						
Performed by	CUSTOME	iyildar Gervides	Chanotto		1		10/12/20 16:37		
ρΗ	R 4.60	Std. Units			1		10/12/20 16:37		
			2010D Drov	acration Ma	•	24.20404	10/12/20 10:07		
6010D ATL ICP	-	Method: EPA 6 lytical Services				A 3010A			
Calcium	0.18J	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:46	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6 lytical Services				PA 3005A			
Antimony	0.0016J	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	0.049	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 19:03	7440-39-3	
Beryllium	0.000075J	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 19:03	7440-41-7	
Boron	0.024J	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	
_ead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:03	7439-92-1	
∟ithium	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		10/05/20 19:03		
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	0.056	mg/L	0.010	0.0022	1	10/02/20 15:00	10/05/20 19:03	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2- lytical Services		e Corners, (	GA				
Total Dissolved Solids	33.0	mg/L	10.0	10.0	1		10/02/20 17:28		
300.0 IC Anions 28 Days	•	Method: EPA 3							
Chloride	5.4	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		
Sulfate	8.6	mg/L	1.0	0.50	1		10/02/20 00:37		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: EB-1-9-29-20	Lab ID:	92498084010	Collecte	ed: 09/29/20	16:20	Received: 09/	30/20 11:47 Ma	atrix: Water			
			Report								
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual		
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Met	hod: Ef	PA 3010A					
	Pace Anal	ytical Services	- Peachtre	e Corners, C	SA.						
Calcium	ND	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:50	7440-70-2			
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A					
	Pace Analytical Services - Peachtree Corners, GA										
Antimony	0.00049J	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				
Lead	ND	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:09				
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			
2540C Total Dissolved Solids	Analytical	Method: SM 24	50C-2011								
	Pace Anal	ytical Services	- Peachtre	e Corners, C	βA						
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/02/20 17:28				
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	00.0 Rev 2	2.1 1993							
-	Pace Anal	ytical 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	1.6	mg/L	1.0	0.50	1		10/02/20 00:51				



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: DUP-1	Lab ID: 9	92498084011	Collecte	ed: 09/29/20	00:00	Received: 09/	30/20 11:47 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical M	/lethod: EPA 6	010D Pre	paration Met	hod: Ef	PA 3010A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	<b>S</b> A				
Calcium	43.1	mg/L	1.0	0.070	1	10/01/20 18:53	10/05/20 22:55	7440-70-2	
6020 MET ICPMS	Analytical N	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	€A				
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	0.017	mg/L	0.010	0.00071	1	10/02/20 15:00	10/05/20 19:14	7440-39-3	
Beryllium	0.00040J	mg/L	0.0030	0.000046	1	10/02/20 15:00	10/05/20 19:14	7440-41-7	
Boron	4.6	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	0.00090J	mg/L	0.010	0.00055	1	10/02/20 15:00	10/05/20 19:14	7440-47-3	
Cobalt	0.00056J	mg/L	0.0050	0.00038	1	10/02/20 15:00	10/05/20 19:14	7440-48-4	
Lead	0.000040J	mg/L	0.0050	0.000036	1	10/02/20 15:00	10/05/20 19:14	7439-92-1	
Lithium	0.00088J	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	0.0049J	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	
2540C Total Dissolved Solids	Analytical M	Method: SM 24	150C-2011						
	Pace Analy	tical Services	- Peachtre	e Corners, C	βA				
Total Dissolved Solids	434	mg/L	10.0	10.0	1		10/02/20 17:28		
300.0 IC Anions 28 Days	Analytical M	Method: EPA 3	00.0 Rev 2	2.1 1993					
-	Pace Analy	tical Services	- Asheville						
Chloride	24.4	mg/L	1.0	0.60	1		10/02/20 01:06	16887-00-6	
Fluoride	0.16	mg/L	0.10	0.050	1		10/02/20 01:06		
Sulfate	241	mg/L	5.0	2.5	5		10/02/20 08:06		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-21	Lab ID:	92498084012	Collecte	ed: 09/30/20	10:49	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Anal	lytical Services	- Charlotte	:					
Performed by	CUSTOME				1		10/12/20 16:37		
pΗ	R 5.82	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA	010D Pre	paration Met	hod: EF	PA 3010A			
	Pace Anal	lytical Services	- Peachtre	e Corners, C	SA.				
Calcium	98.4	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:13	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Prej	paration Met	hod: EF	PA 3005A			
	Pace Anal	lytical Services	- Peachtre	e Corners, C	SA.				
Antimony	0.00033J	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:11	7440-36-0	В
Arsenic	0.0029J	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:11	7440-38-2	
Barium	0.19	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	2.3	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		10/07/20 17:11		
Chromium	0.00067J	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	
_ead	0.000054J	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	0.028	mg/L	0.010	0.00069	1		10/07/20 17:11		
Selenium	0.0061J	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	
√anadium	0.0029J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:11	7440-62-2	
Zinc	0.0096J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:11	7440-66-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	lytical Services	- Peachtre	e Corners, C	€A				
Total Dissolved Solids	634	mg/L	20.0	20.0	1		10/03/20 16:26		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Anal	lytical Services	- Asheville						
Chloride	23.7	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	306	mg/L	7.0	3.5	7		10/07/20 09:18	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-15	Lab ID:	92498084013	Collecte	ed: 09/30/20	12:30	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	)					
Performed by	CUSTOME R				1		10/12/20 16:37		
pΗ	6.71	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	6010D Pre	paration Met	hod: Ef	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	SA.				
Calcium	109	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:17	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
		lytical Services							
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:17	7440-36-0	
Arsenic	0.24	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:17	7440-38-2	
Barium	0.034	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	0.86	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	0.0016J	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	
_ead	0.000047J	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:17	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:17	7439-93-2	
Molybdenum	0.11	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	0.0028J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:17	7440-62-2	
Zinc	0.032	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:17	7440-66-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, C	€A				
Total Dissolved Solids	434	mg/L	10.0	10.0	1		10/03/20 16:26		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Chloride	1.7	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	18.5	mg/L	1.0	0.50	1		10/06/20 23:41	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-16	Lab ID:	92498084014	Collecte	ed: 09/30/20	0 14:00	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method: lytical Services	- Charlotte						
Performed by	CUSTOME R				1		10/12/20 16:37		
pH	5.47	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6				PA 3010A			
Calcium	177	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:31	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6				PA 3005A			
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:22	7440-36-0	
Arsenic	0.044	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:22	7440-38-2	
Barium	0.14	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 17:22	7440-39-3	
Beryllium	0.000089J	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 17:22	7440-41-7	
Boron	8.1	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	0.00098J	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	
_ead	0.000091J	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:22	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:22	7439-93-2	
Molybdenum	0.15	mg/L	0.010	0.00069	1	10/05/20 17:15	10/07/20 17:22	7439-98-7	
Selenium	0.0037J	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	0.0028J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:22	7440-62-2	
Zinc	0.0051J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:22	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2 lytical Services		e Corners, (	GA				
Total Dissolved Solids	1140	mg/L	50.0	50.0	1		10/03/20 16:26		
300.0 IC Anions 28 Days	•	Method: EPA 3							
Chloride	39.6	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	736	mg/L	16.0	8.0	16		10/07/20 09:32		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-20	Lab ID:	92498084015	Collecte	ed: 09/30/20	16:31	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method: lytical Services	- Charlotte						
Performed by	CUSTOME R				1		10/12/20 16:37		
Н	6.04	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA 6 lytical Services				PA 3010A			
Calcium	292	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:35	7440-70-2	
6020 MET ICPMS	-	Method: EPA 6 lytical Services				PA 3005A			
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:28	7440-36-0	
Arsenic	0.31	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:28	7440-38-2	
Barium	0.35	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	9.9	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	0.0013J	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	
∟ead	ND	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:28	7439-92-1	
_ithium	ND	mg/L	0.030	0.00081	1	10/05/20 17:15	10/07/20 17:28	7439-93-2	
Molybdenum	0.33	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	
Γhallium	ND	mg/L	0.0010	0.00014	1	10/05/20 17:15	10/07/20 17:28	7440-28-0	
√anadium	0.0029J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:28	7440-62-2	
Zinc	0.031	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:28	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 24 lytical Services		e Corners, 0	θA				
Total Dissolved Solids	1860	mg/L	50.0	50.0	1		10/03/20 16:26		
300.0 IC Anions 28 Days	•	Method: EPA 3 lytical Services		2.1 1993					
Chloride	34.9	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		
Sulfate	956	mg/L	20.0	10.0	20		10/07/20 09:47		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWB-4R	Lab ID:	92498084016	Collecte	ed: 10/01/20	0 08:50	Received: 10/	02/20 12:22 M	latrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytica	Method:							
	Pace Ana	lytical Services	- Charlotte	)					
Performed by	CUSTOME R				1		10/12/20 16:37	,	
ЭН	5.75	Std. Units			1		10/12/20 16:37	,	
6010D ATL ICP	Analytica	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	Pace Ana	llytical Services	<ul> <li>Peachtre</li> </ul>	e Corners, 0	3A				
Calcium	48.4	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:40	7440-70-2	
6020 MET ICPMS	Analytica	Method: EPA 6	020B Pre	paration Met	hod: EF	A 3005A			
	-	lytical Services							
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:34	7440-36-0	
Arsenic	0.0027J	mg/L	0.0050	0.00028	1	10/05/20 17:15	10/07/20 17:34		
Barium	0.00273	mg/L	0.0030	0.00076	1		10/07/20 17:34		
Beryllium	ND	mg/L	0.0030	0.00071	1		10/07/20 17:34		
Boron	5.2	mg/L	0.040	0.0052	1		10/07/20 17:34		
Cadmium	ND	mg/L	0.040	0.0032	1		10/07/20 17:34		
Chromium	0.0020J	mg/L	0.0023	0.00012	1		10/07/20 17:34		
Cobalt	0.00203 0.00050J	mg/L	0.010	0.00033	1		10/07/20 17:34		
Lead	0.000303 0.00026J	mg/L	0.0050	0.00036	1		10/07/20 17:34		
Leau Lithium	0.000203 0.013J	mg/L	0.0030	0.000030	1		10/07/20 17:34		
Molybdenum	0.0133	•	0.030	0.00061	1		10/07/20 17:34		
Selenium	0.15 ND	mg/L		0.00069	1		10/07/20 17:34		
Thallium	ND ND	mg/L	0.010	0.0016	1				
		mg/L	0.0010				10/07/20 17:34		
Vanadium	0.0047J	mg/L	0.010	0.0022	1		10/07/20 17:34		
Zinc	0.0064J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:34	7440-66-6	
2540C Total Dissolved Solids	Analytica	Method: SM 24	150C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Total Dissolved Solids	424	mg/L	10.0	10.0	1		10/03/20 16:28	;	
300.0 IC Anions 28 Days	Analytica	Method: EPA 3	00.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Chloride	15.7	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	178	mg/L	4.0	2.0	4		10/07/20 10:01		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: EB-2-9-30-20	Lab ID:	92498084017	Collecte	ed: 09/30/20	0 14:30	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Met	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
Calcium	0.30J	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:44	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
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	0.061	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	0.0027J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:39	7440-66-6	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/03/20 16:26		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical 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		
Sulfate	ND	mg/L	1.0	0.50	1		10/07/20 01:08		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: DUP-2	Lab ID: 9	92498084018	Collecte	ed: 09/30/20	00:00	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
6010D ATL ICP	Analytical N	Method: EPA 6	010D Pre	paration Met	hod: Ef	PA 3010A			
	Pace Analy	tical Services	- Peachtre	e Corners, C	€A.				
Calcium	294	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:49	7440-70-2	
6020 MET ICPMS	Analytical N	Method: EPA 6	020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Analy	rtical Services	- Peachtre	e Corners, C	<b>S</b> A				
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:45	7440-36-0	
Arsenic	0.29	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:45	7440-38-2	
Barium	0.33	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	9.8	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	0.0013J	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	0.31	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	0.0030J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:45	7440-62-2	
Zinc	0.0062J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:45	7440-66-6	
2540C Total Dissolved Solids	Analytical N	Method: SM 24	50C-2011						
	Pace Analy	tical Services	- Peachtre	e Corners, C	βA				
Total Dissolved Solids	1720	mg/L	50.0	50.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical N	Method: EPA 3	00.0 Rev 2	2.1 1993					
-	Pace Analy	tical Services	- Asheville						
Chloride	35.4	mg/L	1.0	0.60	1		10/07/20 01:22	16887-00-6	
Fluoride	0.32	mg/L	0.10	0.050	1		10/07/20 01:22		
Sulfate	969	mg/L	20.0	10.0	20		10/07/20 10:15		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-17	Lab ID:	92498084019	Collecte	d: 09/30/20	12:00	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte						
Performed by	CUSTOME R				1		10/12/20 16:37		
pΗ	4.08	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	hod: EF	A 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Calcium	53.5	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:53	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Prep	aration Met	hod: EF	A 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	SA.				
Antimony	ND	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 17:51	7440-36-0	
Arsenic	0.0012J	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 17:51		
Barium	0.035	mg/L	0.010	0.00071	1		10/07/20 17:51		
Beryllium	0.0013J	mg/L	0.0030	0.000046	1		10/07/20 17:51		
Boron	0.86	mg/L	0.040	0.0052	1		10/07/20 17:51		
Cadmium	ND	mg/L	0.0025	0.00012	1		10/07/20 17:51		
Chromium	0.00096J	mg/L	0.010	0.00055	1		10/07/20 17:51		
Cobalt	0.0018J	mg/L	0.0050	0.00038	1		10/07/20 17:51		
_ead	0.000060J	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 17:51	7439-92-1	
_ithium	0.0041J	mg/L	0.030	0.00081	1		10/07/20 17:51		
Molybdenum	0.0041J	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		10/07/20 17:51		
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	0.0043J	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 17:51	7440-66-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	€A				
Total Dissolved Solids	752	mg/L	20.0	20.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993					
•	Pace Ana	lytical Services	- Asheville						
Chloride	257	mg/L	6.0	3.6	6		10/07/20 10:29	16887-00-6	
Fluoride	0.15	mg/L	0.10	0.050	1		10/07/20 01:37		
Sulfate	193	mg/L	6.0	3.0	6		10/07/20 10:29		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-22	Lab ID:	92498084020	Collecte	ed: 09/30/20	0 14:05	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical		Charlatta						
		lytical Services	- Chanolle						
Performed by	CUSTOME R				1		10/12/20 16:37		
Н	4.63	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	thod: EF	PA 3010A			
	-	lytical Services							
Calcium	20.9	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 01:58	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	S020B Pred	paration Met	thod: FF	PA 3005A			
,020 III2 I IOI IIIO	-	lytical Services				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Antimony	0.0016J	mg/L		0.00028	1	10/05/20 17:15	10/07/20 18:14	7440.26.0	В
Antimony Arsenic	0.00163 ND	mg/L	0.0030 0.0050	0.00028	1	10/05/20 17:15	10/07/20 18:14		Ь
arium	0.045	mg/L	0.0030	0.00078	1		10/07/20 18:14		
	0.045 ND	•		0.00071			10/07/20 18:14		
Beryllium		mg/L	0.0030		1				
Boron	0.25 0.00024J	mg/L	0.040	0.0052	1		10/07/20 18:14		
Cadmium	0.00024J 0.00064J	mg/L	0.0025	0.00012	1		10/07/20 18:14		
Chromium		mg/L	0.010	0.00055	1		10/07/20 18:14		
Cobalt	ND	mg/L	0.0050	0.00038	1		10/07/20 18:14		
Lead	0.00023J	mg/L	0.0050	0.000036	1		10/07/20 18:14		
Lithium	ND	mg/L	0.030	0.00081	1		10/07/20 18:14		
Molybdenum	ND	mg/L	0.010	0.00069	1		10/07/20 18:14		
Selenium	ND	mg/L	0.010	0.0016	1		10/07/20 18:14		
Γhallium '	ND	mg/L	0.0010	0.00014	1		10/07/20 18:14		
/anadium	ND	mg/L	0.010	0.0022	1		10/07/20 18:14		
Zinc	ND	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:14	7440-66-6	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, (	ЭΑ				
Total Dissolved Solids	113	mg/L	10.0	10.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	•	lytical Services							
Chloride	8.5	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		
Sulfate	65.5	mg/L	1.0	0.050	1		10/07/20 01:51		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWB-6R	Lab ID:	92498084021	Collecte	ed: 09/30/20	15:35	Received: 10/	02/20 12:22 Ma	ıtrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte						
Performed by	CUSTOME				1		10/12/20 16:37		
рН	R 5.39	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA	6010D Pre	paration Met	hod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	<b>S</b> A				
Calcium	27.5	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:02	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Prej	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	<b>S</b> A				
Antimony	0.00059J	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:20	7440-36-0	В
Arsenic	0.0040J	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:20		
Barium	0.092	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:20		
Beryllium	0.000046J	mg/L	0.0030	0.000046	1		10/07/20 18:20		
Boron	4.2	mg/L	0.040	0.0052	1		10/07/20 18:20		
Cadmium	ND	mg/L	0.0025	0.00012	1		10/07/20 18:20		
Chromium	0.0045J	mg/L	0.010	0.00055	1		10/07/20 18:20		
Cobalt	ND	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:20	-	
Lead	0.000080J	mg/L	0.0050	0.000036	1		10/07/20 18:20		
_ithium	ND	mg/L	0.030	0.00081	1		10/07/20 18:20		
Molybdenum	0.00097J	mg/L	0.010	0.00069	1		10/07/20 18:20		
Selenium	0.0023J	mg/L	0.010	0.0016	1		10/07/20 18:20		
Thallium	ND	mg/L	0.0010	0.00014	1		10/07/20 18:20		
√anadium	0.018	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:20		
Zinc	ND	mg/L	0.010	0.0022	1		10/07/20 18:20		
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
Total Dissolved Solids	816	mg/L	20.0	20.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Chloride	53.9	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	339	mg/L	7.0	3.5	7		10/07/20 10:43		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWB-5R	Lab ID:	92498084022	Collecte	ed: 09/30/20	17:30	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte						
Performed by	CUSTOME				1		10/12/20 16:37		
рН	R 4.99	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Me	hod: EF	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	SA.				
Calcium	70.4	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:07	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	6020B Prej	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (	SA.				
Antimony	0.00030J	mg/L	0.0030	0.00028	1	10/05/20 17:15	10/07/20 18:25	7440-36-0	В
Arsenic	0.0017J	mg/L	0.0050	0.00078	1	10/05/20 17:15	10/07/20 18:25		_
Barium	0.16	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:25		
Beryllium	0.000065J	mg/L	0.0030	0.000046	1		10/07/20 18:25		
Boron	4.0	mg/L	0.040	0.0052	1		10/07/20 18:25		
Cadmium	ND	mg/L	0.0025	0.00012	1		10/07/20 18:25		
Chromium	0.0018J	mg/L	0.010	0.00055	1		10/07/20 18:25		
Cobalt	0.00056J	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:25	7440-48-4	
_ead	0.0012J	mg/L	0.0050	0.000036	1		10/07/20 18:25		
_ithium	ND	mg/L	0.030	0.00081	1		10/07/20 18:25		
Molybdenum	ND	mg/L	0.010	0.00069	1		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		10/07/20 18:25		
Vanadium	0.0037J	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		10/07/20 18:25		
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, 0	βA				
Total Dissolved Solids	652	mg/L	20.0	20.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Ana	lytical Services	- Asheville						
Chloride	24.1	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	339	mg/L	7.0	3.5	7		10/07/20 11:26	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: FB-2-9-30-20	Lab ID:	92498084023	Collecte	ed: 09/30/20	15:25	Received: 10/	02/20 12:22 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010D ATL ICP	Analytical	Method: EPA 6	010D Pre	paration Met	thod: El	PA 3010A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
Calcium	ND	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:11	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA 6	020B Pre	paration Met	thod: Ef	PA 3005A			
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
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	0.030J	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	
_ithium	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	
√anadium	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	
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, C	ЭΑ				
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		10/03/20 16:27		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
	Pace Anal	ytical 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		
Sulfate	ND	mg/L	1.0	0.50	1		10/07/20 03:32		



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

Sample: GWC-9	Lab ID:	92498084024	Collecte	ed: 10/01/20	0 08:21	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Ana	Method: llytical Services	- Charlotte	<b>:</b>					
Performed by	CUSTOME R				1		10/12/20 16:37		
рН	4.42	Std. Units			1		10/12/20 16:37		
6010D ATL ICP	-	Method: EPA				PA 3010A			
Calcium	5.5	mg/L	1.0	0.070	1	10/05/20 17:12	10/08/20 02:29	7440-70-2	
6020 MET ICPMS	-	Method: EPA				PA 3005A			
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	0.15	mg/L	0.010	0.00071	1	10/05/20 17:15	10/07/20 18:37	7440-39-3	
Beryllium	0.00020J	mg/L	0.0030	0.000046	1	10/05/20 17:15	10/07/20 18:37	7440-41-7	
Boron	0.028J	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	0.0012J	mg/L	0.010	0.00055	1	10/05/20 17:15	10/07/20 18:37	7440-47-3	
Cobalt	0.00099J	mg/L	0.0050	0.00038	1	10/05/20 17:15	10/07/20 18:37	7440-48-4	
_ead	0.000038J	mg/L	0.0050	0.000036	1	10/05/20 17:15	10/07/20 18:37	7439-92-1	
_ithium	0.0019J	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	0.025	mg/L	0.010	0.0022	1	10/05/20 17:15	10/07/20 18:37	7440-66-6	
2540C Total Dissolved Solids	•	Method: SM 2 llytical Services		e Corners, 0	GA				
Total Dissolved Solids	111	mg/L	10.0	10.0	1		10/03/20 16:28		
300.0 IC Anions 28 Days	•	Method: EPA							
Chloride	16.8	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	35.0	mg/L	1.0	0.50	1		10/07/20 04:16	14808-79-8	



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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

Blank Reporting

ParameterUnitsResultLimitMDLAnalyzedQualifiersCalciummg/LND1.00.07010/05/20 20:52

LABORATORY CONTROL SAMPLE: 3021701

LCS LCS % Rec Spike Units Result % Rec Limits Qualifiers Parameter Conc. Calcium mg/L 1.0 103 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3021764 3021765

MS MSD

92497532027 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 20 M1 Calcium 50.1 1 52.4 50.7 224 54 75-125 3 mg/L

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Calcium

Date: 10/19/2020 04:25 PM

QC Batch: 571010 Analysis Method: **EPA 6010D** QC Batch Method: **EPA 3010A** Analysis Description: 6010D ATL

mg/L

Pace Analytical Services - Peachtree Corners, GA Laboratory:

0.070

10/08/20 00:10

1.0

92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, Associated Lab Samples:

92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

METHOD BLANK: 3024605 Matrix: Water

92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018, Associated Lab Samples:

92498084019, 92498084020, 92498084021, 92498084022, 92498084023, 92498084024

Blank Reporting Parameter Limit MDL Qualifiers Units Result Analyzed ND

LABORATORY CONTROL SAMPLE: 3024606

LCS LCS % Rec Spike Units Result % Rec Limits Qualifiers Parameter Conc. Calcium mg/L 1.0 101 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3024607 3024608

MSD MS

92498544001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual 165 20 M1 Calcium 162 1 163 305 111 75-125 mg/L

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

MATRIX SPIKE & MATRIX	SPIKE DUPL	LICATE: 3022	874		3022875							
			MS	MSD								
		92496914020	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

MATRIX SPIKE & MATRIX	SPIKE DUPL	LICATE: 3022	880		3022881							
			MS	MSD								
		92498084008	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Antimony	mg/L	ND	0.1	0.1	0.10	0.095	102	95	75-125		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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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	

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

MATRIX SPIKE & MATRIX	SPIKE DUP	LICATE: 3024	612		3024613							
			MS	MSD								
		92498544002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

SAMPLE DUPLICATE:

Date: 10/19/2020 04:25 PM

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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Total Dissolved Solids mg/L ND 10.0 10.0 10.02/20 17:24

LABORATORY CONTROL SAMPLE: 3022934

3022936

Spike LCS LCS % Rec Conc. Result % Rec Limits Qualifiers Parameter Units **Total Dissolved Solids** 400 419 105 84-108 mg/L

92497532034 Dup Max Parameter Units Result Result RPD RPD

Parameter Units Result Repl RPD Qualifiers

Total Dissolved Solids mg/L ND ND 10

SAMPLE DUPLICATE: 3023295 92497532027 Dup Max

ParameterUnitsResultResultRPDRPDQualifiersTotal Dissolved Solidsmg/L243245110

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.

Qualifiers



#### **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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Total Dissolved Solids mg/L ND 10.0 10.0 10.02/20 17:27

LABORATORY CONTROL SAMPLE: 3022942

Spike LCS LCS % Rec Conc. % Rec Limits Qualifiers Parameter Units Result **Total Dissolved Solids** 430 108 84-108 mg/L

SAMPLE DUPLICATE: 3022943

92498367001 Dup Max Parameter Units Result ReD RPD

Total Dissolved Solids mg/L 65.0 71.0 9 10

SAMPLE DUPLICATE: 3022944

Date: 10/19/2020 04:25 PM

92497532037 Dup Max RPD RPD Parameter Units Result Result Qualifiers Total Dissolved Solids 908 mg/L 862 5 10

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



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 570756

QC Batch Method: SM 2450C-2011

Analysis Method: SM 2450C-2011

Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 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

Blank Reporting

ParameterUnitsResultLimitMDLAnalyzedQualifiersTotal Dissolved Solidsmg/LND10.010.010/03/20 16:26

LABORATORY CONTROL SAMPLE: 3023514

LCS LCS % Rec Spike Units % Rec Limits Qualifiers Parameter Conc. Result **Total Dissolved Solids** mg/L 400 430 108 84-108

SAMPLE DUPLICATE: 3023515

92498084012 Dup Max **RPD RPD** Parameter Units Result Result Qualifiers 634 636 0 10 **Total Dissolved Solids** mg/L

SAMPLE DUPLICATE: 3023516

Date: 10/19/2020 04:25 PM

ParameterUnits92498084023 ResultDup ResultMax ResultNDMax RPDQualifiersTotal Dissolved Solidsmg/LNDND10

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3020449											
			MS	MSD								
		92497532033	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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 SP	IKE DUPL	ICATE: 3020	451		3020452							
			MS	MSD								
		92498084008	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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

Associated Lab Samples: 92498084012, 92498084013, 92498084014, 92498084015, 92498084016, 92498084017, 92498084018,

92498084019, 92498084020, 92498084021, 92498084022

		Blank	Reporting			
Parameter	Units	Result	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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SP	IKE DUPL	ICATE: 3024	840		3024841							
			MS	MSD								
		92498545001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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 SP	IKE DUPL	ICATE: 3024	842		3024843							
			MS	MSD								
		92498084013	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

QC Batch: 571109

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

EPA 300.0 Rev 2.1 1993

Analysis Description: Laboratory:

300.0 IC Anions Pace Analytical Services - Asheville

92498084023, 92498084024 Associated Lab Samples:

METHOD BLANK:

Date: 10/19/2020 04:25 PM

Matrix: Water

92498084023, 92498084024

Associated Lab Samples:

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	
Fluoride	mg/L	ND	0.10	0.050	10/07/20 03:04	

LABORATORY CONTROL SAMPLE: 3024848 LCS Spike LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Chloride 50 mg/L 49.1 98 90-110 Fluoride 2.5 100 mg/L 2.5 90-110 Sulfate 90-110 mg/L 50 48.5 97

MATRIX SPIKE & MATRIX SP	IKE DUPL	ICATE: 3024	849		3024850							
			MS	MSD								
		92498084023	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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.



#### **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**

Date: 10/19/2020 04:25 PM

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.



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
2498084001	GWA-7				
2498084002	GWC-13				
498084003	GWA-8				
498084004	GWC-1				
498084006	GWC-12				
498084007	GWC-11				
498084008	GWC-14				
498084009	GWC-2				
498084012	GWC-21				
498084013	GWC-15				
498084014	GWC-16				
498084015	GWC-20				
498084016	GWB-4R				
498084019	GWC-17				
498084020	GWC-22				
498084021	GWB-6R				
498084022	GWB-5R				
498084024	GWC-9				
498084001	GWA-7	EPA 3010A	570380	EPA 6010D	570413
498084002	GWC-13	EPA 3010A	570380	EPA 6010D	570413
498084003	GWA-8	EPA 3010A	570380	EPA 6010D	570413
498084004	GWC-1	EPA 3010A	570380	EPA 6010D	570413
498084005	FB-1-9-28-20	EPA 3010A	570380	EPA 6010D	570413
498084006	GWC-12	EPA 3010A	570380	EPA 6010D	570413
498084007	GWC-11	EPA 3010A	570380	EPA 6010D	570413
498084008	GWC-14	EPA 3010A	570380	EPA 6010D	570413
498084009	GWC-2	EPA 3010A	570380	EPA 6010D	570413
498084010	EB-1-9-29-20	EPA 3010A	570380	EPA 6010D	570413
498084011	DUP-1	EPA 3010A	570380	EPA 6010D	570413
498084012	GWC-21	EPA 3010A	571010	EPA 6010D	571031
498084013	GWC-15	EPA 3010A	571010	EPA 6010D	571031
498084014	GWC-16	EPA 3010A	571010	EPA 6010D	571031
498084015	GWC-20	EPA 3010A	571010	EPA 6010D	571031
498084016	GWB-4R	EPA 3010A	571010	EPA 6010D	571031
498084017	EB-2-9-30-20	EPA 3010A	571010	EPA 6010D	571031
498084018	DUP-2	EPA 3010A	571010	EPA 6010D	571031
498084019	GWC-17	EPA 3010A	571010	EPA 6010D	571031
498084020	GWC-22	EPA 3010A	571010	EPA 6010D	571031
498084021	GWB-6R	EPA 3010A	571010	EPA 6010D	571031
498084022	GWB-5R	EPA 3010A	571010	EPA 6010D	571031
498084023	FB-2-9-30-20	EPA 3010A	571010	EPA 6010D	571031
498084024	GWC-9	EPA 3010A	571010	EPA 6010D	571031
498084001	GWA-7	EPA 3005A	570626	EPA 6020B	570683
498084002	GWC-13	EPA 3005A	570626	EPA 6020B	570683
498084003	GWA-8	EPA 3005A	570626	EPA 6020B	570683
498084004	GWC-1	EPA 3005A	570626	EPA 6020B	570683
498084005	FB-1-9-28-20	EPA 3005A	570626	EPA 6020B	570683



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

_ab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytic Batch
2498084006	GWC-12	EPA 3005A	570626	EPA 6020B	570683
2498084007	GWC-11	EPA 3005A	570626	EPA 6020B	570683
2498084008	GWC-14	EPA 3005A	570627	EPA 6020B	570682
2498084009	GWC-2	EPA 3005A	570627	EPA 6020B	570682
2498084010	EB-1-9-29-20	EPA 3005A	570627	EPA 6020B	570682
2498084011	DUP-1	EPA 3005A	570627	EPA 6020B	570682
2498084012	GWC-21	EPA 3005A	571011	EPA 6020B	571032
2498084013	GWC-15	EPA 3005A	571011	EPA 6020B	571032
2498084014	GWC-16	EPA 3005A	571011	EPA 6020B	571032
2498084015	GWC-20	EPA 3005A	571011	EPA 6020B	571032
2498084016	GWB-4R	EPA 3005A	571011	EPA 6020B	571032
2498084017	EB-2-9-30-20	EPA 3005A	571011	EPA 6020B	571032
2498084018	DUP-2	EPA 3005A	571011	EPA 6020B	571032
2498084019	GWC-17	EPA 3005A	571011	EPA 6020B	571032
2498084020	GWC-22	EPA 3005A	571011	EPA 6020B	571032
2498084021	GWB-6R	EPA 3005A	571011	EPA 6020B	571032
2498084022	GWB-5R	EPA 3005A	571011	EPA 6020B	571032
2498084023	FB-2-9-30-20	EPA 3005A	571011	EPA 6020B	571032
2498084024	GWC-9	EPA 3005A	571011	EPA 6020B	571032
2498084001	GWA-7	SM 2450C-2011	570638		
2498084002	GWC-13	SM 2450C-2011	570638		
2498084003	GWA-8	SM 2450C-2011	570638		
498084004	GWC-1	SM 2450C-2011	570638		
2498084005	FB-1-9-28-20	SM 2450C-2011	570638		
2498084006	GWC-12	SM 2450C-2011	570640		
2498084007	GWC-11	SM 2450C-2011	570640		
2498084008	GWC-14	SM 2450C-2011	570640		
2498084009	GWC-2	SM 2450C-2011	570640		
2498084010	EB-1-9-29-20	SM 2450C-2011	570640		
2498084011	DUP-1	SM 2450C-2011	570640		
2498084012	GWC-21	SM 2450C-2011	570756		
2498084013	GWC-15	SM 2450C-2011	570756		
2498084014	GWC-16	SM 2450C-2011	570756		
2498084015	GWC-20	SM 2450C-2011	570756		
2498084016	GWB-4R	SM 2450C-2011	570756		
2498084017	EB-2-9-30-20	SM 2450C-2011	570756		
2498084018	DUP-2	SM 2450C-2011	570756		
2498084019	GWC-17	SM 2450C-2011	570756		
2498084020	GWC-22	SM 2450C-2011	570756		
2498084021	GWB-6R	SM 2450C-2011	570756		
2498084022	GWB-5R	SM 2450C-2011	570756		
2498084023	FB-2-9-30-20	SM 2450C-2011	570756		
2498084024	GWC-9	SM 2450C-2011	570756		
2498084001	GWA-7	EPA 300.0 Rev 2.1 1993	570217		
2498084002	GWC-13	EPA 300.0 Rev 2.1 1993	570217		
2498084003	GWA-8	EPA 300.0 Rev 2.1 1993	570217		



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL

Pace Project No.: 92498084

Date: 10/19/2020 04:25 PM

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		

racking #:	□ no s	Seals		Proj. Name;
The state of the s	-		130	• ***
acking Material: Bubble Wrap Bubble		200	13 (1.14 (1.14), <u></u>	EZ: Flock
hermometer Used 230	Type of Ice:	-		Samples on ice, cooling process has begun  Date and initials of person examining
emp should be above freezing to 6°C	Biological II		s Frozen: Yes No Comments:	contents:CO
	Øyes □No I			
thain of Custody Present:	Yes ONO I		-	
thain of Custody Filled Out: Chain of Custody Relinquished:	Yes ONO	-		
ampler Name & Signature on COC:	ØYes □No I			
amples Arrived within Hold Time:	dyes □No I			
hort Hold Time Analysis (<72hr):		DN/A		
tush Turn Around Time Requested:	□Yes □No			
sufficient Volume:	Yes ONo			
Correct Containers Used:		□N/A		
-Pace Containers Used:	∯Yes □No		•	
Containers Infact:	1	□N/A	10	
iltered volume received for Dissolved tests	□Yes □No	7		
sample Labels match COC:	ØŶes □No	-		
-Includes date/time/ID/Analysis Matrix:	WT		12.	
Il containers needing preservation have been checked.	Øyes □No	CIN/A	13	
Il containers needing preservation are found to be in	1		10.	
ompliance with EPA recommendation.	☐Yes ☐No	□N/A		
xceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	- Øyes □No		Initial when CO	Lot # of added preservative
	□Yes □No	ØN/A		p. cost teat t
samples checked for dechlorination:	□Yes □No			
leadspace ir VOA Vials ( >6mm): rip Blank Present:	1	DN/A	***	
to the second se	□Yes □No	1	10.	
rip Blank Custody Seals Present	Lies Lino	7		
Pace Trip Blank Lot # (if purchased):				
lient Notification/ Resolution:				Field Data Required? Y / N
Person Contacted:		Date/T	ime:	
Comments Resolution:		-		*

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)

ace Analytical*

Document Name:

Bottle Identification Form (81F)

Document No.: F-CAR-CS-043-Rev.00 Document Issued: March 14, 2019 Page 1 of 1

Issuing Authority:

mark top half of box If pH and/or dechlorination is and within the acceptance range for preservation

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

Project # PM: KLH1

WO#:92498084 Due Date: 10/14/20

CLIENT: GA-GA Power

1	BP3A-250 mt. Passes Unpreserved vials (N/A)	C Steamle (NH2)2504 (9.3-9.7)	2000	SP2T-250 mL Sterile Plastic (N/A - lab)	SPST-125 mL Sterile Plastic (N/A - iau)	V/GK (3 vials per kit)-VPH/Cars Kit	VOAR (6 VIEW CALL VOH/Gas kir (N/A)	-		VG9U-40 mr.	(N/A) dut voa unp (N/A)	VG9T-40 ML VOA Na25203 (N/A)	D69H-40 mt VOA HCI (1975)	AGSA(DGSAP-K20	Amber NH4GI (N/A)(G-)	. AG35-250 mL Amber H2504 (pH < 2)	AG15-1 liter Amber H2504 (pri	AG3U-250 mL Amos	(Ingreserved (N/A) (CI-)	AG1H-1 liter Amber HCI (pH < 2)	AG1U-1 liter Amber Unplease	(-D) (A/N) (G-)	WGFU-Wide-mouthed Glass jer Unpreserved	BP4C-125 ml. Plastic Nach.	(-D) (C+ ) (OH > 12) (G-)	RP42-125 ml Plastic ZN Acetate & NaOH (>9)	apan-250 mL plastic MNO3 (pm - 4)	BP45-125 mL Plastic 100	(G) (G) (G) (G) (G)	BP1U-1 liter Plastic Unpreserved (N/A)	BP2U-500 mt Plattic Unpreserved (N/A)	893U-250 mL Plastic Oripration	BP4U-125 mt reserv	Remiser Displayer (N/A) (G-)	
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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	adjusted	added	
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		1	line compliance samples, a copy.			1

Note: Whenever there is a discrepancy affecting North Carolina complian Out of hold, incorrect preservative, out of temp, incorrect containers

#### Email To: vddress: Wetals=B.Co,Sb,As,Ba,Ba,Cd,Cr,Co,Pb,U,Mo,Se,Ti,V,Zn 4 4 lequested Due Date/TAT: ection A legulred Clent Information 6 N asse note when the last sample for the event has been taken Section D Required Client Internation (A-Z, 0-91,-) Sample IDs MUST BE UNIQUE SCS Contacts Atlanta, GA GA Power FB-1-9-28-20 SAMPLE ID ADDITIONAL COMMENTS 2-7 mg PMC-18 -B-1-9-24-20 11-240 8mc-1 アトライ 9 6-A-8 SWC-13 GWA-7 10 Day Valid Marrix Codes MATEUX COCE ESCAPE DIV MATEUX WY PRODUCT P SOL-TOUR OIL VOR OHER OTHER OTTER VER TESCUE Section B Required Project Information Report To: SCS Contacts Project Number Copy To: ACC Contacts Project Name urchase Order No. 27 9 13 3 50 RELINQUISHED BY / AFFILIATION 3 52 3 MATRIX CODE 0 6 Grumman Road - Semi-Annual 6 SAMPLE TYPE (G=GRAB C=COMP) SAMPLER NAME AND SIGNATURE Acc COLLECTED PRINT Name of SAMPLER: 9-24-201535 SIGNATURE of SAMPLER: 2000 5-29-20 HHZ 9-29-20 1620 4-28-20 1604 4.11-20 1.620 1220 9-29 20 0935 5591 02-82-6 9-28-20 1640 80t1 02.826 DATE PERSONAL 9-30-20 1520 TIME DATE SAMPLE TEMP AT COLLECTION 2420 Pace Outle Reference: Pace Project Manager: Address: # OF CONTAINERS Company Name Attention: 量 Unpreserved H₂SO₄ HNO₃ 2926-1 Preservatives Bisher Kevin Herring Southern Co. HCI TILLIA NaOH Na₂S₂O₃ ACCEPTED BY J AFFILIATION Methanol Other J. Tomalor Analysis Test YIN ros [MMIDDITY]: 04/30/20 hloride/Fluonde/Suffate 300.0 3 App. III + IV + State Metals * RAD 226/228 Analysis Fittered (Y/N) REGULATORY AGENCY Site Location 54.28 02-05-89 UST NPDES DATE STATE: TIME RCRA GROUND WATER g. Temp in *C Residual Chlorine (Y/N) Received on loe (Y/N) रा 12 42 8081 SAMPLE CONDITIONS Pace Project No./ Lab I.D. 9 OTHER DRINKING WATER Cooler (Y/N) DH= 17.41 pH= N/A DH= N/A PH= 5.86 DH= N/A PH= 5-69 마= リチチ PH= 4.76 DH= 4,60 (Y/N)

Important Hoto: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per numer for any involces 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.

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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*Important Note: By signing this form you are accepting Pace's NET 30 day payment leims and agreeing to take changes of 1.5% per month for any another social within 30 days.

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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"important Note: By signing this form you are accepting Pace's MET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.





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

Ken Den

**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





#### **CERTIFICATIONS**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

#### 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 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

Missouri Certification #: 235

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



### **SAMPLE SUMMARY**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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         09/29/20 09:35         09/30/20 11:47           92498068006         GWC-12         Water         09/29/20 12:20         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 12:20         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 00:00         09/30/20 11:47           92498068011         DUP-1         Water         09/30/20 10:49         10/02/20 12:22           92498068013         GWC-21         Water         09/30/20 10:49         10/02/20 12:22           92498068014         GWC-20         Water         09/30/20 16:31	Lab ID	Sample ID	Matrix	Date Collected	Date Received
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 <th< th=""><th>92498068001</th><th>GWA-7</th><th>Water</th><th>09/28/20 15:20</th><th>09/30/20 11:47</th></th<>	92498068001	GWA-7	Water	09/28/20 15:20	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           92498068010         EB-1-9-29-20         Water         09/29/20 16:20         09/30/20 11:47           92498068011         DUP-1         Water         09/30/20 10:49         10/02/20 12:22           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         09/30/20 14:30         10/02/20 12:22           92498068017         EB-2-9-30-20         Water         09/30/20 14:30	92498068002	GWC-13	Water	09/28/20 16:40	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           92498068010         EB-1-9-29-20         Water         09/29/20 16:20         09/30/20 11:47           92498068011         DUP-1         Water         09/30/20 10:49         10/02/20 12:22           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         09/30/20 14:30         10/02/20 12:22           92498068017         EB-2-9-30-20         Water         09/30/20 14:30         10/02/20 12:22           92498068019         GWC-17         Water         09/30/20 14:30	92498068003	GWA-8	Water	09/28/20 16:04	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 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 16:31         10/02/20 12:22           92498068015         GWC-20         Water         09/30/20 16:31         10/02/20 12:22           92498068016         GWB-4R         Water         09/30/20 14:30         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 14:30         10/02/20 12:22           92498068020         GWC-17         Water         09/30/20 12:00         <	92498068004	GWC-1	Water	09/28/20 17:08	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 00:00         09/30/20 11:47           92498068011         DUP-1         Water         09/30/20 10:49         10/02/20 12:22           92498068013         GWC-21         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           92498068019         GWC-17         Water         09/30/20 14:30         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         <	92498068005	FB-1-9-28-20	Water	09/28/20 16:55	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 00:00         09/30/20 11:47           92498068011         DUP-1         Water         09/30/20 10:49         10/02/20 12:22           92498068012         GWC-21         Water         09/30/20 12:30         10/02/20 12:22           92498068013         GWC-15         Water         09/30/20 14:00         10/02/20 12:22           92498068014         GWC-16         Water         09/30/20 16:31         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 14:05         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 <t< th=""><th>92498068006</th><th>GWC-12</th><th>Water</th><th>09/29/20 09:35</th><th>09/30/20 11:47</th></t<>	92498068006	GWC-12	Water	09/29/20 09:35	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         09/30/20 10:49         10/02/20 12:22           92498068012         GWC-21         Water         09/30/20 12:30         10/02/20 12:22           92498068013         GWC-15         Water         09/30/20 14:00         10/02/20 12:22           92498068014         GWC-20         Water         09/30/20 16:31         10/02/20 12:22           92498068015         GWB-4R         Water         10/01/20 08:50         10/02/20 12:22           92498068016         GWB-4R         Water         09/30/20 14:30         10/02/20 12:22           92498068017         EB-2-9-30-20         Water         09/30/20 00:00         10/02/20 12:22           92498068018         DUP-2         Water         09/30/20 00:00         10/02/20 12:22           92498068020         GWC-17         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 15:35 <t< th=""><th>92498068007</th><th>GWC-11</th><th>Water</th><th>09/29/20 12:20</th><th>09/30/20 11:47</th></t<>	92498068007	GWC-11	Water	09/29/20 12:20	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           92498068020         GWC-17         Water         09/30/20 12:00         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	92498068008	GWC-14	Water	09/29/20 14:42	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           92498068023         FB-2-9-30-20         Water         09/30/20 15:25         10/02/20 12:22	92498068009	GWC-2	Water	09/29/20 15:05	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 15:25         10/02/20 12:22           92498068023         FB-2-9-30-20         Water         09/30/20 15:25         10/02/20 12:22	92498068010	EB-1-9-29-20	Water	09/29/20 16:20	09/30/20 11:47
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	92498068011	DUP-1	Water	09/29/20 00:00	09/30/20 11:47
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	92498068012	GWC-21	Water	09/30/20 10:49	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	92498068013	GWC-15	Water	09/30/20 12:30	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	92498068014	GWC-16	Water	09/30/20 14:00	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	92498068015	GWC-20	Water	09/30/20 16:31	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	92498068016	GWB-4R	Water	10/01/20 08:50	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	92498068017	EB-2-9-30-20	Water	09/30/20 14:30	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	92498068018	DUP-2	Water	09/30/20 00:00	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	92498068019	GWC-17	Water	09/30/20 12:00	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	92498068020	GWC-22	Water	09/30/20 14:05	10/02/20 12:22
92498068023 FB-2-9-30-20 Water 09/30/20 15:25 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
<b>92498068024 GWC-9</b> Water 10/01/20 08:21 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



### **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
2498068006	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



### **SAMPLE ANALYTE COUNT**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068014	GWC-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068015	GWC-20	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068016	GWB-4R	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068017	EB-2-9-30-20	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068018	DUP-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068019	GWC-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068020	GWC-22	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068021	GWB-6R	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068022	GWB-5R	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
2498068023	FB-2-9-30-20	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92498068024	GWC-9	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID	Popult	Lloito	Papart Limit	Apolyzod	Ouglifica
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
2498068001	GWA-7					
EPA 9315	Radium-226	22.2 ± 4.27 (0.964) C:93% T:NA	pCi/L		10/15/20 06:56	
EPA 9320	Radium-228	0.156 ± 0.471 (1.06) C:71% T:81%	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	22.4 ± 4.74 (2.02)	pCi/L		10/21/20 12:22	
2498068002	GWC-13					
EPA 9315	Radium-226	0.676 ± 0.337 (0.373) C:85% T:NA	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	0.606 ± 0.395 (0.737) C:71% T:79%	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	1.28 ± 0.732 (1.11)	pCi/L		10/21/20 12:22	
2498068003	GWA-8					
EPA 9315	Radium-226	0.929 ± 0.400 (0.425) C:85% T:NA	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	1.15 ± 0.522 (0.868) C:70% T:78%	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	2.08 ± 0.922 (1.29)	pCi/L		10/21/20 12:22	
2498068004	GWC-1					
EPA 9315	Radium-226	0.727 ± 0.357 (0.460) C:89% T:NA	pCi/L		10/15/20 06:57	
EPA 9320	Radium-228	0.564 ± 0.409 (0.795) C:75% T:78%	pCi/L		10/16/20 14:43	
Total Radium Calculation	Total Radium	1.29 ± 0.766 (1.26)	pCi/L		10/21/20 12:22	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID					
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
92498068005	FB-1-9-28-20					
EPA 9315	Radium-226	-0.0334 ± 0.133 (0.422)	pCi/L		10/15/20 06:55	
EPA 9320	Radium-228	C:90% T:NA 0.886 ± 0.502 (0.919) C:68%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	T:78% 0.886 ± 0.635 (1.34)	pCi/L		10/22/20 10:20	
92498068006	GWC-12					
EPA 9315	Radium-226	0.494 ± 0.318 (0.495)	pCi/L		10/15/20 06:58	
EPA 9320	Radium-228	C:84% T:NA 0.351 ± 0.443 (0.942) C:73%	pCi/L		10/21/20 11:33	
Total Radium Calculation	Total Radium	7:78% 0.845 ± 0.761 (1.44)	pCi/L		10/22/20 10:20	
92498068007	GWC-11					
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	
2498068008	GWC-14					
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	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID					
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
92498068009	GWC-2					
EPA 9315	Radium-226	0.553 ± 0.323	pCi/L		10/15/20 07:57	
		(0.494)				
EPA 9320	Radium-228	C:88% T:NA 0.450 ±	pCi/L		10/21/20 11:44	
		0.417 (0.853)				
		C:73%				
Fotal Dadium Coloulation	Total Dadium	T:84% 1.00 ±	~C:/I		10/22/20 10:20	
Total Radium Calculation	Total Radium	0.740	pCi/L		10/22/20 10:20	
		(1.35)				
2498068010	EB-1-9-29-20					
EPA 9315	Radium-226	0.00561 ± 0.156	pCi/L		10/15/20 07:57	
		(0.435)				
EPA 9320	Radium-228	C:92% T:NA 0.149 ±	pCi/L		10/21/20 11:34	
LFA 9320	Raulum-220	0.376	pCI/L		10/21/20 11.34	
		(0.838)				
		C:73% T:83%				
Total Radium Calculation	Total Radium	0.155 ±	pCi/L		10/22/20 10:20	
		0.532 (1.27)				
2498068011	DUP-1	, ,				
EPA 9315	Radium-226	0.259 ±	pCi/L		10/15/20 07:57	
		0.219 (0.372)				
		(0.372) C:92% T:NA				
EPA 9320	Radium-228	1.42 ±	pCi/L		10/21/20 11:34	
		0.529 (0.789)				
		C:69%				
Total Radium Calculation	Total Radium	T:84% 1.68 ±	pCi/L		10/22/20 10:20	
Total Naulum GalculatiOH	iotai itaututti	0.748	POI/L		10/22/20 10.20	
		(1.16)				
2498068012	GWC-21					
EPA 9315	Radium-226	2.88 ± 0.770	pCi/L		10/15/20 07:57	
		(0.501)				
-DA 0220	Dadium 220	C:76% T:NA	»C://		40/04/00 44:05	
EPA 9320	Radium-228	0.945 ± 0.535	pCi/L		10/21/20 11:35	
		(0.993)				
		C:69% T:79%				
Total Radium Calculation	Total Radium	3.83 ± 1.31	pCi/L		10/22/20 10:20	
		(1.49)				

### **REPORT OF LABORATORY ANALYSIS**

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Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92498068013	GWC-15					
EPA 9315	Radium-226	0.709 ± 0.358 (0.518)	pCi/L		10/15/20 07:57	
EPA 9320	Radium-228	C:97% T:NA 1.43 ± 0.547 (0.848) C:71%	pCi/L		10/21/20 11:45	
Total Radium Calculation	Total Radium	T:86% 2.14 ± 0.905 (1.37)	pCi/L		10/22/20 10:20	
92498068014	GWC-16					
EPA 9315	Radium-226	1.69 ± 0.552 (0.449)	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	C:86% T:NA 0.781 ± 0.435 (0.789) C:74%	pCi/L		10/21/20 11:45	
Total Radium Calculation	Total Radium	T:82% 2.47 ± 0.987 (1.24)	pCi/L		10/22/20 10:20	
92498068015	GWC-20					
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	$5.62 \pm 1.48$ (1.21)	pCi/L		10/22/20 10:20	
2498068016	GWB-4R					
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	

# **REPORT OF LABORATORY ANALYSIS**

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Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92498068017	EB-2-9-30-20					
EPA 9315	Radium-226	0.132 ± 0.292 (0.685)	pCi/L		10/16/20 06:44	
EPA 9320	Radium-228	C:88% T:NA 0.612 ± 0.386 (0.710)	pCi/L		10/21/20 11:30	
Total Radium Calculation	Total Radium	C:71% T:75% 0.744 ± 0.678 (1.40)	pCi/L		10/22/20 10:20	
92498068018	DUP-2					
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	$6.79 \pm 1.72$ (1.43)	pCi/L		10/22/20 10:20	
92498068019	GWC-17					
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	$3.09 \pm 1.09$ $(1.40)$	pCi/L		10/22/20 10:20	
92498068020	GWC-22					
EPA 9315	Radium-226	0.820 ± 0.408 (0.485)	pCi/L		10/16/20 06:45	
EPA 9320	Radium-228	C:78% T:NA 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	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Lab Sample ID	Client Sample ID					
Method	Parameters —	Result	Units	Report Limit	Analyzed	Qualifiers
92498068021	GWB-6R					
EPA 9315	Radium-226	3.02 ± 0.796 (0.521)	pCi/L		10/16/20 07:29	
EPA 9320	Radium-228	C:90% T:NA 3.37 ± 0.979 (1.28) C:73%	pCi/L		10/21/20 11:36	
Total Radium Calculation	Total Radium	T:70% 6.39 ± 1.78 (1.80)	pCi/L		10/22/20 10:20	
92498068022	GWB-5R					
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	
92498068023	FB-2-9-30-20					
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	
92498068024	GWC-9					
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	$3.30 \pm 1.45$ (2.21)	pCi/L		10/22/20 10:25	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWA-7 PWS:	Lab ID: 9249 Site ID:	8068001 Collected: 09/28/20 15:20 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	22.2 ± 4.27 (0.964) C:93% T:NA	pCi/L	10/15/20 06:56	6 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.156 ± 0.471 (1.06) C:71% T:81%	pCi/L	10/16/20 14:43	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	22.4 ± 4.74 (2.02)	pCi/L	10/21/20 12:22	2 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-13 PWS:	Lab ID: 9249 Site ID:	8068002 Collected: 09/28/20 16:40 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.676 ± 0.337 (0.373) C:85% T:NA	pCi/L	10/15/20 06:5	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.606 ± 0.395 (0.737) C:71% T:79%	pCi/L	10/16/20 14:43	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	1.28 ± 0.732 (1.11)	pCi/L	10/21/20 12:22	2 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWA-8 PWS:	Lab ID: 9249 Site ID:	8068003 Collected: 09/28/20 16:04 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.929 ± 0.400 (0.425) C:85% T:NA	pCi/L	10/15/20 06:57	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.15 ± 0.522 (0.868) C:70% T:78%	pCi/L	10/16/20 14:43	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.08 ± 0.922 (1.29)	pCi/L	10/21/20 12:22	2 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-1 PWS:	<b>Lab ID:</b> 9249800 Site ID:	68004 Collected: 09/28/20 17:08 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.727 ± 0.357 (0.460) C:89% T:NA	pCi/L	10/15/20 06:57	7 13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.564 ± 0.409 (0.795) C:75% T:78%	pCi/L	10/16/20 14:43	3 15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	1.29 ± 0.766 (1.26)	pCi/L	10/21/20 12:22	2 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

<b>Sample: FB-1-9-28-20</b> PWS:	<b>Lab ID: 92498</b> Site ID:	3068005 Collected: 09/28/20 16:55 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				-
Radium-226	EPA 9315	-0.0334 ± 0.133 (0.422) C:90% T:NA	pCi/L	10/15/20 06:5	5 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.886 ± 0.502 (0.919) C:68% T:78%	pCi/L	10/21/20 11:33	3 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.886 ± 0.635 (1.34)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-12 PWS:	<b>Lab ID: 9249806</b> Site ID:	Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	rvices - Greensburg				
Radium-226	EPA 9315	0.494 ± 0.318 (0.495) C:84% T:NA	pCi/L	10/15/20 06:58	3 13982-63-3	
	Pace Analytical Ser	rvices - Greensburg				
Radium-228	EPA 9320	0.351 ± 0.443 (0.942) C:73% T:78%	pCi/L	10/21/20 11:33	3 15262-20-1	
	Pace Analytical Ser	rvices - Greensburg				
Total Radium	Total Radium Calculation	0.845 ± 0.761 (1.44)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-11 PWS:	<b>Lab ID:</b> 924980 Site ID:	68007 Collected: 09/29/20 12:20 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	ervices - Greensburg				
Radium-226	EPA 9315	3.84 ± 0.898 (0.428) C:88% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical Se	ervices - Greensburg				
Radium-228	EPA 9320	4.46 ± 1.05 (0.851) C:68% T:81%	pCi/L	10/21/20 11:33	3 15262-20-1	
	Pace Analytical Se	ervices - Greensburg				
Total Radium	Total Radium Calculation	8.30 ± 1.95 (1.28)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-14 PWS:	<b>Lab ID: 9249</b> 6 Site ID:	8068008 Collected: 09/29/20 14:42 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.331 ± 0.258 (0.431) C:83% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	-0.233 ± 0.396 (0.960) C:69% T:80%	pCi/L	10/21/20 11:33	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.331 ± 0.654 (1.39)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-2 PWS:	<b>Lab ID:</b> 9249800 Site ID:	68009 Collected: 09/29/20 15:05 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Se	rvices - Greensburg				
Radium-226	EPA 9315	0.553 ± 0.323 (0.494) C:88% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical Se	rvices - Greensburg				
Radium-228	EPA 9320	0.450 ± 0.417 (0.853) C:73% T:84%	pCi/L	10/21/20 11:44	1 15262-20-1	
	Pace Analytical Se	rvices - Greensburg				
Total Radium	Total Radium Calculation	1.00 ± 0.740 (1.35)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

<b>Sample: EB-1-9-29-20</b> PWS:	Lab ID: 92498 Site ID:	3068010 Collected: 09/29/20 16:20 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 9315	0.00561 ± 0.156 (0.435) C:92% T:NA	pCi/L	10/15/20 07:5	7 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 9320	0.149 ± 0.376 (0.838) C:73% T:83%	pCi/L	10/21/20 11:34	4 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Radium	Total Radium Calculation	0.155 ± 0.532 (1.27)	pCi/L	10/22/20 10:20	0 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: DUP-1 PWS:	Lab ID: 9249 Site ID:	8068011 Collected: 09/29/20 00:00 Sample Type:	Received:	09/30/20 11:47	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.259 ± 0.219 (0.372) C:92% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.42 ± 0.529 (0.789) C:69% T:84%	pCi/L	10/21/20 11:34	1 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	1.68 ± 0.748 (1.16)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-21 PWS:	Lab ID: 9249 Site ID:	8068012 Collected: 09/30/20 10:49 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	2.88 ± 0.770 (0.501) C:76% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.945 ± 0.535 (0.993) C:69% T:79%	pCi/L	10/21/20 11:35	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	3.83 ± 1.31 (1.49)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-15 PWS:	Lab ID: 9249 Site ID:	8068013 Collected: 09/30/20 12:30 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.709 ± 0.358 (0.518) C:97% T:NA	pCi/L	10/15/20 07:57	7 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.43 ± 0.547 (0.848) C:71% T:86%	pCi/L	10/21/20 11:45	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.14 ± 0.905 (1.37)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-16 PWS:	Lab ID: 9249 Site ID:	8068014 Collected: 09/30/20 14:00 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.69 ± 0.552 (0.449) C:86% T:NA	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.781 ± 0.435 (0.789) C:74% T:82%	pCi/L	10/21/20 11:45	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.47 ± 0.987 (1.24)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-20 PWS:	Lab ID: 9249 Site ID:	8068015 Collected: 09/30/20 16:31 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.50 ± 0.843 (0.419) C:93% T:NA	pCi/L	10/16/20 06:4	4 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	2.12 ± 0.638 (0.795) C:66% T:93%	pCi/L	10/21/20 11:3	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	5.62 ± 1.48 (1.21)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWB-4R PWS:	Lab ID: 9249 Site ID:	8068016 Collected: 10/01/20 08:50 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.57 ± 0.530 (0.422) C:84% T:NA	pCi/L	10/16/20 06:4	4 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.03 ± 0.451 (0.721) C:68% T:81%	pCi/L	10/21/20 11:30	0 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.60 ± 0.981 (1.14)	pCi/L	10/22/20 10:2	0 7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

<b>Sample: EB-2-9-30-20</b> PWS:	Lab ID: 92496 Site ID:	8068017 Collected: 09/30/20 14:30 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.132 ± 0.292 (0.685) C:88% T:NA	pCi/L	10/16/20 06:44	13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	0.612 ± 0.386 (0.710) C:71% T:75%	pCi/L	10/21/20 11:30	15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	0.744 ± 0.678 (1.40)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: DUP-2 PWS:	Lab ID: 9249 Site ID:	8068018 Collected: 09/30/20 00:00 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.50 ± 0.853 (0.441) C:96% T:NA	pCi/L	10/16/20 06:44	4 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	3.29 ± 0.864 (0.988) C:77% T:84%	pCi/L	10/21/20 11:36	6 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	6.79 ± 1.72 (1.43)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-17 PWS:	Lab ID: 9249 Site ID:	8068019 Collected: 09/30/20 12:00 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				-
Radium-226	EPA 9315	1.06 ± 0.448 (0.493) C:83% T:NA	pCi/L	10/16/20 06:4	5 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	2.03 ± 0.646 (0.909) C:75% T:88%	pCi/L	10/21/20 11:36	6 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	3.09 ± 1.09 (1.40)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-22 PWS:	Lab ID: 9249 Site ID:	8068020 Collected: 09/30/20 14:05 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	0.820 ± 0.408 (0.485) C:78% T:NA	pCi/L	10/16/20 06:45	5 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.97 ± 0.700 (1.08) C:74% T:79%	pCi/L	10/21/20 11:36	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	2.79 ± 1.11 (1.57)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWB-6R PWS:	Lab ID: 9249 Site ID:	8068021 Collected: 09/30/20 15:35 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	3.02 ± 0.796 (0.521) C:90% T:NA	pCi/L	10/16/20 07:29	9 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	3.37 ± 0.979 (1.28) C:73% T:70%	pCi/L	10/21/20 11:36	5 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	$6.39 \pm 1.78  (1.80)$	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWB-5R PWS:	Lab ID: 9249 Site ID:	8068022 Collected: 09/30/20 17:30 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	2.69 ± 0.719 (0.494) C:89% T:NA	pCi/L	10/16/20 08:56	6 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	1.76 ± 0.671 (1.03) C:70% T:85%	pCi/L	10/21/20 13:22	2 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	4.45 ± 1.39 (1.52)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

<b>Sample: FB-2-9-30-20</b> PWS:	<b>Lab ID: 9249806</b> Site ID:	8023 Collected: 09/30/20 15:25 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Ser	vices - Greensburg				,
Radium-226	EPA 9315	0.0614 ± 0.242 (0.609) C:79% T:NA	pCi/L	10/16/20 06:5	1 13982-63-3	
	Pace Analytical Ser	vices - Greensburg				
Radium-228	EPA 9320	0.534 ± 0.477 (0.974) C:71% T:83%	pCi/L	10/21/20 12:17	7 15262-20-1	
	Pace Analytical Ser	vices - Greensburg				
Total Radium	Total Radium Calculation	0.595 ± 0.719 (1.58)	pCi/L	10/22/20 10:20	7440-14-4	



Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Sample: GWC-9 PWS:	Lab ID: 9249 Site ID:	<b>D8068024</b> Collected: 10/01/20 08:21 Sample Type:	Received:	10/02/20 12:22	Matrix: Water	
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical	Services - Greensburg				
Radium-226	EPA 9315	1.20 ± 0.475 (0.488) C:83% T:NA	pCi/L	10/16/20 06:5	1 13982-63-3	
	Pace Analytical	Services - Greensburg				
Radium-228	EPA 9320	2.10 ± 0.972 (1.72) C:68% T:77%	pCi/L	10/21/20 14:38	3 15262-20-1	
	Pace Analytical	Services - Greensburg				
Total Radium	Total Radium Calculation	3.30 ± 1.45 (2.21)	pCi/L	10/22/20 10:25	5 7440-14-4	



#### **QUALITY CONTROL - RADIOCHEMISTRY**

EPA 9320

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

QC Batch: 418039 Analysis Method:

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.



#### **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: \qquad 92498068005, \ 92498068006, \ 92498068007, \ 92498068008, \ 92498068009, \ 92498068010, \ 92498068011, \ 92498068010, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 92498068011, \ 9249$ 

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.



### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

QC Batch: 418032 Analysis Method: EPA 9315

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92498068001, 92498068002, 92498068003, 92498068004, 92498068005, 92498068006, 92498068007,

92498068008, 92498068009, 92498068010, 92498068011, 92498068012, 92498068013

METHOD BLANK: 2021109 Matrix: Water

Associated Lab Samples: 92498068001, 92498068002, 92498068003, 92498068004, 92498068005, 92498068006, 92498068007,

92498068008, 92498068009, 92498068010, 92498068011, 92498068012, 92498068013

 Parameter
 Act ± Unc (MDC) Carr Trac
 Units
 Analyzed
 Qualifiers

 Radium-226
 0.106 ± 0.162 (0.345) C:92% T:NA
 pCi/L
 10/15/20 07:21

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.



### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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

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.



### **QUALITY CONTROL - RADIOCHEMISTRY**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

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

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.



### **QUALIFIERS**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

### **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

Date: 10/26/2020 10:50 AM

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.



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Date: 10/26/2020 10:50 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
92498068001	GWA-7	EPA 9315	418032		
2498068002	GWC-13	EPA 9315	418032		
2498068003	GWA-8	EPA 9315	418032		
2498068004	GWC-1	EPA 9315	418032		
2498068005	FB-1-9-28-20	EPA 9315	418032		
2498068006	GWC-12	EPA 9315	418032		
2498068007	GWC-11	EPA 9315	418032		
2498068008	GWC-14	EPA 9315	418032		
2498068009	GWC-2	EPA 9315	418032		
2498068010	EB-1-9-29-20	EPA 9315	418032		
2498068011	DUP-1	EPA 9315	418032		
2498068012	GWC-21	EPA 9315	418032		
2498068013	GWC-15	EPA 9315	418032		
2498068014	GWC-16	EPA 9315	418033		
2498068015	GWC-20	EPA 9315	418033		
2498068016	GWB-4R	EPA 9315	418033		
2498068017	EB-2-9-30-20	EPA 9315	418033		
2498068018	DUP-2	EPA 9315	418033		
2498068019	GWC-17	EPA 9315	418033		
2498068020	GWC-22	EPA 9315	418033		
2498068021	GWB-6R	EPA 9315	418033		
2498068022	GWB-5R	EPA 9315	418033		
2498068023	FB-2-9-30-20	EPA 9315	418033		
2498068024	GWC-9	EPA 9315	418033		
2498068001	GWA-7	EPA 9320	418037		
2498068002	GWC-13	EPA 9320	418037		
2498068003	GWA-8	EPA 9320	418037		
2498068004	GWC-1	EPA 9320	418037		
2498068005	FB-1-9-28-20	EPA 9320	418038		
2498068006	GWC-12	EPA 9320	418038		
2498068007	GWC-11	EPA 9320	418038		
2498068008	GWC-14	EPA 9320	418038		
2498068009	GWC-2	EPA 9320	418038		
2498068010	EB-1-9-29-20	EPA 9320	418038		
2498068011	DUP-1	EPA 9320	418038		
2498068012	GWC-21	EPA 9320	418038		
2498068013	GWC-15	EPA 9320	418038		
2498068014	GWC-16	EPA 9320	418038		
2498068015	GWC-20	EPA 9320	418038		
2498068016	GWB-4R	EPA 9320	418038		
2498068017	EB-2-9-30-20	EPA 9320	418038		
2498068018	DUP-2	EPA 9320	418038		
2498068019	GWC-17	EPA 9320	418038		
2498068020	GWC-17	EPA 9320	418038		
2498068020 2498068021	GWB-6R	EPA 9320	418038		
2498068021 2498068022	GWB-5R		418038		
L-100000ZZ	GWB-3R FB-2-9-30-20	EPA 9320 EPA 9320	418038		



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL RADS

Pace Project No.: 92498068

Date: 10/26/2020 10:50 AM

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		

courier:  Fed Ex UPS USPS Clie	nt . Commercia	al □ Pace C 924980	
racking #:			Proj. Name:
custody Seal on Cooler/Box Present:  yes	☐ no Sea	als intact: 🛭 yes 🛭	] no
acking Material: Bubble Wrap Bubble	e Bags 🔲 None	Other	RZiglock
hermometer Used 230	Type of Ice: (	e Blue None	Samples on ice, cooling process has begun
Cooler Température 3,7	Biological Tiss	ue is Frozen: Yes No	Date and Initials of person examining contents:
emp should be above freezing to 6°C		Comments:	
Chain of Custody Present:	AYes ONO ON	WA 1.	
Chain of Custody Filled Out:	TYPES ONO OF	WA 2.	
Chain of Custody Relinquished:	Yes ONO OF	1/A 3.	
Sampler Name & Signature on COC:	ØYes □No □	N/A 4.	
Samples Arrived within Hold Time:	ØYes □No □	WA 5.	
Short Hold Time Analysis (<72hr):	□Yes ØNo □	N/A 6.	
Rush Turn Around Time Requested:	□Yes ⊅No □t	N/A 7.	
Sufficient Volume:	Úyes □No □	N/A 8.	
Correct Containers Used:	DYes ONO DI	N/A 9.	
-Pace Containers Used:	Tres ONO O	N/A	
Containers Infact:	ØYes □No □	N/A 10.	
iltered volume received for Dissolved tests	□Yes □No I	N/A 11.	7
Sample Labels match COC:	ØYes □No □	N/A 12.	
-Includes date/time/ID/Analysis Matrix:	WT		
All containers needing preservation have been checked.	ØYes □No □	N/A 13.	
All containers needing preservation are found to be in	1	See City.	
compliance with EPA recommendation.	☐Yes □No □		I a a a a a a a a a a a a a a a a a a a
exceptions: VOA; colform, TOC, O&G, WI-DRO (water)	ØYes □No	Initial when CO	Lot # of added preservative
Samples checked for dechlorination:	□Yes □No □	N/A 14.	
Samples checked for decilionination.	□Yes □No □		
Headspace in VOA Vials ( >6mm):	Dyes DNo D		
Headspace in VOA Vials ( >6mm): Trip Blank Present:	Dyes DNo D		
Headspace in VOA Vials ( >6mm):  Trip Blank Present:  Trip Blank Custody Seals Present	□Yes □No □		
Headspace in VOA Vials ( >6mm): Trip Blank Present:	, ,		
Headspace in VOA Vials ( >6mm):  Trip Blank Present:  Trip Blank Custody Seals Present	, ,		Field Data Required? Y / N
Headspace in VOA Vials ( >6mm):  Trip Blank Present:  Trip Blank Custody Seals Present  Pace Trip Blank Lot # (if purchased):	□Yes □No Ø		Field Data Required? Y / N

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

	nalytical*	Docum F-CAR-CS-	giton Form (BIF) ight No.: 043-Rev.00	Page 1 of 1 Issuing Authori Pace Carolinas Quali WO#: 924	ty Office
schemark top half set and within the ples. ptions: VOA, Cofform, lottom half of bor	TOC OI MEMISS D	RO/8015 (water) DOC.	on	PM: KLH1 CLIENT: GA-GA P	Due Date: 10/21/20
1 Rems 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	S S S S S S S S S S S S S S S S S S S		ed (N/A) (Cl·) ( < 2) ( < 2) ( 4C) (N/A)(Cl·)	VG9T-40 mt voa Na25203 (N/A)  VG9T-40 mt voa Na75203 (N/A)	SPST-125 mL Sterile Plastic (N/A – lab) SP2T-250 mL Sterile Plastic (N/A – lab) SP2T-250 mL Sterile Plastic (N/A – lab) SP2T-250 mL Sterile Plastic (N/A – lab) AGDU-100 mL Phaetic (NH2)2504 (9.3-9.7) AGDU-100 mL Amber Unpreserved vials (N/A)
Sample ID	Type of Preservative	pH Adju	ustment Log for Pre	Time preservation adjusted	Amount of Preservative added
				i this form will be sent to th	e North Carolina DEHNR Certifica

### W W 4 W W - ITEM# eguined Citest Information: Metals=B,Ca,Sb,As,Ba,Ba,Cd,Cr,Ca,Pb,LJ,Mo,Sa,TI,V,Zh equested Due Date/TAT: ddress: ease note, when the last aample for the event has been taken. = 5 0 Section D Required Client Info (A-Z, 0-9 / .-) Sample IDs MUST BE UNIQUE GA Power Atlanta, GA SCS Contacts SAMPLE ID 8-1-9-28-20 ADDITIONAL COMMENTS EB-1-9-24-20 PMC-18 BW C-1 6WA-7 こうのから らい として 6-A-8 EWC-13 10 Day Valid Marrix Codes MACISSO COCCUMENTATION CHARACTER WATE WARRIE WATE WARRIE WATE WARRIE WATE WARRIE WATE WARRIE COL WARRIE WARRIE COL Required Project telegradient Report To: SCS Contacts Copy To: ACC Confacts Project Number Project Name: urchase Order No.. から 9 10 5 2 4 RELINQUISHED BY / AFFILIATION 3 MATRIX CODE (see valid codes to left) 6 6 0 8 0 6 Grumman Road - Semi-Annual 0 (G#GRAB C=COMP) SAMPLE TYPE SAMPLER NAME AND SIGNATURE COLLECTED 450 9-27-201535 4-29-20 HHZ 4.22-20 PRINT Name of SAMPLER: 4-091 02.82-6 SIGNATURE of SAMPLER: 9-28-20 1620 7-620 1220 9-29-20 0935 5591 02-22-6 30¢1 02.82.6 9-23-20 1640 ALBEITASMO: 1520 9-30-20 TIME DATE SAMPLE TEMP AT COLLECTION 2450 Pace Ovote Reference: Pace Project Manager: Attention: # OF CONTAINERS Address: Company Name: kwolu-TIME Unpreserved H₂SO₄ HNO 2926-1 Kevin Herring Southern Co. Biston HCI NaOH Na₂S₂O₃ ACCEPTED BY J AFFILIATION Methanol Other いたまでして Analysis Test Y/N ros [MMIDDYY]: 04/30/20 Requested Analysis Filtered (Y/N) 2 2 2 2 2 1 7 5 App. III + IV + State Metals * RAD 226/228 REGULATORY AGENCY Site Location UST 98.50-20 NPDES STATE: DATE \$74.2 CEI. TIME RCRA GROUND WATER 8 Page: Temp in 'C Residual Chlorine (Y/N) रा Received on loe (Y/N) Pace Project No./ Lab LD. SAMPLE CONDITIONS 9999hzh

PH= 5.79 마는 나의

DH= N/A

PH= 4.76 PH= 5.86

마= 4, 구구 pH= 5.45

PH= 5.69

DH= N/A PH= 4,60

pH= N/A

"Important Hohe: By signing this form you are accepting Pace's NET 30 day payment forms and agreeing to late charges of 1.5% per policy for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Custody Seale Cooler (Y/N)

Samples Intact (Y/N)

9

OTHER

DRINKING WATER

The Chain of Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. CHAIN-OF-CUSTODY / Analytical Request Document

### CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

			MotalsxB			lease note	16	-	6	9		7			•			ITEM#				Requests	Email To:		Address.	Company.
			Mulais-B, Ca, Sb, As, Ba, Ba, Cd, Cr, Co, Pb, Li, Mo, Se, Tl, V, Zn			to when the test sample for the event has been taken.	Appropriate Commence					7	9.30.7	C. IB IIB	C.16 - 30	S1-3m2)	1 - NA.	WASTE WATER	Required Client Information MATRIX  Consequency warty	Section D Valid Matrix Codes		requested Due Date/TAT: 10 Day	SCS Contacts		Atlanta, GA	GA POWER
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### CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page 48 of 54

			- Elehow.	1	1	18.0	12	=	10	9		, .	s	-		2	-	ITEM#		7		- Book	Email To		Address	Company:	Require
			Matais=8,Ca,Sb,As,Ba,Ba,Cd,Cr,Co,Pb,L,Mo,Sa,Ti,V,Zn	lost sample toker	response when the assissancie for the event has been taken.	ADDITIONAL COMMENTS						6-346	FB 2-4-50-20	6WB-5R	6w8-6R	GWC-22	Emc-17	SAMPLE ID  (A-Z, 0-81,-)  Sample IDs MUST BE UNIQUE  TREATE  WASTE WANTE AND PROJECT  TREATE  WASTE WASTE OF TREATE  WASTE WASTE OF TREATE  WASTE OF TREATE  WASTE OF TREATE  WASTE OF TREATE  WASTE WASTE WASTE OF TREATE  WASTE WASTE WASTE OF TREATE  WAS	Required Client Information MATRIX CODES  OPENIORS WATER OW		and an analysis of the state of		SCS Contacts		Atlanta, GA	GA Power	Sign.
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-		+	+		-	SAMPLE CONDITIONS	100	PH	뭐	뫔	PH=		V		DH: 3	#	20.14 HO SHE 4.08	8995 YNC V					DRINKING WATER			1	
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C	Y/N)								1		1	r	1	1	1		7	, ,					A	No.	3		
								_	L	L	L	2		-	1				IIIII.	114		1	-	13	8	L	

"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 divokes not paid within 30 day's.

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Test Analyst: Date: Worklist: Matrix:

MB Sample ID

Method Blank Assessment

MB concentration: M/B Counting Uncertainty:

MB Numerical Performance Indicator:

MB Status vs Numerical Indicator:

MB Status vs. MDC

MB MDC:

MS/MSD 2 MS/MSD 1 Sample I.D. Sample MS I.D. Sample MSD I.D. MSD Status vs Recovery: MS/MSD Upper % Recovery Limits: MS/MSD Lower % Recovery Limits: MS/MSD Decay Corrected Spike Concentration (pCi/mL): Spike Volume Used in MS (mL): MS Target Conc.(pCi/L, g, F): MSD Aliquot (L, g, F): Sample Collection Date: Spike I.D.: MS Aliquot (L, g, F): MSD Target Conc. (pCi/L, g, F): MS Spike Uncertainty (calculated) Sample Result Sample Result Counting Uncertainty (pCi/L, g, F): Sample Matrix Spike Result: Sample Matrix Spike Duplicate Result Duplicate Result Counting Uncertainty (pCi/L, g, F) MSD Percent Recovery MS Status vs Numerical Indicator MSD Status vs Numerical Indicator MS Status vs Recovery Spike Volume Used in MSD (mL) MSD Spike Uncertainty (catculated) trix Spike Result Counting Uncertainty (pCi/L, g, F) MS Numerical Performance Indicator MSD Numerical Performance Indicator MS Percent Recovery Sample Matrix Spike Control Assassment 10/14/2020 Ra-226 56676 DW 0.106 0.161 0.345 1.28 N/A Pass

Count Date: 10/15/2020   Count Date: 10/15/2	LCSD56676	Met Matrix Spike I
		Met Matrix Spike [
		Met Matrix Spike D
		Met Matrix Spike D
		Matrix Spike [
		Matrix Spike [
Uncertainty (Catculated); 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%		

nent	Sample I.D. Sample MS I.D.	pike Result; oCi/L, a, F);	cate Result:	se Indicator: Nicate RPD:	ical Indicator: atus vs RPD: % RPD Limit:
Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sam	Sample Matrix Spike Result Counting Uncertainty to Cif. a. F):	Sample Matrix Spike Duplicate Result.  Matrix Spike Duplicate Result Counting Uncertainty (pCifl., 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: MS/ MSD Duplicate Status vs RPD Limit.
	Enter Duplicate sample IDs if	LCS/LCSD in the space below.	-	92497524034 12497524034DUP	

92497524034DUP

92497524034

Sample I.D.: Duplicate Sample I.D.

Duplicate Sample Assessment

See Below 推

0.130 0.179 0.326 0.264

Sample Result (pCil., g. F):
Sample Result (pCil., g. F):
Sample Duplicate Result (pCil., g. F):
Sample Duplicate Result (pCil., g. F):
Are sample and/or duplicate results below RL?

-1,205 85,93%

Duplicate RPD:

Duplicate Status vs Numerical Indicator:

Duplicete Status vs RPD:

Duplicate Numerical Performance Indicator:

N/A Figiral

Comments:

***Batch must be re-prepped due to unacceptable precision.

Amiolis/2000

825/10/ V TAR_56676_Wxls Total-Alpha Radium (R104-3 11Feb2019).xls

1 of 1

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

Analyst Must Manually Enter All Fields Highlighted in Yellow.

LAL 10/15/2020 Test: Analyst: Date:

Face Analytical

56677 DW Worklist Matrix

0.087 0.193 0.458 0.89 N/A Pass MB Sample ID MB concentration: M/B Counting Uncertainty: MB Numerical Performance Indicator: MB Status vs Numerical Indicator. MB Status vs. MDC: MB MDC: Method Blank Assessment

MS/MSD 2																			•											
MS/MSD 1																														
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 (catculated):	MSD Spike Uncertainty (calculated):	7 Sample Result:	Sample Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Result:	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	Sample Matrix Spike Duplicate Result:	Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, g, F):	MS Numerical Performance Indicator:	MSD Numerical Performance Indicator:	MS Percent Recovery:	MSD Percent Recovery:	MS Status vs Numerical Indicator:	MSD Status vs Numerical Indicator:	MS Status vs Recovery:	MSD Status vs Recovery:	MS/MSD Upper % Recovery Limits:	MS/MSD Lower % Recovery Limits:
														z	LCSD56677															

Laboratory Control Sample Assessment

Laboratory Control Sample Assessment	2001	_	
	LCS56677	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):			
Uncertainty (Calculated):	0,055		
Result (pC//L, g, F):			
LCS/LCSD Counting Uncertainty (pCi/L, g, F);	0,731		
Numerical Performance Indicator:	-1,73		
Percent Recovery:	85.91%		_
Status vs Numerical Indicator:	V/N		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		
			Ŀ
Duplicate Sample Assessment			ž

Sample I.D.: 92498068019
Duplicate Sample I.D. 92498068019DUP
Sample Result (pCi/L, g, F): 0.421
Sample Duplicate Result (pCi/L, g, F): 0.373
Are sample and/or duplicate results below RL? See Below ##

0.393

Duplicate RPD:

Duplicate Status vs Numerical Indicator:

Duplicate Numerical Performance Indicator;

N/A Pass 25%

Duplicate Status vs RPD: % RPD Limit:

Sample Matrix Spike Duplicate Result:  Matrix Spike Duplicate Result Counting Uncertainty (pClfu. g. Fr).  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:
92498068019 92498068019DUP

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

Comments:

Edgy of

Jano la Jaro

TAR_56677_W.xls Total Alpha Radium (R104-3 11Feb2019).xls

TAR DW QC Printed: 10/16/2020 10:55 AM

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Pace Analytical www.paetsex.com

Ra-226 LAL 10/15/2020 56677 Dw Test. Analyst. Date: Worklist

2021110	0.087	0.193	0.458	0.89	A/A	Pass
MB Sample ID	MB concentration:	M/B Counting Uncertainty:	MB MDC:	MB Numerical Performance Indicator:	MB Status vs Numerical Indicator:	MB Status vs. MDC:

Method Blank Assessment

×	Sample Collection Date:	
¥	Sample J.D.	
<u>₹</u>		
	Sample MS I.D.	
<u>×</u>	Sample MSD I.D.	
¥ ¥	Spike I.D.:	·
ž	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):	
¥ ITT	MS Target Conc.(pCi/L, g, F):	
×	MSD Aliquot (L, g, F):	
ž	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):	
Š	Sample Matrix Spike Result:	
ž	Matrix Spike Result Counting Uncertainty (pCi/L, g, F):	
Σ	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:	

Laboratory Control Sample Assessment	-CSD (Y or N)?	z
	LCS56677	LCSD56677
Count Date:	10/16/2020	
Spike I.D.:	19-033	
Decay Corrected Spike Concentration (pCi/mL):	24.044	
Volume Used (mL):	0.10	
Alquot Volume (L, g, F):	0.524	
Target Conc. (pCi/L, g, F):	4.586	
Uncertainty (Catculated):	0.055	
Result (pCVL, 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%	

olicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	Sample I.D.: 92498068014 Enter Duplicate	Enter Duplicate	Sample
Duplicate Sample I.D. 92498068014DUP sample IDs if	92498068014DUP	sample IDs if	Sample MS
Sample Result (pCVL, g, F):	1.691	other than	Sample MSC
Sample Result Counting Uncertainty (pCVL, g, F):	0.495	LCS/LCSD in	Sample Matrix Spike Re
Sample Duplicate Result (pCi/L, g, F):	1.375	the space below.	Matrix Spike Result Counting Uncertainty (pCi/L, g
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.433		Sample Matrix Spike Duplicate Re
Are sample and/or duplicate results below RL?	See Below ##		Matrix Spike Duplicate Result Counting Uncertainty (pCi/L, o
Duplicate Numerical Performance Indicator:	0.942	92498068014	Duplicate Numerical Performance Indio
Duplicate RPD:	20.61%	92498068014DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate R
Duplicate Status vs Numerical Indicator:	A/N		MS/ MSD Duplicate Status vs Numerical Indic
Duplicate Status vs RPD:	Pass		MS/ MSD Duplicate Status vs F
% RPD Limit:	25%		1 C43 %

Duplicate Sample Assessment

<u> </u>	Sample I.D. Sample MS I.D. Sample MSD I.D.	
_ <b>غ</b>	Sample Matrix Spike Result:  Matrix Spike Result Counting Uncertainty (pCiV., g, F):  Sample Matrix Spike Duplicate Result:	
<b>1</b> ₽	Matrix Spike Duplicate Result Counting Uncertainty (pCitL, 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;	
<u>5</u>	w the MDC.	

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

Comments:



JAM 10/14/2020

Total Alpha Radium (R104-3 11Feb2019).xls

1 of 1

Ra-228 VAL 10/14/2020 56680 WT Test:
Analyst:
Date:
Worklist:
Matrix:

Face Analytical"

MS/MSD 2

MS/MSD 1

Sample I.D. Sample MS I.D. Sample MSD I.D.

Sample Collection Date:

Sample Matrix Spike Control Assessment

Spike I.D.:

MS/MSD Decay Corrected Spike Concentration (pCi/mL):
Spike Volume Used in MS (mL):
Spike Volume Used in MSD (mL):

MSD Aliquot (L, g, F):
MSD Target Conc. (pCi/L, g, F):
MS Spike Uncertainty (calculated):
MSD Spike Uncertainty (calculated):

MS Target Conc.(pCi/L, g, F):

MS Aliquot (L, g, F):

Analyst Must Manually Enter All Fields Highlighted in Yellow.

MB Sample ID MB concentration: MB 2 Sigma CSU: MB NB VI Performance Indicator: MB Status vs Numerical Indicator: MB Status vs MDC:	2021120	0.335	0.463	0.993	1.42	Pass	Pass
l .			_	_	ormance Indicator:		
	Method Blank Assessment		_		MB Numerical Perfo	MB Status vs Ni	M

CSD (V or N)?	. L	>	MS Spike Uncertainty (calculated): MSD Spike Uncertainty (calculated):
	LCSD (1 d) 14/7	LCSD56680	Sample Result
Count Date:	10/16/2020	10/16/2020	Sample Result 2 Sigma CSU (pCi/L, g, F):
Spike I.D.:	20-030	20-030	Sample Matrix Spike Result:
Decay Corrected Spike Concentration (pCi/mL):	38.004	38.004	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):
Volume Used (mL):	0.10	0.10	Sample Matrix Spike Duplicate Result:
Aliquot Volume (L, g, F):	0.814	0.821	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):
Target Conc. (pCi/L, g, F):	4,668	4.627	MS Numerical Performance Indicator:
Uncertainty (Calculated):	0.229	0.227	MSD Numerical Performance Indicator;
Result (pCi/L, g, F):	3.950	4.745	MS Percent Recovery:
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	0.924	1.105	MSD Percent Recovery:
Numerical Performance Indicator:	-1.48	0.20	MS Status vs Numerical Indicator:
Percent Recovery:	84.63%	102.54%	MSD Status vs Numerical Indicator:
Status vs Numerical Indicator:	ΥX	A/X	MS Status vs Recovery:
Status vs Recovery:	Pass	Pass	MSD Status vs Recovery:
Jpper % Recovery Limits:	135%	135%	MS/MSD Upper % Recovery Limits:
Lower % Recovery Limits:	%09	%09	MS/MSD Lower % Recovery Limits:

MS/MSD Loper % Recovery Limits: MS/MSD Lower % Recovery Limits:

Duplicate Sample Assessment			Matrix Spike/Matrix Spike Duplicate Sample Assessment
Sample I.D.:	LCS56680	Enter Duplicate	Sample
Duplicate Sample I.D.	LCSD56680	sample IDs if	Sample MS
Sample Result (pCi/L, g, F):	3.950	other than	Sample MSD
Sample Result 2 Sigma CSU (pCi/L, g, F):	0.924	LCS/LCSD in	Sample Matrix Spike Re
Sample Duplicate Result (pCVL, g, F):	4.745	the space below.	Matrix Spike Result 2 Sigma CSU (pCi/L, g
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.105		Sample Matrix Spike Duplicate Re
Are sample and/or duplicate results below RL?	2		Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, (
Duplicate Numerical Performance Indicator:	-1.082		Duplicate Numerical Performance Indic
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	19.14%		(Based on the Percent Recoveries) MS/ MSD Duplicate
Duplicate Status vs Numerical Indicator:	Pass		MS/MSD Duplicate Status vs Numerical Indic
Duplicate Status vs RPD:	Pass		MS/ MSD Duplicate Status vs
% RPD Limit:	36%		% RPD

					,,,,,,,,,				
Sample LD. Sample MS LD.	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:

300 P (0 1 M ) (0 1 M ) (1 M )

Ra-228_56680_W.xls Ra-228 (R086-8 04Sep2019).xls

6 of 10

# Quality Control Sample Performance Assessment

Ra-228	VAL 10/14/2020	56681 WT
Test:	Analyst: Date:	Worklist Matrix:

0.180 0.316 0.690 1.12 Pass Pass

MB Numerical Performance Indicator; MB Status vs Numerical Indicator; MB Status vs. MDC:

MB concentration: M/B 2 Sigma CSU: MB MDC:

MB Sample ID

Method Blank Assessment

Yellow.
hlighted in
VII Fields Hig
ally Enter A
Must Manu
Analyst

	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):		
z	MSD Spike Uncertainty (calculated);		
LCSD56681	Sample Result:		
	Sample Result 2 Sigma CSU (pCi/L, g, F):		
	Sample Matrix Spike Result:		
	Matrix Spike Result 2 Sigma CSU (pCi/L, g, F):		
	Sample Matrix Spike Duplicate Result:		
	Matrix Spike Duplicate Result 2 Sigma CSU (pCi/L, g, F):		
	MS Numerical Performance Indicator:		
	MSD Numerical Performance Indicator:		
	MS Percent Recovery:		
	MSD Percent Recovery:		
	MS Status vs Numerical Indicator:		
	MSD Status vs Numerical Indicator:		
	MS Status vs Recovery:		
	MSD Status vs Recovery:		
	MS/MSD Upper % Recovery Limits:		
-	MeMan Water Williams	_	

Count Date: Spike I.D.:

Laboratory Control Sample Assessmen

Decay Corrected Spike Concentration (pCi/mL):

Volume Used (mL):
Aliquot Volume (L, g, F):
Target Conc. (pCi.l., g, F):
Uncertainty (Calculated):
Result (pCi.l., g, F):
LCS/LCSD 2 Sigma CSU (pCi.l., g, F):
Numerical Performance Indicator:

Į Ž

Percent Recovery: Status vs Numerical Indicator: Status vs Recovery: Upper % Recovery Limits: Lower % Recovery Limits:

ecovery Limits: (ecovery Limits:)	ssment	Sample I.D.
MS/MSD Loper % Recovery Limits: MS/MSD Lower % Recovery Limits;	Matrix Spike/Matrix Spike Duplicate Sample Assessment	
		Enter Duplicate

Sample I.D.: 92498068019 Duplicate Sample I.D. 92498068019DUP

Duplicate Sample Assessmen

Enter Duplicate	Sample I.D.
sample IDs if	Sample MS I.D.
other than	Sample MSD I.D.
LCS/LCSD in	Sample Matrix Spike Result:
the space below.	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):
92498068019	Duplicate Numerical Performance Indicator:
32498068019DUP	(Based on the Percent Recoveries) MS/ MSD Duplicate RPD:
	MS/ MSD Duplicate Status vs Numerical Indicator:
	MS/ MSD Duplicate Status vs RPD:
	% RPD Limit.

See Below 辑 -0.036 0.80% Pass

2.028 0.646 2.044 0.603

Sample Result (pCifL, g, F):
Sample Result 2 Sigma CSU (pCifL, g, F):
Sample Duplicate Result (pCifL, g, F):
Sample Duplicate Result 2 Sigma CSU (pCifL, g, F):
Are sample and/or duplicate results below RL?

Duplicate Numerical Performance Indicator. Duplicate RPD:

esults are below the MI	mple or dupiicate	Juplicate precision is not applicable if either the sample or duplicate results are below the MI
	36%	% RPD Limit.
	Pass	Duplicate Status vs RPD:
	Pass	Duplicate Status vs Numerical Indicator:

<u>|</u>2 ## Evaluation of du

10/14/2020 Ra-228 56682 WT Worklist: Matrix: Test Analyst: Date:

MS/MSD 2

MS/MSD 1

Sample I.D. Sample MS I.D. Sample MSD I.D.

Spike I.D.

Sample Collection Date:

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Sample Matrix Spike Control Assessment

0.318 0.365 0.768 1.70 Pass MB Sample ID M/B 2 Sigma CSU: MB MDC: MB Numerical Performance Indicator: MB Status vs Numerical Indicator. MB Status vs. MDC: MB concentration: Method Blank Assessment

Spike Volume Used in MSD (mL):
MS Aliquot (L, g, F):
MS Target Conc, (pCbL, g, F):
MSD Aliquot (L, g, F):
MSD Target Conc. (pCbL, g, F):

Spike Volume Used in MS (mL):

MS/MSD Decay Corrected Spike Concentration (pCI/mL)

0.16 101.86%

Percent Recovery: Status vs Recovery:

Status vs Numerical Indicator.

Upper % Recovery Limits: Lower % Recovery Limits:

Duplicate Sample Assessment

Result (pCi/L, g, F): LCS/LCSD 2 Sigma CSU (pCi/L, g, F): Numerical Performance Indicator:

0.10 0.813 4.669 0.229 4.756

Aliquot Volume (L, g, F): Target Conc. (pCi/L, g, F):

Uncertainty (Calculated):

Volume Used (mL):

Decay Corrected Spike Concentration (pCi/mL):

37.943 37.943

Count Date:

Laboratory Control Sample Assessment

Spike I.D.:

Matrix Spike/Matrix Spike Duplicate Sample Assessment	Sample 1.D.	Sample MS 1.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 Dunicate Status vs Numerical Indicator

LCS56682 LCSD56682 4.756 1.070 5.987

Sample I.D.: Duplicate Sample I.D.

Enter Duplicate	Sample I.D.
sample IDs if	Sample MS I.D.
other than	Sample MSD I.D.
LCS/LCSD in	Sample Matrix Spike Result:
the space below.	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

NO -1.424 22.90%

1,314

Sample Result (pCirl., g, F): Sample Result 2 Sigma CSU (pCirl., g, F): Sample Duplicate Result (pCirl., g, F): Sample Duplicate Result 2 Sigma CSU (pCirl., g, F):

Are sample and/or duplicate results below RL?

Duplicate Numerical Performance Indicator:

(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:

Duplicate Status vs Numerical Indicator:

Pass Pass 36%

Duplicate Status vs RPD: % RPD Limit:

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

6 of 10





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

tester Faster

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





### **CERTIFICATIONS**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

**Pace Analytical Services Charlotte** 

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

North Carolina Field Services Certification #: 5342 North Carolina Wastewater Certification #: 12 South Carolina Certification #: 99006001 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

**Pace Analytical Services 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



### **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



### **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



### **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
92498079001	GWA-7 FILTERED					
	Performed by	CUSTOME R			09/30/20 15:08	
	рН	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	
2498079002	GWB-5R FILTERED					
	Performed by	CUSTOME R			10/02/20 15:06	
	рН	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	



### **ANALYTICAL RESULTS**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

Sample: GWA-7 FILTERED	Lab ID:	92498079001	Collecte	d: 09/28/20	15:20	Received: 09/	30/20 11:47 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Services	- Charlotte						
Performed by	CUSTOME				1		09/30/20 15:08		
рН	R 5.86	Std. Units			1		09/30/20 15:08		
6010 MET ICP, Dissolved	Analytical	Mothod: EDA 6	:010D Bron	aration Mat	had: El	DA 2010A			
6010 MET ICP, Dissolved	•	Method: EPA 6 ytical Services				FA 3010A			
0.1.		•		,		10/05/00 15 11	10/00/00 10 57	7440 70 0	
Calcium, Dissolved	3.0	mg/L	1.0	0.070	1	10/05/20 15:44	10/06/20 18:57	7440-70-2	
6020 MET ICPMS, Dissolved	Analytical	Method: EPA 6	020B Prep	aration Met	hod: EF	PA 3005A			
	Pace Anal	ytical Services	- Peachtree	e Corners, C	βA				
Antimony, Dissolved	0.0020J	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	0.079	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	4.6	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	0.010J	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	0.00019J	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	0.014J	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	0.10	mg/L	0.050	0.011	5	10/01/20 14:57	10/02/20 16:41	7440-62-2	
Zinc, Dissolved	0.084	mg/L	0.050	0.011	5	10/01/20 14:57	10/02/20 16:41	7440-66-6	



### **ANALYTICAL RESULTS**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

Sample: GWB-5R FILTERED	Lab ID:	92498079002	Collecte	ed: 09/30/20	17:30	Received: 10/	02/20 12:22 Ma	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte	)					
Performed by	CUSTOME R				1		10/02/20 15:06		
рН	4.99	Std. Units			1		10/02/20 15:06		
6010 MET ICP, Dissolved	•	Method: EPA 6		•		PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, G	iΑ				
Calcium, Dissolved	66.3	mg/L	1.0	0.070	1	10/05/20 15:44	10/06/20 19:16	7440-70-2	
6020 MET ICPMS, Dissolved	Analytical	Method: EPA 6	6020B Pre	paration Met	hod: EF	PA 3005A			
	Pace Ana	lytical Services	- Peachtre	e Corners, C	βA				
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	0.0014J	mg/L	0.0050	0.00078	1	10/07/20 15:26	10/07/20 20:12	7440-38-2	
Barium, Dissolved	0.15	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	3.9	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	0.00085J	mg/L	0.010	0.00055	1	10/07/20 15:26	10/07/20 20:12	7440-47-3	
Cobalt, Dissolved	0.00047J	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	0.0025J	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	



GRUMMAN ROAD SEMI ANNUAL FILT. Project:

Pace Project No.: 92498079

QC Batch: 570950

QC Batch Method: **EPA 3010A**  Analysis Method: **EPA 6010D** 

Analysis Description:

6010 MET Filtered Diss.

MDL

Laboratory:

Pace Analytical Services - Peachtree Corners, GA

Associated Lab Samples: 92498079001, 92498079002

METHOD BLANK:

Matrix: Water

Associated Lab Samples:

92498079001, 92498079002

Blank

Result

Reporting

Limit

Analyzed

Qualifiers

Calcium, Dissolved

Units mg/L

ND

1.0

0.070

10/06/20 18:48

LABORATORY CONTROL SAMPLE:

Parameter

Parameter

3024403

Units

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

Calcium, Dissolved

Date: 10/19/2020 10:38 AM

mg/L

0.96J

3024457

67.3

MS

96 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

3024456

MSD

92498079002 Parameter Units Result

mg/L

MS Spike

Result

MSD Result

MS % Rec

MSD % Rec

% Rec Limits

Max RPD

Calcium, Dissolved

66.3

Conc.

Spike Conc.

67.3

97

102

**RPD** 75-125

Qual 0 20

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



Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

MATRIX SPIKE & MATRIX S	PIKE DUPL	LICATE: 3021	MS	MSD	3021083							
		92497893001	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qua
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	
₋ead, Dissolved	mg/L	ND	0.1	0.1	0.096	0.095	96	95	75-125	1	20	
ithium, 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	
hallium, Dissolved	mg/L	ND	0.1	0.1	0.098	0.097	98	97	75-125	1	20	
/anadium, 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	

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.



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

Date: 10/19/2020 10:38 AM

		Blank	Reporting			
Parameter	Units	Result	Limit	MDL	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND 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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

LABORATORY CONTROL SAMPLE:	3026977					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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 SI	PIKE DUPLIC	CATE: 3026			3026979	1						
	0	2498079002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Mov	
Parameter	9 Units	Result	Spike Conc.	Conc.	Result	Result	% Rec	МSD % Rec	% Rec	RPD	Max RPD	Qual
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	

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.



Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

MATRIX SPIKE & MATRIX S	PIKE DUPL	ICATE: 3026	978		3026979							
Parameter	Units	92498079002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium, Dissolved	mg/L		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			_			
		92497981005	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
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	

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.



### **QUALIFIERS**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

### **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**

Date: 10/19/2020 10:38 AM

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



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD SEMI ANNUAL FILT.

Pace Project No.: 92498079

Date: 10/19/2020 10:38 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92498079001 92498079002	GWA-7 FILTERED GWB-5R FILTERED				
92498079001 92498079002	GWA-7 FILTERED GWB-5R FILTERED	EPA 3010A EPA 3010A	570950 570950	EPA 6010D EPA 6010D	570976 570976
92498079001	GWA-7 FILTERED	EPA 3005A	570318	EPA 6020B	570369
92498079002	GWB-5R FILTERED	EPA 3005A	571522	EPA 6020B	571615

WO#: 92498079 ace Analytical Client Name: BA Bwer Courier: 🔲 fed Ex 🔲 UPS 🔲 USPS 🔲 Client 🔎 Commercial 🔲 Pace Other Tracking #: Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☐ Bubble Bags ☐ None ☐ Other BEZiplock Packing Material: Bubble Wrap Samples on ice, cooling process has begun Type of Ice: (We) Blue None Thermometer Used Date and initials of person examining Biological Tissue is Frozen: Yes No Cooler Temperature contents:__ Temp should be above freezing to 6°C Comments: ☑Yes □No □N/A 1 Chain of Custody Present: ØYes □No □N/A Chain of Custody Filled Out: Chain of Custody Relinquished: MYes □No □N/A Sampler Name & Signature on COC: ☑Yes □No □N/A ☑Yes □No **□N/A** Samples Arrived within Hold Time; □Yes ØNo **□N/A** Short Hold Time Analysis (<72hr): Rush Turn Around Time Requested: ☐Yes ☐No □N/A ☐Yes ☐No □N/A Sufficient Volume: ØYes □No □N/A Correct Containers Used: ☐Yes ☐No □N/A -Pace Containers Used: □N/A 10 ☑Yes □No Containers Infact: ☐Yes ☐No E.NA Filtered volume received for Dissolved tests ØŶes □Nø □N/A 12. Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: All containers needing preservation have been checked. Øyes □No □N/A 13. All containers needing preservation are found to be in ÉYes □No □N/A compliance with EPA recommendation. Initial when Lot # of added **∐**Yes □No completed preservative exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) □Yes □No □N/A 14. Samples checked for dechlorination: □Yes □No ŪN/A 15. Headspace in VOA Vials ( >6mm): □Yes □No □NA 16. Trip Blank Present: □Yes □No ØN/A Trip Blank Custody Seals Present Pace Trip Blank Lot # (if purchased): Field Data Required? Client Notification/ Resolution: Date/Time: Person Contacted: Comments, Resolution: Date: Project Manager Review:

Sample Condition Upon Receipt

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



### CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a 1EGAL DOCUMENT. All relevant fields must be completed accurately.

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"important Note: By signing that form you are succepting Pace's NET 3D day payment forms and agreeing to tale changes of 1.5% per month for any invokes not paid within 30 days.

### CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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### **LEVEL 2A LABORATORY DATA VALIDATIONS**

### Grumman Road 2nd 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)¹ and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)². 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

¹USEPA, 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

²USEPA, 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

						Analyses			
SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)
498084	GWA-7	9/28/2020	92498084001	GW		Х	Χ	Χ	
498068	GWA-7	9/28/2020	92498068001	GW					Х
498084	GWC-13	9/28/2020	92498084002	GW		Х	Χ	Χ	
498068	GWC-13	9/28/2020	92498068002	GW					Х
498084	GWA-8	9/28/2020	92498084003	GW		Х	Χ	Χ	
498068	GWA-8	9/28/2020	92498068003	GW					Х
498084	GWC-1	9/28/2020	92498084004	GW		Х	Χ	Χ	
498068	GWC-1	9/28/2020	92498068004	GW					Х
498084	FB-1-9-28-20	9/28/2020	92498084005	WQ	FB	Х	Χ	Χ	
498068	FB-1-9-28-20	9/28/2020	92498068005	WQ	FB				Х
498084	GWC-12	9/29/2020	92498084006	GW		Х	Χ	Χ	
498068	GWC-12	9/29/2020	92498068006	GW					Х
498084	GWC-11	9/29/2020	92498084007	GW		Х	Χ	Χ	
498068	GWC-11	9/29/2020	92498068007	GW					Х
498084	GWC-14	9/29/2020	92498084008	GW		Х	Χ	Χ	
498068	GWC-14	9/29/2020	92498068008	GW					Х
498084	GWC-2	9/29/2020	92498084009	GW		Х	Χ	Χ	
498068	GWC-2	9/29/2020	92498068009	GW					Х
498084	EB-1-9-29-20	9/29/2020	92498084010	WQ	EB	Х	Χ	Χ	
498068	EB-1-9-29-20	9/29/2020	92498068010	WQ	EB				Х
498084	DUP-1	9/29/2020	92498084011	GW	FD (GWC-12)	Х	Χ	Χ	
498068	DUP-1	9/29/2020	92498074011	GW	FD (GWC-12)				Х
498084	GWC-21	9/30/2020	92498084012	GW		Х	Χ	Χ	
498068	GWC-21	9/30/2020	92498068012	GW					Х

#### 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

						Analyses				
SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)	Radium-226/-228 (9315, 9320)	
498084	GWC-15	9/30/2020	92498084013	GW		Х	Χ	Χ		
498068	GWC-15	9/30/2020	92498068013	GW					Х	
498084	GWC-16	9/30/2020	92498084014	GW		Х	Χ	Χ		
498068	GWC-16	9/30/2020	92498068014	GW					Х	
498084	GWC-20	9/30/2020	92498084015	GW		Х	Χ	Χ		
498068	GWC-20	9/30/2020	92498068015	GW					Х	
498084	GWB-4R	10/1/2020	92498084016	GW		Х	Χ	Χ		
498068	GWB-4R	10/1/2020	92498068016	GW					Х	
498084	EB-2-9-30-20	9/30/2020	92498084017	WQ	EB	Х	Χ	Χ		
498068	EB-2-9-30-20	9/30/2020	92498068017	WQ	EB				Х	
498084	DUP-2	9/30/2020	92498084018	GW	FD (GWC-20)	Х	Χ	Χ		
498068	DUP-2	9/30/2020	92498068018	GW	FD (GWC-20)				Х	
498084	GWC-17	9/30/2020	92498084019	GW		Х	Χ	Χ		
498068	GWC-17	9/30/2020	92498068019	GW					Х	
498084	GWC-22	9/30/2020	92498084020	GW		Х	Χ	Χ		
498068	GWC-22	9/30/2020	92498068020	GW					Х	
498084	GWB-6R	9/30/2020	92498084021	GW		Х	Х	Χ		
498068	GWB-6R	9/30/2020	92498068021	GW					Χ	
498084	GWB-5R	9/30/2020	92498084022	GW		Х	Х	Χ		
498068	GWB-5R	9/30/2020	92498068022	GW					Х	
498084	FB-2-9-30-20	9/30/2020	92498084023	WQ	FB	Х	Χ	Χ		
498068	FB-2-9-30-20	9/30/2020	92498068023	WQ	FB				Х	
498084	GWC-9	10/1/2020	92498084024	GW		Х	Х	Χ		
498068	GWC-9	10/1/2020	92498068024	GW					Х	
498079	GWA-7 Filtered	9/28/2020	92498079001	GW		Х				
498079	GWB-5R Filtered	9/30/2020	92498079002	GW		Х				

#### 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

 $\mathsf{MDL}-\mathsf{Method}\;\mathsf{Detection}\;\mathsf{Limit}$ 

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	Constituent	New RL	New MDL	Qualifier	Reason
	Identification			or MDC		
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

Test Date / Time: 9/28/2020 2:55:11 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWA-7
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 16.1 ft
Total Depth: 21.1 ft

Initial Depth to Water: 5.16 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 19 ft Estimated Total Volume Pumped:

5.625 liter

Flow Cell Volume: 90 ml Final Flow Rate: 225 ml/min Final Draw Down: 4.5 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Cloudy, 70s, sample time- 1520

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow	
		+/- 0.1	+/- 10	+/- 5 %	+/- 10 %	+/- 5	+/- 300	+/- 0.3		
9/28/2020	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	
2:55 PM		<u>'</u>		· .	Ŭ					
9/28/2020	05:00	05:00	5.85 pH	25.38 °C	1,544.8	0.15 mg/L	28.00 NTU	95.8 mV	5.50 ft	225.00 ml/min
3:00 PM			5.65 PH	25.36 C	μS/cm 0.13 mg/	0.15 Hig/L	26.00 NTO	95.6 1117	5.50 11	223.00 1111/111111
9/28/2020	10:00	5.86 pH	25.81 °C	1,558.7	0.07 mg/L	49.00 NTU	79.6 mV	5.50 ft	225.00 ml/min	
3:05 PM	10.00	5.00 pH	23.01 0	μS/cm	0.07 mg/L	49.00 1110	7 3.0 111 V	3.50 ft	223.00 111/111111	
9/28/2020	15:00	5.86 pH	25.90 °C	1,567.3	0.05 mg/L	66.00 NTU	69.2 mV	5.50 ft	225.00 ml/min	
3:10 PM	15.00	3.60 pri	25.90 C	μS/cm	0.03 mg/L	00.00 N10	09.2 1110	3.30 11	223.00 111/111111	
9/28/2020	20:00	E 96 5H	26.04.°C	1,583.9	0.05 mg/L	72.00 NTU	61.2 mV	5 50 ft	225.00 ml/min	
3:15 PM	20:00	20:00 5.86 pH	26.04 °C	μS/cm	0.05 mg/L	72.00 NTO	61.21110	5.50 ft	225.00 111/111111	
9/28/2020	25:00	05:00 E 06 all	25.00 ℃	1,586.5	0.05 mg/l	129.00 NTU	54.4 m\/	5 50 ft	225.00 ml/min	
3:20 PM		25:00	5.86 pH	25.88 °C	μS/cm	0.05 mg/L	129.00 NTU	54.4 mV	5.50 ft	223.00 111/111111

#### **Samples**

	Sample ID:	Description:
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Product Name: Low-Flow System

Date: 2020-09-28 16:05:04

			ORP mV +/- 20 77.87 77.70 75.19 72.55 70.36 -2.50 -2.64
Peristaltic Pump poly 0.10 in 21 ft	19 ft	230 mL/min 0.1233332 L 300 sec 24 in 9.2 L	RDO mg/L +/- 10% 0.28 0.18 0.13 0.19 -0.05 0.05
9 9 9.0.5	16	6 2 3 0 2	DTW ft 7.87 7.92 8.03 8.19 8.30
rmation: del/Type pe ameter ngth	Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped	SpCond µS/cmTurb NTU +/- 5% +/- 10 273.44 1.19 295.02 1.61 305.44 1.33 312.21 0.99 314.39 1.23 10.42 6.77
Pump Information: Pump Model/Type Tubing Type Tubing Diameter Tubing Length	Pump plac	Pumping Informatio Final Pumping Rate Total System Volum Calculated Sample Stabilization Drawd Total Volume Pump	SpCond µ +/- 5% 273.44 295.02 305.44 312.21 314.39 10.42 6.77
nsulting			pH +/- 0.1 4.65 4.43 4.41 -0.07 -0.02
Taylor Goble Atlantic Coast Consulting Grumman Road Grumman Road 0° 0' 0"	601533 НАСН 2100Q	0 ft ft	Temp C +/- 0.5 26.37 26.17 26.12 25.90 25.90 -0.04 -0.22
Taylor G Atlantic Grumma Oo O' O''	050 0 601533 HACH 2	GWA-8 2 in 20.90 ft 5 ft 6.14 ft	Low-Flow Sampling Stabilization Summary Time Elapsed Stabilization Last 5 15:44:06 1200.03 Last 5 15:54:06 1800.03 Last 5 15:59:08 2102.03 Last 5 16:04:08 2402.03 Variance 0
nation: ne me	(e/Model	ion: r pth ih er	mpling Stabiliz Time 15:44:06 15:54:06 15:59:08 16:04:08
Project Information: Operator Name Company Name Project Name Site Name Latitude	Longludde Sonde SN Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water	Low-Flow Sar Stabilization Last 5 Last 5 Last 5 Last 5 Variance 0 Variance 1

Notes Sampled at 1604. Mostly cloudy 83 degrees

**Grab Samples** 

Product Name: Low-Flow System

Date: 2020-10-01 08:51:03

Peristaltic Pump poly 0.10 in 27 ft 22 ft	130 mL/min 0.1325998 L 300 sec 2 in 4 L
Pump Information: Pump Model/Type Tubing Type Tubing Length Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped
Taylor Goble Atlantic Coast Consulting Grumman Road Grumman Road 0º 0' 0" 601533 HACH 2100Q	GWB-4R 2 in 26.95 ft 10 ft 14.11 ft
Project Information: Operator Name Company Name Project Name Site Name Latitude Longitude Sonde SN Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water

	ORP mV	+/- 20	62.89	64.29	62.54	60.46	58.38	-1.75	-2.08	-2.09
	RDO mg/L	+/- 10%	0.11	0.11	0.11	0.11	0.11	-0.01	0.00	0.00
	DTW ft		14.37	14.37	14.37	14.37	14.37			
	S/cm Turb NTU	+/- 10	3.74	3.67	3.60	3.51	3.55		0.81	
	SpCond µS	+/- 2%	627.13	625.33	622.02	622.84	621.71	-3.31	0.81	-1.13
	Hd	+/- 0.1	5.74	5.74	5.74	5.74	5.75	0.00	0.00	0.00
			21.76	21.77	21.84	21.86	21.99	0.07	0.02	0.13
ation Summary	Time Elapsed		600.03	900.03	1200.03	1500.03	1800.03			
npling Stabiliz	Time		08:30:18	08:35:18	08:40:18	08:45:18	08:50:18			
Low-Flow Sai		Stabilization	Last 5	Last 5	Last 5	Last 5	Last 5	Variance 0	Variance 1	Variance 2

Notes Sampled at 0850. Sunny 60 degrees. Extended purge

**Grab Samples** 

Test Date / Time: 9/30/2020 4:20:06 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWB-5R
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 10 ft
Top of Screen: 21.5 ft

Total Depth: 26.5 ft

Initial Depth to Water: 8.67 ft

Pump Type: Peri Pump Tubing Type: Poly

> Pump Intake From TOC: 24 ft Estimated Total Volume Pumped:

14 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 6.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-1730

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Test Date / Time: 9/30/2020 3:05:08 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWB-6R
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 10 ft
Top of Screen: 17.7 ft
Total Depth: 22.7 ft

Initial Depth to Water: 6 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 20 ft Estimated Total Volume Pumped:

6 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 2.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time- 1535, FB-2-9-30-20 at 1525

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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 Company Name Project Name Site Name Latitude Longitude Sonde SN Turbidity Make/Model	Taylor Goble Atlantic Coast Consulting Grumman Road Go 0' 0" 0° 0' 0" 601533 HACH 2100Q	Pump Information: Pump Model/Type Tubing Diameter Tubing Length Pump placement from TOC	Peristaltic Pump poly 0.10 in 28 ft
Well Information:  Well ID  Well diameter  Well Total Depth Screen Length Depth to Water  18.28	GWC-1 2 in 28.10 ft 5 ft 18.28 ft	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped	200 mL/min 0.1341442 L 300 sec 2 in 6 L

Low-Flow Sa	mpling Stabiliz	zation Summary							
	Time	Time Elapsed		Hd	SpCond µS	/cm Turb NTU	DTW ft	RDO mg/L	ORP mV
Stabilization			•	+/- 0.1	+/- 2%	+/- 10		+/- 10%	+/- 20
Last 5	16:48:56	600.03	24.01	5.66	501.60	1.12	18.38	0.18	90.66
Last 5	16:53:56	900.03	23.97	5.77	523.12	0.67	18.39	0.15	93.88
Last 5	16:58:56	1200.28	24.01	5.78	524.76	0.61	18.41	0.13	92.40
Last 5	17:03:56	1500.28	24.39	5.78	537.82	0.50	18.43	0.17	92.44
Last 5	17:08:56	1800.28	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	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** 

Test Date / Time: 9/29/2020 3:25:30 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-2
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 26.4 ft
Total Depth: 31.4 ft

Initial Depth to Water: 18 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 28 ft Estimated Total Volume Pumped:

6 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 2.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Cloudy, 70s, sample time -1555

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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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Test Date / Time: 9/30/2020 6:06:02 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-9
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 20.7 ft
Total Depth: 25.7 ft

Initial Depth to Water: 7.07 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 25 ft Estimated Total Volume Pumped:

12.5 liter

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 18.43 ft Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Purged dry, allow for overnight recharge

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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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Test Date / Time: 10/1/2020 8:01:07 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-9
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 20.7 ft

Total Depth: 25.7 ft

Initial Depth to Water: 7.86 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 25 ft Estimated Total Volume Pumped:

2.7 liter

Flow Cell Volume: 90 ml Final Flow Rate: 135 ml/min Final Draw Down: 36.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-0821.

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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:

Test Date / Time: 9/29/2020 10:30:16 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-11
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 17.55 ft
Total Depth: 22.55 ft

Initial Depth to Water: 11.2 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 20 ft Estimated Total Volume Pumped:

14.3 liter

Flow Cell Volume: 90 ml Final Flow Rate: 130 ml/min Final Draw Down: 39.6 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 80s, sample time-1220

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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	01:15:00	4 70 pU	24.29 °C	1,257.3	0.10 mg/l	1.30 NTU	135.9 mV	14.50 ft	130.00 ml/min
11:45 AM	01.15.00	4.78 pH	24.29 0	μS/cm	0.19 mg/L	1.30 NTO	135.9 1110	14.50 11	130.00 m/mm
9/29/2020	01:20:00	4.80 pH	24.68 °C	1,185.2	0.23 mg/L	1.29 NTU	134.7 mV	14.50 ft	130.00 ml/min
11:50 AM	01.20.00	4.80 pm	24.00 C	μS/cm	0.23 Hig/L	1.29 1110	134.7 1110	14.50 10	130.00 111/111111
9/29/2020	01:25:00	4.79 pH	25.26 °C	1,330.1	0.20 mg/L	1.49 NTU	136.7 mV	14.50 ft	130.00 ml/min
11:55 AM	01.25.00	4.79 pm	25.20 0	μS/cm	0.20 mg/L	1.49 1110	130.7 1117	14.50 10	130.00 111/111111
9/29/2020	01:30:00	4.77 pH	25.76 °C	1,557.3	0.14 mg/L	1.51 NTU	140.9 mV	14.50 ft	130.00 ml/min
12:00 PM	01.50.00	4.77 pm	25.70 0	μS/cm	0.14 mg/L	1.51 1410	140.5 111	14.50 10	130.00 111/111111
9/29/2020	01:35:00	4.78 pH	25.72 °C	1,561.7	0.15 mg/L	1.22 NTU	141.4 mV	14.50 ft	130.00 ml/min
12:05 PM	01.55.00	4.70 pm	25.72 C	μS/cm	0.13 mg/L	1.22 1010	141.41110	14.50 11	130.00 111/111111
9/29/2020	01:40:00	4.77 pH	25.39 °C	1,712.2	0.17 mg/L	1.20 NTU	144.0 mV	14.50 ft	130.00 ml/min
12:10 PM	01.40.00	4.77 pm	25.59 0	μS/cm	0.17 mg/L	1.20 1110	144.0 111 V	14.50 10	130.00 1111/111111
9/29/2020	01:45:00	4.77 pH	25.41 °C	1,734.4	0.14 mg/L	1.19 NTU	145.2 mV	14.50 ft	130.00 ml/min
12:15 PM	01.43.00	4.77 pm	20.41 0	μS/cm	0.14 Hig/L	1.13 N10	145.2 1110	14.50 10	130.00 111/111111
9/29/2020	01:50:00	4.77 pH	25.76 °C	1,727.7	0.15 mg/L	1.29 NTU	145.3 mV	14.50 ft	130.00 ml/min
12:20 PM	01.30.00	4.77 pm	23.70 C	μS/cm	0.13 Hig/L	1.23 N10	145.51110	14.50 10	130.00 111/111111

#### Samples

Sample ID:	Description:

Test Date / Time: 9/29/2020 9:11:16 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-12
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 21.7 ft
Total Depth: 26.7 ft

Initial Depth to Water: 11.08 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 23 ft Estimated Total Volume Pumped:

5 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min

Final Draw Down: 5 in

Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-0935, DUP-1 here

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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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Test Date / Time: 9/28/2020 4:00:30 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-13
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 19.1 ft
Total Depth: 24.1 ft

Initial Depth to Water: 12.43 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 22 ft Estimated Total Volume Pumped:

10 liter

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 5.6 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

**Test Notes:** 

Cloudy, 70s, sample time-1640

#### Low-Flow Readings:

Date Time	Elapsed Time	рН	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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Test Date / Time: 9/29/2020 2:06:59 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-14
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 22 ft
Total Depth: 27 ft

Initial Depth to Water: 18.44 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 25 ft Estimated Total Volume Pumped:

7 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 4.3 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-1442

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

			ORP mV +/- 20 76.25 78.63 80.88 83.21 85.03 2.25 2.33
Peristaltic Pump poly 0.10 in 27 ft	25 ft	150 mL/min 0.1325998 L 300 sec 2 in 4.5 L	RDO mg/L +/- 10% 0.16 0.10 0.09 0.08 -0.01
Pe 00.7 272	25	150 0.13 300 2 in 4.5	DTW ft 18.85 18.85 18.85 18.85
ormation: del/Type pe ameter ngth	Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped	SpCond μS/cm Turb NTU +/- 5% +/- 10 642.28 2.33 642.26 1.79 642.30 1.61 642.98 1.33 642.36 3.03 1.04 -0.32
Pump Information: Pump Model/Type Tubing Type Tubing Diameter Tubing Length	Pump plac	Pumping Informatic Final Pumping Rate Total System Volum Calculated Sample Stabilization Drawd Total Volume Pump	SpCond µ +/- 5% 642.28 642.26 643.30 642.36 1.04 -0.32 -0.62
nsulting			pH +/- 0.1 6.72 6.72 6.71 6.71 -0.01
Taylor Goble Atlantic Coast Consulting Grumman Road Grumman Road 0º 0' 0"	601533 HACH 2100Q	15 0 ft 4 ft	Temp C +/- 0.5 25.24 25.13 25.19 25.22 25.14 0.06 0.03
Taylor G Atlantic Grumma Grumma 0° 0' 0"	601533 HACH 2	GWC-15 2 in 26.80 ft 5 ft 18.64 ft	Low-Flow Sampling Stabilization Summary         Stabilization       Fime       Elapsed         Stabilization       12:10:15       600.03         Last 5       12:15:15       900.03         Last 5       12:20:15       1200.03         Last 5       12:25:15       1500.03         Variance 0       Variance 1         Variance 2
nation: ne ne	e/Model	ion: pth h er	npling Stabiliz Time 12:10:15 12:25:15 12:25:15
Project Information: Operator Name Company Name Project Name Site Name Latitude	Sonde SN Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water	Low-Flow Sar Stabilization Last 5 Last 5 Last 5 Last 5 Last 5 Variance 0 Variance 1

Notes Sampled at 1230. Sunny 72 degrees

**Grab Samples** 

Product Name: Low-Flow System

Date: 2020-09-30 14:01:45

Peristaltic Pump poly 0.10 in 28 ft 26 ft	125 mL/min 0.1341442 L 300 sec 2 in 5.6 L
Pump Information: Pump Model/Type Tubing Type Tubing Diameter Tubing Length Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped
Taylor Goble Atlantic Coast Consulting Grumman Road Go 0' 0" 601533 HACH 2100Q	GWC-16 2 in 28.20 ft 5 ft 19.87 ft
Project Information: Operator Name Company Name Project Name Site Name Latitude Longitude Sonde SN Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water

	ORP mV	+/- 20	109.53	107.17	106.62	106.20	105.64	-0.55	-0.42	-0.55
	RDO mg/L	+/- 10%	1.80	1.55	1.41	1.33	1.27	-0.14	-0.08	-0.05
	DTW ft		20.07	20.07	20.07	20.07	20.07			
	/cm Turb NTU	+/- 10	4.88	4.65	5.40	4.88	4.44		31.09	
	SpCond µS	+/- 2%	1377.38	1430.80	1466.64	1497.73	1519.11	35.84	31.09	21.37
	Hd	+/- 0.1	5.32	5.37	5.41	5.44	5.47	0.04	0.03	0.02
		+/- 0.5	24.87	25.00	24.89	24.73	24.64	-0.10	-0.16	-0.09
ation Summary	Time Elapsed		1500.64	1800.64	2100.64	2400.64	2700.64			
npling Stabiliz	Time		13:40:29	13:45:29	13:50:29	13:55:29	14:00:29			
Low-Flow Sai		Stabilization	Last 5	Last 5	Last 5	Last 5	Last 5	Variance 0	Variance 1	Variance 2

Notes Sampled at 1400. Sunny 75 degrees

**Grab Samples** 

Test Date / Time: 9/30/2020 8:56:05 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-17
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 17.98 ft
Total Depth: 22.98 ft

Initial Depth to Water: 4.48 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 20 ft Estimated Total Volume Pumped:

34.2 liter

Flow Cell Volume: 90 ml Final Flow Rate: 185 ml/min Final Draw Down: 19.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-1200

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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	01:14:20	5 76 nU	20.77 °€	6.46.uS/om	4.04 mg/l	5 24 NTU	60.1 m\/	6 10 ft	195 00 ml/min
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

Sample ID:	Description:
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Product Name: Low-Flow System

Date: 2020-09-30 16:32:08

Peristaltic Pump poly 0.10 in 25 ft	23 ft	200 mL/min 0.1295109 L 300 sec 5.7 in 8 L
Pump Information: Pump Model/Type Tubing Type Tubing Diameter Tubing Length	Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped
Taylor Goble Atlantic Coast Consulting Grumman Road Grumman Road 0º 0' 0"	HACH 2100Q	GWC-20 2 in 24.90 ft 5 ft 20.50 ft
Project Information: Operator Name Company Name Project Name Site Name Latitude Longitude	Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water

	ORP mV	+/- 20	63.89	60.91	58.93	57.32	56.65	-1.98	-1.61	-0.67
	RDO mg/L	+/- 10%	0.11	0.09	0.08	0.08	0.08	-0.01	-0.00	0.00
	DTW ft		20.87	20.90	20.92	20.95	20.98			
	/cm Turb NTU	+/- 10	1.15	1.01	0.97	0.88	0.75		0.73	
	SpCond µS	+/- 2%	2147.67	2144.27	2148.95	2149.68	2147.17	4.68	0.73	-2.52
	Hd	+/- 0.1	6.04	6.04	6.04	6.04	6.04	0.00	-0.00	0.00
		+/- 0.5	24.02	23.96	23.83	23.85	23.87	-0.13	0.01	0.02
ation Summary	Time Elapsed		1200.03	1500.03	1800.03	2100.03	2400.84			
npling Stabiliza	Time		16:11:08	16:16:08	16:21:08	16:26:08	16:31:09			
Low-Flow Sai		Stabilization	Last 5	Last 5	Last 5	Last 5	Last 5	Variance 0	Variance 1	Variance 2

Notes Sampled at 1631. Sunny 76 degrees

**Grab Samples** 

Product Name: Low-Flow System

Date: 2020-09-30 10:50:02

Peristaltic Pump poly 0.10 in 24 ft	180 mL/min 0.1279665 L 300 sec 2.5 in 21.6 L
Pump Information: Pump Model/Type Tubing Type Tubing Length Pump placement from TOC	Pumping Information: Final Pumping Rate Total System Volume Calculated Sample Rate Stabilization Drawdown Total Volume Pumped
Taylor Goble Atlantic Coast Consulting Grumman Road Grumman Road 0° 0' 0" 0° 0' 0" 601533 HACH 2100Q	GWC-21 2 in 23.80 ft 5 ft 19.83 ft
Project Information: Operator Name Company Name Project Name Site Name Latitude Longitude Sonde SN Turbidity Make/Model	Well Information: Well ID Well diameter Well Total Depth Screen Length Depth to Water

	ORP mV	+/- 20	52.98	50.96	52.04	55.70	58.67	1.08	3.66	2.97
	RDO mg/L	+/- 10%	3.79	3.76	3.68	3.61	3.50	-0.08	-0.08	-0.11
	DTW ft		20.04	20.04	20.04	20.04	20.04			
	3/cm Turb NTU	+/- 10	0.38	0.46	0.55	0.76	0.43		14.79	
	SpCond µS	+/- 2%	706.60	736.35	771.73	786.52	803.81	35.38	14.79	17.29
	Hd	+/- 0.1	5.76	5.79	5.80	5.80	5.82	0.01	-0.00	0.02
			23.00	22.86	22.89	23.08	23.34	0.03	0.19	0.26
ation Summary	Time Elapsed		6016.67	6316.66	6616.66	6916.66	7220.66			
npling Stabiliz	Time		10:29:16	10:34:16	10:39:16	10:44:16	10:49:20			
Low-Flow Sar		Stabilization	Last 5	Last 5	Last 5	Last 5	Last 5	Variance 0	Variance 1	Variance 2

Notes Sampled at 1049. Sunny 66 degrees

**Grab Samples** 

Test Date / Time: 9/30/2020 1:35:21 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: GWC-22
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 13.6 ft
Total Depth: 18.6 ft

Initial Depth to Water: 6.95 ft

Pump Type: Peri Pump Tubing Type: Poly

> Pump Intake From TOC: 15 ft Estimated Total Volume Pumped:

4.95 liter

Flow Cell Volume: 90 ml Final Flow Rate: 165 ml/min

Final Draw Down: 3 in

Instrument Used: Aqua TROLL 400

Serial Number: 714293

#### **Test Notes:**

Sunny, 70s, sample time-1405

#### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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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TECHNICIAN:		T	Goble	
WATER LEVEL:			SALVE	
WATER LEVEL S/N:			501.War 236981	0
th the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the			2,50.00	
INSTRUMENT S/N:	Ó	40821		
INSTRUMENT TYPE:		7086		
CAL. SOLUTION/S:	10: 147	LOT#: 065	80% EXP. DATE:	4/22
	ID: pHH	LOT#: OGE		5 172
	10: DH LO		648 EXP. DATE:	12/21
	ID: ORP		520 EXP. DATE:	1/21
	ID: Cond	LOT#: OGE		5/21
	ID:	LOT#:	EXP. DATE:	
	ID:	LOT#:	EXP. DATE:	
alibration Date:	2-24-20			
	100% sat. = 95.	<b>⊔</b> оі.		
	4.00 = Li.90	7.00 =	7.41	10.00 = 10.60
CONDUCTIVITY			7. 01	10.00= 10, 60
	240 = 197			_
Ora (mv)	~ 10 = 111			
Calibration Date:	9-29.20			
	100% sat. = 92	.2		
	4.00 = 4.92	7.00 =	7.75	10.00 = 10.71
CONDUCTIVITY			1.15	10.00 - 10 - 17
	240=1			_
				_
Calibration Date:	9-30-20			
PH	100% sat. = 91.	7.00 =	7.66	10.00 = 10 54
CONDUCTIVITY				
	240=			
Calibration Date:	10-1-20			
RDO	100% sat. = 91.	2		
PH	4.00 = 4.99	7.00 =	7.44	10.00 = 10.55
CONDUCTIVITY	1413-14	27	-	
	240 = 20			
Calibration Date:				
이 있는 아이들의 이번째 다 있다면 된다.	: 100% sat. =			
	4.00 =	7.00 =		10,00 =
CONDUCTIVITY	_	1,00		14044
	-			
ORP (mV	)			



SITE: TECHNICIAN:	Grumman Rd.				
INSTRUMENT S/N:		180900	069299 71000		
CAL. SOLUTION:	O NTU - LOT#	NA	EXP. DATE: New DI water		
	10 NTU - LOT #	A9268	EXP. DATE: \/2/		
	20 NTU - LOT #	49235	EXP. DATE: 12/26		

Calibration Date: 9-24-20

Calibation Solution	Instrument Reading		- 1261	99.
0.0	0.26	NTU	100 -	1 6
10.0	9.6	NTU	800 =	810
20.0	19.4	NTU		

Calibration Date: 9-29-20

Calibation Solution	Instrument Reading		1-1
0.0	0-31	NTU	100 = 101
10.0	9.7	NTU	400 = 407
20.0	19.5	NTU	90-

Calibration Date: 9-30-20

Calibation Solution	Instrument Reading		1	102
0.0	0.22	NTU	100=	1
10.0	9.5	NTU	800 =	40
20.0	19.6	NTU		

Calibration Date: 10 - 1 - 20

Calibation Solution	Instrument Reading	20.5	1 000 0	104
0.0	0-27	NTU	100 -	
10.0	9.6	NTU	800 =	210
20.0	19.4	NTU		

Calibration Date:

	Calibation Solution	Instrument Reading	
0	0.0		NTU
Ü	10.0		NTU
	20.0		NTU

Calibration Date:

	Instrument Reading	Calibation Solution
N'		0.0
N.		10.0
N.		20.0



SITE:	Grumman Rd				
TECHNICIAN:	Dorden Bereful				
WATER LEVEL:		Schust 267304			
WATER LEVEL S/N:		867304			
		7111742			
INSTRUMENT S/N:		714293			
NSTRUMENT TYPE:					
CAL. SOLUTION/S:	10: p+1 4	LOT#: 06 PO46	EXP. DATE:	4/22	
	ID: P47	LOT #: 060808	EXP. DATE:	4/22	
	ID: pl+ 10	LOT#:46668	EXP. DATE:	1421	
	ID: (124	LOT#: 061-438	EXP. DATE:	5/4	
	1D: 072P	LOT#: 060520	EXP. DATE:	1/21	
	ID:	LOT#:	EXP. DATE:	3.71C.7K	
	ID:	LOT#:	EXP. DATE:		
	1 1				
alibration Date: °	128/10	a ar			
		3.45			
PH	4.00 = 3.94	7.00 = 6.9	6	10.00 = 9. 95	
CONDUCTIVITY	1447				
ORP (mV)		3			
alibration Date:	9/79/20				
	100% sat. = 105	18			
PH	4.00 = 4.15	7.00 = 7.4	99	10.00 = 10.06	
CONDUCTIVITY	1390				
	7.26	1		-	
OIN (IIIV)		1		_	
alibration Date: 9	120120				
		(2)			
	100% sat. = / 0 -1.		/		
PH					
	4.00 = 3.97	7.00 = 6.4	6	10.00 = 10.06	
CONDUCTIVITY	137/		6	10.00 = 10.06	
	137/		6	10.00 = 10.06	
CONDUCTIVITY ORP (mV)	743-6		6	10.00 = 10.06	
CONDUCTIVITY ORP (mV)	137/		6	10.00 = 10.06	
CONDUCTIVITY ORP (mV) alibration Date: /	137/ 243-6 0/1/10 : 100% sat. = 99	.09			
CONDUCTIVITY ORP (mV) alibration Date: /	137/ 243-6 0/1/10 : 100% sat. = 99			10.00 = 10.06	
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH	137/ 243-6 0/1/20 100% sat. = 99 4.00 = 4.01	.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY	137/ 243-6 0/1/20 100% sat. = 99 4.00 = 4.01	7.00 = 1.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY	137/ 243-6 0/1/20 100% sat. = 99 4.00 = 4.01 1527	7.00 = 1.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY	137/ 243-6 0/1/20 100% sat. = 99 4.00 = 4.01 1527	7.00 = 1.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY ORP (mV)	137/ 243-6 0/1/20 100% sat. = 99 4.00 = 4.01 1527	7.00 = 1.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY ORP (mV) alibration Date: RDO	1371 743.6 0/1/20 100% sat. = 99 4.00 = 4.01 1527	7.00 = 1.09			
CONDUCTIVITY ORP (mV) alibration Date: / RDO PH CONDUCTIVITY ORP (mV) alibration Date: RDO	$\begin{array}{c} :                                   $	7.09		10.00 = 10,06	



SITE:	Grumman Rd.			
TECHNICIAN:		)E	Bersford	
INCTOLIMENT CAL	63767			
INSTRUMENT S/N:			+ 2100Q	
CAL. SOLUTION:	O NTU - LOT #	EXP. DATE:	New DI wate	
57181 551511511	10 NTU - LOT #	NA 40136		
	20 NTU - LOT #	40139	EXP. DATE:	Aug-21
alibration Date:	1/18/20 Calibation Soluti	on Ins	trument Readin	đ
	0.0		39	NTU
	10.0		9.71	NTU
	20.0		20,4	NTU
ibration Date: 9	20.0		9.68	NTU
	Calibation Soluti	on Ins	trument Readin	g
	0.0		22,0	NTU
	10.0		1,74	NTU
	20.0		9.9	NTU
ration Date: /	Calibation Soluti	on I Ins	strument Readin	g
	0.0		523	NTU
	10.0		7.62	NTU
	20.0	1	9.7	NTU
ration Date:	Calibation Soluti	on Ins	strument Readin	g
	0.0			NTU
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oration Date:	Calibation Soluti	on Ins	strument Readin	g
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10.0

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NTU

NTU



Facility Name: Grumman Rd Landfill Staff: J. Berisford, T. Goble Date: 9/22/2020

Permit No.: 025-061D(LI)

_		T		
GWC-11	Yes	Yes	ON	Yes
GWC-10	Yes	Yes	O N	Yes
GWC-9	Yes	Yes Yes		Yes
GWC-2	Yes	Yes	o Z	Yes
GWC-1	Yes	Yes	NO	Yes
GWC-6R	Yes	Yes	NO	Yes
GWB-5R	Yes	Yes	NO	Yes
GWB-4R	Yes		o Z	Yes
GWA-8	Yes	Yes	NO	Yes
GWA-7	Yes	Yes	NO	Yes
1 - <u>Location/Identification</u>	Is the well visible and accessible?	Is the well properly identified with the correct well ID?	Does the well require protection from traffic?	Is the drainage around the well acceptable? (No standing water, nor is well located in obvious drainage flow path)
Location	D	۵	O	ъ
4				



Facility Name: Grumman Rd Landfill Staff: J. Berisford, T. Goble Date: 9/22/2020

Permit No.: 025-061D(LI)

GWC-11	Yes	Yes	Yes	Yes	Yes
GWC-10	Yes	Yes	Yes	Yes	Yes
GWC-9	Yes	Yes	Yes	Yes	Yes
GWC-2	Yes	Yes	Yes	Yes	Yes
GWC-1	Yes	Yes	Yes	Yes	Yes
GWB-6R	Yes	Yes	Yes	Yes	Yes
GWB-5R	Yes	Yes	Yes	Yes	Yes
GWB-4R	Yes	Yes	Yes	Yes	Yes
GWA-8	Yes	Yes	Yes	Yes	Yes
GWA-7	Yes	Yes	Yes	Yes	Yes
2 - Protective Outer Casing	Is the protective casing free from apparent damage?	Is the casing free of degradation or deterioration?	Does the casing have a functioning weep hole?	Is the annular space between casings filled with pea gravel or sand?	Is the well locked, and is the lock in good working condition?
Protectiv	a	q	O	ס	Φ
5					



Facility Name: Grumman Rd Landfill Staff: J. Berisford, T. Goble Date: 9/22/2020

Permit No.: 025-061D(LI)

GWC-11	Yes	Yes	Yes	Yes	Yes
GWC-10	Yes	Yes	Yes	Yes	Yes
GWC-9	Yes	Yes	Yes	Yes	Yes
GWC-2	Yes	Yes	Yes	Yes	Yes
GWC-1	Yes	Yes	Yes	Yes	Yes
GWB-6R	Yes	Yes	Yes	Yes	Yes
GWB-5R	Yes	Yes	Yes	Yes	Yes
GWB-4R	Yes	Yes	Yes	Yes	Yes
GWA-8	Yes	Yes	Yes	Yes	Yes
GWA-7	Yes	Yes	Yes	Yes	Yes
Pad	Is the well pad in good condition? (Not cracked or broken)	Does the well pad provide adequate surface seal and stability to the well?	Is the well pad in complete contact with the protective casing?	Is the well pad in complete contact with the ground surface? (Not undermined by erosion, animal burrows, and does not move when stepped on)	Is the pad surface clean? (Not covered by soil or debris)
3 - Surface Pad	О	۵	O	g	Φ
က်					



Internal	4 - Internal Well Casing	GWA-7	GWA-8	GWB-4R	GWB-5R	GWB-6R	GWC-1	GWC-2	GWC-9	GWC-10	GWC-11
О	Does the well cap prevent entry of foreign material into the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
q	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
ပ	Does the well have a venting hole near the top of casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
р	Is the survey point clearly marked on the inner casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ф	Is the depth of the well consistent with the original well log?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<del>-</del>	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	Sək	Yes	Yes	Yes	Sək	Yes
q	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
ပ	Does the well require redevelopment due to slow recharge or turbidity > 10 NTUs?	NO	NO	OZ	No	ON	NO	No	NO	No	NO

Note: N/A - Not Applicable

6 - Based on your professional judgment, is the well construction / location appropriate to:

SR GWC-6R GWC-1 G	GWB-5R GWC-6R GWC-1	GWC-6R GWC-1	GWB-4R GWB-5R GWC-6R GWC-1
>	>>	,	200
	GWB-5R	GWB-4R GWB-5R	GWA-8 GWB-4R GWB-5R
GWB-5R	<u> </u>	GWB-4R	GWA-8 GWB-4R
	GWB-4R		GWA-8

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 furture replacement could be needed.



7				
GWC-22	Yes	Yes	N N	Yes
GWC-21	Yes	Yes	NO	Yes
GWC-20	Yes	Yes	NO	Yes
GWC-17	Yes	Yes	NO	Yes
GWC16	Yes	Yes	NO	Yes
GWC-15	Yes	Yes	NO	Yes
GWC-14	Yes	Yes	No	Yes
GWC-13	Yes	Yes	ON	Yes
<b>GWC-12</b>	Yes	Yes	No	Yes
1 - Location/Identification	Is the well visible and accessible?	Is the well properly identified with the correct well ID?	Does the well require protection from traffic?	Is the drainage around the well acceptable? (No standing water, nor is well located in obvious drainage flow path)
Location/	В	Q	O	р
4				



$\overline{}$					
<b>GWC-22</b>	Yes	Yes	Yes	Yes	Yes
GWC-21	Yes	Yes	Yes	Yes	Yes
GWC-20	Yes	Yes	Yes	Yes	Yes
GWC-17	Yes	Yes	Yes	Yes	Yes
GWC16	Yes	Yes	Yes	Yes	Yes
GWC-15	Yes	Yes	Yes	Yes	Yes
GWC-14	Yes	Yes	Yes	Yes	Yes
GWC-13	Yes	Yes	Yes	Yes	Yes
GWC-12	Yes	Yes	Yes	Yes	Yes
2 - Protective Outer Casing	Is the protective casing free from apparent damage?	Is the casing free of degradation or deterioration?	Does the casing have a functioning weep hole?	Is the annular space between casings filled with pea gravel or sand?	Is the well locked, and is the lock in good working condition?
Protective	æ	Q	O	p	Φ
2					



_					
GWC-22	Yes	Yes	Yes	Yes	Yes
GWC-21	Yes	Yes	Yes	Yes	Yes
GWC-20	Yes	Yes	Yes	Yes	Yes
GWC-17	Yes	Yes	Yes	Yes	Yes
GWC16	Yes	Yes	Yes	Yes	Yes
GWC-15	Yes	Yes	Yes	Yes	Yes
GWC-14	Yes	Yes	Yes	Yes	Yes
GWC-13	Yes	Yes	Yes	Yes	Yes
GWC-12	Yes	Yes	Yes	Yes	Yes
'ad	Is the well pad in good condition? (Not cracked or broken)	Does the well pad provide adequate surface seal and stability to the well?	Is the well pad in complete contact with the protective casing?	Is the well pad in complete contact with the ground surface? (Not undermined by erosion, animal burrows, and does not move when stepped on)	Is the pad surface clean? (Not covered by soil or debris)
3 - Surface Pad	О	q	v	ס	Φ
ė,					



4 - Inte	ernal \	4 - <u>Internal Well Casing</u>	GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
	О	Does the well cap prevent entry of foreign material into the well?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	q	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
	O	Does the well have a venting hole near the top of casing?	Yes	Yes	Yes	Yes	Yes	ХөУ	Yes	Yes	Yes
	р	Is the survey point clearly marked on the inner casing?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Φ	Is the depth of the well consistent with the original well log?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	<b>-</b>	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?	N N	No	No	No	No	No	No	No	ON N



Facility Name: Grumman Rd Landfill

Staff: J. Berisford, T. Goble

9/22/2020 Date:

Permit No.: 025-061D(LI)

## 5 - Sampling (Groundwater Monitoring Wells Only):

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	GWC-12	GWC-13	GWC-14	GWC-15	GWC16	GWC-17	GWC-20	GWC-21	GWC-22
Does the well recharge adequately when purged?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
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
Does the well require redevelopment due to slow recharge or turbidity > 10 NTUs?	NO	ON	NO	NO	NO	NO	NO	ON	o Z

Note: N/A - Not Applicable

6 - Based or

on your professional judgment, is the well construction / location appropriate to:	nent, is the well	l construction ,	/ location appro	opriate to:					
	<b>GWC-12</b>	GWC-13	GWC-14	<b>GWC-15</b>	GWC16	21-2MS	GWC-20	GWC-21	<b>GWC-22</b>
achieve the objectives of the facility Groundwater Monitoring Program, and     somply 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

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@n

kevin.herring@pacelabs.com 1(704)875-9092

Ken Lung

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





### **CERTIFICATIONS**

Project: GRUMMAN ROAD

Pace Project No.: 92517999

**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 Florida/NELAP Certification #: E87627 Kentucky UST Certification #: 84 Virginia/VELAP Certification #: 460221

South Carolina Certification #: 99006001

**Pace Analytical Services Asheville** 

2225 Riverside Drive, Asheville, NC 28804 Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

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

**Pace Analytical Services Peachtree Corners** 

110 Technology Pkwy, Peachtree Corners, GA 30092 Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

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



### **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



### **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



### **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>5</b>			
2517999001	MW-23D Performed by	CUSTOME			01/25/21 00:26	
	Performed by	R			01/25/21 09:36	
	рН	5.75	Std. Units		01/25/21 09:36	
EPA 6010D	Calcium	4.4	mg/L		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		01/22/21 16:42	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L		01/26/21 18:55	
EPA 300.0 Rev 2.1 1993	Sulfate	5.0	mg/L	1.0	01/26/21 18:55	
2517999002	MW-24D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	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		01/26/21 19:40	
EPA 300.0 Rev 2.1 1993	Sulfate	0.79J	mg/L	1.0	01/26/21 19:40	
2517999003	MW-25D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	6.25	Std. Units		01/25/21 09:36	
PA 6010D	Calcium	4.9	mg/L	1.0	01/25/21 16:20	
PA 6020B	Boron	0.013J	mg/L	0.040	01/22/21 18:39	
PA 6020B	Molybdenum	0.0011J	mg/L	0.010		
SM 2450C-2011	Total Dissolved Solids	58.0	mg/L		01/22/21 16:43	
EPA 300.0 Rev 2.1 1993	Chloride	6.1	mg/L	1.0		
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	01/26/21 19:55	
PA 300.0 Rev 2.1 1993	Sulfate	1.6	mg/L	1.0	01/26/21 19:55	
2517999004	MW-26D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	5.66	Std. Units		01/25/21 09:36	
PA 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	
2517999005	MW-27D					
	Performed by	CUSTOME R			01/25/21 09:36	
	рН	5.68	Std. Units		01/25/21 09:36	
PA 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	



### **SUMMARY OF DETECTION**

Project: GRUMMAN ROAD

Pace Project No.: 92517999

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



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-23D	Lab ID:	Lab ID: 92517999001 Collected: 01/21/21 09:45 Received: 01/22/21 09:41 Matrix: Water										
			Report									
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual			
Field Data	Analytical	Method:										
	Pace Anal	ytical Services	- Charlotte									
Performed by	CUSTOME R				1		01/25/21 09:36					
рН	5.75	Std. Units			1		01/25/21 09:36					
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	aration Me	thod: El	PA 3010A						
	Pace Anal	ytical Services	- Peachtre	e Corners, 0	GA							
Calcium	4.4	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:10	7440-70-2				
6020 MET ICPMS		Method: EPA 6 ytical Services				PA 3005A						
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:27	7440-38-2				
Boron	0.018J	mg/L	0.040	0.0052	1	01/22/21 12:13	01/22/21 18:27					
Molybdenum	ND	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:27	7439-98-7				
2540C Total Dissolved Solids	Analytical	Method: SM 24	450C-2011									
	Pace Anal	ytical Services	- Peachtre	e Corners, (	GΑ							
Total Dissolved Solids	41.0	mg/L	10.0	10.0	1		01/22/21 16:42					
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	.1 1993								
	Pace Anal	ytical Services	- Asheville									
Chloride	6.1	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	5.0	mg/L	1.0	0.50	1		01/26/21 18:55	14808-79-8				



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-24D	Lab ID:	92517999002	Collecte	d: 01/21/2	1 13:10	Received: 01/	22/21 09:41 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical Pace Anal	Method: lytical Services	- Charlotte						
Performed by	CUSTOME R	•			1		01/25/21 09:36		
рН	6.13	Std. Units			1		01/25/21 09:36		
6010D ATL ICP		Method: EPA 6 lytical Services				PA 3010A			
Calcium	2.8	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:15	7440-70-2	
6020 MET ICPMS	•	Method: EPA 6 lytical Services				PA 3005A			
Arsenic Boron Molybdenum	ND <b>0.014J</b> <b>0.0014J</b>	mg/L mg/L mg/L	0.0050 0.040 0.010	0.00078 0.0052 0.00069	1 1 1	01/22/21 12:13	01/22/21 18:33 01/22/21 18:33 01/22/21 18:33	7440-42-8	
2540C Total Dissolved Solids		Method: SM 2-		e Corners, (	GA				
Total Dissolved Solids	50.0	mg/L	10.0	10.0	1		01/22/21 16:42		
300.0 IC Anions 28 Days	•	Method: EPA 3 lytical Services		.1 1993					
Chloride Fluoride Sulfate	<b>6.1</b> ND <b>0.79J</b>	mg/L mg/L mg/L	1.0 0.10 1.0	0.60 0.050 0.50	1 1 1		01/26/21 19:40 01/26/21 19:40 01/26/21 19:40	16984-48-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-25D	Lab ID:	92517999003	Collecte	d: 01/20/2	1 10:50	Received: 01/	22/21 09:41 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qua
Field Data	Analytical	Method:							
	Pace Ana	lytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	6.25	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA 6	010D Prep	paration Me	thod: El	PA 3010A			
	Pace Ana	lytical Services	- Peachtre	e Corners, (	GΑ				
Calcium	4.9	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:20	7440-70-2	
6020 MET ICPMS	•	Method: EPA 6				PA 3005A			
Arsenic	ND	mg/L	0.0050	0.00078	1	01/22/21 12:13	01/22/21 18:39	7440-38-2	
Boron	0.013J	mg/L	0.040	0.0052	1	01/22/21 12:13			
Molybdenum	0.0011J	mg/L	0.010	0.00069	1	01/22/21 12:13	01/22/21 18:39	7439-98-7	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Ana	lytical Services	- Peachtre	e Corners, (	GΑ				
Total Dissolved Solids	58.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	•	Method: EPA 3		.1 1993					
	Pace Ana	lytical Services	- Asheville						
Chloride	6.1	mg/L	1.0	0.60	1		01/26/21 19:55	16887-00-6	
Fluoride	0.11	mg/L	0.10	0.050	1		01/26/21 19:55	16984-48-8	
Sulfate	1.6	mg/L	1.0	0.50	1		01/26/21 19:55	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-26D	Lab ID:	92517999004	Collecte	ed: 01/20/2	1 09:50	Received: 01/	/22/21 09:41 M	atrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:				-	-		
Tiola bata	•	ytical Services	- Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	5.66	Std. Units			1		01/25/21 09:36		
6010D ATL ICP		Method: EPA 6				PA 3010A			
Calcium	4.1	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 16:24	7440-70-2	
6020 MET ICPMS	•	Method: EPA 6				PA 3005A			
Boron	0.013J	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	
2540C Total Dissolved Solids	Analytical	Method: SM 2	450C-2011						
	Pace Anal	ytical Services	- Peachtre	e Corners, (	GΑ				
Total Dissolved Solids	54.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	Analytical	Method: EPA 3	300.0 Rev 2	2.1 1993					
-	Pace Anal	ytical Services	- Asheville						
Chloride	6.9	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	1.0	mg/L	1.0	0.50	1		01/26/21 20:10	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Sample: MW-27D	Lab ID:	9251799900	5 Collecte	d: 01/20/2	1 14:20	Received: 01/	22/21 09:41 M	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical	Method:							
	Pace Anal	ytical Service	s - Charlotte						
Performed by	CUSTOME R				1		01/25/21 09:36		
рН	5.68	Std. Units			1		01/25/21 09:36		
6010D ATL ICP	Analytical	Method: EPA	6010D Prep	paration Me	hod: El	PA 3010A			
	Pace Anal	ytical Service	s - Peachtre	e Corners, (	€A				
Calcium	3.0	mg/L	1.0	0.070	1	01/25/21 09:35	01/25/21 17:15	7440-70-2	
6020 MET ICPMS	Analytical	Method: EPA	6020B Prep	paration Me	hod: Ef	PA 3005A			
	Pace Anal	ytical Service	s - Peachtre	e Corners, (	SA.				
Boron	0.011J	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	
2540C Total Dissolved Solids	Analytical	Method: SM 2	2450C-2011						
	Pace Anal	ytical Service	s - Peachtre	e Corners, (	€A				
Total Dissolved Solids	43.0	mg/L	10.0	10.0	1		01/22/21 16:43		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0 Rev 2	.1 1993					
	Pace Anal	ytical Service	s - Asheville						
Chloride	6.1	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	0.88J	mg/L	1.0	0.50	1		01/26/21 20:24	14808-79-8	



Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

QC Batch: 594973
QC Batch Method: EPA 3010A

Analysis Description: 6010D ATL

EPA 6010D

Laboratory: Pace Analytical Services - Peachtree Corners, GA
Associated Lab Samples: 92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Analysis Method:

METHOD BLANK: 3138783 Matrix: Water

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

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Calcium mg/L ND 1.0 0.070 01/25/21 15:41

LABORATORY CONTROL SAMPLE: 3138784

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3138785 3138786

MS MSD

92517417001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Conc. Result Result % Rec % Rec **RPD** RPD Qual Result Conc. Limits Calcium mg/L 6.7 7.7 7.6 98 91 75-125 20

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



Project: GF

**GRUMMAN ROAD** 

Pace Project No.:

92517999

QC Batch:
QC Batch Method:

594723

EPA 3005A

Analysis Method:

EPA 6020B

Analysis Description:

6020 MET

Laboratory:

Pace Analytical Services - Peachtree Corners, GA

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

METHOD BLANK: 3137728

LABORATORY CONTROL SAMPLE:

Matrix: Water

Associated Lab Samples:

Date: 01/27/2021 03:34 PM

92517999001, 92517999002, 92517999003, 92517999004, 92517999005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND 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	

 Parameter
 Units
 Spike Conc.
 LCS Result
 LCS WRec Limits
 Qualifiers

 Arsenic
 mg/L
 0.1
 0.090
 90
 80-120

mg/L Arsenic 0.1 0.090 90 80-120 Boron mg/L 0.98 98 80-120 1 0.1 Molybdenum mg/L 0.094 94 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3137730 3137731

3137729

Parameter	Units	92517846001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
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	

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.



Project:

**GRUMMAN ROAD** 

Pace Project No.:

92517999

QC Batch: QC Batch Method:

594779

SM 2450C-2011

Analysis 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

Blank

Reporting

Result

Limit

MDL

Analyzed

Qualifiers

Total Dissolved Solids

mg/L

Units

mg/L

Units

ND

10.0

10.0 01/22/21 16:40

LABORATORY CONTROL SAMPLE: Parameter

Parameter

Parameter

Parameter

3137996

Spike Conc.

LCS Result

LCS % Rec % Rec Limits

Qualifiers

SAMPLE DUPLICATE: 3137997

**Total Dissolved Solids** 

92517969001

Dup

394

**RPD** 

98

Max

84-108

**Total Dissolved Solids** 

Total Dissolved Solids

Units mg/L

mg/L

Result ND Result

ND

270

**RPD** 

10

10

Qualifiers

SAMPLE DUPLICATE: 3138171

Units

92517909004 Result

289

Dup Result

RPD

7

Max RPD

Qualifiers

Date: 01/27/2021 03:34 PM

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.



Project: GRUMMAN ROAD

LABORATORY CONTROL SAMPLE: 2120600

Date: 01/27/2021 03:34 PM

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	

LABORATORT CONTROL SAMPLE.	3139009	0-1-	1.00	1.00	0/ D	
Danamatan	11-26-	Spike	LCS	LCS	% Rec	0
Parameter	Units	Conc.	Result	% 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												
		92517999001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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												
			MS	MSD								
		92517909004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
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	

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.



### **QUALIFIERS**

Project: GRUMMAN ROAD

Pace Project No.: 92517999

### **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.

Date: 01/27/2021 03:34 PM



### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: GRUMMAN ROAD

Pace Project No.: 92517999

Date: 01/27/2021 03:34 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica 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		

### Pace Analytical*

### Document Name: Sample Condition Upon Receipt(SCUR)

Document No.: F-CAR-CS-033-Rev.07 Document Revised: October 28, 2020

Page 1 of 2
Issuing Authority:
Pace Carolinas Quality Office

Ing Material: Bubble Wrap Bu mometer: Correction Factor ar Temp: Add/Subtract (* ar Temp Corrected (*C): A Regulated Soil ( N/A, water sample) amples originate in a quarantine zone within the Unit yes No  Chain of Custody Present?  Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	c) 0	er: Ves  Non  Ece:		Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection of the Projection o	92517999  Date/Initials Person Examining Contents: 122/21  Biological Tissue Frozen?  Yes Ato NA
Ing Material: Bubble Wrap Bu mometer: Correction Factor ar Temp: Add/Subtract (**  Temp Corrected (*C): Add/Subtract (**  A Regulated Soil ( N/A, water sample) amples originate in a quarantine zone within the Unit Yes No  Chain of Custody Present?  Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	Type of I	Non E:	e 🗆 (	Other	Biological Tissue Frozen?  Yes Ho NA
Correction Factor Add/Subtract (**  Temp: Add/Subtract (**  Temp Corrected (*C): 2 4 9  A Regulated Soll ( N/A, water sample)  Temples originate in a quarantine zone within the Unit Yes No  Chain of Custody Present?  Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	Type of I	ce: E			Biological Tissue Frozen?  Yes Ho NA
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Correction Factor Add/Subtract (*C):  A Regulated Soil ( N/A, water sample)  Amples originate in a quarantine zone within the Unit Yes No  Chain of Custody Present?  Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	or:	2	-		
Yes No Chain of Custody Present?  Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	ted States: CA		2.12.3.22.		Temp should be above freezing to 6°C  Samples out of temp criteria. Samples on ice, cooling process has begun
Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?		NY, or S	C (check m	aps)?	Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No
Samples Arrived within Hold Time?  Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?					Comments/Discrepancy:
Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	TYes	□No	□N/A	1.	
Short Hold Time Analysis (<72 hr.)?  Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	Ves	□No	□N/A	2.	
Rush Turn Around Time Requested?  Sufficient Volume?  Correct Containers Used?  -Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	□Yes	DNO.	□N/A	3.	
Sufficient Volume? Correct Containers Used? -Pace Containers Used? Containers Intact? Dissolved analysis: Samples Field Filtered?	□Yes	₽¥60	□N/A	4.	
Correct Containers Used? -Pace Containers Used? Containers Intact? Dissolved analysis: Samples Field Filtered?	ElYes	□No			- Charles
-Pace Containers Used?  Containers Intact?  Dissolved analysis: Samples Field Filtered?	☐Yes	□No	□N/A	6.	
Dissolved analysis: Samples Field Filtered?	Ves	□No	□N/A	0.	
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Sample Labels Match COC?	Yes	□No	□N/A	9.	
-Includes Date/Time/ID/Analysis Matrix:	N				
Headspace in VOA Vials (>5-6mm)?	□Yes	□No	DIVA	10.	
Trip Blank Present?	Yes	□No	DNA	11.	
Trip Blank Custody Seals Present?	☐Yes	□No	DN/A		
MMENTS/SAMPLE DISCREPANCY					Field Data Required? ☐Yes ☐No
				Lo	t ID of split containers:
NT NOTIFICATION/RESOLUTION				LO	to or spire containers:
rson contacted:			Date/Ti	me.	
Son College			Jace/11		
roject Manager SCURF 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-GA Power

Kem#	8P4U-125 mL Plastic Unpreserved (N/A) (CI-)	BP3U-250 mL Plastic Unpreserved (N/A)	8P2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP45-125 mL Plastic H2SO4 (pH < 2) (CI-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP42-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CH)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CI-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CI-)	AG15-1 liter Amber H25O4 (pH < 2)	AG35-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4C! (N/A)(CI-)	DG9H-40 mL VOA HCI (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A - lab)		8P3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGOLL-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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	A. T. A.	pH Ac	ljustment Log for Pres	erved Samples		
Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot#
- 0			7.000			

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.

		Wetals=	1 688 7		12	=	10		00	7	o	5		u	2	-	ITEM #			veduest	Phone:	Empl To		Address:	Company:	Required C
		Medals=8,Cq,As, Mo	ease note: when the last simple for the event has been taken.	ADDITIONAL COMMENTS								MW-27D	MW-26D	MW-25D	MW-24D	MW-23D	SAMPLE ID WEST OTHER SAMPLE ID MEST OTHER SAMPLE ID MEST OTHER SAMPLE INNOUE TISSUE	Section D Valid Matrix Codes Required Client Information MATRIX CO		coquested the penaltial: 4 bay	FR	SCS Contacts		Allanta, GA	GA Power	and information:
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### **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)¹ and the National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017)². 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**

¹USEPA, 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

²USEPA, 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

						Ar	nalyse	S
SDG	Field Identification	Collection Date	Lab Identification	Matrix	QC Samples	Metals (6010D, 6020B)	Anions (300.0)	TDS (SM 2540C)
517999	MW-23D	1/21/2021	92517999001	GW		Χ	Χ	Χ
517999	MW-24D	1/21/2021	92517999001	GW		Χ	Χ	Χ
517999	MW-25D	1/20/2021	92517999001	GW		Х	Χ	Χ
517999	MW-26D	1/20/2021	92517999001	GW		Х	Χ	Χ
517999	MW-27D	1/20/2021	92517999001	GW		Х	Χ	Χ

### Abbreviations:

EB – Equipment Blank

FB – Field Blank

FD – Field Duplicate

GW – Groundwater

QC – Quality Control

TDS – Total Dissolved Solids

WQ – Water Quality Control

Test Date / Time: 1/21/2021 9:05:44 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: MW-23D
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 58.3 ft
Total Depth: 63.3 ft

Initial Depth to Water: 22.92 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 61 ft Estimated Total Volume Pumped:

10 liter

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 15.4 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Cloudy, 50s, sample time-0945

### Low-Flow Readings:

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
------------	--------------

Test Date / Time: 1/21/2021 12:29:32 PM

**Project:** Grumman Road **Operator Name:** Z Davis

Location Name: MW-24D
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 61 ft

Total Depth: 66 ft

Initial Depth to Water: 29.61 ft

Pump Type: Peri

**Tubing Type: Poly** 

Pump Intake From TOC: 64.5 ft Estimated Total Volume Pumped:

8000 ml

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.19 ft Instrument Used: Aqua TROLL 400

Serial Number: 714293

### **Test Notes:**

### **Weather Conditions:**

Cloudy, 50s

### Low-Flow Readings:

Date Time	Elapsed Time	рН	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

Sample ID:	Description:
------------	--------------

Test Date / Time: 1/20/2021 10:25:34 AM

**Project:** Grumman Road **Operator Name:** Z Davis

Location Name: MW-25D Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 65.2 ft

Total Depth: 70.2 ft

Initial Depth to Water: 20.91 ft

Pump Type: Peri

**Tubing Type: Poly** 

Pump Intake From TOC: 67.5 ft Estimated Total Volume Pumped:

3750 ml

Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min

Final Draw Down: 0 ft

Instrument Used: Aqua TROLL 400

Serial Number: 714293

**Test Notes:** 

**Weather Conditions:** 

Sunny, 60s

### **Low-Flow Readings:**

Date Time	Elapsed Time	рН	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

Sample ID:
------------

Test Date / Time: 1/20/2021 9:05:17 AM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: MW-26D
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 64.9 ft

Total Depth: 69.9 ft

Initial Depth to Water: 19.91 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 67 ft Estimated Total Volume Pumped:

9 liter

Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 16.68 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Sunny, 50s sample time 0950

### Low-Flow Readings:

Date Time	Elapsed Time	рН	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

	Sample ID:	Description:
--	------------	--------------

# **Low-Flow Test Report:**

Test Date / Time: 1/20/2021 1:45:21 PM

Project: Grumman Road

Operator Name: Jordan Berisford

Location Name: MW-27D
Well Diameter: 2 in
Casing Type: PVC
Screen Length: 5 ft
Top of Screen: 67.43 ft
Total Depth: 72.43 ft

Initial Depth to Water: 25.72 ft

Pump Type: Peri Pump Tubing Type: Poly

Pump Intake From TOC: 70 ft Estimated Total Volume Pumped:

8.75 liter

Flow Cell Volume: 90 ml Final Flow Rate: 250 ml/min Final Draw Down: 8.16 in Instrument Used: Aqua TROLL 400

Serial Number: 714302

### **Test Notes:**

Sunny, sample time-1420 60s

### Low-Flow Readings:

Date Time	Elapsed Time	рН	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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Created using VuSitu from In-Situ, Inc.



### **Daily Instrument Calibration Log**

SIIE.		Gru	mman Ku	
TECHNICIAN:		) Beriford		
WATER LEVEL:		Solut		
WATER LEVEL S/N:	7	267304		
		2.02/3		
INSTRUMENT S/N: NSTRUMENT TYPE:	AguaTrall	714362		
		LOT#:06I4V7	EXP. DATE:	1/22
CAL. SOLUTION/S:		LOT#:06166		1/22
	ID: pit 7	LOT#: 06P851	EXP. DATE: 4	
		LOT#: 067/03>		1/21
	ID: Cond	LOT#: 060520		21
	ID: OTC	LOT#: 060920	EXP. DATE: 19	<u>[4]</u>
	ID:	LOT#:	EXP. DATE:	
	177 77	peod I II a	ENT. UNIE.	
alibration Date: /				
RDO:	100% sat. = 100	13%		
		7.00 = 7.1	7	10.00 = 1052
PH: CONDUCTIVITY:	1535	( )	7	
	277.5			
	100% sat. = 1 0 Z/4 4.00 = 3.93		12	10.00 = /0.09
PH: CONDUCTIVITY:	1552			
ORP (mV)	2488			
alibration Date:	1-21-21			
RDO:	100% sat. = 100	85.		
	4.00 = 4.02	7.00 = 7.0	7	10.00 = 10.10
CONDUCTIVITY:		71-	-	1.00
	244.2			_
A11. W. 17				_
libration Date:				
	100% sat. =			
	4.00 =	7.00 =		10.00 =
		7.00		- 1775
ORP (mV)				_
	-			_
libration Date:	111111111111111111111111111111111111111			
	100% sat. =	1200		-
	4.00 =	7.00 =		10.00 =
CONDUCTIVITY:				_
ORP (mV)				_



### **Daily Instrument Calibration Log**

SITE:			Grumman Rd.			
TECHNICIAN:		1	Bonyfort			
INSTRUMENT S/N:		637	67			
INSTRUMENT TYPE:	A Comment of the Comment	HACH	21000			
CAL. SOLUTION:	O NTU - LOT#	NA		XP. DATE: New DI wat		
	10 NTU - LOT #	10136	EXP. DATE:	Aug -21		
	20 NTU - LOT #	A0134	EXP. DATE:	Aug-21		
Calibration Date:	1-14-21					
Salar Carlo	Calibation Solut	ion   In	strument Readin	g		
	0.0		0.15	NTU		
	10.0		9.49	NTU		
	20.0		20.7	NTU		
	0.0 10.0 20.0		10.17	NTU NTU NTU		
	20.0		2013	NTU		
Calibration Date:	1-21-21					
	Calibation Solut	ion   In	strument Readin	g		
	0.0		6.16	NTU		
	10.0		10.1	NTU		
	20.0		20,2	NTU		
Calibration Date:	Calibation Solution	on Ir	strument Readin	ng		
	0.0			NTU		
	10.0			NTU		
	20.0			NTU		
Calibration Date:	Calibation Soluti	on In	strument Readin	g		
	0.0			NTU		
	10.0			NTU		
	20.0			NTU		
Calibration Date:	Calibation Soluti	on 1 In	strument Readin	g		
		-	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon			

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### **APPENDIX D**

Statistical Analyses

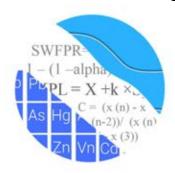
# SEPTEMBER 2020

SEMI-ANNUAL
GROUNDWATER
STATISTICAL
ANALYSIS

# FOR GRUMMAN ROAD LANDFILL

Prepared by:

Groundwater Stats Consulting LLC



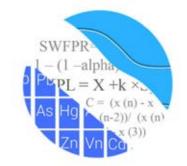
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# GROUNDWATER STATS CONSULTING

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 – 1st 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 1st 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:

- o **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.

913.829.1470

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.</li>
- 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.

### <u>Seasonality</u>

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.

### <u>Appendix III – Determination of Spatial Variation</u>

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-15Barium: 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.

### <u>Statistical Analysis of Appendix III Parameters – Fall 2020 Sample Event</u>

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

### <u>Trend Tests – Exceedances</u>

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 Rayner

Kristina L. Rayner

Groundwater Statistician

### Page 1

100% Nondetects

Date: 12/8/2020 8:25 AM

Grumman Road Landfill Client: Southern Company Data: Grumman Road

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

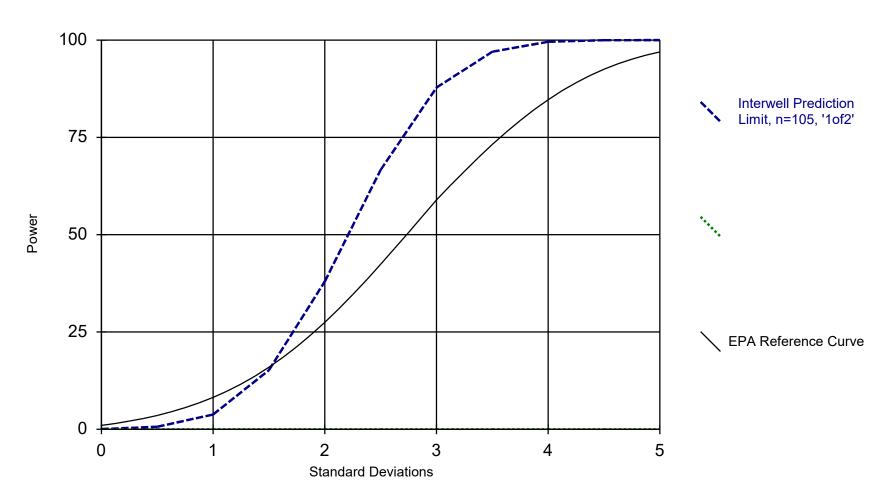
Selenium (mg/L)

GWC-13

Thallium (mg/L)

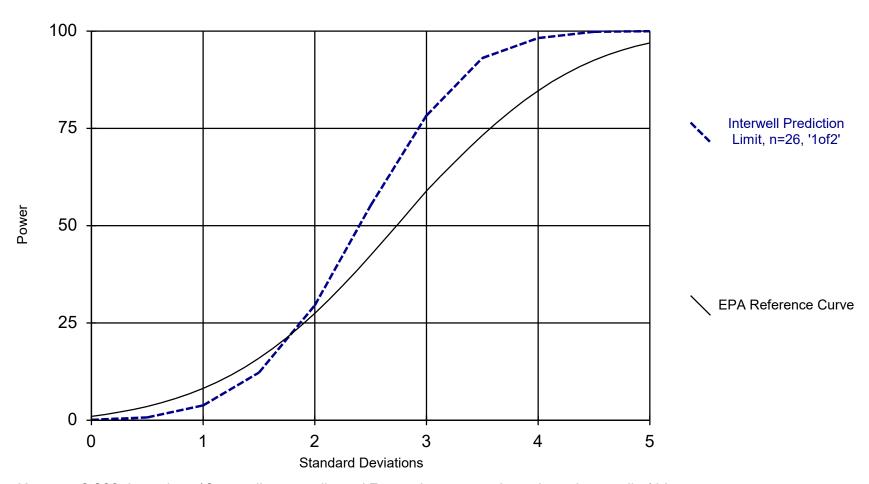
GWC-13, GWC-15, GWC-20, GWC-9, GWB-6R

### 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

	<del>_</del>												
	Grumma	Data: Grumman	Road Pri	nted 2/1									
Constituent	Well	Upper Lim.	<u>Date</u>	Observ.	Sig.	Bg N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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

Data: Grumman Road

Client: Southern Company

Grumman Road Landfill

Upper Lim. Date Method Constituent Well Std. Dev. %NDs ND Adj Transform Sig. Bg N Bg Mean Alpha 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 0.00051.1 Nο 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 GWC-14 0.003 Antimony (mg/L) 9/29/2020 0.003ND Nο 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 (ma/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 GWC-20 0.003 0.000137 Antimony (mg/L) 9/30/2020 0.003ND No 119 n/a n/a 94.96 n/a n/a NP Inter (NDs) 1 of 2 GWC-21 0.003 9/30/2020 0.000137 NP Inter (NDs) 1 of 2 Antimony (mg/L) 0.00033J No 119 n/a n/a 94.96 n/a n/a GWC-22 0.003 0.0016J 0.000137 NP Inter (NDs) 1 of 2 Antimony (mg/L) 9/30/2020 Nο 119 n/a n/a 94.96 n/a n/a GWC-9 0.003 10/1/2020 0.003ND 0.000137 NP Inter (NDs) 1 of 2 Antimony (ma/L) No 119 n/a n/a 94.96 n/a n/a GWB-4R Antimony (mg/L) 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 GWB-5R 0.003 0.000137 Antimony (ma/L) 9/30/2020 0.0003J 119 n/a 94.96 NP Inter (NDs) 1 of 2 No n/a n/a n/a GWB-6R Antimony (mg/L) 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 GWC-1 0.0287 9/28/2020 0.0058 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (ma/L) 119 n/a n/a n/a n/a No GWC-12 0.0287 9/29/2020 0.005ND 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a n/a 77.31 n/a n/a GWC-13 0.0287 9/28/2020 77.31 0.000137 NP Inter (NDs) 1 of 2 0.005ND No 119 n/a n/a Arsenic (mg/L) n/a n/a GWC-14 0.0287 9/29/2020 0.005ND 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a 77.31 n/a n/a n/a GWC-15 0.0287 9/30/2020 0.24 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) Yes n/a n/a 119 n/a Arsenic (mg/L) GWC-16 0.0287 9/30/2020 0.044 Yes 119 n/a 77.31 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 n/a GWC-17 0.0287 9/30/2020 0.0012J No 119 n/a 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) n/a n/a n/a GWC-2 0.0287 9/29/2020 0.005ND No 119 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) n/a n/a Arsenic (mg/L) GWC-20 0.0287 9/30/2020 0.31 Yes n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) GWC-21 0.0287 9/30/2020 0.0029J No 77.31 0.000137 NP Inter (NDs) 1 of 2 n/a GWC-22 0.0287 Arsenic (mg/L) 9/30/2020 0.005ND No 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWC-9 Arsenic (mg/L) 0.0287 10/1/2020 0.005ND No 119 n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWB-4R 0.0287 10/1/2020 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) 0.0027J No 119 n/a n/a 77.31 n/a Arsenic (mg/L) GWB-5R 0.0287 9/30/2020 0.0017J No 119 n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWB-6R 0.0287 9/30/2020 0.004J 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a n/a n/a n/a GWC-1 0.22 9/28/2020 0.051 117 n/a 0 0.0001427 Barium (mg/L) No n/a n/a NP Inter (normality) 1 of 2 Barium (mg/L) GWC-11 0.22 9/29/2020 0.14 No 0 n/a n/a 0.0001427 NP Inter (normality) 1 of 2 117 n/a n/a Barium (mg/L) GWC-12 0.22 9/29/2020 0.018 117 n/a 0 0.0001427 NP Inter (normality) 1 of 2 No n/a n/a GWC-13 Barium (mg/L) 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 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 n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-16 0.22 9/30/2020 0.14 Nο 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 Nο 117 n/a n/a n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 GWC-2 0.22 9/29/2020 0.049 0 Barium (mg/L) No 117 n/a n/a n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-20 0.22 9/30/2020 0.35 Yes 117 n/a n/a n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-21 0.22 9/30/2020 0.19 Nο 117 n/a n/a 0 n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-22 9/30/2020 0.045 0 0.0001427 NP Inter (normality) 1 of 2 0.22 Nο 117 n/a n/a n/a n/a GWC-9 0.22 0 Barium (mg/L) 10/1/2020 0.15 117 n/a 0.0001427 No n/a n/a n/a NP Inter (normality) 1 of 2 GWB-4R 0 Barium (mg/L) 0.22 10/1/2020 0.077 No 117 n/a n/a n/a n/a 0.0001427 NP Inter (normality) 1 of 2 GWB-5R 0.22 9/30/2020 0 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) 0.16 No 117 n/a n/a n/a n/a GWB-6R 9/30/2020 0 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) 0.22 0.092 117 n/a No n/a n/a n/a Chromium (mg/L) GWC-1 0.068 63.56 9/28/2020 0.0024J No 118 n/a n/a n/a n/a 0.0001399 NP Inter (NDs) 1 of 2 Chromium (mg/L) GWC-11 0.068 9/29/2020 0.0011J 118 n/a 0.0001399 NP Inter (NDs) 1 of 2 No 63.56 n/a n/a n/a GWC-12 0.068 9/29/2020 0.00085J 0.0001399 NP Inter (NDs) 1 of 2 Chromium (mg/L) No 118 n/a 63.56 n/a n/a n/a Chromium (mg/L) GWC-13 0.068 9/28/2020 0.00062J 118 n/a 63.56 n/a 0.0001399 NP Inter (NDs) 1 of 2 No n/a n/a Chromium (mg/L) GWC-14 0.068 9/29/2020 0.01ND 63.56 0.0001399 NP Inter (NDs) 1 of 2 No 118 n/a n/a n/a n/a Chromium (mg/L) GWC-15 0.068 9/30/2020 0.0016J No 118 n/a 63.56 0.0001399 NP Inter (NDs) 1 of 2 n/a n/a n/a

### State Interwell Prediction Limits - All Results

Data: Grumman Road

Client: Southern Company

Grumman Road Landfill

Upper Lim. Date Std. Dev. Constituent Well %NDs ND Adj  $\underline{\mathsf{Transform}}$ Method Sig. Bg N Bg Mean Alpha 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 0.00096.1 Nο 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 GWC-20 0.068 Chromium (ma/L) 9/30/2020 0.0013.1 Nο 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 0.00067JNo 118 n/a n/a 63.56 n/a n/a 0.0001399 NP Inter (NDs) 1 of 2 Chromium (ma/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 GWC-9 0.068 0.0001399 Chromium (mg/L) 10/1/2020 0.0012JNο 118 n/a n/a 63.56 n/a n/a NP Inter (NDs) 1 of 2 GWB-4R 0.068 10/1/2020 NP Inter (NDs) 1 of 2 Chromium (ma/L) 0.002J No 118 n/a n/a 63.56 n/a n/a 0.0001399 GWB-5R 0.068 9/30/2020 0.0001399 Chromium (ma/L) 0.0018JNο 118 n/a n/a 63.56 n/a n/a NP Inter (NDs) 1 of 2 GWB-6R 0.068 Chromium (mg/L) 9/30/2020 0.0045J 63.56 0.0001399 NP Inter (NDs) 1 of 2 No 118 n/a n/a n/a n/a GWC-1 Lead (mg/L) 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 GWC-11 0.013 Lead (mg/L) 9/29/2020 0.00032J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a n/a GWC-12 0.013 Lead (mg/L) 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 76.52 0.0001484 NP Inter (NDs) 1 of 2 0.000064J No 115 n/a n/a n/a n/a GWC-14 0.013 9/29/2020 0.005ND 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a n/a n/a GWC-15 0.013 9/30/2020 NP Inter (NDs) 1 of 2 0.000047J No 115 n/a 76.52 n/a 0.0001484 Lead (mg/L) n/a n/a GWC-16 0.013 9/30/2020 0.000091J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a GWC-17 0.013 9/30/2020 0.00006J 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a n/a n/a Lead (mg/L) GWC-2 0.013 9/29/2020 0.005ND No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a n/a GWC-20 0.013 9/30/2020 0.005ND No 115 n/a 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a n/a GWC-21 0.013 9/30/2020 0.000054J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a Lead (mg/L) GWC-22 0.013 9/30/2020 0.00023J 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) GWC-9 0.013 10/1/2020 0.000038J 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a GWB-4R Lead (mg/L) 0.013 10/1/2020 0.00026J No 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 GWB-5R Lead (mg/L) 0.013 9/30/2020 0.0012J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 GWB-6R 0.013 9/30/2020 0.00008J NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a 76.52 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 83.19 0.000137 GWC-11 0.0438 9/29/2020 0.0024J 0.000137 NP Inter (NDs) 1 of 2 Selenium (mg/L) No 119 n/a n/a 83.19 n/a GWC-12 0.0438 9/29/2020 0.01ND 0.000137 NP Inter (NDs) 1 of 2 Selenium (mg/L) No 119 n/a 83.19 n/a n/a Selenium (mg/L) GWC-14 0.0438 9/29/2020 0.0051J No n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 119 n/a n/a n/a Selenium (mg/L) GWC-15 0.0438 9/30/2020 0.01ND 119 n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 No n/a n/a GWC-16 n/a Selenium (mg/L) 0.0438 9/30/2020 0.0037J No 119 n/a n/a 83.19 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 83.19 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 n/a 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 Nο 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 0.0061.1 Nο 119 n/a n/a 83 19 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 GWC-22 0.0438 9/30/2020 0.000137 Selenium (mg/L) 0.01ND No 119 n/a n/a 83.19 n/a n/a NP Inter (NDs) 1 of 2 GWC-9 0.0438 0.000137 Selenium (mg/L) 10/1/2020 0.01ND Nο 119 n/a n/a 83.19 n/a n/a NP Inter (NDs) 1 of 2 Selenium (mg/L) GWB-4R 0.0438 10/1/2020 0.01ND Nο 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 83.19 0.000137 NP Inter (NDs) 1 of 2 Nο 119 n/a n/a n/a n/a GWB-6R 0.0438 9/30/2020 0.0023J 119 n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 Selenium (ma/L) No n/a n/a n/a GWC-1 Vanadium (mg/L) 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 GWC-11 0.425 9/29/2020 0.0023J 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) 111 n/a 64.86 n/a n/a No n/a Vanadium (mg/L) GWC-12 0.425 9/29/2020 0.0046J 0.0001599 NP Inter (NDs) 1 of 2 111 n/a No n/a 64.86 n/a n/a GWC-13 0.425 111 n/a Vanadium (mg/L) 9/28/2020 0.01ND No n/a 64.86 n/a n/a 0.0001599 NP Inter (NDs) 1 of 2 GWC-14 0.425 9/29/2020 0.01ND 111 n/a 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) No n/a 64.86 n/a n/a GWC-15 0.425 9/30/2020 0.0028J 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) No 111 n/a 64.86 n/a n/a n/a Vanadium (mg/L) GWC-16 0.425 9/30/2020 0.0028J No 111 64.86 n/a 0.0001599 NP Inter (NDs) 1 of 2 n/a n/a n/a Vanadium (mg/L) GWC-17 0.425 9/30/2020 0.01ND 64.86 0.0001599 NP Inter (NDs) 1 of 2 No 111 n/a n/a n/a n/a Vanadium (mg/L) GWC-2 0.425 9/29/2020 0.01ND No 111 64.86 n/a 0.0001599 NP Inter (NDs) 1 of 2 n/a n/a n/a

### State Interwell Prediction Limits - All Results

	Grumman Road Landfill Client: Southern Compar					ny Data: Grumman Road Printed 2/17/2021, 4:15 PM						
Constituent	Well	Upper Lim	<u>Date</u>	Observ.	Sig.	Bg N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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 Compa	ny Data:	Grumman R	oad I	Printed 2	/17/2021	, 4:28 PM			
Constituent	Well	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	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 Compa	ny Data:	Grumman R	oad	Printed 2	2/17/2021	1, 4:28 PM			
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	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
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
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-7 (bg)	0.001011	2.325	2.58	No	43	30.23	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-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
Zinc (mg/L)	GWC-9	-0.0002436	-3.281	-2.58	Yes	42	42.86	n/a	n/a	0.01	NP

### Federal Interwell Prediction Limits - Significant Results

	Grum	man Road La	ndfill Client:	Southern Co	ompany	Da	ita: Grummai	n Road P	rinted 2/1	7/2021, 4:21 PI	М		
Constituent	Well	Upper Lir	n. Date	Observ.	Sig.	Bg	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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 Upper Lim. Date Std. Dev. Constituent Well %NDs ND Adj. Sig. Bg N Bg Mean **Transform** Alpha Method Boron (mg/L) GWC-1 21.8 9/28/2020 0.69 Nο 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 12 Nο 26 n/a n/a n n/a n/a 0.002308 NP Inter (normality) 1 of 2 Boron (mg/L) GWC-12 21.8 9/29/2020 4.7 Nο 26 n/a n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-13 Boron (mg/L) 21.8 9/28/2020 0.24 Nο 26 n/a n/a n 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 (ma/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 GWC-16 0.002308 Boron (mg/L) 21.8 9/30/2020 8.1 Nο 26 n/a n/a 0 n/a n/a NP Inter (normality) 1 of 2 GWC-17 21.8 9/30/2020 26 0 0.002308 Boron (mg/L) 0.86 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-2 26 0 0.002308 Boron (mg/L) 21.8 9/29/2020 0.024JNο n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-20 21.8 9/30/2020 26 0 0.002308 Boron (mg/L) 9.9 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-21 Boron (mg/L) 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 GWC-22 21.8 26 0 0.002308 Boron (ma/L) 9/30/2020 0.25 n/a NP Inter (normality) 1 of 2 No n/a n/a n/a GWC-9 0 Boron (mg/L) 21.8 10/1/2020 0.028J No 26 n/a n/a n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWB-4R 21.8 10/1/2020 26 0 0.002308 NP Inter (normality) 1 of 2 Boron (ma/L) 5.2 No n/a n/a n/a n/a GWB-5R Boron (mg/L) 26 0 0.002308 NP Inter (normality) 1 of 2 21.8 9/30/2020 4 No n/a n/a n/a n/a GWB-6R 21.8 9/30/2020 26 0 0.002308 4.2 No n/a NP Inter (normality) 1 of 2 Boron (mg/L) n/a n/a n/a GWC-1 9/28/2020 26 0 0.002308 Calcium (mg/L) 35.8 70.7 n/a NP Inter (normality) 1 of 2 Yes n/a n/a n/a GWC-11 35.8 9/29/2020 123 26 0.002308 NP Inter (normality) 1 of 2 Calcium (mg/L) Yes n/a n/a n/a n/a Calcium (mg/L) GWC-12 35.8 9/29/2020 42 Yes 26 n/a 0 n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a Calcium (mg/L) GWC-13 35.8 9/28/2020 2.9 No 26 n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a n/a Calcium (mg/L) GWC-14 35.8 9/29/2020 30.8 No 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a Calcium (mg/L) GWC-15 35.8 9/30/2020 109 Yes n/a n/a 0.002308 NP Inter (normality) 1 of 2 n/a Calcium (mg/L) **GWC-16** 9/30/2020 177 Yes 26 n/a 0.002308 NP Inter (normality) 1 of 2 n/a GWC-17 Calcium (mg/L) 35.8 9/30/2020 53.5 26 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-2 Calcium (mg/L) 35.8 9/29/2020 0.18J No 26 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-20 9/30/2020 292 0.002308 Calcium (mg/L) 35.8 Yes 26 0 n/a NP Inter (normality) 1 of 2 0.002308 Calcium (mg/L) GWC-21 35.8 9/30/2020 98.4 26 0 NP Inter (normality) 1 of 2 Calcium (mg/L) GWC-22 35.8 9/30/2020 20.9 26 0 0.002308 No n/a n/a n/a NP Inter (normality) 1 of 2 Calcium (mg/L) GWC-9 10/1/2020 No 26 0 n/a 0.002308 35.8 5.5 n/a n/a NP Inter (normality) 1 of 2 Calcium (mg/L) GWB-4R 35.8 10/1/2020 48.4 Yes 26 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a Calcium (mg/L) GWB-5R 9/30/2020 70.4 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 35.8 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 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 Nο 26 n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-13 260 9/28/2020 43 No 26 n/a n/a n n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-14 26 0 0.002308 260 9/29/2020 10.6 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-15 Chloride (mg/L) 260 9/30/2020 1.7 Nο 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 Nο 26 n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-17 26 0 0.002308 NP Inter (normality) 1 of 2 260 9/30/2020 257 Nο n/a n/a n/a n/a GWC-2 Chloride (ma/L) 260 9/29/2020 26 0 0.002308 NP Inter (normality) 1 of 2 5.4 No n/a n/a n/a n/a GWC-20 Chloride (mg/L) 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 GWC-21 Chloride (mg/L) 9/30/2020 23.7 26 0 0.002308 260 n/a n/a NP Inter (normality) 1 of 2 No n/a n/a GWC-22 0 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) 9/30/2020 26 260 8.5 No n/a n/a n/a n/a GWC-9 0 Chloride (ma/L) 260 10/1/2020 16.8 No 26 n/a n/a n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWB-4R 10/1/2020 15.7 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) 260 No n/a n/a n/a GWB-5R 260 9/30/2020 26 0.002308 Chloride (mg/L) 24.1 No n/a n/a NP Inter (normality) 1 of 2 n/a n/a Chloride (mg/L) GWB-6R 9/30/2020 53.9 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 260 No n/a n/a n/a GWC-1 0.5492 9/28/2020 30 -2.25 0.7283 23.33 0.0004702 Param Inter 1 of 2 Fluoride (mg/L) 0.1ND No Kaplan-Meier ln(x) Fluoride (mg/L) GWC-11 0.5492 9/29/2020 0.1ND No 30 -2.25 0.7283 23.33 Kaplan-Meier 0.0004702 Param Inter 1 of 2 In(x)

### Federal Interwell Prediction Limits - All Results

	Grumr	nan Road Lar	ndfill Client:	Southern Co	mpany	Da	ta: Grumma	n Road Pi	rinted 2/1	17/2021, 4:21 PM	И		
Constituent	Well	Upper Lin	n. Date	Observ.	Sig.	Bg I	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	Method
Fluoride (mg/L)	GWC-12	0.5492	9/29/2020	0.16	No	30	-2.25	0.7283	23.33	Kaplan-Meier	In(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	In(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	In(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	In(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	In(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	In(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	In(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
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-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
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-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
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
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
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-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
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-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
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)	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
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
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

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### Federal Interwell Prediction Limits - All Results

Grumman Road Landfill Client: Southern Compar						ny Data: Grumman Road Printed 2/17/2021, 4:21 PM							
Constituent	Well	Upper Lim	. Date	Observ.	Sig.	Bg I	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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 Compa	any Data:	Grumman R	oad l	Printed 2	/17/2021	, 4:25 PM			
Constituent	Well	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	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-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	y Data	: Grumman R	oad F	Printed 2	/17/2021	, 4:25 PM			
Constituent	<u>Well</u>	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	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 Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:50 PM

	Gru	mman Road Lar	ndfill	Ill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:50 PM				PM			
Constituent	Well	Upper Lim.	Bg N	Bg Mean	Std. Dev.		%NDs	ND Adj.	Transform	<u>Alpha</u>	Method
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

GRUMMAN ROAD LANDFILL GWPS										
	Background									
Constituent Name	MCL	Limit	GWPS							
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							

 $[\]hbox{*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

	Giuilii	nan Road Lan	idilii Ciletti. 300	mem compar	iy Data.	. Grunnan r	toau Fillit	su 2/1/2	.021, 1.55 PW	ı		
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	<u>Mean</u>	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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

Printed 2/1/2021, 1:55 PM

Grumman Road Landfill

Client: Southern Company Data: Grumman Road Std. Dev. Constituent <u>Well</u> Sig. %NDs ND Adj. Transform <u>Alpha</u> Upper Lim. Lower Lim. Compliance <u>N</u> 0.003 0.0017 0.006 0.002571 0.0008176 76.47 None No NP (NDs) Antimony (mg/L) GWA-7 (bg) No 17 0.01 0.0008382 88.24 None Antimony (mg/L) GWC-1 0.003 0.00061 0.006 No 17 0.002704 No 0.01 NP (NDs) GWC-11 0.003 0.00051 0.001246 0.01 NP (normality) Antimony (ma/L) 0.006 No 0.001724 47.06 None No 17 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 0 100 None 0.01 NP (NDs) 0.003 No Antimony (mg/L) GWC-16 0.003 0.003 0.006 18 0 100 0.01 NP (NDs) No 0.003 None No GWC-2 0.0016 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 No 17 0.002818 0.0005175 88.24 None No Antimony (mg/L) GWC-20 0.003 0.0019 0.006 0.002935 0.0002668 94.12 None 0.01 NP (NDs) 0.00033 NP (NDs) Antimony (mg/L) GWC-21 0.003 0.006 Nο 0.002843 0.0006476 94.12 None No 0.01 Antimony (mg/L) GWC-22 0.003 0.0022 0.006 0.002573 0.0008769 0.01 NP (NDs) GWC-9 0.0016 0.0007121 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 Nο 17 0.002761 88.24 None No GWB-4R 0.0003 0.0006548 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 0.002841 94.12 None GWB-5R 0.00054 0.0008579 NP (NDs) 0.003 No 0.002696 88.24 None 0.01 Antimony (mg/L) 0.006 17 No Antimony (mg/L) GWB-6R 0.003 0.00059 0.006 0.002858 0.0005845 94.12 None No 0.01 NP (NDs) Arsenic (ma/L) GWA-7 (ba) 0.01003 0.004246 0.029 Nο 17 0.008241 0.006088 23.53 Kaplan-Meierx^(1/3) 0.01 Param Arsenic (mg/L) GWA-8 (bg) 0.005 0.0009 No 0.002086 No 0.01 NP (normality) GWC-1 0.0018 Arsenic (mg/L) 0.0058 0.029 No 16 0.0046 0.006187 n None No 0.01 NP (normality) GWC-12 0.005 0.0009 0.029 0.004253 0.001664 82.35 None 0.01 NP (NDs) Arsenic (mg/L) No 17 No Arsenic (ma/L) GWC-13 0.005 0.0006 0.029 No 17 0.004481 0.001465 88.24 None No 0.01 NP (NDs) Arsenic (ma/L) GWC-14 0.0026 0.0017 0.029 No 18 0.002363 0.001043 11 11 None No 0.01 NP (normality) Arsenic (mg/L) GWC-15 0.1476 0.05755 0.029 Yes 17 0.1099 0.07879 0 0.01 None Param. GWC-16 0.089 0.0466 0.01771 0 0.01 NP (normality) Arsenic (ma/L) 0.029 Yes 18 0.07044 None No GWC-17 0.005 0.0011 0.029 17 0.002589 0.001853 35.29 None 0.01 NP (normality) Arsenic (mg/L) No GWC-2 0.00094 0.004231 0.01 NP (NDs) Arsenic (mg/L) 0.005 0.029 No 17 0.001715 82.35 None No 0.06818 Arsenic (mg/L) GWC-20 0.3663 0.2809 0.029 Yes 0.3236 0 None No 0.01 Param. Arsenic (mg/L) GWC-21 0.00419 0.002641 0.029 Nο 0.004106 0.001342 35.29 Kaplan-MeierNo 0.01 Param 17 GWC-22 0.005 0.0006 0.029 17 0.002975 0.002038 47.06 None 0.01 NP (normality) Arsenic (mg/L) No 0.00084 GWC-9 0.005 0.004755 0.001009 0.01 NP (NDs) Arsenic (ma/L) 0.029 No 17 94.12 None No GWB-4R 0.003241 0.0018 0.029 0.00115 0.01 Arsenic (mg/L) 17 0.002521 11.76 None No Param GWB-5R 0.001 NP (normality) Arsenic (mg/L) 0.005 0.029 No 17 0.002406 0.001814 23.53 None No 0.01 Arsenic (ma/L) GWB-6R 0.00259 0.001237 0.029 0.002943 0.001663 Kaplan-Me 0.01 GWA-7 (ba) 0 147 0.08279 2 Nο 0.04934 Barium (mg/L) 16 0 1149 n None Nο 0.01 Param Barium (mg/L) GWA-8 (bg) 0.06557 0.05823 2 No 0.0619 0.006073 None No 0.01 Param GWC-1 0.05709 0.05031 2 Nο 0.0537 0.005409 0 0.01 Param. Barium (mg/L) 17 None No Barium (mg/L) GWC-11 0.116 0.06249 2 0.08923 0.04267 0 No 0.01 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 No 17 0.02271 0.003874 0 None Nο 0.01 Param Barium (mg/L) GWC-14 0.038 0.0248 2 No 18 0.03612 0.01865 0 None 0.01 NP (normality) GWC-15 0.03849 2 0.04312 0 Barium (mg/L) 0.04776 No 0.007403 0.01 Param None No Barium (mg/L) GWC-16 0.1226 0.05782 2 No 0.0999 0.0697 0 0.01 Param None In(x) Barium (mg/L) GWC-17 0.1149 0.04739 No 0.08628 0.05882 0 0.01 Param None sqrt(x) 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 No 0.1374 0.09319 0 0.01 NP (normality) No None Barium (mg/L) GWC-21 0.0927 0.04919 2 No 17 0.07652 0.04397 0 0.01 Param None In(x) GWC-22 2 Barium (mg/L) 0.09837 0.06303 No 0.0807 0.0282 0 0.01 Param. 17 No None GWC-9 0.2639 0.1907 2 0.05839 0 Barium (mg/L) No 0.2273 0.01 Barium (mg/L) GWB-4R 0.09313 0.07851 2 No 0.08629 0.01261 0 0.01 None In(x) Param. GWB-5R 0.1569 0.09433 2 No 0.1295 0.05651 0.01 Barium (mg/L) 0 None  $x^{(1/3)}$ Param Barium (mg/L) GWB-6R 0.107 0.013 2 Nο 17 0.07405 0.04251 0 None 0.01 NP (normality) No 0.0003 Beryllium (mg/L) GWA-7 (bg) 0.003 0.004 0.001288 53.85 None 0.01 NP (normality) 0.00024 0.00019 0.01 NP (normality) Beryllium (mg/L) GWA-8 (bg) 0.004 Nο 13 0.0004169 0.0007763 7.692 None No Beryllium (mg/L) GWC-12 0.0008417 0.0005038 0.004 No 13 0.00068 0.000238 sqrt(x) 0.01 Param. NP (NDs) Beryllium (mg/L) GWC-13 0.003 0.000058 0.004 No 13 0.002774 0.000816 92.31 None No 0.01 Beryllium (mg/L) GWC-14 0.003 0.00009 0.004 0.001279 76.92 None NP (NDs) GWC-16 0.003 0.000068 0.004 0.0009827 0.0014 0.01 NP (normality) Bervllium (ma/L) 30 77 None Nο

# Appendix II and IV Confidence Interval Summary Table - All Results - All Results - 2

,	тррсі	IGIX II		nan Road Lar			thern Compan			: Grumman F	Road Printe	,	2021, 1:55 PM	- / \li	10.	Juito
Constituent		Well	Ordinin	Upper Lim.	Lower Lim.	Jour		•		Mean_	Std. Dev.		ND Adj.	Transform	Δlnha	<u>Method</u>
Beryllium (mg/L)		GWC-17		0.002825	0.00159		0.004			0.002277	0.0009284		None		0.01	Param.
, , , ,		GWC-17		0.002823	0.000088		0.004		13	0.002277	0.0009284	64.29		ln(x)	0.01	NP (normality)
Beryllium (mg/L)		GWC-22		0.003	0.000086		0.004	No		0.001972	0.001433			No	0.01	NP (normality)
Beryllium (mg/L)		GWC-22							13	0.001449		46.15		No	0.01	, .,
Beryllium (mg/L)				0.0003	0.0002		0.004	No			0.00004856		None	No		NP (normality)
Beryllium (mg/L)		GWB-4R		0.003	0.0001		0.004	No		0.001685	0.001481	53.85		No	0.01	NP (normality)
Beryllium (mg/L)		GWB-5R		0.003	0.000076		0.004	No		0.0008324	0.001238	23.08		No	0.01	NP (normality)
Beryllium (mg/L)		GWB-6R		0.003	0.00005		0.004	No		0.002546		84.62		No No	0.01	NP (NDs)
Cadmium (mg/L)		GWA-7 (bg)		0.0025	0.0007		0.005	No		0.002177	0.0007981	84.62		No	0.01	NP (NDs)
Cadmium (mg/L)		GWC-1		0.0025	0.0001		0.005	No		0.002128	0.0009069	84.62		No	0.01	NP (NDs)
Cadmium (mg/L)		GWC-11		0.0007867	0.000195		0.005	No		0.0005485	0.0006203	7.692		x^(1/3)	0.01	Param.
Cadmium (mg/L)		GWC-14		0.0025	0.00012		0.005	No		0.001245	0.001209	46.15		No	0.01	NP (normality)
Cadmium (mg/L)		GWC-22		0.0025	0.0001		0.005		13	0.0007346	0.001013	23.08		No	0.01	NP (normality)
Cadmium (mg/L)		GWB-4R		0.0025	0.00009		0.005		13	0.001775	0.001132	69.23		No	0.01	NP (normality)
Chromium (mg/L)		GWA-7 (bg)		0.04075	0.0199		0.1		16	0.03145	0.01716	0	None	sqrt(x)	0.01	Param.
Chromium (mg/L)		GWA-8 (bg)		0.01	0.00071		0.1		18	0.006892	0.004525	66.67		No	0.01	NP (normality)
Chromium (mg/L)		GWC-1		0.0024	0.0016		0.1	No		0.002647	0.002187	5.882		No	0.01	NP (normality)
Chromium (mg/L)		GWC-11		0.01	0.0007		0.1	No	17	0.004628	0.004614	35.29		No	0.01	NP (normality)
Chromium (mg/L)		GWC-12		0.0028	0.00085		0.1	No	17	0.002761	0.003484	17.65		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-Meie	erln(x)	0.01	Param.
Chromium (mg/L)		GWB-6R		0.006321	0.001915		0.1	No	17	0.005429	0.005535	0	None	In(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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	. ,	GWC-15		1.87	1.103		33.8		13	1.486	0.5156	0	None	No	0.01	Param.
Combined Radium 226 + 2	. ,	GWC-16		4.17	1.72		33.8		13	2.244	0.923	0	None	No	0.01	NP (normality)
Combined Radium 226 + 2	. ,	GWC-17		4.199	2.777		33.8		13	3.488	0.956	0	None	No	0.01	Param.
Combined Radium 226 + 2	. ,	GWC-2		1.021	0.6234		33.8		13	0.8223	0.2675	0	None	No	0.01	Param.
Combined Radium 226 + 2		GWC-20		4.25	1.613		33.8		13		1.773	0	None	No	0.01	Param.
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# 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

	Grum	man Road La	ndfill Client: So	uthern Compa	ny Dat	a: Grumman	Road Print	ed 2/1/2	2021, 1:55 PM	М		
Constituent	<u>Well</u>	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%ND:	s ND Adj.	Transform	<u>Alpha</u>	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-Mei	erx^(1/3)	0.01	Param.
Fluoride (mg/L)	GWA-8 (bg)	0.162	0.07275	4	No 15	0.1347	0.08331	20	Kaplan-Mei	erx^(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		0.007488		None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-22	0.12	0.06	4	No 15		0.02642	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-9	0.289	0.1025	4	No 15		0.2393		None	ln(x)	0.01	Param.
Fluoride (mg/L)	GWB-4R	0.17	0.064	4	No 15		0.292		None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-5R	0.11	0.05	4	No 15		0.04317		None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-6R	0.1483	0.06391	4	No 15		0.06612	40	Kaplan-Mei		0.01	Param.
Lead (mg/L)	GWA-7 (bg)	0.008665	0.003602	0.013	No 15		0.003736	0	None	No	0.01	Param.
Lead (mg/L)	GWA-8 (bg)	0.005	0.0001	0.013	No 18		0.002369		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-1	0.005	0.0001	0.013	No 17		0.002303		None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-11	0.003	0.00012	0.013	No 17		2 0.001578		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.0002	0.013	No 17		0.002298		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.000081	0.013	No 17		0.002298		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-13	0.005	0.00013	0.013	No 18		0.002103		None	No	0.01	NP (NDs)
	GWC-14	0.005	0.00031	0.013	No 17		0.002030		None		0.01	NP (normality)
Lead (mg/L)										No		NP (normality)
Lead (mg/L)	GWC-16	0.005	0.0001	0.013	No 18		0.002436 0.002432		None	No No	0.01	` ,,
Lead (mg/L)	GWC-17 GWC-2	0.005 0.005	0.0001 0.0002	0.013	No 17		0.002432		None None	No No	0.01	NP (normality) NP (normality)
Lead (mg/L)				0.013								, .,
Lead (mg/L)	GWC-20	0.005	0.00018	0.013	No 17		0.002291		None	No No	0.01	NP (normality)
Lead (mg/L)	GWC-21	0.005	0.00009	0.013	No 17		0.002508		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-22	0.001039	0.0003389	0.013	No 17		6 0.001238		None	ln(x)	0.01	Param.
Lead (mg/L)	GWC-9	0.005	0.000096	0.013	No 17		0.00248		None	No	0.01	NP (normality)
Lead (mg/L)	GWB-4R	0.005914	0.002171	0.013	No 16		0.002877	12.5	None	No No	0.01	Param.
Lead (mg/L)	GWB-5R	0.005	0.0002	0.013	No 17		0.002209		None	No No	0.01	NP (normality)
Lead (mg/L)	GWB-6R	0.005	0.00014	0.013	No 17		0.002376		None	No No	0.01	NP (normality)
Lithium (mg/L)	GWA-8 (bg)	0.03	0.001	0.03	No 13		0.01503		None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-12	0.03	0.00091	0.03	No 13		0.01505		None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-17	0.007059	0.005156	0.03	No 13		0.00128	0	None	No	0.01	Param.
Lithium (mg/L)	GWC-9	0.002114	0.00182	0.03	No 12		0.0001875		None	No	0.01	Param.
Lithium (mg/L)	GWB-4R	0.014	0.0039	0.03	No 13		0.004467	0	None	No	0.01	NP (normality)
Lithium (mg/L)	GWB-5R	0.03	0.0027	0.03	No 13		0.01362		None	No	0.01	NP (normality)
Mercury (mg/L)	GWA-7 (bg)	0.0002	0.0001	0.002	No 11		0.0000537			No		NP (normality)
Mercury (mg/L)	GWC-1	0.0002	0.0002	0.002	No 11		5 0.0000482			No		NP (NDs)
Mercury (mg/L)	GWC-13	0.0002	0.0002	0.002	No 11		6 0.0000211			No		NP (NDs)
Mercury (mg/L)	GWC-9	0.0002	0.0002	0.002	No 11		4 0.0000452			No		NP (NDs)
Mercury (mg/L)	GWB-4R	0.0002	0.0002	0.002	No 11		3 0.0000455			No		NP (NDs)
Mercury (mg/L)	GWB-6R	0.0002	0.0002	0.002	No 11		7 0.0000473			No		NP (NDs)
Molybdenum (mg/L)	GWA-7 (bg)	0.01	0.0098	0.01	No 13		0.003261		None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-1	0.1716	0.07167	0.01	Yes 13	0.1216	0.06717	0	None	No	0.01	Param.

# 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

	Grum	man Road Lar	ndfill Client: Sou	ıthern Compar	ny	Data	: Grumman F	Road Printe	ed 2/1/2	021, 1:55 PM	1		
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig	<u>. N</u>	<u>Mean</u>	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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)
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-17	0.01	0.0024	0.01	No	13	0.007309	0.003627	61.54	None	No	0.01	NP (normality)
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)
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-Meie	rsqrt(x)	0.01	Param.
Selenium (mg/L)	GWC-12	0.01	0.0025	0.05	No	17	0.008612	0.003093	82.35	Kaplan-Meie	rNo	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-Meie	rNo	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-Meie	rNo	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		None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-17	0.01	0.0024	0.43	No	12	0.005817	0.003718		None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-2	0.01	0.0024	0.43	No	12	0.009367	0.002194		None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-20	0.01	0.0024	0.43	No	14	0.005293	0.003647		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-Meie		0.01	Param.
Vanadium (mg/L)	GWC-22	0.01	0.0014	0.43			0.006158	0.004136	50	None	No	0.01	NP (normality)
· ÷ ·													,

# Appendix II and IV Confidence Interval Summary Table - All Result§ $^{\text{\tiny Sage 5}}$

	Grumn	nan Road Lan	dfill Client: Sout	hern Compan	y Data	ı: Grumman F	Road Printe	ed 2/1/2	021, 1:55 PM			
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	<u>Mean</u>	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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-Meie	rNo	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-Meie	rNo	0.01	Param.

	GWC-1 ^{Arsen}	ic (mg/L) GWC-16 Arser	_{nic (mg/L)} GWC-21 Arsel	_{nic (mg/L)} GWB-4R Arse	_{enic} (mg/L) GWB-5R Arser	nic (mg/L) GWA-7 Barium	_{i (mg/L)} GWC-12 Bariu	_{m (mg/L)} GWC-14 Bariur	n (mg/L) GWC-15 Bariur	n (mg/L) GWC-16 Barium (mg/L)
9/29/2000										
11/21/2000										
1/20/2001										
3/14/2001										
7/16/2001								0.28 (o)		
11/1/2001										
4/25/2002							0.24 (o)			
11/20/2002										
6/6/2003	0.03 (o)	1.2 (o)			0.07 (o)		0.28 (o)		0.083 (o)	0.48 (o)
12/12/2003		0.27 (o)					0.27 (o)		0.094 (o)	0.13 (o)
5/26/2004							0.31 (o)			
12/7/2004							0.46 (o)			
6/21/2005										
12/12/2005										
6/27/2006										
8/30/2006										
12/4/2006										
6/23/2007										
12/11/2007										
6/24/2008										
12/5/2008										
7/7/2009										
12/21/2009										
6/20/2010										
6/21/2010			0.013 (o)	0.018 (o)						
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014										
1/17/2016	0.024 (o)									
8/31/2016										
9/1/2016						0.415 (o)				
10/26/2016										
10/3/2017										0.135 (o)
7/10/2018										0.16 (o)
7/11/2018										
1/16/2019										
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019										

	GWC-2Bariur	n (mg/L) GWB-5R Bariu	_{lm} (mg/L) GWC-15 Boron	(mg/L) GWC-9 Boron	(mg/L) GWA-7 Chron	_{nium} (mg/L) GWC-16 Chro	_{mium} (mg/L) GWC-17 Chro	_{mium} (mg/L) GWB-5R Chro	_{mium} (mg/L) GWB-6R Chro	_{mium} (mg/L) GWA-7 Cobalt (mg/L)
9/29/2000										
11/21/2000										
1/20/2001										
3/14/2001								0.052 (o)		
7/16/2001								0.08 (o)		
11/1/2001		0.61 (o)						0.13 (o)		
4/25/2002										
11/20/2002								0.053 (o)		
6/6/2003		0.72 (o)				0.063 (o)		0.064 (o)		
12/12/2003							0.036 (o)			
5/26/2004										
12/7/2004										
6/21/2005										
12/12/2005										
6/27/2006										
8/30/2006										
12/4/2006										
6/23/2007										
12/11/2007										
6/24/2008									0.032 (o)	
12/5/2008										
7/7/2009										
12/21/2009										
6/20/2010										
6/21/2010										
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014										
1/17/2016 8/31/2016				0.006 (1.5)						
9/1/2016			9.01 (o)	0.096 (J,o)	0.119 (o)					
10/26/2016	0.113 (o)		5.51 (0)		0.110 (0)					
10/3/2017	0.110 (0)									
7/10/2018										
7/11/2018										<0.005 (o)
1/16/2019										`,
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019										

929/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11		7 Lead (	(mg/L)	mg/L)	d (mg/L)	d (mg/L)	(mg/L)	d (mg/L)	d (mg/L)	n (mg/L) CWA-8 pH (SI	J) CNC-13 pH (SU)
112412000 112412001 112412001 11442001 11452001 11452001 114525002 11450202 11450202 114502002 114502003 10,011 (a) 0,0086 (a) 0,018 (b) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c)		GWA.	GMA	GWO .	GMO .	GMO	GMD .	GWD	GWO	GW	GWO
1/14/2001	9/29/2000							0.017 (o)			
14/2001	11/21/2000										
1111/2001	1/20/2001										
11/1/2001	3/14/2001							0.026 (o)			
4/25/2002 11/20/2002	7/16/2001							0.043 (o)			
1/120/2002	11/1/2001							0.075 (o)			
6662003 0.037 (a) 0.016 (a) 0.099 (a) 0.015 (a) 0.16 (b)  12/12/2003 0.016 (a) 0.017 (a) 0.017 (a) 0.018 (b) 0.018 (c)  5/26/2004 0.038 (a)  6/21/2005 0.038 (a)  6/21/2006 0.038 (a)  6/27/2006 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)	4/25/2002										
12/12/2003 5/26/2004 12/7/2004 6/21/2005 6/27/2006 6/27/2006 6/27/2006 6/23/2007 12/11/2007 6/23/2007 12/11/2007 6/24/2008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 17/7/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/5	11/20/2002			0.011 (o)		0.0086 (o)	0.018 (o)	0.057 (o)			
5/26/2004       0.038 (o)         12/7/2005       0.036 (o)         12/12/2005       0.036 (o)         6/27/2006       0.024 (o)         8/30/2006       0.023 (o)         12/4/2006       0.023 (o)         6/23/2007	6/6/2003	0.037 (o)	0.016 (o)		0.099 (o)		0.015 (o)	0.16 (o)			
12/7/2004	12/12/2003				0.017 (o)						
6/21/2005 12/12/2006 6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 0.022 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 6/21/2010 7/8/2011 7/9/2012	5/26/2004										
12/12/2006 6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/7/2004							0.038 (o)			
6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 12/5/2008 17//2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	6/21/2005							0.036 (o)			
8/30/2006 12/4/2006 0.023 (o) 6/23/2007 12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/12/2005										
12/4/2006 6/23/2007 12/11/2007 6/24/2008 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	6/27/2006						0.024 (o)				
6/23/2007 12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	8/30/2006										
12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/4/2006						0.023 (o)				
6/24/2008 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	6/23/2007										
12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/11/2007										
7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	6/24/2008						0.02 (o)				
12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/5/2008										
6/20/2010 6/21/2010 7/8/2011 7/9/2012	7/7/2009										
6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/21/2009										
7/8/2011 7/9/2012 1/18/2013	6/20/2010										
7/9/2012 1/18/2013	6/21/2010										
1/18/2013	7/8/2011										
	7/9/2012										
4/3/2014	1/18/2013										
	4/3/2014										
1/17/2016	1/17/2016										
8/31/2016 <0.03 (o)	8/31/2016								<0.03 (o)		
9/1/2016 0.0663 (o) 0.0166 (o)	9/1/2016	0.0663 (o)					0.0166 (o)				
10/26/2016	10/26/2016										
10/3/2017	10/3/2017										
7/10/2018											
7/11/2018	7/11/2018										
1/16/2019 <0.005 (o) 6.45 (o)		<0.005 (o)								6.16 (o)	6.45 (o)
1/17/2019		• •								. ,	* *
1/18/2019											
1/21/2019											
3/25/2019											

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

		(611)	(611)	eII)	211)	.ium (mg/L)	onium (mg/L)	.nium (mg/L)	nium (mg/L)	_{nium} (mg/L) GWB-5R Total Disse	olved Solids (mg/L)
	GWC- ^{f5 pH}	GWC-20 pH	GWC-22 pH (	GWC-9 pH (5	GWC-1 Seler	GWC-14 Sele	GWC-15 Sele	GWC-16 Sele	_{nium} (mg/L) GWB-4R Sele	GWB-5R Total Die	
9/29/2000											
11/21/2000											
1/20/2001									0.014 (o)		
3/14/2001											
7/16/2001									0.015 (o)		
11/1/2001									0.012 (o)		
4/25/2002						0.1 (o)					
11/20/2002					0.19 (o)				0.026 (o)		
6/6/2003					0.32 (o)		0.021 (o)	0.021 (o)	0.022 (o)		
12/12/2003							0.016 (o)		0.028 (o)		
5/26/2004									0.012 (o)		
12/7/2004											
6/21/2005											
12/12/2005									0.013 (o)		
6/27/2006											
8/30/2006											
12/4/2006											
6/23/2007											
12/11/2007											
6/24/2008											
12/5/2008											
7/7/2009											
12/21/2009											
6/20/2010											
6/21/2010											
7/8/2011											
7/9/2012							0.066 (o)				
1/18/2013							0.04 (o)				
4/3/2014											
1/17/2016											
8/31/2016											
9/1/2016											
10/26/2016											
10/3/2017											
7/10/2018										1730 (o)	
7/11/2018											
1/16/2019											
1/17/2019	8.44 (o)										
1/18/2019			6.98 (o)	6.87 (o)							
1/21/2019		7.73 (o)									
0/05/0040											

3/25/2019

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

		m (ma/L)	m (ma/L)	ium (mg/L)	dium (mg/L)	aium (mg/L)	dium (mg/L)	(-all)	all )	(mall) (mall
	GWA ^{8 Vana}	_{dium} (mg/L) GWC-1 Vana	_{dium} (mg/L) GWC-14 Van	GWC-15 Var	_{nadium} (mg/L) GWC-16 Var	_{nadium} (mg/L) GWB-5R Var	ladium (mg/L) GWA-7 Zinc	(mg/L) GWA-8 Zinc (	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										
0.000.00										

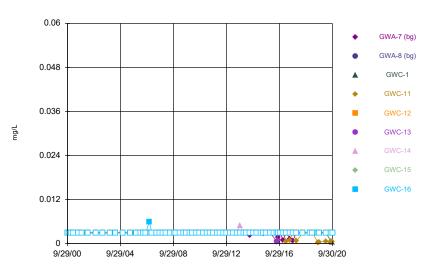
<0.01 (o)

3/25/2019

	ONC & Zinc	(mg/L) CWC-15 Zino	c (mg/L)	c (mg/L)	(mg/L) CWC-20 Zinc	(mg/L) GWC-21 Zinc	(mg/L) GWC-22 Zinc	(mg/L) GWC-9 Zinc	(mg/L) GWB-5R Zind	; (mg/L) GWB-6R Zinc (mg/l
9/29/2000	GMO .	0	<b>0.</b>	<b>0</b>	01.	J.	<u>.</u>	<u>.</u>		
				0.021 (a)					0.026 (o)	<0.01 (o)
11/21/2000				0.021 (o)					0.024 (-)	0.024 (o)
1/20/2001									0.031 (o)	<0.01 (o)
3/14/2001									0.063 (o)	<0.01 (o)
7/16/2001	0.044 ( )								0.08 (o)	<0.01 (o)
11/1/2001	0.044 (o)								0.16 (o)	<0.01 (o)
4/25/2002								0.000 ( )	0.44()	<0.01 (o)
11/20/2002								0.033 (o)	0.14 (o)	0.028 (o)
6/6/2003			0.035 (o)						0.51 (o)	0.032 (o)
12/12/2003										<0.01 (o)
5/26/2004									0.036 (o)	<0.01 (o)
12/7/2004									0.069 (o)	0.012 (o)
6/21/2005									0.076 (o)	<0.01 (o)
12/12/2005		0.064 (o)						0.032 (o)		<0.01 (o)
6/27/2006			0.077 (o)					0.018 (o)		
8/30/2006										
12/4/2006	0.046 (o)									
6/23/2007										0.094 (o)
12/11/2007										0.042 (o)
6/24/2008										0.098 (o)
12/5/2008										0.047 (o)
7/7/2009										0.024 (o)
12/21/2009										0.049 (o)
6/20/2010										0.045 (o)
6/21/2010						0.04 (o)				
7/8/2011					0.086 (J,o)		0.1 (o)			
7/9/2012										
1/18/2013										
4/3/2014										
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										

# FIGURE A.





Constituent: Antimony Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Time Series

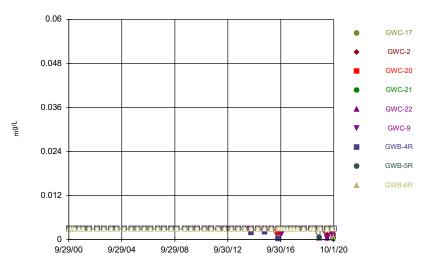
## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

### 2 GWA-7 (bg) GWA-8 (bg) 1.6 GWC-1 GWC-11 1.2 GWC-12 GWC-13 0.8 GWC-16 0.4 9/29/00 9/29/04 9/29/08 9/29/12 9/29/16 9/30/20

Constituent: Arsenic Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

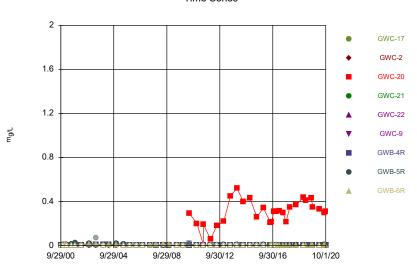
#### Time Series



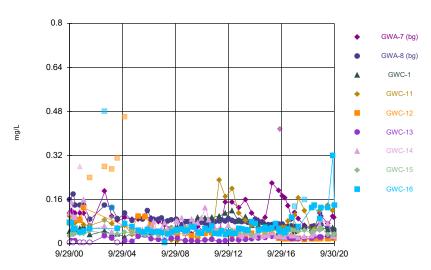
Constituent: Antimony Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas $^{\text{\tiny{NV}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

#### Time Series







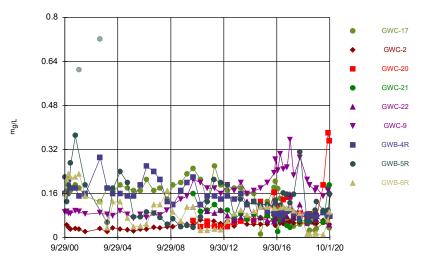
Constituent: Barium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### ${\it Sanitas}^{\,\,\text{\tiny M}}\,v.9.6.27b\,\,{\it Sanitas}\,\,{\it software}\,\,{\it utilized}\,\,{\it by}\,\,{\it Groundwater}\,\,{\it Stats}\,\,{\it Consulting}.\,\,{\it UG}\,\,{\it Hollow}\,\,{\it symbols}\,\,{\it indicate}\,\,{\it censored}\,\,{\it values}.$

#### Time Series 0.02 GWA-7 (bg) GWA-8 (bg) 0.016 GWC-1 GWC-11 0.012 GWC-12 mg/L GWC-13 0.008 **GWC-16** 0.004 9/29/00 9/29/04 9/29/08 9/29/12 9/29/16 9/30/20

Constituent: Beryllium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Time Series



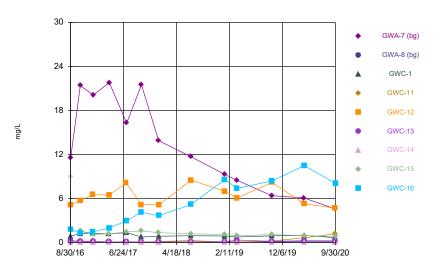
Constituent: Barium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas^{ru} v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

#### Time Series 0.02 GWC-17 GWC-2 0.016 GWC-20 GWC-21 0.012 GWC-22 GWC-9 GWB-4R 0.008 GWB-5R 0.004 9/29/00 9/29/04 9/29/08 9/30/12 9/30/16 10/1/20

Constituent: Beryllium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

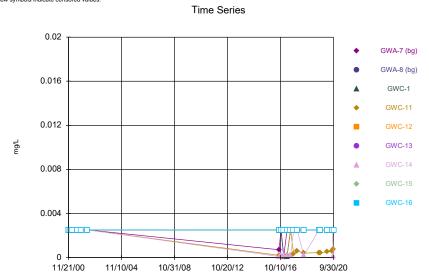




Constituent: Boron Analysis Run 2/1/2021 10:26 AM View: Descriptive

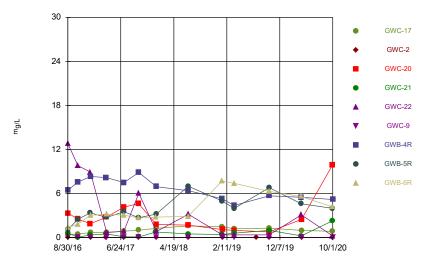
Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas $^{\text{\tiny{IV}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



Constituent: Cadmium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

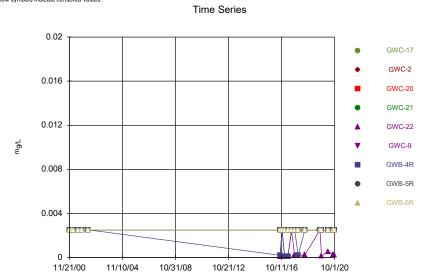
#### Time Series



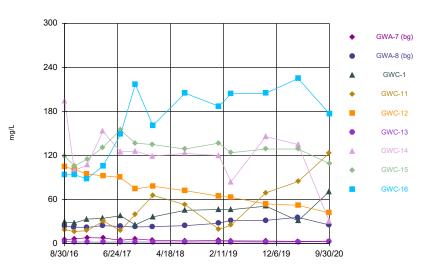
Constituent: Boron Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

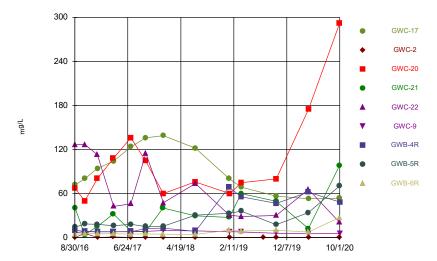






Constituent: Calcium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

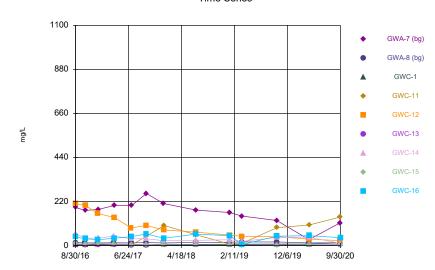
#### Time Series



Constituent: Calcium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### ${\sf Sanitas^{\sf TM}} \ v. 9. 6. 27b \ {\sf Sanitas} \ {\sf software} \ {\sf utilized} \ {\sf by} \ {\sf Groundwater} \ {\sf Stats} \ {\sf Consulting}. \ {\sf UG}$

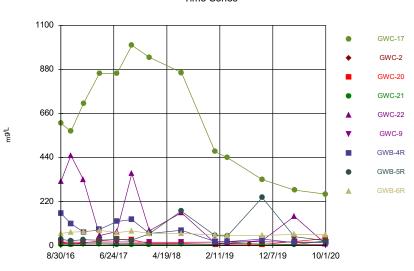
#### Time Series

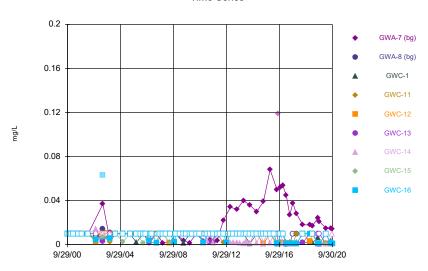


Constituent: Chloride Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

#### Time Series





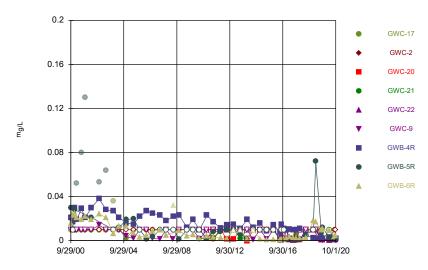
Constituent: Chromium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas $^{\text{\tiny{IV}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

### Time Series 0.06 GWA-7 (bg) GWA-8 (bg) 0.048 GWC-1 GWC-11 0.036 mg/L GWC-13 0.024 **GWC-16** 0.012 9/29/00 9/29/04 9/29/08 9/29/12 9/29/16 9/30/20

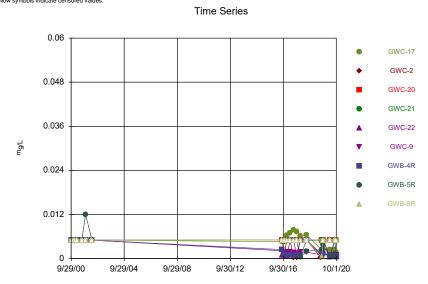
Constituent: Cobalt Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

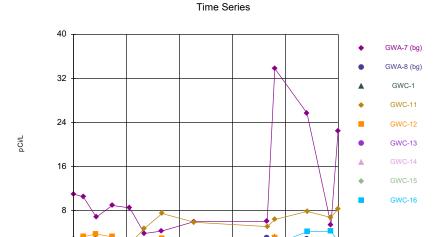
#### Time Series



Constituent: Chromium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.





Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

2/11/19

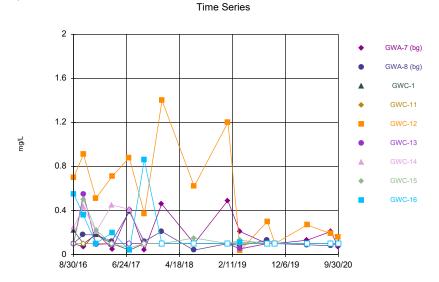
12/6/19

9/30/20

4/18/18



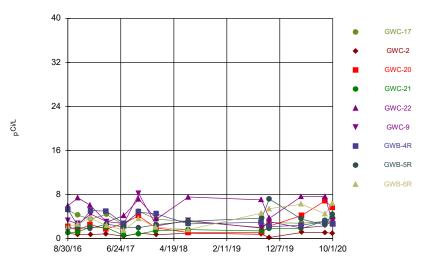
8/30/16



Constituent: Fluoride Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

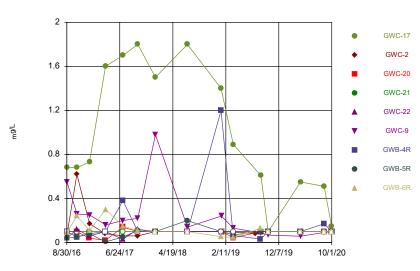
#### Time Series



Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

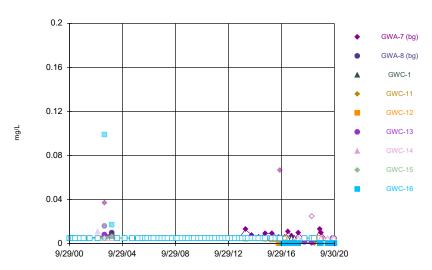
## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

#### Time Series



Constituent: Fluoride Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road



Constituent: Lead Analysis Run 2/1/2021 10:26 AM View: Descriptive

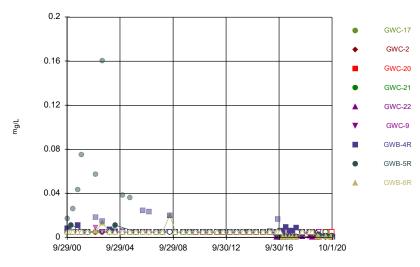
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sanitas $^{\text{\tiny{IM}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

### Time Series 0.3 GWA-7 (bg) GWA-8 (bg) 0.24 GWC-1 GWC-11 0.18 mg/L GWC-13 0.12 **GWC-16** 0.06 8/30/16 6/24/17 4/18/18 2/11/19 12/6/19 9/30/20

Constituent: Lithium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Time Series

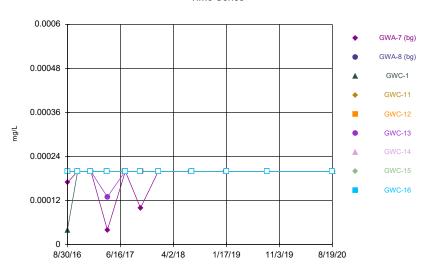


Constituent: Lead Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

#### Time Series 0.3 GWC-17 GWC-2 0.24 GWC-20 GWC-21 0.18 GWC-22 mg/L GWC-9 GWB-4R 0.12 GWB-5R 0.06 0 🕊 8/30/16 6/24/17 4/19/18 2/11/19 12/7/19 10/1/20



Constituent: Mercury Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

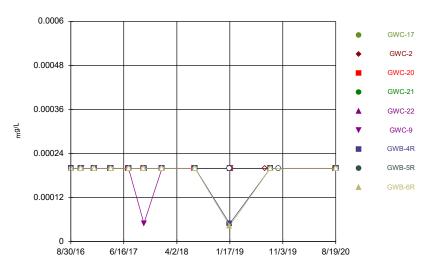
Time Series

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

### 0.4 GWA-7 (bg) GWA-8 (bg) 0.32 GWC-1 GWC-11 0.24 GWC-12 GWC-13 0.16 GWC-16 0.08 8/30/16 6/24/17 4/18/18 2/11/19 12/6/19 9/30/20

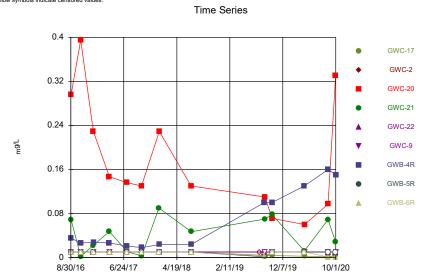
Constituent: Molybdenum Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

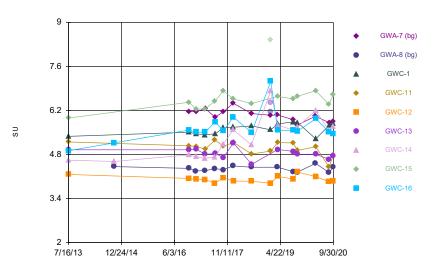
#### Time Series



Constituent: Mercury Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.





Constituent: pH Analysis Run 2/1/2021 10:26 AM View: Descriptive

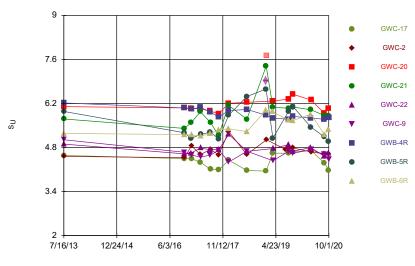
Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas $^{\text{\tiny{IV}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

### Time Series 0.4 GWA-7 (bg) GWA-8 (bg) 0.32 GWC-1 GWC-11 0.24 mg/L GWC-13 0.16 **GWC-16** 0.08 9/29/00 9/29/04 9/29/08 9/29/12 9/29/16 9/30/20

Constituent: Selenium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

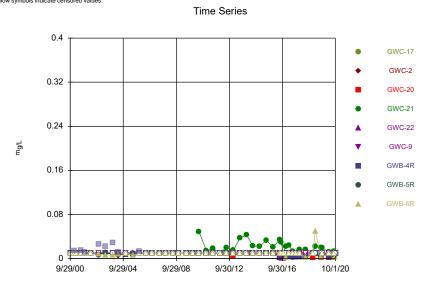
#### Time Series



Constituent: pH Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.





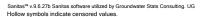
Constituent: Sulfate Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

2/11/19

12/6/19

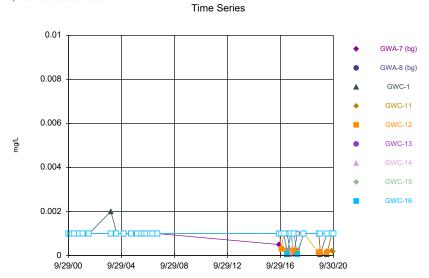
9/30/20

4/18/18



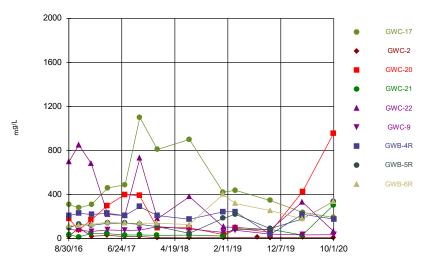
8/30/16

6/24/17



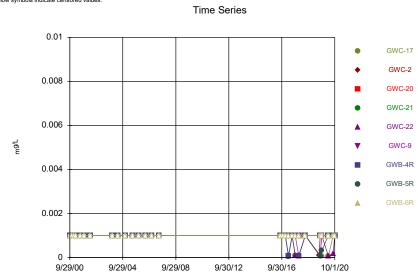
Constituent: Thallium Analysis Run 2/1/2021 10:26 AM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Time Series

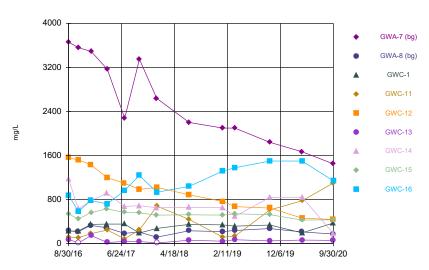


Constituent: Sulfate Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

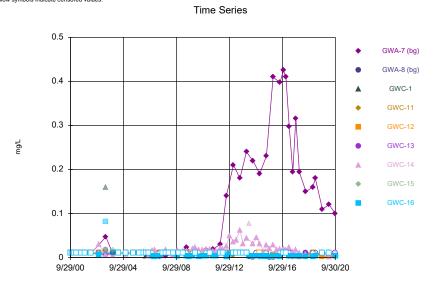






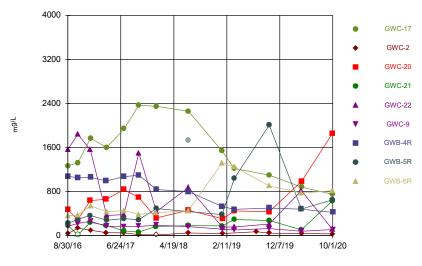
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas $^{\text{\tiny{IV}}}$ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



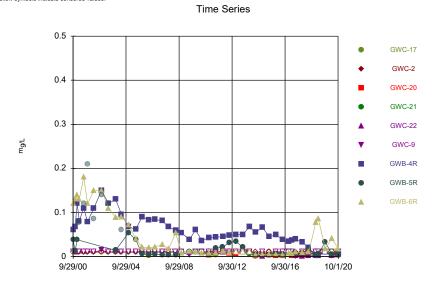
Constituent: Vanadium Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Time Series



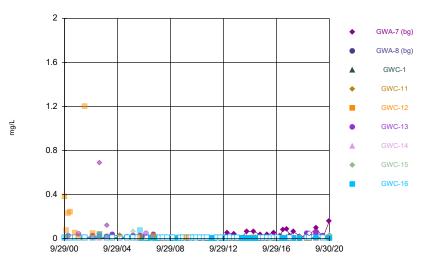
Constituent: Total Dissolved Solids Analysis Run 2/1/2021 10:26 AM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

## Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



Sanitas  $^{\text{\tiny{IV}}}$  v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

Time Series

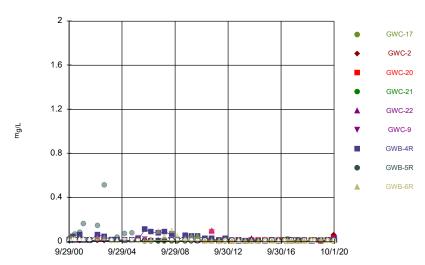


Constituent: Zinc Analysis Run 2/1/2021 10:26 AM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

Time Series



	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	-0.000	<0.003	-0.000	-0.000	-0.000	-0.000	<0.003	-0.000	<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	10.003	<0.003	10.003	10.000	10.003	10.003	<0.003	10.003	<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	<b>~0.003</b>	<0.003	<b>~0.003</b>	<b>10.003</b>	<b>~0.003</b>	<b>~0.003</b>	<0.003	<b>10.003</b>	<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	<b>~0.003</b>	<0.003	<b>~0.003</b>	<b>~0.003</b>	<b>~0.003</b>	<b>~</b> 0.003	<0.003	<b>~0.003</b>	<0.003
	<0.002		<0.003	<0.003	<0.002	<0.002		<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	-0.000	<0.003		-0.000	-0.000	-0.000	<0.003		<0.003
6/23/2008	<0.003	<0.003	.0.000	<0.003	<0.003	<0.003	0.000	0.000	.0.000
6/24/2008		.0.000	<0.003				<0.003	<0.003	<0.003
11/3/2008	0.000	<0.003		0.000	0.000		<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		<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

	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)	<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

	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

	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
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	0.002 (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
7/18/2015	<0.003		<0.003		<0.003				
1/17/2016	<del></del>	<0.003	<0.003	<0.003					
1/18/2016	<0.003	2.300	2.000	2.000	<0.003	<0.003	<0.003	<0.003	<0.003
	0.000				0.000	0.500	3.300	0.000	3.300

	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		

	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	0.000	<0.005	0.000	0.000	0.000	0.000	<0.005	0.000	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	0.000	<0.005	0.000	0.000	0.000	0.000	<0.005	0.000	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	0.000		0.071
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		0.000
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
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	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013	( 0,	( 0,	<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	(4)				<0.005		
10/6/2015		<0.005					<0.005		0.078
1/17/2016		0.000	0.024 (o)				0.002 (J)	0.014	0.089
1/18/2016	0.014	<0.005	0.02 (0)		<0.005	<0.005	0.002 (0)	0.011	0.000
1/19/2016	0.011	0.000		<0.005	0.000	0.000			
4/26/2016		0.0011 (J)		0.000			0.00183 (J)		0.0731
7/26/2016		(-)		<0.005		<0.005	(0)		
7/27/2016	0.0111		0.0046 (J)	0.000	<0.005	0.000	0.0021 (J)	0.0303	
7/28/2016	0.0111	<0.005	0.00.10 (0)		0.000		0.0021 (0)	0.0000	0.0627
8/30/2016		<0.005	0.0023 (J)						0.0027
8/31/2016				<0.005	<0.005	<0.005			
9/1/2016	0.0287						0.0024 (J)	0.0533	0.0551
10/24/2016	0.0207	<0.005					0.002 (0)	0.0000	0.000
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			(,,			<0.005	0.0024 (J)	0.0437	
1/6/2017	0.0097								
4/3/2017		0.0006 (J)						0.0713	
4/4/2017			0.0015 (J)				0.003 (J)		
4/5/2017			(4)		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		(4)						
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		(4)		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
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	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

	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	<b>~0.003</b>	<b>~0.003</b>				<0.005	<b>~</b> 0.003	<b>~</b> 0.003	0.0037
6/24/2008	<0.005	<0.005				<0.005	0.005	<0.005	0.012
12/4/2008	<b>~0.003</b>	<0.005				<0.005	0.003	<b>~</b> 0.003	0.012
12/4/2008	<0.005	<0.005				<0.005	<0.005	<0.005	0.0064
7/7/2009	<0.005								
	<0.00E	<0.00E				<0.00E	<0.005	<0.005	<0.005
7/8/2009	<0.005	<0.005				<0.005			
12/20/2009	10.005	<0.005				-0.005	-0.005	-0.005	-0.005
12/21/2009	<0.005	-0.005				<0.005	<0.005	<0.005	<0.005
6/20/2010	10.005	<0.005	0.00	0.010 (-)	-0.005	<0.005	0.010 (-)	<0.005	0.017
6/21/2010	<0.005		0.29	0.013 (o)	<0.005		0.018 (o)	.0.005	
1/6/2011	.0.005	<0.005	0.0	.0.005	0.005	.0.005	0.005	<0.005	.0.005
1/7/2011	<0.005		0.2	<0.005	<0.005	<0.005	<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
7/8/2011	<0.005		0.19	<0.005	<0.005	<0.005	<0.005	.0.005	
1/17/2012		<0.005						<0.005	
1/18/2012	<0.005	-0.005	0.058	<0.005	<0.005	<0.005	<0.005	-0.005	<0.005
7/9/2012	.0.005	<0.005	0.40	.0.005		.0.005	0.0050	<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	0.00	0.0004	0.005	.0.005	0.005	<0.005	.0.005
1/18/2013	<0.005		0.22	0.0061	<0.005	<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

	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)		

	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			

	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	80.0
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							

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
3/26/2019			0.055			0.026	0.034	0.047	0.14
3/27/2019				0.053	0.017				
8/26/2019	0.11	0.065							
8/27/2019			0.054	0.12	0.017	0.024	0.067	0.049	
8/28/2019									0.09
10/7/2019		0.069							
10/8/2019	0.1			0.13		0.024	0.085	0.057	0.13
10/9/2019			0.058		0.019				
4/6/2020	0.072	0.057							
4/7/2020			0.05	0.14	0.017		0.073	0.033	0.13
4/8/2020						0.027			
8/17/2020		0.051			0.018	0.024			
8/18/2020				0.12			0.028	0.03	0.32
8/19/2020	0.1		0.057						
9/28/2020	0.095	0.05	0.051			0.029			
9/29/2020				0.14	0.018		0.026		
9/30/2020								0.034	0.14

	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	0.10						0.17	0.04	0.06
7/8/2009	0.2	0.053				0.14	0	0.0 .	0.00
12/20/2009	0.2	0.047				0			
12/21/2009	0.23	0.0 .7				0.15	0.2	0.044	0.11
6/20/2010	0.20	0.046				0.21	0.2	0.036	0.11
6/21/2010	0.25	0.040	0.062	0.16	0.11	0.21	0.22	0.000	0.11
1/6/2011	0.20	0.063	0.002	0.10	0		0.22	0.075	
1/7/2011	0.21	0.000	0.039	0.095	0.12	0.2	0.12	0.070	0.025
7/7/2011	0.21		0.06	0.000	0.12	0.2	0.12	0.13	0.025
7/8/2011	0.13		0.043	0.1	0.094	0.18	0.15	0.10	0.020
1/17/2012	0.10	0.06	0.040	0.1	0.004	0.10	0.10	0.21	
1/18/2012	0.26	0.00	0.042	0.12	0.087	0.18	0.15	0.21	0.03
7/9/2012	0.20	0.05	0.0.2	02	0.007	0.10	0.10	0.2	0.00
7/10/2012	0.19	0.00	0.039	0.097	0.1	0.16	0.14	0.2	0.028
1/17/2013	0.10	0.058	0.000	0.007	0.1	0.10	0.14	0.19	0.020
1/18/2013	0.17	0.000	0.04	0.1	0.078	0.19	0.15	0.10	0.058
7/16/2013	0.17		0.04	0.1	0.070	0.10	0.10	0.076	0.000
7/17/2013	0.18	0.041	0.055	0.069	0.062	0.17	0.14	0.070	0.086
1/13/2014	0.10	0.058	0.033	0.000	0.002	0.17	0.14	0.14	0.000
1/14/2014	0.18	0.000	0.059	0.086	0.073	0.2	0.16	0.14	0.1
7/9/2014	0.16	0.048	0.000	0.065	0.075	0.16	0.10	0.12	0.082
7/10/2014	0.10	0.040	0.067	0.000	0.13	0.10	0.12	0.12	0.002
1/12/2015			0.061		0.10		0.13		
1/13/2015		0.048	0.001				0.13	0.13	
1/14/2015	0.16	0.0-10		0.084	0.065	0.17		0.10	0.094
7/16/2015	0.10	0.048		0.004	0.000	0.17	0.11	0.12	J.UJ-
7/17/2015		0.040		0.071		0.18	J. 1 1	J. 12	0.11
7/17/2015	0.012		0.13	0.071	0.073	0.10			0.11
1/17/2016	0.012	0.049	0.13	0.079	0.075				
1/18/2016	0.13	0.040	0.00	0.075	0.062	0.2	0.095	0.12	0.11
7/27/2016	0.13	0.0796			0.002	U. <u>Z</u>	0.000	0.12	0.11
112112010		0.0730						J. 1 12	

7/28/2016	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9 0.234	GWB-4R	GWB-5R	GWB-6R 0.105
7/29/2016	0.181		0.164	0.0626	0.0575	0.234	0.0883		0.105
8/30/2016	0.101				0.0373		0.0003	0.135	0.106
8/31/2016		0.0429			0.0693	0.284		0.100	0.100
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		0.057	0.148	0.0070				0.407	0.405
10/3/2017	0.0500	0.057		0.0376	0.450	0.050	0.0004	0.127	0.105
10/4/2017	0.0589			0.0704	0.156	0.356	0.0994		0.0000
1/9/2018 1/10/2018		0.0527	0.0788	0.0704				0.158	0.0969
1/11/2018	0.0412	0.0327	0.0766		0.0702	0.226	0.088	0.136	
7/9/2018	0.0412		0.087		0.0702	0.220	0.000		
7/10/2018		0.054	0.007	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	0.10	0.005	0.15			
8/18/2020	0.074	0.05	0.38	0.18	0.085	0.17	0.076	0.1	0.064
8/19/2020 9/29/2020		0.049				0.17	0.076	0.1	0.064
9/30/2020	0.035	0.049	0.35	0.19	0.045			0.16	0.092
10/1/2020	0.000		5.50	5.10	5.546	0.15	0.077	5.10	J.002

	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)

	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		

	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

		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)			
9/1/2	2016	0.408		3.34	0.62			6.48		
10/2	5/2016			2.54	0.0658 (J)					
10/2	6/2016	0.5	0.05 (J)			9.81		7.57	2.5	1.83
10/2	7/2016						0.0281 (J)			
1/3/2	2017								3.39	
1/4/2	2017			1.91	0.36	8.94				
1/5/2	2017	0.676	0.0162 (J)							3.07
1/6/2	2017						0.0189 (J)	8.34		
4/4/2	2017		0.019 (J)	2.77	0.509			8.18		
4/5/2	2017	0.69								
4/6/2	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		
1/9/2	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		
7/9/2	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
4/7/2	2020				0.24	3.1		5.5	4.6	5.6
4/8/2	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		

	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

	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			(1)				<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		(1)		(-,		
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			(3,				
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		

	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

0/00/0040	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016		0.074 (1)			407	0.0		14.3	4.68
8/31/2016	71.0	0.371 (J)	67.0	40.5	127	6.9	0.01		
9/1/2016	71.9		67.2	40.5			9.91		
10/25/2016	00.0	5.04	50.1	3.91	107		0.50	10.0	E 4E
10/26/2016 10/27/2016	80.3	5.84			127	9.0	8.56	18.6	5.45
1/3/2017						8.2		18.1	
1/4/2017			80.4	15.2	113			10.1	
1/5/2017	94.4	0.379 (J)	00.4	15.2	113				5.35
1/6/2017	94.4	0.379 (3)				7.97	8.18		5.55
4/4/2017		0.993	108	32.3		7.37	8.12		
4/5/2017	104	0.993	100	32.3			0.12		
4/6/2017	104				42.7	7.95		16.2	5.41
7/11/2017			136		46	7.00			
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		

	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

	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		

	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	0.0010	<0.01	0.01	0.01	0.01	0.01	<0.01	0.0.	<0.01
6/23/2008	0.0019	<0.01		<0.01	0.0016	<0.01	0.0.		0.0.
6/24/2008	0.0010	0.01	<0.01	0.01	0.0010	0.01	<0.01	0.0014	<0.01
11/3/2008		<0.01	0.01				<0.01	0.0011	0.0025
12/4/2008	<0.01	<0.01		<0.01	<0.01	<0.01	<0.01		0.0020
12/5/2008	0.01	0.01	<0.01	0.01	0.01	0.01	0.0.	<0.01	<0.01
3/25/2009		<0.01	0.01				<0.01	0.0.	<0.01
7/7/2009	0.0037	<0.01	0.0013				10.01		-0.01
7/8/2009	0.0007	-0.01	0.0010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/14/2009		<0.01		-0.01	10.01	10.01	<0.01	10.01	<0.01
12/20/2009	0.0016	<0.01	<0.01				<0.01	<0.01	<0.01
12/21/2009	0.0010	-0.01	-0.01	<0.01	<0.01	<0.01	-0.01	-0.01	-0.01
3/4/2010		<0.01		-0.01	10.01	10.01	<0.01		<0.01
6/20/2010	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-0.01
6/21/2010	-0.01	-0.01	-0.01	-0.01	10.01	-0.01	-0.01	-0.01	<0.01
9/14/2010		<0.01					<0.01		<0.01
1/6/2011		-0.01	<0.01	<0.01		<0.01	-0.01		-0.01
1/7/2011	0.0033	<0.01	40.01	40.01	<0.01	40.01	0.0016	<0.01	0.0018
4/15/2011	0.0033	<0.01			40.01		0.0034	40.01	<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	0.0044	0.0021	40.01	0.0023	40.01	0.0013	0.0013	40.01	<0.01
1/17/2012	0.0038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	40.01
1/18/2012	0.0030	<b>10.01</b>	40.01	40.01	40.01	40.01	40.01	40.01	<0.01
4/4/2012		<0.01					<0.01		<0.01
7/9/2012	0.022	-U.U1	<0.01	0.0017	<0.01	<0.01	<0.01	<0.01	~U.UT
7/10/2012	0.022	<0.01	-U.UT	0.0017	-0.01	-0.01	-U.U I	-U.U I	<0.01
10/9/2012		<0.01					0.0019		0.0018
1/17/2013		-U.U1	<0.01	<0.01	<0.01	<0.01	0.0013		0.0010
1/18/2013	0.034	<0.01	-U.UT	30.01	-0.01	-0.01	0.0017	<0.01	<0.01
4/5/2013	0.004	<0.01					0.0017	-U.U I	<0.01
4/3/2013		<b>~</b> 0.01					0.0019		~U.U1

	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					0.01		<0.01
7/16/2015	0.039		0.0011 (J)	<0.01	0.001 (J)	<0.01		<0.01	<0.01
7/17/2015	0.000	<0.01	0.0011 (0)	0.0.	0.001 (0)	0.01	0.001 (J)	0.01	0.01
10/6/2015		<0.01					<0.01		<0.01
1/17/2016		<b>10.01</b>	<0.01				0.0012 (J)	<0.01	<0.01
1/18/2016	0.068	<0.01	40.01		<0.01	<0.01	0.0012 (3)	40.01	40.01
1/19/2016	0.000	<b>~0.01</b>		<0.01	<b>\0.01</b>	<b>~0.01</b>			
4/26/2016		<0.01		<0.01			<0.01		<0.01
7/26/2016		<b>~0.01</b>		0.0005 (J)		<0.01	<b>~0.01</b>		<b>~0.01</b>
7/20/2016	0.05		0.0016 (1)	0.0003 (3)	0.001471)	<0.01	0.0008 (J)	0.0007 (1)	
	0.05	-0.01	0.0016 (J)		0.0014 (J)		0.0008 (3)	0.0007 (J)	0.0000 ( 1)
7/28/2016		<0.01	0.0015 (1)						0.0006 (J)
8/30/2016		<0.01	0.0015 (J)	0.001 (1)	0.0010 (1)	0.0011 (1)			
8/31/2016	0.440 (-)			0.001 (J)	0.0012 (J)	0.0011 (J)	0.0015 (1)	0.0011 (1)	0.0011 (1)
9/1/2016	0.119 (o)	-0.01					0.0015 (J)	0.0011 (J)	0.0011 (J)
10/24/2016	0.0510	<0.01	0.0010 (1)				-0.04	10.01	-0.01
10/25/2016	0.0519		0.0018 (J)	.0.04	0.0010 (1)		<0.01	<0.01	<0.01
10/26/2016		.0.04		<0.01	0.0012 (J)	<0.01			
1/3/2017		<0.01	0.0001 (1)	10.01	0.0010 (1)				-0.01
1/4/2017			0.0021 (J)	<0.01	0.0012 (J)		0.001 (1)		<0.01
1/5/2017	0.0500					<0.01	0.001 (J)	<0.01	
1/6/2017	0.0536								
4/3/2017		0.0004 (J)	0.000 (1)				0.001 (1)	0.0015 (J)	
4/4/2017			0.002 (J)		0.0010 (1)		0.001 (J)		0.004 (1)
4/5/2017					0.0013 (J)				0.001 (J)
4/6/2017	0.0447 (J)			0.0007 (J)	0.001470	0.0011 (J)			
7/10/2017		0.0000 (1)		0.0000 (1)	0.0014 (J)		0.0000 (1)	0.0040 (1)	
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)

	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)

	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	0.022	0.0015	0.0047
12/4/2006	<0.01	<0.01				0.0019	0.027	0.0013	0.0047
6/23/2007	<0.01	<0.01				0.0015	0.023	<0.01	0.0084
12/11/2007	<0.01	<0.01				<0.01	0.023	<0.01	0.0049
6/23/2008	<0.01	<0.01				0.0015	0.018	<b>\0.01</b>	0.0049
6/24/2008	<0.01	<0.01				0.0013	0.022	<0.01	0.022 (a)
12/4/2008	<0.01	<0.01				<0.01	0.022	<0.01	0.032 (o)
	<0.01	<0.01				<0.01	0.022	0.0016	0.009
12/5/2008	<0.01						0.023	0.0016	
7/7/2009	-0.01	<0.01				<0.01	0.012	<0.01	0.0044
7/8/2009	<0.01					<0.01			
12/20/2009	10.01	<0.01				-0.01	0.010	-0.01	0.0055
12/21/2009	<0.01	-0.01				<0.01	0.019	<0.01	0.0055
6/20/2010	10.01	<0.01	-0.01	0.0010	-0.01	0.0015	0.01	<0.01	0.002
6/21/2010	<0.01	-0.01	<0.01	0.0019	<0.01		0.01	0.0017	
1/6/2011	.0.04	<0.01	0.0040	0.0047	2.24	.0.04	0.000	0.0017	0.0000
1/7/2011	<0.01		0.0018	0.0017	<0.01	<0.01	0.023	0.000	0.0039
7/7/2011	0.0010		<0.01	0.000	2.24	.0.04	0.017	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				
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)

7/27/2016	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
7/27/2016 7/28/2016		0.0008 (J)	0.0007 (1)	0.0005 (1)		0.0011 / 1)		0.0006 (J)	0.001 (1)
	0.0000 (1)		0.0007 (J)	0.0005 (J)	0.0007 (1)	0.0011 (J)	0.0077 (1)		0.001 (J)
7/29/2016	0.0009 (J)				0.0007 (J)		0.0077 (J)	-0.01	0.0012 (1)
8/30/2016		10.01			-0.04	0.0004 (1)		<0.01	0.0013 (J)
8/31/2016	0.0011 ( 1)	<0.01	<0.01	<0.01	<0.01	0.0024 (J)	0.015		
9/1/2016	0.0011 (J)			<0.01			0.015		
10/25/2016	<0.01	0.001 (1)	<0.01	<0.01	z0.01		0.0106	<b>-0.01</b>	0.001471
10/26/2016 10/27/2016	<0.01	0.001 (J)			<0.01	10.01	0.0106	<0.01	0.0014 (J)
1/3/2017						<0.01		0.001 (1)	
1/4/2017			<0.01	<0.01	<0.01			0.001 (J)	
1/5/2017	0.001271	<0.01	<0.01	<0.01	<0.01				0.002 (1)
1/6/2017	0.0012 (J)	<0.01				<0.01	0.0098 (J)		0.002 (J)
4/4/2017		0.0008 ( 1)	0.0011 (1)	0.0008 (1)		<0.01	0.0098 (3)		
4/5/2017	0.0015 ( 1)	0.0008 (J)	0.0011 (J)	0.0008 (J)			0.0101		
4/6/2017	0.0015 (J)				0.0006 ( 1)	0.0010 (1)		0.0012 (1)	0.003471)
7/11/2017			0.0009 (J)		0.0006 (J) 0.0005 (J)	0.0019 (J)		0.0013 (J)	0.0034 (J)
7/11/2017			0.0009 (3)		0.0003 (3)	0.0011 (J)	0.0096 (J)	0.0011 (J)	0.0024 (J)
7/13/2017	0.0012 (J)	0.0006 (J)		0.0006 (J)		0.0011 (3)	0.0090 (3)	0.0011 (3)	0.0024 (3)
10/2/2017	0.0012 (3)	0.0000 (3)	0.0009 (J)	0.0000 (3)					
10/3/2017		<0.01	0.0003 (3)	0.0005 (J)				0.0012 (J)	0.0022 (J)
10/4/2017	0.0055 (J)	<b>~0.01</b>		0.0003 (3)	0.0006 (J)	0.0011 (J)	0.0097 (J)	0.0012 (3)	0.0022 (3)
1/9/2018	0.0033 (3)			0.0007 (J)	0.0000 (3)	0.0011 (3)	0.0097 (3)		0.0019 (J)
1/10/2018		<0.01	0.0008 (J)	0.0007 (3)				0.0016 (J)	0.0019(3)
1/11/2018	0.0009 (J)	10.01	0.0000 (3)		<0.01	0.001 (J)	0.0109	0.0010 (3)	
7/9/2018	0.0000 (0)		<0.01		-0.01	0.001 (0)	0.0100		
7/10/2018		<0.01	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)		

	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

	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)		
						` '	` '		

 $\label{lem:constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive \\ Grumman Road Landfill Client: Southern Company Data: Grumman Road$ 

	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

 $\label{lem:constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/1/2021 11:56 AM View: Descriptive \\ Grumman Road Landfill Client: Southern Company Data: Grumman Road$ 

	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		

	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

0/20/2016	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
8/30/2016		0.07 (1)			0.04 (1)	0.55		0.04 (J)	0.09 (J)
8/31/2016	0.00	0.07 (J)	-0.1	10.1	0.04 (J)	0.55	-0.1		
9/1/2016	0.68		<0.1	<0.1			<0.1		
10/25/2016	0.00	0.00	<0.1	<0.1	0.10 ( 1)		0.05 (1)	0.05 (1)	0.04 ( 1)
10/26/2016	0.68	0.62			0.12 (J)	0.26 (1)	0.05 (J)	0.05 (J)	0.24 (J)
10/27/2016						0.26 (J)		0.08 (1)	
1/3/2017			0.04 (1)	-0.1	0.06 (1)			0.08 (J)	
1/4/2017	0.72	0.17 (1)	0.04 (J)	<0.1	0.06 (J)				0.11 (1)
1/5/2017 1/6/2017	0.73	0.17 (J)				0.25 (1)	0.08 (J)		0.11 (J)
		0.08 (1)	0.02 (1)	-0.1		0.25 (J)			
4/4/2017	1.6	0.08 (J)	0.02 (J)	<0.1			<0.1		
4/5/2017 4/6/2017	1.6				<0.1	0.16 (J)		0.006 (J)	0.3
7/11/2017			0.14 (1)		0.03 (J)	0.16 (3)		0.000 (3)	0.3
			0.14 (J)		0.03 (3)	0.271)	0.20	0.05 (1)	0.15 (1)
7/12/2017	17	0.06 (1)		-0.1		0.2 (J)	0.38	0.05 (J)	0.15 (J)
7/13/2017 10/2/2017	1.7	0.06 (J)	<0.1	<0.1					
10/3/2017		0.06 (J)	<b>~</b> 0.1	<0.1				0.11 (J)	0.11 / 1)
10/3/2017	1 0	0.00 (3)		<b>~</b> 0.1	0.12 ( 1)	0.22 (1)	<0.1	0.11(3)	0.11 (J)
1/9/2018	1.8			<0.1	0.12 (J)	0.22 (J)	<b>V</b> 0.1		<0.1
1/10/2018		<0.1	<0.1	<b>~0.1</b>				<0.1	<b>~</b> 0.1
1/11/2018	1.5	<b>~0.1</b>	<b>-0.1</b>		<0.1	0.98	<0.1	<b>-0.1</b>	
7/9/2018	1.5		<0.1		<b>~0.1</b>	0.96	<b>~0.1</b>		
7/10/2018		<0.1	<b>-0.1</b>	<0.1				0.2 (J)	<0.1
7/11/2018	1.8	10.1		10.1	<0.1	0.14 (J)	<0.1	0.2 (3)	-0.1
1/16/2019	1.4				10.1	0.14 (0)	1.2	<0.1	0.053 (J)
1/17/2019	1.4			<0.1			1.2	-0.1	0.055 (5)
1/18/2019					<0.1	0.24 (J)			
1/21/2019		<0.1	<0.1			0.2 (0)			
3/25/2019			0.043 (J)				0.064 (J)		
3/26/2019	0.89		0.040 (0)	0.071 (J)			0.004 (0)	<0.1	0.046 (J)
3/27/2019				(5)	<0.1	0.13 (J)			(-)
7/30/2019		0.083 (J)				0.10 (0)			
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)	0.00 (0)	0.097 (J)	0.10 (0)
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		

	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
	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/1/2001									
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			
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		
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	0.000	0.000	0.000	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9/14/2009		<0.005		0.000	0.000	0.000	<0.005	0.000	<0.005
12/20/2009	<0.005	<0.005	<0.005				<0.005	<0.005	<0.005
12/21/2009	10.003	10.005	40.003	<0.005	<0.005	<0.005	-0.003	-0.003	-0.003
3/4/2010		<0.005		<b>~0.003</b>	<b>~0.003</b>	<b>~0.003</b>	<0.005		<0.005
6/20/2010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<b>\0.003</b>
	<0.005	<0.005	<0.005	<0.005	<0.003	<0.003	<0.005	<0.005	-0.005
6/21/2010		<0.00E					<0.005		<0.005
9/14/2010		<0.005	-0.005	-0.005		-0.005	<0.005		<0.005
1/6/2011	.0.005		<0.005	<0.005	0.005	<0.005	.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

	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	(1)	<0.005			(-,		<0.005		
10/6/2015		<0.005							
1/17/2016		-0.000	<0.005				<0.005	<0.005	<0.005
1/18/2016	0.0094 (J)	<0.005	10.000		0.0034 (J)	<0.005	10.003	10.000	10.000
	0.0094 (3)	<0.005		<0.00E	0.0034 (3)	<0.005			
1/19/2016		-0.005		<0.005			-0.005		-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				(1)	0.0003 (J)	(,,			
7/11/2017		0.0001 (J)		0.0002 (J)	(1)		8E-05 (J)	0.0001 (J)	
7/12/2017		0.0001 (0)	<0.005	0.0002 (0)		0.0005 (J)	0L 00 (0)	0.0001 (0)	0.0001 (J)
7/12/2017	0.007		<b>~0.003</b>			0.0003 (3)			0.0001 (3)
	0.007	0.0001 (1)					0.0001 (1)	0.0000 (1)	
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

	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)

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	0.024 (0) 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	<0.00E	<0.00E				<0.005	0.02 (a)	<0.00E	0.02
6/24/2008	<0.005	<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
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
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
							• •		

7/07/0010	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		.0.005		<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 (o)		
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		(1)	(-)			
7/10/2018		<0.005		<0.005				<0.005	<0.005
7/11/2018	<0.005	0.000		0.000	0.001 (J)	<0.005	0.0029 (J)	0.000	0.000
1/16/2019	<0.005				0.001 (0)	0.000	<0.005	<0.005	<0.005
1/17/2019	-0.000			<0.005			-0.000	10.000	-0.000
1/18/2019				10.005	0.0012 (J)	<0.005			
1/21/2019		<0.005	<0.005		0.0012 (3)	<b>~</b> 0.003			
		<0.005					<0.005		
3/25/2019	-0.005		<0.005	-0.005			<0.005	-0.005	-0.005
3/26/2019	<0.005			<0.005	0.00047 (1)	-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)		

	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

	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)		

	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						

	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

	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

	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	0.010	<0.01	<0.01	0.1	<0.01	<0.01
4/7/2020	0.000470	0.04	0.00	0.012	<0.01	0.04	0.13	<0.01	<0.01
4/8/2020	0.0024 (J)	<0.01	0.06	0.000	.0.04	<0.01			
8/18/2020	0.00092 (J)	<0.01	0.097	0.069	<0.01	0.04	0.40	0.04	0.004 (1)
8/19/2020		-0.01				<0.01	0.16	<0.01	0.001 (J)
9/29/2020	0.0041 (1)	<0.01	0.33	0.039	<0.01			<0.01	0.00007 (1)
9/30/2020	0.0041 (J)		0.33	0.028	<b>~</b> 0.01	<0.01	0.15	<0.01	0.00097 (J)
10/1/2020						<0.01	0.15		

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		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
1	0/11/2014		4.42					4.58		5.17
1	0/24/2016		4.36							
1	0/25/2016	6.17		5.51				4.79	6.46	5.58
1	0/26/2016				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
	/13/2017	5.99								
1	0/2/2017		4.32					5.13	6.83	
	0/3/2017			5.65	5.07					5.55
	0/4/2017	6.16				4.06	4.71			
	/9/2018	6.43	4.44					5.59	6.57	
	/10/2018			5.67			5.17			5.99
	/11/2018				5.18	3.96				
	/9/2018		4.4					5.11		
	/10/2018			5.71					6.42	5.5
	/11/2018	6.1			4.82	3.95	4.49			
	/16/2019	6.05	6.16 (o)	5.59			6.45 (o)	6.82		
	/17/2019	0.00			4.91	3.89			8.44 (o)	7.13
	/25/2019	6.06	4.4	5.77			100	5.74	0.05	5.57
	/26/2019			5.77	F 10	4 1 1	4.96	5.74	6.65	5.57
	/27/2019	E 01	4.06		5.18	4.11				
	/26/2019 /27/2019	5.91	4.26	E 0.4	E 17	4.00	4.0	E E0	6.57	
	/27/2019 /28/2019			5.84	5.17	4.02	4.9	5.58	6.57	5.57
	0/7/2019		4.24							5.57
	0/8/2019	5.74	4.24		4.93		4.81	5.68	6.65	5.54
	0/9/2019	3.74		5.82	4.93	4.25	4.01	3.06	0.03	3.54
	/6/2020	6.02	4.52	5.62		4.23				
	/7/2020	0.02	4.52	5.3	5.05	4.1		6.2	6.83	5.94
	/8/2020			0.0	0.00	7.1	4.81	0.2	0.00	0.04
	/17/2020		4.23			3.94	4.65			
	/18/2020		4.23		4.41	3.34	4.00	5.56	6.39	5.52
	/19/2020	5.81 (D)		5.73				00		-:- <del>-</del>
	/28/2020	5.86	4.41	5.79			4.76			
	/29/2020			- <del>-</del>	4.77	3.95		5.69		
	/30/2020								6.71	5.47
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	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		

	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

		GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
-	7/16/2013	( 0)	( 0,	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	0.011	<0.01	0.01	0.01	0.01	0.01	<0.01	0.01	0.01
	10/6/2015		<0.01					<0.01		0.0073
	1/17/2016		10.01	0.023				<0.01	<0.01	0.0070 0.0031 (J)
	1/18/2016	0.023	<0.01	0.020		<0.01	<0.01	-0.01	-0.01	0.0001 (0)
	1/19/2016	0.020	10.01		0.023	-0.01	-0.01			
	4/26/2016		<0.01		0.023			0.00428 (J)		0.00497 (J)
	7/26/2016		10.01		0.0056 (J)		<0.01	0.00420 (0)		0.00437 (0)
	7/27/2016	0.0323		0.002 (J)	0.0000 (0)	0.0025 (J)	10.01	0.0038 (J)	<0.01	
	7/28/2016	0.0323	0.001 (J)	0.002 (3)		0.0023 (3)		0.0038 (3)	<b>~0.01</b>	0.0076 (J)
	3/30/2016		<0.01	0.002 (J)						0.0070 (3)
	3/31/2016		10.01	0.002 (3)	0.0084 (J)	0.0019 (J)	<0.01			
	9/1/2016	0.0438			0.0084 (3)	0.0019 (3)	<b>~0.01</b>	0.0056 (J)	<0.01	0.0052 (J)
	10/24/2016	0.0436	0.0013 (J)					0.0030 (3)	<b>~0.01</b>	0.0032 (3)
	10/25/2016	0.031	0.0013 (0)	0.0022 (J)				0.0023 (J)	<0.01	0.0085 (J)
	10/26/2016	0.031		0.0022 (3)	0.0052 (J)	0.002 (J)	<0.01	0.0023 (0)	10.01	0.0003 (0)
	1/3/2017		<0.01		0.0032 (3)	0.002 (3)	<b>~0.01</b>			
	1/4/2017		<b>~0.01</b>	0.0016 (J)	0.0062 (J)	<0.01				0.0048 (J)
	1/5/2017			0.0010 (3)	0.0002 (0)	10.01	<0.01	0.0038 (J)	<0.01	0.0040 (0)
	1/6/2017	0.0324					10.01	0.0030 (0)	10.01	
	4/3/2017	0.0324	<0.01						<0.01	
	4/4/2017		<b>~0.01</b>	0.0052 (J)				0.0064 (J)	<b>~0.01</b>	
	4/ <del>5</del> /2017 4/5/2017			0.0032 (3)		<0.01		0.0004 (0)		0.0068 (J)
	4/6/2017	0.0188 (J)			0.0195	10.01	<0.01			0.0000 (3)
	7/10/2017	0.0166 (3)			0.0195	<0.01	<b>~0.01</b>			
	7/11/2017		<0.01		<0.01	VO.01		0.0044 (J)	<0.01	
	7/11/2017		10.01	0.0024 (J)	10.01		<0.01	0.0044 (0)	10.01	0.0048 (J)
	7/12/2017	0.0118		0.0024 (3)			10.01			0.0040 (0)
	10/2/2017	0.0116	<0.01					0.004 (J)	<0.01	
	10/3/2017		10.01	<0.01	0.0079 (J)			0.004 (3)		0.0051 (J)
	10/4/2017	0.0195		<b>~0.01</b>	0.0079 (3)	<0.01	<0.01			0.0031 (3)
	1/9/2018	<0.0195	<0.01			<b>~0.01</b>	<b>V</b> 0.01	0.0019 (J)	0.0019 (J)	
	1/10/2018	<b>\0.01</b>	<b>~0.01</b>	0.0018 (J)			<0.01	0.0019 (3)	0.0019 (3)	0.0018 (J)
	1/11/2018			0.0018 (3)	0.0054 (1)	<0.01	<b>~0.01</b>			0.0018 (3)
			<b>-0.01</b>		0.0054 (J)	<0.01		0.0000 (1)		
	7/9/2018 7/10/2018		<0.01	0.0026 ( 1)				0.0029 (J)	0.0086 (J)	0.0045 (J)
		<0.01		0.0026 (J)	0.0022 ( !)	-0.01	<0.01		0.0000 (J)	0.0040 (J)
	7/11/2018		<0.01	0.0019 / 1	0.0022 (J)	<0.01		0.0016 ( !)		
	1/16/2019 1/17/2019	0.0071 (J)	<0.01	0.0018 (J)	<0.01	<0.01	<0.01	0.0016 (J)	0.0029 (J)	0.0031 (J)
	1/1//2019				<0.01	~0.01			0.0029 (3)	0.003 i (J)

	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)

	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		515.15				<0.01	
1/7/2011	<0.01	0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.01	<0.01
7/7/2011	0.01		<0.01	0.011	0.01	0.01	0.01	<0.01	<0.01
7/8/2011	<0.01		<0.01	0.018	<0.01	<0.01	<0.01	-0.01	-0.01
1/17/2012	-0.01	<0.01	-0.01	0.010	-0.01	-0.01	10.01	<0.01	
1/18/2012	<0.01	-0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-0.01	<0.01
7/9/2012	<b>~0.01</b>	<0.01	<b>\0.01</b>	<b>~0.01</b>	<b>\0.01</b>	<b>~0.01</b>	<b>~0.01</b>	<0.01	<b>~0.01</b>
7/10/2012	<0.01	-0.01	<0.01	0.02	<0.01	<0.01	<0.01	-0.01	<0.01
1/17/2013	10.01	<0.01	<b>50.01</b>	0.02	40.01	40.01	40.01	<0.01	40.01
1/18/2013	<0.01	<b>\0.01</b>	0.005	0.015	<0.01	<0.01	<0.01	<b>~0.01</b>	<0.01
7/16/2013	10.01		0.003	0.013	40.01	40.01	40.01	<0.01	40.01
7/17/2013	<0.01	<0.01	<0.01	0.037	<0.01	<0.01	<0.01	40.01	<0.01
1/13/2014	<0.01	<0.01	<0.01	0.037	<0.01	<0.01	<0.01	<0.01	<b>\0.01</b>
1/14/2014	~0.01	<0.01	~0.01	0.043	~0.01	<0.01	<0.01	<0.01	<0.01
7/9/2014	<0.01	z0.01	<0.01	0.043	<0.01	<0.01 <0.01	<0.01	<0.01	<0.01
	<0.01	<0.01	-0.01	0.023	<b>-0.01</b>	<0.01	<0.01	<0.01	<0.01
7/10/2014			<0.01		<0.01		-0.01		
1/12/2015 1/13/2015		~0.01	<0.01				<0.01	<0.01	
	<0.01	<0.01		0.022	-0.01	-0.01		<0.01	-0.01
1/14/2015	<0.01	-0.01		0.022	<0.01	<0.01	-0.01	z0.03	<0.01
7/16/2015		<0.01		0.022		-0.01	<0.01	<0.01	-0.01
7/17/2015	-0.01		-0.01	0.033	<b>-0.04</b>	<0.01			<0.01
7/18/2015	<0.01	.0.01	<0.01	0.05	<0.01				
1/17/2016		<0.01	<0.01	0.021	0.01	.0.64		.0.01	
1/18/2016	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01

	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	(3)			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						(5)		
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)		<0.01						
10/3/2017		<0.01		0.01 (J)				<0.01	<0.01
10/4/2017	0.0042 (J)			(5)	0.0023 (J)	<0.01	0.0038 (J)		
1/9/2018	(0)			0.0162	(0)				<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		0.013	<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		.,

	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

	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		

	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	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	<0.001	<0.001	<0.001
8/30/2006	0.001	<0.001	0.001	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	<0.001	<0.001	<0.001
2/15/2007	10.001	<0.001	40.001	10.001	10.001	10.001	<0.001	40.001	<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	10.001	<0.001	<0.001	40.001	10.001	10.001	40.001	40.001	40.001
8/31/2016		<b>~0.001</b>	<b>~0.001</b>	<0.001	<0.001	<0.001			
9/1/2016	0.0005 (J)			40.001	10.001	10.001	<0.001	<0.001	<0.001
10/24/2016	0.0005 (3)	<0.001					<0.001	<0.001	<0.001
	<0.001	<b>\0.001</b>	<0.001				<0.001	<0.001	<0.001
10/25/2016 10/26/2016	<0.001		<0.001	<0.001	0.0003 (J)	<0.001	<0.001	<0.001	<0.001
1/3/2017		<0.001		<0.001	0.0003 (3)	<0.001			
1/4/2017		<b>\0.001</b>	<0.001	<0.001	<0.001				<0.001
1/4/2017			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1/6/2017	<0.001					<0.001	<0.001	<0.001	
	<b>\0.001</b>	<0.001						<0.001	
4/3/2017		<0.001	EE 0E (1)				7E 0E ( I)	<0.001	
4/4/2017			5E-05 (J)		0.0002 (1)		7E-05 (J)		GE OF (I)
4/5/2017	<0.001			GE OF (I)	0.0002 (J)	<0.001			6E-05 (J)
4/6/2017	<0.001			6E-05 (J)	0.0002 (1)	<0.001			
7/10/2017		FF 0F ( I)		10.001	0.0002 (J)		CE OF (1)	-0.001	
7/11/2017 7/12/2017		5E-05 (J)	<0.001	<0.001		<0.001	6E-05 (J)	<0.001	<0.001
	<0.001		<0.001			<0.001			<0.001
7/13/2017	<0.001	6E 0E ( I)					<0.001	<0.001	
10/2/2017 10/3/2017		6E-05 (J)	<0.001	7E 0E ( I)			<0.001	<0.001	<0.001
	<0.001		<0.001	7E-05 (J)	0.0002 (J)	<0.001			<0.001
10/4/2017	<0.001	<b>-0.001</b>			0.0002 (3)	<0.001	<0.001	<0.001	
1/9/2018	<0.001	<0.001	0.004			0.004	<0.001	<0.001	55.05.(1)
1/10/2018			<0.001	0.0004 (1)	0.0000 (1)	<0.001			5E-05 (J)
1/11/2018		-0.001		0.0001 (J)	0.0002 (J)		-0.004		
7/9/2018		<0.001	0.004				<0.001	.0.004	.0.004
7/10/2018	-0.001		<0.001	10.001	10.001	10.001		<0.001	<0.001
7/11/2018	<0.001	0.004		<0.001	<0.001	<0.001			
8/26/2019	<0.001	<0.001	0.004	.0.004	0.00044 ( 1)	0.004		.0.004	
8/27/2019			<0.001	<0.001	0.00011 (J)	<0.001	<0.001	<0.001	-0.004
8/28/2019		6.05.05.43							<0.001
10/7/2019	-0.001	6.2E-05 (J)		0.05.05.45		10.001	-0.004	10.004	-0.004
10/8/2019	<0.001		E 4E 05 ( D	9.8E-05 (J)	0.0001111	<0.001	<0.001	<0.001	<0.001
10/9/2019	-0.004	-0.004	5.4E-05 (J)		0.00014 (J)				
4/6/2020	<0.001	<0.001							

	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

	GWC-17	GWC-2	GWC-20	GWC-21	GWC-22	GWC-9	GWB-4R	GWB-5R	GWB-6R
9/29/2000	<0.001	GWO Z	GW 20	GWO Z1	Q110 22	<0.001	<0.001	<0.001	<0.001
11/21/2000		<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
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	(1)				<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	<0.001	<0.001
7/13/2017	<0.001	<0.001		<0.001		40.001	40.001	10.001	10.001
10/2/2017	<b>10.001</b>	40.001	<0.001	40.001					
10/3/2017		<0.001	<b>\0.001</b>	<0.001				~0.001	<0.001
	0.0001 (1)	<b>\0.001</b>		<0.001	0.0001 (1)	<0.001	<0.001	<0.001	<0.001
10/4/2017	0.0001 (J)			-0.001	0.0001 (J)	<0.001	<0.001		-0.001
1/9/2018				<0.001				.0.004	<0.001
1/10/2018	0.0004 (1)	<0.001	<0.001		05.05.41)		75.05.40	<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		

	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	010					000	550	
10/2/2017		210	100	040			689	559	1040
10/3/2017 10/4/2017	3350		192	248	986	38			1240
1/9/2018	2640	118			900	30	653	520	
1/10/2018	2040	116	277			<25	003	520	935
1/11/2018			211	681	1020	<b>\2</b> 5			955
7/9/2018		235		001	1020		659		
7/10/2018		200	349				000	524	1040
7/11/2018	2200		040	440	888	63		024	1040
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

	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			170			530	382	1320
1/17/2019				178	154	110			
1/18/2019 1/21/2019		39	307		154	118			
3/25/2019		39	449				479		
3/26/2019	1220		443	292			479	1040	1250
3/27/2019	1220			232	158	104		1040	1200
7/30/2019		70			130	104			
10/8/2019		70		278					
10/9/2019	1100	46	434	270	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		

	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		<0.01	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	<0.01	0.0020	0.01	0.01		0.0039	0.0.	<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	0.0027	<0.01	0.0017	0.01	0.01		0.017	0.0.	0.0025
6/23/2007	0.0027	<0.01	0.0029	0.0036	<0.01	<0.01	0.0076	<0.01	0.0020
9/11/2007	0.0027	<0.01	0.0020	0.0000	0.01	0.01	0.012	0.0.	<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	0.0000	<0.01	-0.01	10.01	-0.01	-0.01	0.012	-0.01	<0.01
6/23/2008	0.0074	<0.01		<0.01	<0.01	<0.01	0.012		-0.01
6/24/2008	0.0074	-0.01	<0.01	-0.01	10.01	-0.01	0.0069	<0.01	<0.01
11/3/2008		<0.01	-0.01				0.016	-0.01	0.0032
12/4/2008	0.0084	<0.01		<0.01	<0.01	<0.01	0.013		0.0002
12/5/2008	0.0004	-0.01	<0.01	10.01	-0.01	-0.01	0.010	<0.01	<0.01
3/25/2009		<0.01	-0.01				0.014	-0.01	<0.01
7/7/2009	0.023	<0.01	<0.01				0.014		-0.01
7/8/2009	0.020	-0.01	-0.01	0.0026	<0.01	<0.01	0.014	<0.01	0.0036
9/14/2009		<0.01		0.0020	10.01	-0.01	0.0072	-0.01	0.0026
12/20/2009	0.007	<0.01	<0.01				0.02	<0.01	0.0031
12/21/2009	0.007	-0.01	-0.01	<0.01	<0.01	<0.01	0.02	-0.01	0.0001
3/4/2010		<0.01		<b>10.01</b>	40.01	40.01	0.023		<0.01
6/20/2010	0.0047	<0.01	0.0037	<0.01	<0.01	<0.01	0.017	<0.01	-0.01
6/21/2010	0.0047	10.01	0.0037	<b>10.01</b>	40.01	40.01	0.017	40.01	0.0025
9/14/2010		<0.01					0.018		0.0025
1/6/2011		10.01	<0.01	0.003		0.0028	0.010		0.0033
1/7/2011	0.018	<0.01	40.01	0.003	<0.01	0.0020	0.019	<0.01	0.0036
4/15/2011	0.016	<0.01			<b>\0.01</b>		0.019	<b>~0.01</b>	<0.01
7/7/2011	0.019	<0.01	0.0045	0.004	<0.01	<0.01	0.019	0.0036	0.003
	0.019	<0.01	0.0045	0.004	<0.01	<0.01		0.0036	
9/25/2011	0.0208		-0.01	-0.01	-0.01	<0.01	0.015	<0.01	0.0037
1/17/2012	0.0298	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	-0.01
1/18/2012 4/4/2012		<0.01					0.0191		<0.01
4/4/2012 7/9/2012	0.14	<b>\U.U1</b>	0.0006	0.005	<0.01	<0.01		0.0050	<0.01
	0.14	-0.01	0.0026	0.005	<0.01	<0.01	0.026	0.0059	0.0000
7/10/2012		<0.01					0.040		0.0026
10/9/2012		<0.01	-0.01	0.005	-0.01	<b>-0.04</b>	0.049		0.007
1/17/2013	0.01	-0.01	<0.01	0.005	<0.01	<0.01	0.000	-0.01	10.04
1/18/2013	0.21	<0.01					0.036	<0.01	<0.01
4/5/2013		<0.01					0.04		<0.01

	GWA-7 (bg)	GWA-8 (bg)	GWC-1	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16
7/16/2013	( 0,	( 3)	<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		(1)		0.0024 (J)	0.0034 (J)	0.002 (J)	(-)		(1)
7/9/2014	0.22	0.0012 (J)	0.0041 (J)			(-)	0.032	0.0012 (J)	0.0031 (J)
10/24/2014	0.22	<0.01	0.0011(0)				0.045	0.0012 (0)	0.0028 (J)
1/13/2015	0.19	0.01	0.0029 (J)	0.0023 (J)	<0.01	0.0015 (J)	0.0.0	0.0013 (J)	0.0020 (0)
1/14/2015		<0.01				(-)	0.031	(0)	0.0034 (J)
5/10/2015		<0.01					0.013		0.000 (0)
5/11/2015		-0.01					0.010		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	0.20	<0.01	0.0004 (0)	0.002 (0)	0.0040 (0)	10.01	0.028	-0.01	0.0020 (0)
10/6/2015		0.0012 (J)					0.020		0.0016 (J)
1/17/2016		0.0012 (0)	0.0046 (J)				0.028	0.0013 (J)	0.0010 (J)
1/18/2016	0.41	0.00079 (J)	0.0040 (0)		0.0058	0.0011 (J)	0.020	0.0013 (3)	0.0025 (0)
1/19/2016	0.41	0.00079 (3)		0.0025 (J)	0.0038	0.0011 (3)			
4/26/2016		<0.01		0.0023 (3)			0.0181		0.00296 (J)
7/26/2016		10.01		0.0027 (J)		<0.01	0.0101		0.00230 (0)
7/27/2016	0.397		0.0064 (J)	0.0027 (3)	0.0058 (J)	<b>~0.01</b>	0.0189	<0.01	
7/28/2016	0.397	<0.01	0.0004 (3)		0.0038 (3)		0.0169	<b>~0.01</b>	0.0026 (J)
10/24/2016		<0.01							0.0020 (3)
10/25/2016	0.425	10.01					0.0206	<0.01	<0.01
1/3/2017	0.425	<0.01					0.0200	<b>~0.01</b>	<b>~0.01</b>
1/4/2017		<b>~0.01</b>	<0.01	<0.01	<0.01				<0.01
1/5/2017			40.01	10.01	40.01	<0.01	0.0172	<0.01	40.01
1/6/2017	0.41					40.01	0.0172	40.01	
4/3/2017	0.41	<0.01						0.002 (J)	
4/4/2017		<b>~0.01</b>	0.0061 (J)				0.0235	0.002 (3)	
4/5/2017			0.0001 (0)		0.0039 (J)		0.0233		0.0033 (J)
4/6/2017	0.297			0.0025 (J)	0.0055 (5)	<0.01			0.0055 (0)
7/10/2017	0.297			0.0023 (3)	0.0062 (J)	<b>~0.01</b>			
7/10/2017		<0.01		0.0027 (J)	0.0002 (3)		0.0136	0.0022 (J)	
7/12/2017		10.01	0.0067 (J)	0.0027 (3)		0.0016 (J)	0.0130	0.0022 (3)	0.0037 (J)
7/13/2017	0.194		0.0007 (0)			0.0010 (3)			0.0037 (0)
10/2/2017	0.134	<0.01					0.0175	0.0022 (J)	
10/3/2017		40.01					0.0173	0.0022 (3)	0.0036 (J)
10/4/2017	0.316								0.0000 (0)
1/9/2018	0.194	0.0014 (J)					0.0103	0.0021 (J)	
1/10/2018	0.194	0.0014 (3)	0.0056 (J)			0.0019 (J)	0.0103	0.0021 (3)	0.0029 (J)
1/11/2018			0.0030 (3)	0.0019 (J)	0.0025 (J)	0.0019 (3)			0.0029 (3)
7/9/2018		<0.01		0.0019 (3)	0.0023 (3)		0.0078 (J)		
7/10/2018		<0.01	0.0056 (J)				0.0078 (3)	0.0025 (J)	0.0025 (J)
7/10/2018	0.15		0.0030 (3)	0.0021 (1)	0.0059 (J)	0.0097 (J)		0.0023 (3)	0.0023 (3)
		-0.01	0.0042 (1)	0.0021 (J)	0.0059 (3)	<0.01	0.0042 (1)		
1/16/2019	0.16	<0.01	0.0043 (J)	0.0001 (1)	-0.01	<0.01	0.0043 (J)	10.01	0.0001 (1)
1/17/2019	0.10	<0.01		0.0021 (J)	<0.01			<0.01	0.0021 (J)
3/25/2019	0.18	<0.01	0.006171			0.0020 (1)	0.0062 (1)	0.0036 (1)	0.0039 ( !)
3/26/2019			0.0051 (J)	0.0022 (1)	0.004071	0.0029 (J)	0.0063 (J)	0.0026 (J)	0.0038 (J)
3/27/2019 10/7/2019		<0.01		0.0023 (J)	0.0049 (J)				
10///2019		<b>\0.01</b>							

	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)

	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)

	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)		

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
9/29/2	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
1/20/2	2001	<0.01	0.025 (o)	<0.01	<0.01	0.23 (o)	<0.01	<0.01	<0.01	<0.01
3/14/2	2001	<0.01	<0.01	<0.01	<0.01	0.24 (o)	<0.01	<0.01	<0.01	<0.01
7/16/2	2001	<0.01	<0.01	<0.01	<0.01	0.053 (o)	<0.01	<0.01	<0.01	<0.01
11/1/2	2001	<0.01	<0.01	<0.01	<0.01	0.022 (o)	0.044 (o)	<0.01	<0.01	<0.01
4/25/2	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
6/6/20	003	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
5/26/2	2004	0.013	<0.01	<0.01	<0.01	<0.01	0.035	<0.01	<0.01	<0.01
12/7/2	2004	<0.01	<0.01	<0.01	0.028 (o)	<0.01	0.018	<0.01	<0.01	<0.01
6/21/2	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
4/4/20	006		<0.01					<0.01		<0.01
6/27/2	2006	0.01	0.0043	<0.01	0.0028	0.012 (o)	0.023	0.0045	0.011	0.077 (o)
8/30/2	2006		0.017 (o)					<0.01		0.0027
12/4/2	2006	0.0065	0.0053	<0.01	0.0028	0.0067	0.046 (o)	<0.01	0.0033	<0.01
2/15/2	2007		0.0045					<0.01		0.0032
6/23/2	2007	0.0049	0.0043	<0.01	0.0063	0.025 (o)	0.036	<0.01	0.0029	0.0058
9/11/2	2007		0.004					<0.01		0.0033
12/11/		0.0043	0.0048	<0.01	<0.01	0.0038	0.011	<0.01	<0.01	<0.01
3/11/2	2008		0.0043					<0.01		<0.01
6/23/2		0.0025	0.0037		<0.01	0.0051	0.0091			
6/24/2				<0.01				<0.01	<0.01	<0.01
11/3/2			0.0032					<0.01		0.0025
12/4/2		0.0025	0.0029		<0.01	<0.01	0.0038	<0.01		
12/5/2				<0.01					<0.01	<0.01
3/25/2			0.0055					<0.01		0.0025
7/7/20		<0.01	0.0028	<0.01						
7/8/20					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/14/2			0.0027					<0.01		<0.01
12/20/		0.0031	0.0029	<0.01				<0.01	<0.01	<0.01
12/21/					<0.01	0.013 (o)	0.0032			
3/4/20			0.0042					<0.01		<0.01
6/20/2		<0.01	0.0027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
6/21/2										<0.01
9/14/2			<0.01					<0.01		<0.01
1/6/20				<0.01	<0.01		0.004			
1/7/20		<0.01	0.0032			0.004		<0.01	<0.01	<0.01
4/15/2			<0.01					<0.01		<0.01
7/7/20		0.0031	0.005	0.0025	<0.01	0.0028	0.0037	<0.01	<0.01	<0.01
9/25/2			0.0041					<0.01		0.0028
1/17/2		0.004	0.0043	<0.01	0.0043	0.0043	0.0031	<0.01	<0.01	
1/18/2										0.0029
4/4/20			<0.01					<0.01		<0.01
7/9/20		0.0096		<0.01	<0.01	<0.01	0.003	<0.01	<0.01	2.01
7/10/2			0.0028		2.3.		2.230			<0.01
10/9/2			0.0033					<0.01		0.0027
1/17/2			<del>-</del>	<0.01	0.0025	0.0033	<0.01			
1/18/2		0.051	0.0038	· · · · ·				<0.01	<0.01	<0.01
4/5/20			0.0026					<0.01		<0.01

	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		(1)	<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	0.0 .	0.0021 (J)	0.0020 (0)	<0.01	<0.01	
7/28/2016	0.0020	0.0018 (J)	0.01		0.0021(0)		0.01	0.0.	<0.01
10/24/2016		0.0024 (J)							-0.01
10/25/2016	0.0035 (J)	0.002 (0)					<0.01	<0.01	<0.01
1/3/2017	0.0000 (0)	0.0035 (J)					10.01	-0.01	-0.01
1/4/2017		0.0000 (0)	<0.01	<0.01	0.0025 (J)				0.0025 (J)
1/5/2017			10.01	-0.01	0.0020 (0)	0.0021 (J)	<0.01	<0.01	0.0020 (0)
1/6/2017	0.0235					0.0021 (3)	40.01	40.01	
4/3/2017	0.0233	0.0041 (J)						<0.01	
4/4/2017		0.0041 (0)	<0.01				<0.01	40.01	
4/5/2017			40.01		0.0026 (J)		40.01		0.0025 (J)
4/6/2017	0.0829			0.004 (J)	0.0020 (0)	0.0027 (J)			0.0023 (3)
7/10/2017	0.0023			0.004 (0)	0.0023 (J)	0.0027 (0)			
7/10/2017		0.0029 (J)		<0.01	0.0023 (3)		<0.01	<0.01	
7/11/2017		0.0023 (0)	<0.01	<b>40.01</b>		0.0043 (J)	40.01	40.01	0.002 (J)
7/13/2017	0.0853		40.01			0.0043 (0)			0.002 (0)
10/2/2017	0.0055	0.0026 (J)					0.0026 (J)	<0.01	
10/3/2017		0.0020 (0)					0.0020 (3)	40.01	<0.01
10/4/2017	0.0263								40.01
1/9/2018	0.0265	0.0035 (J)					0.0018 (J)	<0.01	
1/10/2018	0.0003	0.0033 (3)	0.0014 (J)			0.0021 (J)	0.0018 (3)	<b>~0.01</b>	0.0016 (J)
1/11/2018			0.0014 (0)	0.0018 (J)	0.0031 (J)	0.0021 (0)			0.0010 (0)
7/9/2018		0.0022 (J)		0.0018 (3)	0.0031 (3)		<0.01		
7/10/2018		0.0022 (3)	0.0021 (J)				<b>~0.01</b>	<0.01	0.0031 (J)
7/10/2018	0.03 (1)		0.0021 (3)	<0.01	0.0036 (J)	0.0030 (1)		<b>~0.01</b>	0.0031 (3)
1/16/2019	0.02 (J)	0.003771	<0.01	~U.U I	0.0000 (0)	0.0039 (J) 0.047	<0.01		
	0.014 (J)	0.0037 (J)	~U.U1	<0.01	0.0033717	0.047	~0.01	<0.01	<0.01
1/17/2019 3/25/2019	<0.05 (o)	<0.01		<0.01	0.0032 (J)			<0.01	<0.01
	\U.U3 (U)	<b>~</b> U.U1	<0.01			0.03	-0.01	<0.01	<0.01
3/26/2019			<0.01	<0.01	0.0024 ( 1)	0.03	<0.01	<0.01	<0.01
3/27/2019		0.0077 / 1\		<0.01	0.0031 (J)				
10/7/2019		0.0077 (J)							

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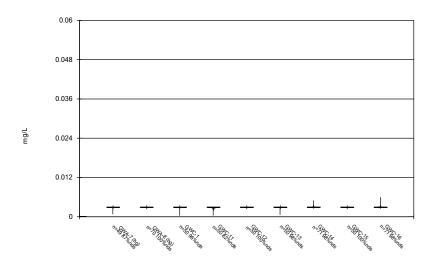
# **Time Series**

	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)

	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

	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)		

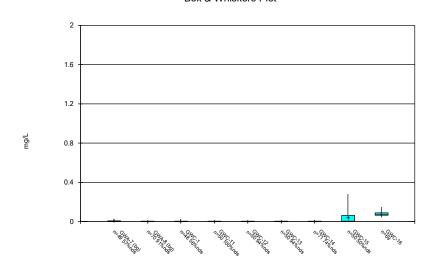
# FIGURE B.



Constituent: Antimony Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

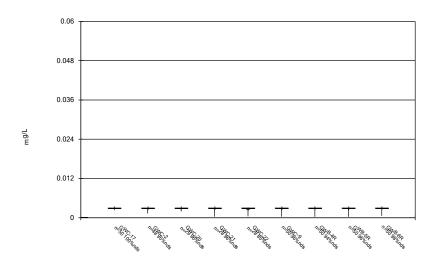
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

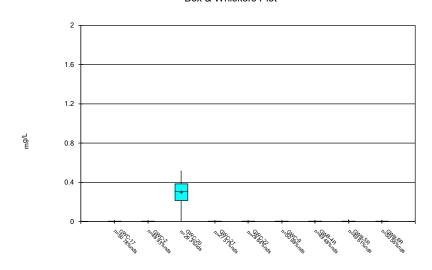
Box & Whiskers Plot

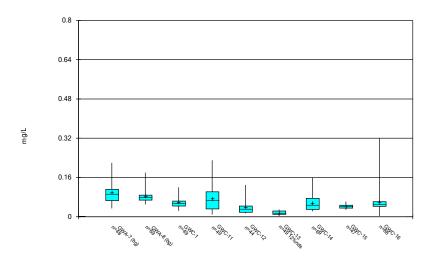


Constituent: Antimony Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



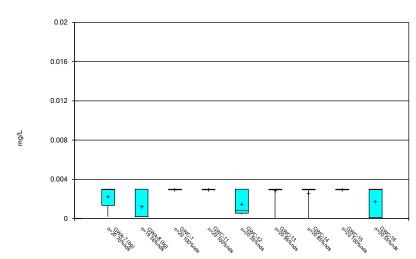


Constituent: Barium Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

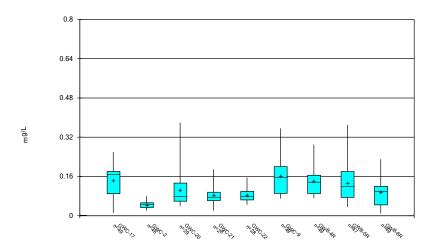
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

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

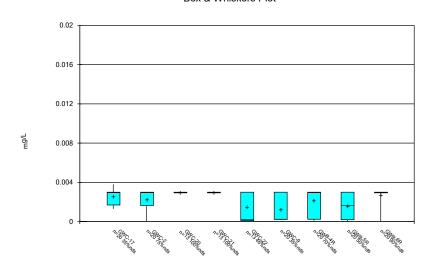


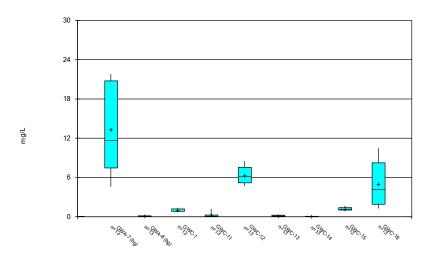
Constituent: Barium Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



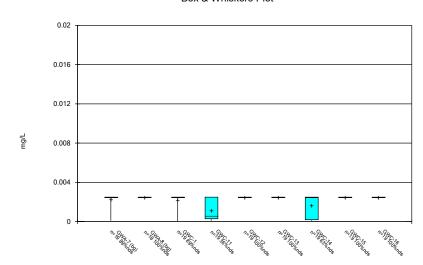


Constituent: Boron Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

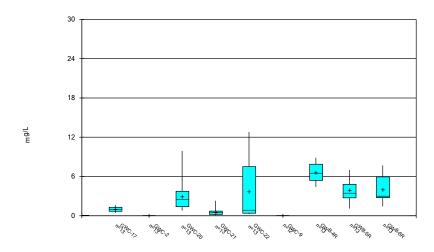
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

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

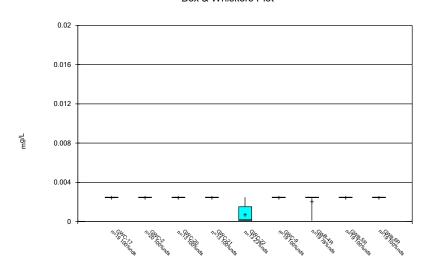


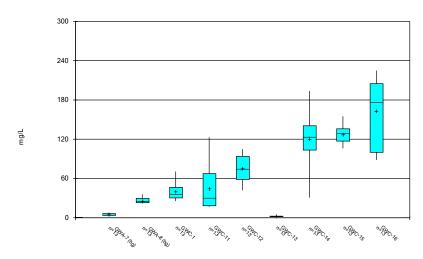
Constituent: Boron Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



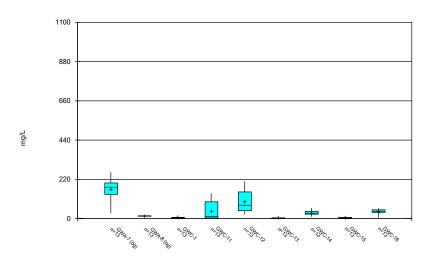


Constituent: Calcium Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

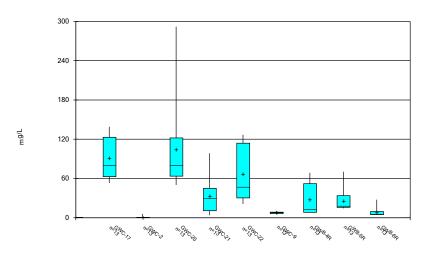
Box & Whiskers Plot



Constituent: Chloride Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

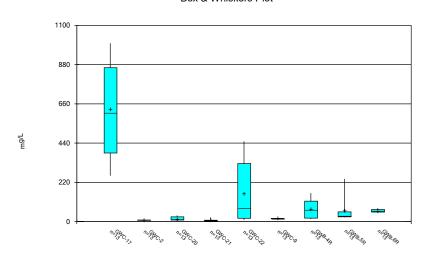
Box & Whiskers Plot

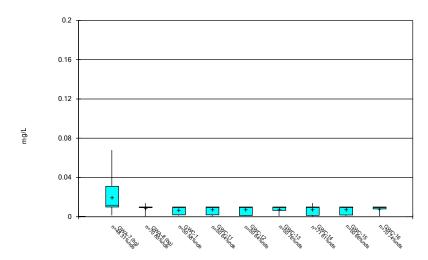


Constituent: Calcium Analysis Run 2/1/2021 1:19 PM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

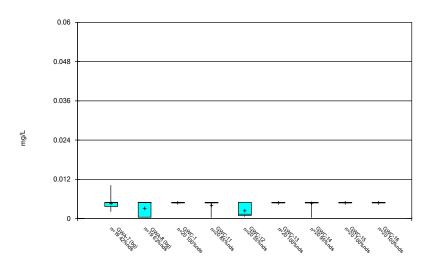




Constituent: Chromium Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

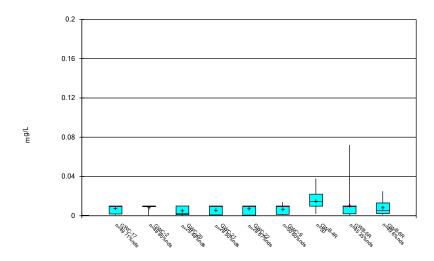
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

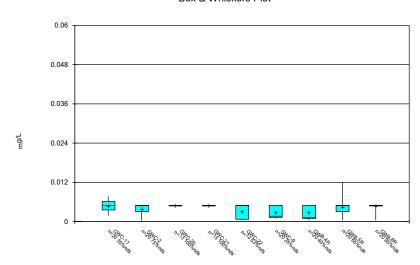
Box & Whiskers Plot

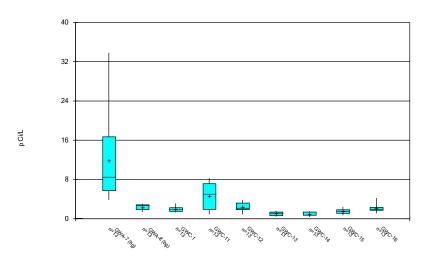


Constituent: Chromium Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

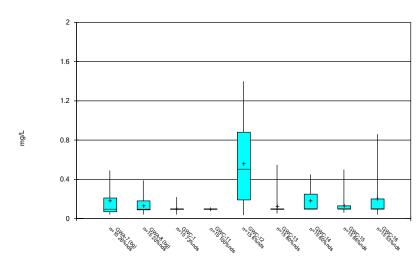




Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 1:19 PM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

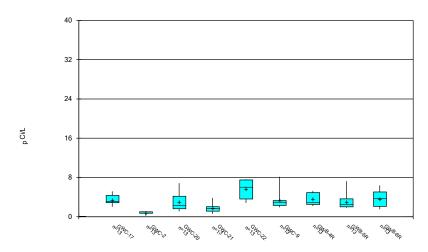
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

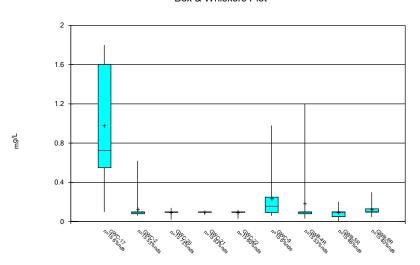
Box & Whiskers Plot

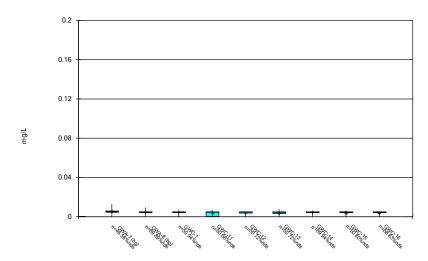


Constituent: Combined Radium 226 + 228 Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



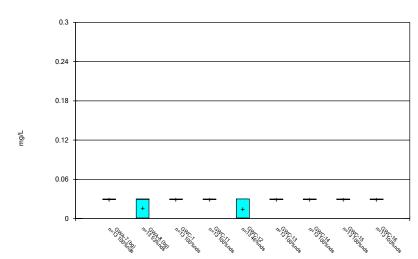


Constituent: Lead Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

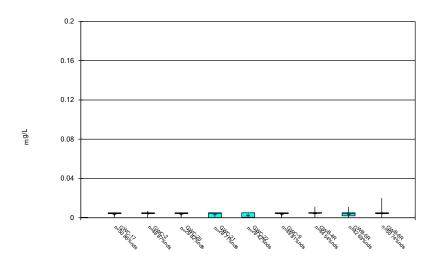
Box & Whiskers Plot



Constituent: Lithium Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot

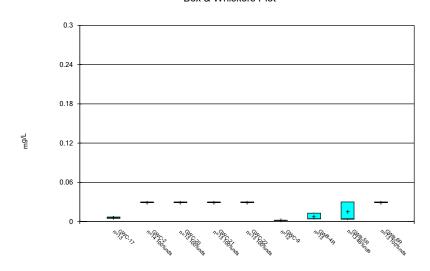


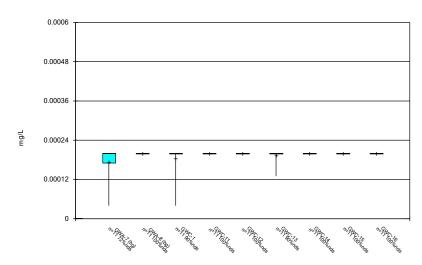
Constituent: Lead Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



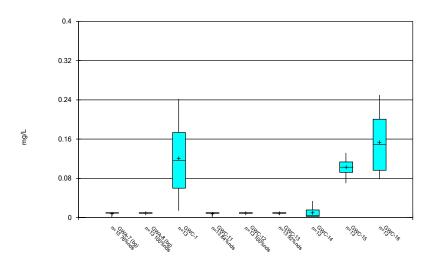


Constituent: Mercury Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

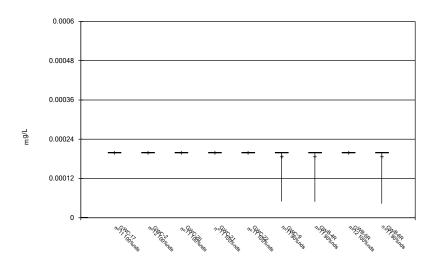
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

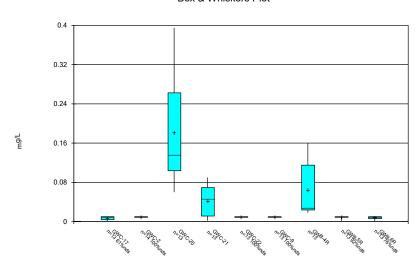
Box & Whiskers Plot

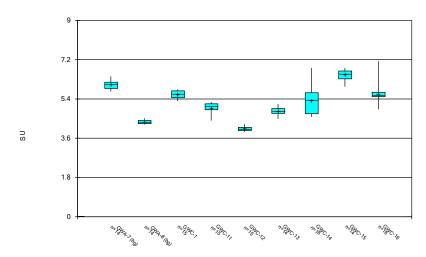


Constituent: Mercury Analysis Run 2/1/2021 1:19 PM View: Descriptive
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



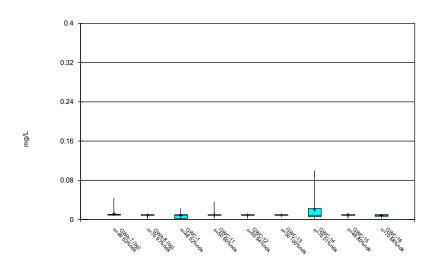


Constituent: pH Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

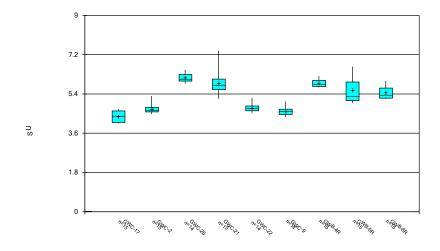
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

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

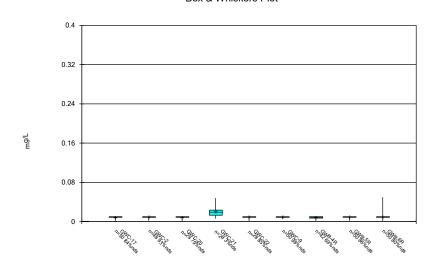


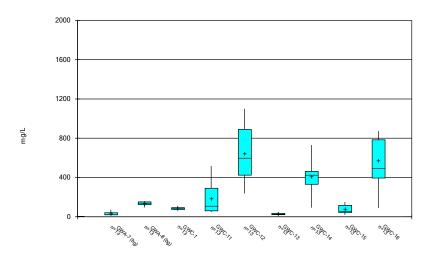
Constituent: pH Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



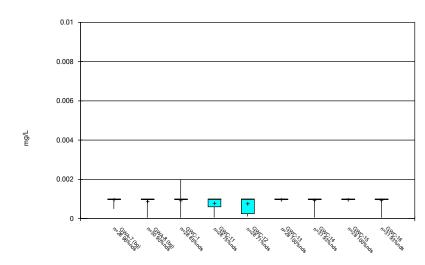


Constituent: Sulfate Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

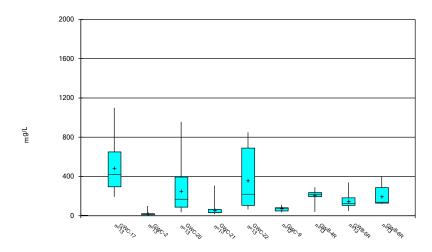
Box & Whiskers Plot



Constituent: Thallium Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Box & Whiskers Plot

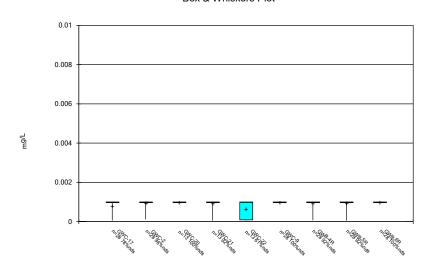


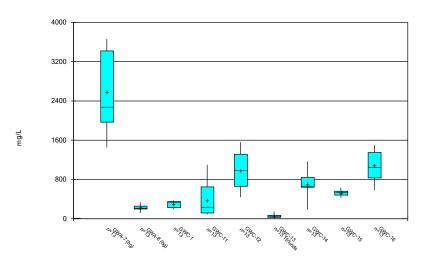
Constituent: Sulfate Analysis Run 2/1/2021 1:19 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

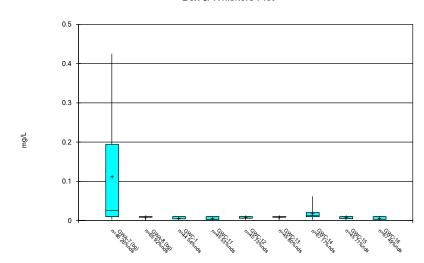




Constituent: Total Dissolved Solids Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

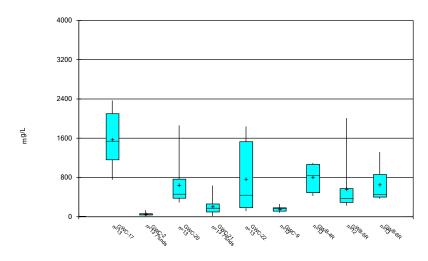
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Vanadium Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

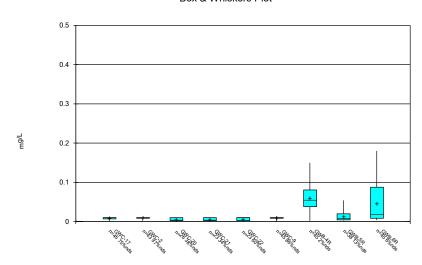
Box & Whiskers Plot

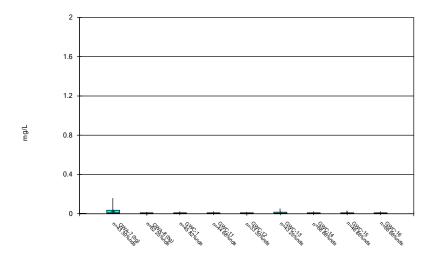


Constituent: Total Dissolved Solids Analysis Run 2/1/2021 1:19 PM View: Descriptive Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Box & Whiskers Plot

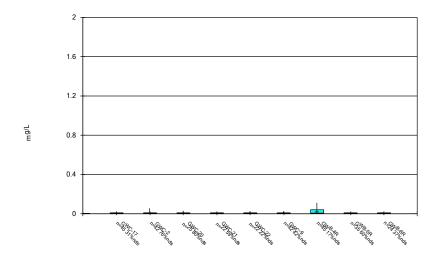




Constituent: Zinc Analysis Run 2/1/2021 1:20 PM View: Descriptive

Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Box & Whiskers Plot



# FIGURE C.

	GWC-1 ^{Arsen}	ic (mg/L) GWC-16 Arser	_{nic (mg/L)} GWC-21 Arsel	_{nic (mg/L)} GWB-4R Arse	_{enic} (mg/L) GWB-5R Arser	nic (mg/L) GWA-7 Barium	_{i (mg/L)} GWC-12 Bariu	_{m (mg/L)} GWC-14 Bariur	n (mg/L) GWC-15 Bariur	n (mg/L) GWC-16 Barium (mg/L)
9/29/2000										
11/21/2000										
1/20/2001										
3/14/2001										
7/16/2001								0.28 (o)		
11/1/2001										
4/25/2002							0.24 (o)			
11/20/2002										
6/6/2003	0.03 (o)	1.2 (o)			0.07 (o)		0.28 (o)		0.083 (o)	0.48 (o)
12/12/2003		0.27 (o)					0.27 (o)		0.094 (o)	0.13 (o)
5/26/2004							0.31 (o)			
12/7/2004							0.46 (o)			
6/21/2005										
12/12/2005										
6/27/2006										
8/30/2006										
12/4/2006										
6/23/2007										
12/11/2007										
6/24/2008										
12/5/2008										
7/7/2009										
12/21/2009										
6/20/2010										
6/21/2010			0.013 (o)	0.018 (o)						
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014										
1/17/2016	0.024 (o)									
8/31/2016										
9/1/2016						0.415 (o)				
10/26/2016										
10/3/2017										0.135 (o)
7/10/2018										0.16 (o)
7/11/2018										
1/16/2019										
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019										

	GWC-2Bariur	n (mg/L) GWB-5R Bariu	_{lm} (mg/L) GWC-15 Boron	(mg/L) GWC-9 Boron	(mg/L) GWA-7 Chron	_{nium} (mg/L) GWC-16 Chro	_{mium} (mg/L) GWC-17 Chro	_{mium} (mg/L) GWB-5R Chro	_{mium} (mg/L) GWB-6R Chro	_{mium} (mg/L) GWA-7 Cobalt (mg/L)
9/29/2000										
11/21/2000										
1/20/2001										
3/14/2001								0.052 (o)		
7/16/2001								0.08 (o)		
11/1/2001		0.61 (o)						0.13 (o)		
4/25/2002										
11/20/2002								0.053 (o)		
6/6/2003		0.72 (o)				0.063 (o)		0.064 (o)		
12/12/2003							0.036 (o)			
5/26/2004										
12/7/2004										
6/21/2005										
12/12/2005										
6/27/2006										
8/30/2006										
12/4/2006										
6/23/2007										
12/11/2007										
6/24/2008									0.032 (o)	
12/5/2008										
7/7/2009										
12/21/2009										
6/20/2010										
6/21/2010										
7/8/2011										
7/9/2012										
1/18/2013										
4/3/2014										
1/17/2016 8/31/2016				0.006 (1.5)						
9/1/2016			9.01 (o)	0.096 (J,o)	0.119 (o)					
10/26/2016	0.113 (o)		5.51 (0)		0.110 (0)					
10/3/2017	0.110 (0)									
7/10/2018										
7/11/2018										<0.005 (o)
1/16/2019										` '
1/17/2019										
1/18/2019										
1/21/2019										
3/25/2019										

929/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11/21/2000 11		7 Lead (	(mg/L)	mg/L)	d (mg/L)	d (mg/L)	(mg/L)	d (mg/L)	d (mg/L)	n (mg/L) CWA-8 pH (SU	J) CNC-13 pH (SU)
112412000 112412001 112412001 11442001 11452001 11452001 114525002 11450202 11450202 114502002 114502003 10,011 (a) 0,0086 (a) 0,018 (b) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c) 0,018 (c)		GWA.	GMA	GWO .	GMO .	GMO	GMD .	GWD	GWO	GW	GWO
1/14/2001	9/29/2000							0.017 (o)			
14/2001	11/21/2000										
1111/2001	1/20/2001										
11/1/2001	3/14/2001							0.026 (o)			
4/25/2002 11/20/2002	7/16/2001							0.043 (o)			
1/120/2002	11/1/2001							0.075 (o)			
6662003 0.037 (a) 0.016 (a) 0.099 (a) 0.015 (a) 0.16 (b)  12/12/2003 0.016 (a) 0.017 (a) 0.017 (a) 0.018 (b) 0.018 (c)  5/26/2004 0.038 (a)  6/21/2005 0.038 (a)  6/21/2006 0.038 (a)  6/27/2006 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.038 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)  6/27/2008 0.08 (a)	4/25/2002										
12/12/2003 5/26/2004 12/7/2004 6/21/2005 6/27/2006 6/27/2006 6/27/2006 6/23/2007 12/11/2007 6/23/2007 12/11/2007 6/24/2008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 12/5008 17/7/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/51/2009 12/5	11/20/2002			0.011 (o)		0.0086 (o)	0.018 (o)	0.057 (o)			
5/26/2004       0.038 (o)         12/7/2005       0.036 (o)         12/12/2005       0.036 (o)         6/27/2006       0.024 (o)         8/30/2006       0.023 (o)         12/4/2006       0.023 (o)         6/23/2007	6/6/2003	0.037 (o)	0.016 (o)		0.099 (o)		0.015 (o)	0.16 (o)			
12/7/2004	12/12/2003				0.017 (o)						
6/21/2005 12/12/2006 6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 0.022 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 6/21/2010 7/8/2011 7/9/2012	5/26/2004										
12/12/2006 6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/7/2004							0.038 (o)			
6/27/2006 8/30/2006 12/4/2006 6/23/2007 12/11/2007 6/24/2008 12/5/2008 17//2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	6/21/2005							0.036 (o)			
8/30/2006 12/4/2006 0.023 (o) 6/23/2007 12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/12/2005										
12/4/2006 6/23/2007 12/11/2007 6/24/2008 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	6/27/2006						0.024 (o)				
6/23/2007 12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	8/30/2006										
12/11/2007 6/24/2008 0.02 (o) 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/4/2006						0.023 (o)				
6/24/2008 12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012 1/18/2013	6/23/2007										
12/5/2008 7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/11/2007										
7/7/2009 12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	6/24/2008						0.02 (o)				
12/21/2009 6/20/2010 6/21/2010 7/8/2011 7/9/2012	12/5/2008										
6/20/2010 6/21/2010 7/8/2011 7/9/2012	7/7/2009										
6/21/2010 7/8/2011 7/9/2012 1/18/2013	12/21/2009										
7/8/2011 7/9/2012 1/18/2013	6/20/2010										
7/9/2012 1/18/2013	6/21/2010										
1/18/2013	7/8/2011										
	7/9/2012										
4/3/2014	1/18/2013										
	4/3/2014										
1/17/2016	1/17/2016										
8/31/2016 <0.03 (o)	8/31/2016								<0.03 (o)		
9/1/2016 0.0663 (o) 0.0166 (o)	9/1/2016	0.0663 (o)					0.0166 (o)				
10/26/2016	10/26/2016										
10/3/2017	10/3/2017										
7/10/2018											
7/11/2018	7/11/2018										
1/16/2019 <0.005 (o) 6.45 (o)		<0.005 (o)								6.16 (o)	6.45 (o)
1/17/2019		• •								. ,	* *
1/18/2019											
1/21/2019											
3/25/2019											

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

		(611)	(611)	eII)	211)	.ium (mg/L)	onium (mg/L)	.nium (mg/L)	nium (mg/L)	_{nium} (mg/L) GWB-5R Total Disse	olved Solids (mg/L)
	GWC- ^{f5 pH}	GWC-20 pH	GWC-22 pH (	GWC-9 pH (5	GWC-1 Seler	GWC-14 Sele	GWC-15 Sele	GWC-16 Sele	_{nium} (mg/L) GWB-4R Sele	GWB-5R Total Die	
9/29/2000											
11/21/2000											
1/20/2001									0.014 (o)		
3/14/2001											
7/16/2001									0.015 (o)		
11/1/2001									0.012 (o)		
4/25/2002						0.1 (o)					
11/20/2002					0.19 (o)				0.026 (o)		
6/6/2003					0.32 (o)		0.021 (o)	0.021 (o)	0.022 (o)		
12/12/2003							0.016 (o)		0.028 (o)		
5/26/2004									0.012 (o)		
12/7/2004											
6/21/2005											
12/12/2005									0.013 (o)		
6/27/2006											
8/30/2006											
12/4/2006											
6/23/2007											
12/11/2007											
6/24/2008											
12/5/2008											
7/7/2009											
12/21/2009											
6/20/2010											
6/21/2010											
7/8/2011											
7/9/2012							0.066 (o)				
1/18/2013							0.04 (o)				
4/3/2014											
1/17/2016											
8/31/2016											
9/1/2016											
10/26/2016											
10/3/2017											
7/10/2018										1730 (o)	
7/11/2018											
1/16/2019											
1/17/2019	8.44 (o)										
1/18/2019			6.98 (o)	6.87 (o)							
1/21/2019		7.73 (o)									
0/05/0040											

3/25/2019

Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 10:25 AM

		m (ma/L)	m (ma/L)	ium (mg/L)	dium (mg/L)	aium (mg/L)	dium (mg/L)	(-all)	all )	(mall) (mall
	GWA ^{8 Vana}	_{dium} (mg/L) GWC-1 Vana	_{dium} (mg/L) GWC-14 Van	GWC-15 Var	_{nadium} (mg/L) GWC-16 Var	_{nadium} (mg/L) GWB-5R Var	ladium (mg/L) GWA-7 Zinc	(mg/L) GWA-8 Zinc (	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										
0.000.00										

<0.01 (o)

3/25/2019

	ONC & Zinc	(mg/L) CWC-15 Zino	c (mg/L)	c (mg/L)	(mg/L) CWC-20 Zinc	(mg/L) GWC-21 Zinc	(mg/L) GWC-22 Zinc	(mg/L) GWC-9 Zinc	(mg/L) GWB-5R Zind	; (mg/L) GWB-6R Zinc (mg/l
9/29/2000	GMO .	<b>0.</b> .	<b>0.</b>	<b>0</b>	01.	J.	<u>.</u>	<u>.</u>		
				0.021 (a)					0.026 (o)	<0.01 (o)
11/21/2000				0.021 (o)					0.024 (-)	0.024 (o)
1/20/2001									0.031 (o)	<0.01 (o)
3/14/2001									0.063 (o)	<0.01 (o)
7/16/2001	0.044 ( )								0.08 (o)	<0.01 (o)
11/1/2001	0.044 (o)								0.16 (o)	<0.01 (o)
4/25/2002								0.000 ( )	0.44()	<0.01 (o)
11/20/2002								0.033 (o)	0.14 (o)	0.028 (o)
6/6/2003			0.035 (o)						0.51 (o)	0.032 (o)
12/12/2003										<0.01 (o)
5/26/2004									0.036 (o)	<0.01 (o)
12/7/2004									0.069 (o)	0.012 (o)
6/21/2005									0.076 (o)	<0.01 (o)
12/12/2005		0.064 (o)						0.032 (o)		<0.01 (o)
6/27/2006			0.077 (o)					0.018 (o)		
8/30/2006										
12/4/2006	0.046 (o)									
6/23/2007										0.094 (o)
12/11/2007										0.042 (o)
6/24/2008										0.098 (o)
12/5/2008										0.047 (o)
7/7/2009										0.024 (o)
12/21/2009										0.049 (o)
6/20/2010										0.045 (o)
6/21/2010						0.04 (o)				
7/8/2011					0.086 (J,o)		0.1 (o)			
7/9/2012										
1/18/2013										
4/3/2014										
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										

# FIGURE D.

# State Interwell Prediction Limits - Significant Results

							_					
	Grumma	n Road Land	fill Client: S	outhern Con	npany	Data: Grumman	Road Pri	nted 2/1	7/2021, 4:15 PM			
Constituent	Well	Upper Lim.	<u>Date</u>	Observ.	Sig.	Bg N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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

Data: Grumman Road

Client: Southern Company

Grumman Road Landfill

Upper Lim. Date Method Constituent Well Std. Dev. %NDs ND Adj Transform Sig. Bg N Bg Mean Alpha 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 0.00051.1 Nο 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 GWC-14 0.003 Antimony (mg/L) 9/29/2020 0.003ND Nο 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 (ma/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 GWC-20 0.003 0.000137 Antimony (mg/L) 9/30/2020 0.003ND No 119 n/a n/a 94.96 n/a n/a NP Inter (NDs) 1 of 2 GWC-21 0.003 9/30/2020 0.000137 NP Inter (NDs) 1 of 2 Antimony (mg/L) 0.00033J No 119 n/a n/a 94.96 n/a n/a GWC-22 0.003 0.0016J 0.000137 NP Inter (NDs) 1 of 2 Antimony (mg/L) 9/30/2020 Nο 119 n/a n/a 94.96 n/a n/a GWC-9 0.003 10/1/2020 0.003ND 0.000137 NP Inter (NDs) 1 of 2 Antimony (ma/L) No 119 n/a n/a 94.96 n/a n/a GWB-4R Antimony (mg/L) 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 GWB-5R 0.003 0.000137 Antimony (ma/L) 9/30/2020 0.0003J 119 n/a 94.96 NP Inter (NDs) 1 of 2 No n/a n/a n/a GWB-6R Antimony (mg/L) 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 GWC-1 0.0287 9/28/2020 0.0058 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (ma/L) 119 n/a n/a n/a n/a No GWC-12 0.0287 9/29/2020 0.005ND 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a n/a 77.31 n/a n/a GWC-13 0.0287 9/28/2020 77.31 0.000137 NP Inter (NDs) 1 of 2 0.005ND No 119 n/a n/a Arsenic (mg/L) n/a n/a GWC-14 0.0287 9/29/2020 0.005ND 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a 77.31 n/a n/a n/a GWC-15 0.0287 9/30/2020 0.24 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) Yes n/a n/a 119 n/a Arsenic (mg/L) GWC-16 0.0287 9/30/2020 0.044 Yes 119 n/a 77.31 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 n/a GWC-17 0.0287 9/30/2020 0.0012J No 119 n/a 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) n/a n/a n/a GWC-2 0.0287 9/29/2020 0.005ND No 119 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) n/a n/a Arsenic (mg/L) GWC-20 0.0287 9/30/2020 0.31 Yes n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) GWC-21 0.0287 9/30/2020 0.0029J No 77.31 0.000137 NP Inter (NDs) 1 of 2 n/a GWC-22 0.0287 Arsenic (mg/L) 9/30/2020 0.005ND No 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWC-9 Arsenic (mg/L) 0.0287 10/1/2020 0.005ND No 119 n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWB-4R 0.0287 10/1/2020 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) 0.0027J No 119 n/a n/a 77.31 n/a Arsenic (mg/L) GWB-5R 0.0287 9/30/2020 0.0017J No 119 n/a 77.31 n/a 0.000137 NP Inter (NDs) 1 of 2 GWB-6R 0.0287 9/30/2020 0.004J 77.31 0.000137 NP Inter (NDs) 1 of 2 Arsenic (mg/L) No 119 n/a n/a n/a n/a GWC-1 0.22 9/28/2020 0.051 117 n/a 0 0.0001427 Barium (mg/L) No n/a n/a NP Inter (normality) 1 of 2 Barium (mg/L) GWC-11 0.22 9/29/2020 0.14 No 0 n/a n/a 0.0001427 NP Inter (normality) 1 of 2 117 n/a n/a Barium (mg/L) GWC-12 0.22 9/29/2020 0.018 117 n/a 0 0.0001427 NP Inter (normality) 1 of 2 No n/a n/a GWC-13 Barium (mg/L) 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 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 n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-16 0.22 9/30/2020 0.14 Nο 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 Nο 117 n/a n/a n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 GWC-2 0.22 9/29/2020 0.049 0 Barium (mg/L) No 117 n/a n/a n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-20 0.22 9/30/2020 0.35 Yes 117 n/a n/a n n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-21 0.22 9/30/2020 0.19 Nο 117 n/a n/a 0 n/a n/a 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) GWC-22 9/30/2020 0.045 0 0.0001427 NP Inter (normality) 1 of 2 0.22 Nο 117 n/a n/a n/a n/a GWC-9 0.22 0 Barium (mg/L) 10/1/2020 0.15 117 n/a 0.0001427 No n/a n/a n/a NP Inter (normality) 1 of 2 GWB-4R 0 Barium (mg/L) 0.22 10/1/2020 0.077 No 117 n/a n/a n/a n/a 0.0001427 NP Inter (normality) 1 of 2 GWB-5R 0.22 9/30/2020 0 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) 0.16 No 117 n/a n/a n/a n/a GWB-6R 9/30/2020 0 0.0001427 NP Inter (normality) 1 of 2 Barium (mg/L) 0.22 0.092 117 n/a No n/a n/a n/a Chromium (mg/L) GWC-1 0.068 63.56 9/28/2020 0.0024J No 118 n/a n/a n/a n/a 0.0001399 NP Inter (NDs) 1 of 2 Chromium (mg/L) GWC-11 0.068 9/29/2020 0.0011J 118 n/a 0.0001399 NP Inter (NDs) 1 of 2 No 63.56 n/a n/a n/a GWC-12 0.068 9/29/2020 0.00085J 0.0001399 NP Inter (NDs) 1 of 2 Chromium (mg/L) No 118 n/a 63.56 n/a n/a n/a Chromium (mg/L) GWC-13 0.068 9/28/2020 0.00062J 118 n/a 63.56 n/a 0.0001399 NP Inter (NDs) 1 of 2 No n/a n/a Chromium (mg/L) GWC-14 0.068 9/29/2020 0.01ND 63.56 0.0001399 NP Inter (NDs) 1 of 2 No 118 n/a n/a n/a n/a Chromium (mg/L) GWC-15 0.068 9/30/2020 0.0016J No 118 n/a 63.56 0.0001399 NP Inter (NDs) 1 of 2 n/a n/a n/a

#### State Interwell Prediction Limits - All Results

Data: Grumman Road

Client: Southern Company

Grumman Road Landfill

Upper Lim. Date Std. Dev. Constituent Well %NDs ND Adj  $\underline{\mathsf{Transform}}$ Method Sig. Bg N Bg Mean Alpha 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 0.00096.1 Nο 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 GWC-20 0.068 Chromium (ma/L) 9/30/2020 0.0013.1 Nο 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 0.00067JNo 118 n/a n/a 63.56 n/a n/a 0.0001399 NP Inter (NDs) 1 of 2 Chromium (ma/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 GWC-9 0.068 0.0001399 Chromium (mg/L) 10/1/2020 0.0012JNο 118 n/a n/a 63.56 n/a n/a NP Inter (NDs) 1 of 2 GWB-4R 0.068 10/1/2020 NP Inter (NDs) 1 of 2 Chromium (ma/L) 0.002J No 118 n/a n/a 63.56 n/a n/a 0.0001399 GWB-5R 0.068 9/30/2020 0.0001399 Chromium (ma/L) 0.0018JNο 118 n/a n/a 63.56 n/a n/a NP Inter (NDs) 1 of 2 GWB-6R 0.068 Chromium (mg/L) 9/30/2020 0.0045J 63.56 0.0001399 NP Inter (NDs) 1 of 2 No 118 n/a n/a n/a n/a GWC-1 Lead (mg/L) 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 GWC-11 0.013 Lead (mg/L) 9/29/2020 0.00032J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a n/a GWC-12 0.013 Lead (mg/L) 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 76.52 0.0001484 NP Inter (NDs) 1 of 2 0.000064J No 115 n/a n/a n/a n/a GWC-14 0.013 9/29/2020 0.005ND 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a n/a n/a GWC-15 0.013 9/30/2020 NP Inter (NDs) 1 of 2 0.000047J No 115 n/a 76.52 n/a 0.0001484 Lead (mg/L) n/a n/a GWC-16 0.013 9/30/2020 0.000091J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a GWC-17 0.013 9/30/2020 0.00006J 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a n/a n/a Lead (mg/L) GWC-2 0.013 9/29/2020 0.005ND No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a n/a GWC-20 0.013 9/30/2020 0.005ND No 115 n/a 76.52 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a n/a GWC-21 0.013 9/30/2020 0.000054J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) n/a n/a Lead (mg/L) GWC-22 0.013 9/30/2020 0.00023J 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 Lead (mg/L) GWC-9 0.013 10/1/2020 0.000038J 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 n/a GWB-4R Lead (mg/L) 0.013 10/1/2020 0.00026J No 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 GWB-5R Lead (mg/L) 0.013 9/30/2020 0.0012J No 115 n/a 76.52 n/a 0.0001484 NP Inter (NDs) 1 of 2 GWB-6R 0.013 9/30/2020 0.00008J NP Inter (NDs) 1 of 2 Lead (mg/L) No 115 n/a n/a 76.52 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 83.19 0.000137 GWC-11 0.0438 9/29/2020 0.0024J 0.000137 NP Inter (NDs) 1 of 2 Selenium (mg/L) No 119 n/a n/a 83.19 n/a GWC-12 0.0438 9/29/2020 0.01ND 0.000137 NP Inter (NDs) 1 of 2 Selenium (mg/L) No 119 n/a 83.19 n/a n/a Selenium (mg/L) GWC-14 0.0438 9/29/2020 0.0051J No n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 119 n/a n/a n/a Selenium (mg/L) GWC-15 0.0438 9/30/2020 0.01ND 119 n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 No n/a n/a GWC-16 n/a Selenium (mg/L) 0.0438 9/30/2020 0.0037J No 119 n/a n/a 83.19 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 83.19 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 n/a 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 Nο 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 0.0061.1 Nο 119 n/a n/a 83 19 n/a n/a 0.000137 NP Inter (NDs) 1 of 2 GWC-22 0.0438 9/30/2020 0.000137 Selenium (mg/L) 0.01ND No 119 n/a n/a 83.19 n/a n/a NP Inter (NDs) 1 of 2 GWC-9 0.0438 0.000137 Selenium (mg/L) 10/1/2020 0.01ND Nο 119 n/a n/a 83.19 n/a n/a NP Inter (NDs) 1 of 2 Selenium (mg/L) GWB-4R 0.0438 10/1/2020 0.01ND Nο 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 83.19 0.000137 NP Inter (NDs) 1 of 2 Nο 119 n/a n/a n/a n/a GWB-6R 0.0438 9/30/2020 0.0023J 119 n/a 83.19 0.000137 NP Inter (NDs) 1 of 2 Selenium (ma/L) No n/a n/a n/a GWC-1 Vanadium (mg/L) 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 GWC-11 0.425 9/29/2020 0.0023J 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) 111 n/a 64.86 n/a n/a No n/a Vanadium (mg/L) GWC-12 0.425 9/29/2020 0.0046J 0.0001599 NP Inter (NDs) 1 of 2 111 n/a No n/a 64.86 n/a n/a GWC-13 0.425 111 n/a Vanadium (mg/L) 9/28/2020 0.01ND No n/a 64.86 n/a n/a 0.0001599 NP Inter (NDs) 1 of 2 GWC-14 0.425 9/29/2020 0.01ND 111 n/a 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) No n/a 64.86 n/a n/a GWC-15 0.425 9/30/2020 0.0028J 0.0001599 NP Inter (NDs) 1 of 2 Vanadium (mg/L) No 111 n/a 64.86 n/a n/a n/a Vanadium (mg/L) GWC-16 0.425 9/30/2020 0.0028J No 111 64.86 n/a 0.0001599 NP Inter (NDs) 1 of 2 n/a n/a n/a Vanadium (mg/L) GWC-17 0.425 9/30/2020 0.01ND 64.86 0.0001599 NP Inter (NDs) 1 of 2 No 111 n/a n/a n/a n/a Vanadium (mg/L) GWC-2 0.425 9/29/2020 0.01ND No 111 64.86 n/a 0.0001599 NP Inter (NDs) 1 of 2 n/a n/a n/a

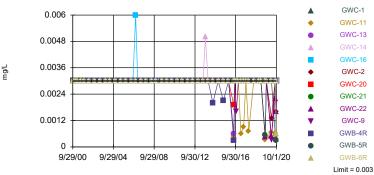
## State Interwell Prediction Limits - All Results

	Grumma	ın Road Lan	dfill Client: \$	Southern Cor	mpany	Data: Grummar	Road Pr	inted 2/1	7/2021, 4:15 PM	1		
Constituent	Well	Upper Lim	<u>Date</u>	Observ.	Sig.	Bg N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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

Hollow symbols indicate censored values.

Prediction Limit Within Limit

Interwell Non-parametric

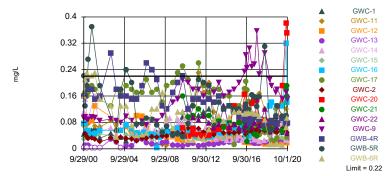


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 94.96% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 13 points to limit. Assumes 3 future values.

> Constituent: Antimony Analysis Run 2/17/2021 4:00 PM View: PL's State Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

Prediction Limit Exceeds Limit: GWC-20 Interwell Non-parametric



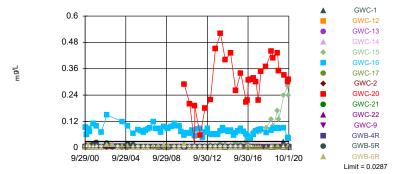
Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 117 background values. Annual per-constituent alpha = 0.004557. Individual comparison alpha = 0.0001427 (1 of 2). Comparing 16 points to limit.

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: GWC-15, GWC-16, GWC-20

**Prediction Limit** 

Interwell Non-parametric

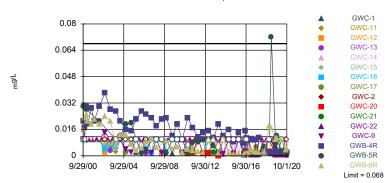


Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 77.31% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 15 points to limit. Assumes 1 future value.

> Constituent: Arsenic Analysis Run 2/17/2021 4:00 PM View: PL's State Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

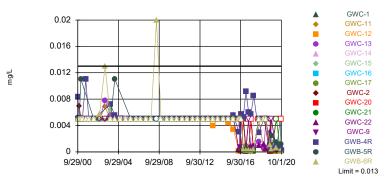
**Prediction Limit** Within Limit Interwell Non-parametric



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.

Hollow symbols indicate censored values.

Prediction Limit Within 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.

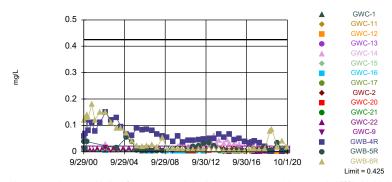
> Constituent: Lead Analysis Run 2/17/2021 4:00 PM View: PL's State Grumman Road Landfill Client: Southern Company Data: Grumman Road

> > Interwell Non-parametric

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Prediction Limit Within Limit



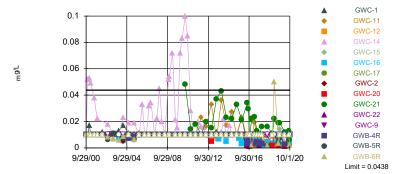
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 111 background values. 64.86% NDs. Annual per-constituent alpha = 0.005104. Individual comparison alpha = 0.0001599 (1 of 2). Comparing 16 points to limit.

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

**Prediction Limit** Within Limit





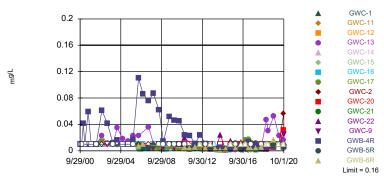
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 119 background values. 83.19% NDs. Annual per-constituent alpha = 0.004375. Individual comparison alpha = 0.000137 (1 of 2). Comparing 15 points to limit. Assumes 1 future value.

> Constituent: Selenium Analysis Run 2/17/2021 4:00 PM View: PL's State Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

**Prediction Limit** Within 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 perconstituent alpha = 0.005651. Individual comparison alpha = 0.0001771 (1 of 2). Comparing 16 points to limit.

	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	
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

	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			

	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			

	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	<del>-</del>				
12/4/2006	<0.003	0.006	<0.003				
2/15/2007		<0.003	2.300				
6/23/2007	<0.003	<0.003	<0.003				
9/11/2007	0.000	<0.003	0.000				
12/11/2007	<0.003	<0.003	<0.003				
3/11/2007	~0.000	<0.003	-0.003				
6/23/2008		~U.UU3					
	<0.003	<0.003	<0.003				
6/24/2008	<0.003	<0.003	<0.003				
11/3/2008		<0.003	<0.002				
12/4/2008	<b>~0.000</b>	<0.000	<0.003				
12/5/2008	<0.003	<0.003					
3/25/2009		<0.003					
7/7/2009	<0.003	0.000	.0.000				
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	0.000	<0.003	<0.003	<0.003	
10/9/2012	0.000	<0.003		3.300	3.300	0.000	
1/17/2013		-0.003	<0.003				
1/17/2013	<0.003	<0.003	<b>~</b> 0.003	<0.003	<0.003	<0.003	
1/10/2013	<u>\0.003</u>	\U.UU3		<b>~</b> 0.003	<b>~</b> 0.003	<b>\0.003</b>	

					<u> </u>	. ,
	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	~0.003			<0.003
	~0.003			<0.003	<0.003	<b>~0.000</b>
7/18/2015 10/6/2015		<0.003		<b>\0.003</b>	<b>~</b> 0.003	
			-0.000	-0.000		-0.002
1/17/2016	-0.000	<0.003	<0.003	<0.003	-0.000	<0.003
1/18/2016	<0.003				<0.003	
1/19/2016		0.000				
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	

	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						

	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
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	<b>~0.003</b>	<b>~0.003</b>	<b>~0.003</b>	<b>~0.003</b>	<b>~0.003</b>	<0.005	<b>~0.003</b>	<b>~0.003</b>	<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	<0.003	<0.003	<0.005	<0.005	<0.005	<0.005	<0.003	<0.005	<0.005
	-0.005	-0.005	-0.005	10.005	-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	0.0050	-0.005	10.005	-0.005	<0.005	-0.005	-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		
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

	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
10/11/201	3					<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									
10/24/201	4					<0.005			<0.005
1/12/2015	i		0.0028 (J)						
1/13/2015	0.0077				<0.005		<0.005		
1/14/2015	i	<0.005		<0.005		<0.005		<0.005	<0.005
5/10/2015						<0.005			<0.005
5/11/2015									
7/16/2015			<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						0.000			0.002 (J)
1/18/2016		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.002 (0)
4/26/2016		-0.000	-0.000	10.000	10.000	0.0011 (J)	-0.000	-0.000	0.00183 (J)
7/26/2016						0.0011(0)	<0.005		0.00100 (0)
7/27/2016					<0.005		٠٥.٥٥٥		0.0021 (J)
7/28/2016		0.0009 (J)		<0.005	40.000	<0.005			0.0021(0)
7/29/2016		0.0009 (3)	0.0014 (J)	<b>~</b> 0.003		<b>~</b> 0.003		0.0009 (J)	
8/30/2016		<0.005	0.0014 (3)			<0.005		0.0003 (0)	
8/31/2016		<b>~</b> 0.003		<0.005	<0.005	<b>~</b> 0.003	<0.005		
9/1/2016	0.0287		0.0033 (J)	<b>~</b> 0.003	<0.003		<b>~0.003</b>	<0.005	0.0024 (J)
10/24/201			0.0033 (3)			<0.005		<b>~</b> 0.003	0.0024 (3)
10/25/201						<0.005			<0.005
10/25/201		<0.00E	0.0016 (1)		<0.00E		<0.00E	<0.00E	<0.005
		<0.005	0.0016 (J)	-0.005	<0.005		<0.005	<0.005	
10/27/201	б			<0.005		<0.00E			
1/3/2017					-0.005	<0.005			
1/4/2017		0.0004 (1)			<0.005		.0.005	.0.005	0.000471
1/5/2017	0.0007	0.0021 (J)	0.005	.0.005			<0.005	<0.005	0.0024 (J)
1/6/2017	0.0097		<0.005	<0.005		0.0000 (1)			
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								0.0016 (J)	
10/2/2017						0.0006 (J)			0.0026 (J)
10/3/2017		0.0014 (J)							
10/4/2017			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	l		0.0015 (J)	<0.005	<0.005			0.0015 (J)	

	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					

	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	<0.005	0.005
7/8/2011				0.005		<0.005	0.19	<0.005
9/25/2011	-0.005	0.0074	-0.005	0.085	-0.005			
1/17/2012	<0.005	0.0071	<0.005	0.000	<0.005	10.005	0.050	10.005
1/18/2012				0.089		<0.005	0.058	<0.005
4/4/2012	-0.005	0.0076	-0.005	0.0473	-0.005			
7/9/2012	<0.005	0.0076	<0.005	0.07	<0.005	<0.005	0.19	<0.005
7/10/2012 10/9/2012				0.07 0.088		<0.005	0.18	~0.000
1/17/2013	<0.005	0.0086		0.000	<0.005			
1/18/2013	-0.000	5.0000	0.0089	0.063	-0.000	<0.005	0.22	0.0061
70/2010			5.5000	0.000		3.000	V	

Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary   Mary									
1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968   1968		GWB-5R	GWC-1	GWC-15	GWC-16	GWC-2	GWC-22	GWC-20	GWC-21
1911   1912   1912   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913   1913					0.06				
111320114	7/16/2013	<0.005	<0.005						
1410014	7/17/2013			0.011	0.063	<0.005	<0.005	0.45	<0.005
1440014	10/11/2013				0.059				
Page	1/13/2014	<0.005	<0.005	0.017		<0.005			
1980   1980   1980   1982   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980   1980	1/14/2014				0.077		<0.005	0.52	0.006
1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908	4/3/2014				0.091				
10024001   1	7/8/2014								
1712/2015	7/9/2014	<0.005	0.0022 (J)	0.014	0.08	<0.005			<0.005
1113/2015	7/10/2014						0.0027 (J)	0.4	
11142015	10/24/2014				0.073				
1402015	1/12/2015							0.43	
STICUCION   COUNTY	1/13/2015	<0.005	<0.005	0.011		<0.005			
	1/14/2015				0.079		<0.005		<0.005
1/10/2015	5/10/2015								
717/2015	5/11/2015				0.058				
7182015	7/16/2015	<0.005	0.0037 (J)	0.02	0.068	<0.005			
106/2015	7/17/2015								<0.005
106/2015	7/18/2015						<0.005	0.26	
1/17/2016					0.078				
1/18/2016   0.0008			0.024 (o)	0.014		<0.005		0.34	0.0065
A/28/2016		<0.005					<0.005		
7726/2016					0.0731				
7/27/2016   0.0008 (J)   0.0046 (J)   0.0303   0.0627   0.005   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.009   0.00									
7/28/2016		0.0008 (J)	0.0046 (J)	0.0303		< 0.005			
7/29/2016		(,,	(0)		0.0627			0.209	<0.005
8/30/2016   \$\times 0.005   \$\times 0.0032 (j)   \$\times 0.0017 (j)   \$\times 0.0051   \$\times 0.0051   \$\times 0.0051   \$\times 0.0052   \$\					0.0027		0.002 (.1)	0.200	5,555
8/31/2016		<0.005	0.0023 (.1)				0.002 (0)		
9/1/2016		-0.000	0.0020 (0)			<0.005	0.0017 (1)		
10/24/2016				0.0533	0.0551	-0.000	0.0017 (0)	0.215	0.0039 (1)
10/25/2016   0.0035 (J) 0.0551   0.0466   0.005   0.005   0.005   0.005     10/27/2016   0.005   0.005   0.005   0.005     13/2017   0.0018 (J)   0.0444   0.005   0.311   0.005     13/2017   0.0018 (J)   0.0437   0.005   0.005     13/2017   0.0015 (J)   0.0073   0.005   0.317   0.005     13/2017   0.0006 (J)   0.0015 (J)   0.0591   0.0591     13/2017   0.0006 (J)   0.0006 (J)   0.0006 (J)   0.0006 (J)     13/2017   0.0009 (J)   0.0015 (J)   0.0745   0.0776   0.005   0.005   0.299     13/2017   0.0009 (J)   0.0013 (J)   0.0073   0.0081 (J)   0.005   0.005   0.005   0.005     13/2017   0.000 (J)   0.0013 (J)   0.0073   0.0081 (J)   0.005   0.005   0.005   0.005     13/2017   0.000 (J)   0.0013 (J)   0.0073   0.0081 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.005 (J)   0.0005 (J)				0.0000	0.0001			0.210	0.5555 (6)
10/26/2016   0.005			0.0035 (1)	0.0551	0.0466			0.307	<0.005
10/27/2016		<0.005	0.0000 (0)	0.0001	0.0400	<0.005	<0.005	0.007	-0.000
1/3/2017   0.005   0.018 (J)   0.0444   0.005   0.311   0.005     1/6/2017   0.0437   0.005   0.311   0.005     1/6/2017   0.0015 (J)   0.0015 (J)   0.0015 (J)   0.005     4/4/2017   0.0006 (J)   0.0006 (J)   0.0015 (J)   0.0745   0.0076     7/11/2017   0.0009 (J)   0.0015 (J)   0.0723   0.005   0.005   0.005     1/9/2017   0.001 (J)   0.0013 (J)   0.0073   0.005   0.005   0.005     1/9/2017   0.001 (J)   0.0013 (J)   0.0073   0.005   0.005   0.005     1/9/2018   0.001 (J)   0.003 (J)   0.0073   0.005   0.005 (J)   0.005 (J)     1/9/2018   0.0012 (J)   0.0023 (J)   0.0085   0.0006 (J)   0.0025 (J)   0.0347   0.0033 (J)		10.003				10.000	10.003		
1/4/2017   0.0018 (J)   0.0444   < 0.005   0.311   < 0.005     1/5/2017		<0.005							
1/5/2017		<b>~0.003</b>	0.0019 (1)		0.0444		<0.00E	0.211	<0.005
1/6/2017 4/3/2017 0.0015 (J) 4/4/2017 0.0006 (J) 7/10/2017 7/11/2017 0.0009 (J) 0.0745 0.0776 7/11/2017 0.0009 (J) 0.0015 (J) 0.0776 7/13/2017 0.0001 (J) 0.0013 (J) 0.0733 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.00			0.0018 (3)	0.0427	0.0444	<0.00E	<b>~0.003</b>	0.511	0.003
4/4/2017 0.0015 (J) < 0.005 0.005 0.317 0.0031 (J) 4/5/2017 0.0006 (J)				0.0437		<0.005			
44/2017				0.0712					
4/6/2017 0.0006 (J)			0.0015 (1)	0.0713		<0.00E		0.217	0.0021 (1)
4/6/2017 0.0006 (J)  7/10/2017  7/11/2017 0.0009 (J) 0.0745 0.0776  7/13/2017 0.0009 (J) 0.0015 (J) 0.0776  7/13/2017 0.001 (J) 0.0013 (J) 0.0723 0.005  10/3/2017 0.001 (J) 0.0013 (J) 0.0013 (J) 0.0813 0.005  10/4/2017 0.005 0.0025 (J)  1/9/2018 0.0012 (J) 0.0023 (J) 0.0085 0.0006 (J) 0.347			0.0015 (J)		0.0504	<0.005		0.317	0.0031 (3)
7/10/2017 7/11/2017 0.0009 (J) 0.0015 (J) 0.0776 7/13/2017 0.0009 (J) 0.0015 (J) 0.0723 0.005 10/3/2017 0.001 (J) 0.001 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0013 (J) 0.0014/2017 0.0015 (J) 0.0025 (J) 0.0033 (J) 0.0033 (J) 0.0033 (J) 0.0033 (J) 0.0034		0.0000 / 1)			0.0591		0.0000 (1)		
7/11/2017		0.0006 (J)					0.0006 (J)		
7/12/2017       0.0009 (J)       0.0015 (J)       0.0776         7/13/2017       <									
7/13/2017       < 0.005				0.0745			0.0012 (J)	0.299	
10/2/2017       0.001 (J)       0.0013 (J)       0.0813       <0.005		0.0009 (J)	0.0015 (J)		0.0776				
10/3/2017 0.001 (J) 0.0013 (J) 0.0813 <0.005 <0.005  10/4/2017 0.0025 (J)  1/9/2018 0.0012 (J) 0.0023 (J) 0.085 0.0006 (J) 0.347				0.0705		<0.005		0.010	<0.005
10/4/2017 0.0025 (J) 1/9/2018 0.0012 (J) 0.0023 (J) 0.085 0.0006 (J) 0.347				0.0723				0.216	
1/9/2018 0.0012 (J) 0.0023 (J) 0.085 0.0006 (J) 0.347		U.001 (J)	0.0013 (J)		0.0813	<0.005	0.0005 ( "		<0.005
1/10/2018 0.0012 (J) 0.0023 (J) 0.085 0.0006 (J) 0.347							U.0025 (J)		
				0.0731					0.0033 (J)
1/11/2018 0.0006 (J)		0.0012 (J)	0.0023 (J)		0.085	U.0006 (J)		0.347	
	1/11/2018						U.0006 (J)		

	GWB-5R	GWC-1	GWC-15	GWC-16	GWC-2	GWC-22	GWC-20	GWC-21
7/9/2018							0.37	
7/10/2018	0.0016 (J)	0.0031 (J)	0.09	0.067	<0.005			0.0027 (J)
7/11/2018						0.0011 (J)		
1/16/2019	0.0011 (J)	0.0023 (J)						
1/17/2019			0.13	0.079				0.0022 (J)
1/18/2019						<0.005		
1/21/2019					<0.005		0.44	
3/25/2019							0.41	
3/26/2019	0.0014 (J)	0.0032 (J)	0.1	0.089				0.0045 (J)
3/27/2019						<0.005		
7/30/2019					0.00039 (J)			
8/26/2019								
8/27/2019		0.0022 (J)	0.17		<0.005	0.00044 (J)		
8/28/2019	0.0023 (J)			0.091			0.43	0.002 (J)
10/7/2019								
10/8/2019			0.13	0.088				0.0028 (J)
10/9/2019	0.0053 (J)	0.0042 (J)			<0.005	<0.005	0.35	
4/6/2020								
4/7/2020	0.0011 (J)	0.027	0.24	0.091		0.00043 (J)		<0.005
4/8/2020					0.00094 (J)		0.33	
8/17/2020								
8/18/2020			0.28	0.045	<0.005	<0.005	0.3	0.0059
8/19/2020	0.0019 (J)	0.007						
9/28/2020		0.0058						
9/29/2020					<0.005			
9/30/2020	0.0017 (J)		0.24	0.044		<0.005	0.31	0.0029 (J)
10/1/2020								

	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	0.002		0.001		0.086
6/24/2008	0.000	0.038	0.0	0.0.0	0.039	0.057	0.042	0.14	0.000
11/3/2008		0.000			0.082	0.007	0.049	0.1.	0.088
12/4/2008	0.054		0.035	0.019	0.079		0.0.0		0.081
12/5/2008	0.004	0.06	0.000	0.010	0.070	0.041	0.05	0.19	0.001
3/25/2009					0.093		0.052		0.069
7/7/2009	0.034	0.043			0.000		0.002		0.078
7/8/2009	0.004	0.040	0.036	0.011	0.039	0.058	0.046	0.2	0.070
9/14/2009			0.000	0.011	0.061	0.000	0.048	0.2	0.079
12/20/2009	0.034	0.065			0.088	0.062	0.062		0.081
12/21/2009	0.004	0.000	0.028	0.01	0.000	0.002	0.002	0.23	0.001
3/4/2010			0.020	0.01	0.077		0.058	0.20	0.065
6/20/2010	0.062	0.095	0.025	0.0081	0.075	0.03	0.030		0.078
6/21/2010	0.002	0.000	0.020	0.0001	0.070	0.00	0.041	0.25	0.070
9/14/2010					0.093		0.036	0.23	0.076
1/6/2011		0.093		0.012	0.000		0.000		0.070
1/7/2011	0.039	0.000	0.037	0.012	0.13	0.049	0.054	0.21	0.074
4/15/2011	0.000		0.007		0.086	0.040	0.049	0.21	0.065
7/7/2011	0.036	0.095	0.039	0.015	0.051	0.05	0.063		0.081
7/8/2011	0.030	0.033	0.000	0.013	0.001	0.03	0.005	0.13	0.001
9/25/2011					0.056		0.037	0.13	0.078
1/17/2012	0.041	0.1	0.045	0.0086	0.052	0.044	0.037		0.082
1/18/2012	0.041	0.1	0.043	0.0000	0.032	0.074	0.034	0.26	0.002
4/4/2012					0.0519		0.034	5.20	0.0861
7/9/2012	0.15	0.11	0.032	0.01	0.0319	0.045	0.0740		0.0001
7/10/2012	0.15	0.11	0.002	0.01	0.070	0.073	0.033	0.19	0.082
10/9/2012					0.065		0.033	0.13	0.082
1/17/2013		0.12	0.033	0.014	0.000		0.071		0.00
1/18/2013	0.15	V. 12	0.000	0.014	0.045	0.049	0.036	0.17	0.083
4/5/2013	0.13				0.045	0.043	0.036	0.17	0.083
4/3/2013					0.047		0.030		0.076

		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	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
į	5/10/2015					0.026				0.076
į	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	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	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		0.0004	0.0174	0.0218	0.0245	0.0392	0.0070	0.142	
	1/6/2017	0.167			0.0210	0.0240	0.0002		0.142	
	4/3/2017	0.107					0.0439			0.0612
	4/4/2017		0.0549			0.0342	0.0400			0.0012
	4/ <del>5</del> /2017 4/5/2017		0.0343	0.0174		0.0342		0.0534	0.106	
	4/6/2017	0.136		0.0174	0.0204			0.0334	0.100	
	7/10/2017	0.130		0.0172	0.0204					
				0.0172		0.0276	0.051			0.0624
	7/11/2017		0.0614		0.0161	0.0276	0.051	0.0044		0.0624
	7/12/2017 7/13/2017	0.0801	0.0614		0.0161			0.0944	0.0686	
		0.0891				0.0274	0.047		0.0686	0.0619
	10/2/2017		0.0426			0.0274	0.047	0.135 (a)		0.0618
	10/3/2017	0.112	0.0436	0.0163	0.0195			0.135 (o)	0.0590	
	10/4/2017	0.113		0.0162	0.0185	0.0222	0.0424		0.0589	0.0574
	1/9/2018	0.0901	0.050		0.0100	0.0222	0.0431	0.000		0.0574
	1/10/2018		0.053	0.010	0.0166			0.0603	0.0440	
	1/11/2018			0.018					0.0412	

	GWA-7 (bg)	GWC-1	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
7/9/2018					0.026				0.056
7/10/2018		0.059				0.047	0.16 (o)		
7/11/2018	0.065		0.014	0.019				0.049	
1/16/2019	0.062	0.054		0.019	0.028			0.063	0.062
1/17/2019			0.017			0.042	0.13		
1/18/2019									
1/21/2019									
3/25/2019	0.054								0.064
3/26/2019		0.055		0.026	0.034	0.047	0.14	0.025	
3/27/2019			0.017						
7/30/2019									
8/26/2019	0.11								0.065
8/27/2019		0.054	0.017	0.024	0.067	0.049			
8/28/2019							0.09	0.026	
10/7/2019									0.069
10/8/2019	0.1			0.024	0.085	0.057	0.13		
10/9/2019		0.058	0.019					0.032	
4/6/2020	0.072								0.057
4/7/2020		0.05	0.017		0.073	0.033	0.13		
4/8/2020				0.027				0.055	
8/17/2020			0.018	0.024					0.051
8/18/2020					0.028	0.03	0.32	0.074	
8/19/2020	0.1	0.057							
9/28/2020	0.095	0.051		0.029					0.05
9/29/2020			0.018		0.026				
9/30/2020						0.034	0.14	0.035	
10/1/2020									

	GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
9/29/2000	0.093	0.16	0.22	0.16	0.1				
11/21/2000	0.095	0.16	0.13	0.21	0.082	0.046			
1/20/2001	0.089	0.21	0.19	0.23	0.083	0.036			
3/14/2001	0.088	0.18	0.27	0.22	0.075	0.03			
7/16/2001	0.096	0.18	0.37	0.22	0.091	0.032			
11/1/2001	0.094	0.15	0.61 (o)	0.23	0.068	0.029			
4/25/2002	0.085	0.16	0.19	0.15	0.066	0.021			
6/6/2003	0.09	0.29	0.72 (o)	0.13	0.085	0.032			
12/12/2003	0.084	0.18	0.054	0.034	0.072	0.021			
5/26/2004	0.08	0.16	0.18	0.13	0.055	0.021			
12/7/2004	0.098	0.16	0.24	0.13		0.033			
6/21/2005			0.24	0.07	0.033	0.028			
	0.084	0.15							
12/12/2005	0.07	0.15	0.074	0.04	0.034	0.024			
4/4/2006	0.000	0.10	0.075	0.044	0.000	0.00			
6/27/2006	0.083	0.19	0.075	0.041	0.029	0.03			
8/30/2006									
12/4/2006	0.072	0.26	0.092	0.048	0.02	0.031			
2/15/2007									
6/23/2007	0.087	0.24	0.089	0.12	0.017	0.037			
9/11/2007									
12/11/2007	0.082	0.21	0.072	0.12	0.013	0.034			
3/11/2008									
	0.1				0.012				
6/24/2008		0.13	0.049	0.17		0.038			
11/3/2008									
	0.12				0.011	0.038			
12/5/2008		0.12	0.067	0.093					
3/25/2009									
7/7/2009		0.17	0.04	0.06					
7/8/2009	0.14				0.012	0.053			
9/14/2009									
12/20/2009						0.047			
12/21/2009	0.15	0.2	0.044	0.11	0.011				
3/4/2010									
6/20/2010	0.21		0.036	0.11	0.0089	0.046			
6/21/2010		0.22					0.16	0.11	0.062
9/14/2010									
1/6/2011			0.075		0.014	0.063			
1/7/2011	0.2	0.12		0.025			0.095	0.12	0.039
4/15/2011									
7/7/2011			0.13	0.025	0.018				0.06
7/8/2011	0.18	0.15					0.1	0.094	0.043
9/25/2011									
1/17/2012			0.21		0.23	0.06			
1/18/2012	0.18	0.15		0.03			0.12	0.087	0.042
4/4/2012									
7/9/2012			0.2		0.17	0.05			
	0.16	0.14		0.028			0.097	0.1	0.039
10/9/2012									
1/17/2013			0.19		0.2	0.058			
	0.19	0.15		0.058			0.1	0.078	0.04
4/5/2013									

	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	0.0000		0.105			0.0626	0.0575	0.164
7/29/2016		0.0883	0.105	0.100				0.0575	
8/30/2016	0.004		0.135	0.106	0.0505	0.0400		0.0000	
8/31/2016	0.284	0.100			0.0565	0.0429	0.077	0.0693	0.0076
9/1/2016 10/24/2016		0.123					0.077		0.0976
10/25/2016							0.0217		0.0702
10/26/2016		0.0863	0.103	0.107	0.0591	0.113 (o)	0.0217	0.0966	0.0702
10/27/2016	0.244	0.0003	0.103	0.107	0.0391	0.113 (0)		0.0900	
1/3/2017	0.244		0.118						
1/4/2017			0.110		0.0598		0.0617	0.0975	0.0999
1/5/2017				0.107	0.0000	0.0526	0.0017	0.0070	0.0000
1/6/2017	0.305	0.0758		0.107		0.0020			
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	

	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							

	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

	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)	

1/11/0010	GWA-7 (bg)	GWA-8 (bg)	GWC-11	GWC-12	GWC-13	GWC-14	GWC-15	GWC-16	GWC-17
1/11/2018 7/9/2018		<0.01	0.0098 (J)	0.001 (J)		<0.01			0.0009 (J)
		<0.01				<0.01	-0.01	<b>-0.01</b>	
7/10/2018	0.010 ( 1)		-0.04	-0.04	0.0010 (1)		<0.01	<0.01	-0.01
7/11/2018	0.018 (J)	.0.04	<0.01	<0.01	0.0019 (J)	.0.04			<0.01
1/16/2019	0.018 (J)	<0.01	-0.04	0.0000 (1)	<0.01	<0.01	-0.01	0.04 (1)	<0.01
1/17/2019			<0.01	0.0028 (J)			<0.01	0.01 (J)	
1/18/2019									
1/21/2019									
3/25/2019	0.017 (J)	<0.01							
3/26/2019					<0.01	<0.01	<0.01	<0.01	<0.01
3/27/2019			<0.01	<0.01					
7/30/2019									
8/26/2019	0.024 (J)	0.001 (J)							
8/27/2019			0.00092 (J)	0.00085 (J)	<0.01	0.001 (J)	0.0016 (J)		
8/28/2019								0.0011 (J)	0.0013 (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				0.00081 (J)					0.00081 (J)
4/6/2020	0.015 (J)	<0.01							
4/7/2020			0.00094 (J)	0.00082 (J)		0.00074 (J)	0.0014 (J)	<0.01	
4/8/2020					0.00058 (J)				0.00073 (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)	0.0011 (J)
8/19/2020	0.015 (J)								
9/28/2020	0.014 (J)	0.00071 (J)			0.00062 (J)				
9/29/2020			0.0011 (J)	0.00085 (J)		<0.01			
9/30/2020							0.0016 (J)	0.00098 (J)	0.00096 (J)
10/1/2020									

	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			0.04	0.0047		.0.04				
1/6/2011	.0.04	0.000	<0.01	0.0017	0.0000	<0.01	0.0040	.0.01	0.0017	
1/7/2011	<0.01	0.023			0.0039		0.0018	<0.01	0.0017	
4/15/2011			<b>-0.01</b>	0.009	0.0021		<b>-0.01</b>			
7/7/2011	<0.01	0.017	<0.01	0.008	0.0031		<0.01	-0.01	0.0022	
7/8/2011	<0.01	0.017					0.0019	<0.01	0.0023	
9/25/2011 1/17/2012			<0.01	0.0083		<0.01				
	<0.01	0.0114	<0.01	0.0082	0.0022	<0.01	<b>-0.01</b>	-0.01	<0.01	
1/18/2012	<0.01	0.0114			0.0023		<0.01	<0.01	<0.01	
4/4/2012			<b>-0.01</b>	0.01		-0.01				
7/9/2012 7/10/2012	<0.01	0.014	<0.01	0.01	0.0022	<0.01	0.0013	<0.01	<0.01	
10/9/2012	<b>~</b> U.U1	0.014			0.0022		0.0013	~U.U I	~U.U I	
1/17/2013			<0.01	0.01		<0.01				
1/17/2013	<0.01	0.015	~U.U1	0.01	<0.01	~U.U1	0.0015	<0.01	<0.01	
	5.51	5.510			5.51		0.0010	5.51	0.01	

	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	0.000	0.0011 (0)	0.01	0.0011 (J)	0.01			<0.01
7/18/2015	0.0010				0.0011(0)		<0.01	<0.01	-0.01
10/6/2015							40.01	10.01	
1/17/2016			<0.01			<0.01	<0.01		<0.01
1/18/2016	<0.01	0.014	10.01	<0.01	0.0011 (J)	10.01	10.01	<0.01	<b>40.01</b>
	<b>~0.01</b>	0.014		<b>~0.01</b>	0.0011(3)			<b>~0.01</b>	
1/19/2016 4/26/2016									
7/26/2016			0.0016 (1)	0.0006 (1)		0.0009 / 1)			
7/27/2016	0.0011 (1)		0.0016 (J)	0.0006 (J)	0.001 (1)	0.0008 (J)	0.0007 (1)		0.0005 (1)
7/28/2016	0.0011 (J)	0.0077 (1)			0.001 (J)		0.0007 (J)	0.0007 (1)	0.0005 (J)
7/29/2016		0.0077 (J)	0.0015 (1)	.0.04	0.0010 (1)			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)		

	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)							

	GWA-7 (bg)	GWB-6R	GWB-4R	GWC-9	GWC-17	GWC-15	GWC-14	GWC-13	GWC-12
9/29/2000	<0.005	<0.005	0.0083	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11/21/2000	<0.005	<0.005	0.0052	<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	0.011	<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	0.000	0.0057 (J)	0.018 (o)	0.0086 (o)	<0.005	<0.005	0.011 (o)	<0.005	<0.005
6/6/2003	0.037 (o)	0.013	0.015 (o)	<0.005	<0.005	<0.005	<0.005	0.0078	<0.005
12/12/2003	0.008	<0.005	0.0072	<0.005	<0.005	0.0065	<0.005	0.0055	<0.005
5/26/2004	<0.005	<0.005	0.0055	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12/7/2004	<0.005	<0.005	<0.005	0.0051	<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	10.000	10.003	10.003	10.000	10.003	10.003	<0.005	40.000	10.003
6/27/2006	<0.005	<0.005	0.024 (o)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
8/30/2006	<0.005	<0.005	0.024 (0)	<0.005	<0.005	<0.005	<0.005	<b>\0.003</b>	<0.005
	<0.00E	<0.00E	0.022 (=)	<0.00E	<0.00E	<0.00E		<0.00E	<0.00E
12/4/2006	<0.005	<0.005	0.023 (o)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2/15/2007 6/23/2007	<0.00E	<0.00E	<0.00E	<0.00E	<0.00E	<0.00E	<0.005	<0.00E	<0.00E
	<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	-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	<0.005	<0.005	<0.005
3/11/2008	-0.005			-0.005			<0.005	-0.005	-0.005
6/23/2008	<0.005	0.00	0.00 ( )	<0.005	0.005	.0.005	0.005	<0.005	<0.005
6/24/2008		0.02	0.02 (o)		<0.005	<0.005	<0.005		
11/3/2008	.0.005			.0.005			<0.005	2 225	.0.005
12/4/2008	<0.005			<0.005			<0.005	<0.005	<0.005
12/5/2008		<0.005	<0.005		<0.005	<0.005			
3/25/2009							<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		
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		
6/20/2010	<0.005	<0.005		<0.005		<0.005	<0.005	<0.005	<0.005
6/21/2010			<0.005		<0.005				
9/14/2010							<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		
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		
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		
7/9/2012	<0.005					<0.005	<0.005	<0.005	<0.005
7/10/2012		<0.005	<0.005	<0.005	<0.005				
10/9/2012							<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		

	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		0.0000 (1)			-0.005	-0.005	10.005	0.0000 (1)	<0.005
1/5/2017	0.006	0.0003 (J)	0.0053	<0.00E	<0.005	<0.005	<0.005	0.0002 (J)	
1/6/2017 4/3/2017	0.006		0.0053	<0.005		0.0003 (1)			
4/4/2017			0.0092			0.0003 (J)	0.0001 (1)		
4/5/2017			0.0092		0.0009 (J)		0.0001 (J)		0.0003 (J)
4/6/2017	0.0109	0.0002 (J)		0.0001 (J)	0.0009 (3)			0.0005 (J)	0.0003 (3)
7/10/2017	0.0109	0.0002 (3)		0.0001 (3)					0.0003 (J)
7/11/2017						0.0001 (J)	8E-05 (J)		0.0003 (3)
7/11/2017		0.0002 (J)	0.006	<0.005		3.3001 (0)	J_ 00 (0)	0.0005 (J)	
7/13/2017	0.007	0.0002 (0)	2.000	3.000	<0.005			5.0000 (0)	
10/2/2017	5.007					0.0002 (J)	0.0001 (J)		
10/3/2017		0.0001 (J)				1.3002 (0)			
10/4/2017	0.0042 (J)	(2)	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	· · · · ( <del>-</del> /	(*/
1/10/2018								0.0009 (J)	
								` '	

	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)					

	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	0.000					
6/24/2008	0.000	<0.005	0.000	<0.005	<0.005	<0.005			
11/3/2008		0.000	<0.005	<0.005	0.000	0.000			
12/4/2008	<0.005		<0.005	10.003	<0.005				
12/5/2008	-0.000	<0.005	-0.000	<0.005	-0.000	<0.005			
3/25/2009		10.003	<0.005	<0.005		10.003			
7/7/2009		<0.005	<0.005	<b>~0.003</b>		<0.005			
7/8/2009	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
	<0.005		<0.005		<0.005				
9/14/2009		10.005		<0.005	-0.005				
12/20/2009	10.005	<0.005	<0.005	<0.005	<0.005	-0.005			
12/21/2009	<0.005		-0.005	10.005		<0.005			
3/4/2010	.0.005	.0.005	<0.005	<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	.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

	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)

1/11/2010	GWC-11	GWC-1	GWA-8 (bg)	GWC-16	GWC-2	GWB-5R	GWC-21	GWC-22	GWC-20
1/11/2018	0.0003 (J)		10.005					0.0009 (J)	-0.005
7/9/2018		-0.005	<0.005	-0.005	-0.005	-0.005	-0.005		<0.005
7/10/2018	0.005	<0.005		<0.005	<0.005	<0.005	<0.005	0.004 (1)	
7/11/2018	<0.005							0.001 (J)	
1/16/2019	0.00000 (1)	<0.005	<0.005	0.005		<0.005	.0.005		
1/17/2019	0.00028 (J)			<0.005			<0.005	0.0040 ( 1)	
1/18/2019								0.0012 (J)	
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	0.00029 (J)							0.00047 (J)	
7/30/2019					0.0002 (J)				
8/26/2019			<0.005						
8/27/2019	0.00021 (J)	<0.005			<0.005			0.003 (J)	
8/28/2019				0.0001 (J)		0.0011 (J)	0.00018 (J)		6.5E-05 (J)
10/7/2019			<0.005						
10/8/2019	0.00028 (J)			0.0001 (J)			0.00016 (J)		
10/9/2019		<0.005			6.4E-05 (J)	0.0025 (J)		0.00032 (J)	0.00018 (J)
4/6/2020			0.0001 (J)						
4/7/2020	0.00036 (J)	0.00012 (J)		0.00023 (J)		0.0014 (J)	<0.005	0.00067 (J)	
4/8/2020					<0.005				<0.005
8/17/2020			<0.005						
8/18/2020	0.00035 (J)			0.00017 (J)	<0.005		0.00027 (J)	0.00072 (J)	<0.005
8/19/2020		<0.005				7.9E-05 (J)			
9/28/2020		4.3E-05 (J)	<0.005						
9/29/2020	0.00032 (J)				<0.005				
9/30/2020				9.1E-05 (J)		0.0012 (J)	5.4E-05 (J)	0.00023 (J)	<0.005
10/1/2020									

	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

	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	0.0001 (0)	0.01	<0.01	<0.01		<0.01	0.020	<0.01
1/19/2016	0.020			-0.01	-0.01	0.023	-0.01		-0.01
4/26/2016		0.00497 (J)	0.00428 (J)			0.023			
7/26/2016		0.00437 (3)	0.00420 (3)			0.0056 (J)			
7/27/2016	0.0323		0.0038 (J)		0.0025 (J)	0.0030 (3)		0.002 (J)	
7/28/2016	0.0323	0.0076 (J)	0.0030 (0)		0.0023 (0)		<0.01	0.002 (3)	
7/29/2016		0.0070 (0)		0.0011 (J)			-0.01		0.0036 (J)
8/30/2016				0.0011 (0)				0.002 (J)	0.0030 (0)
8/31/2016					0.0019 (J)	0.0084 (J)	<0.01	0.002 (3)	
9/1/2016	0.0438	0.0052 (J)	0.0056 (J)	0.0012 (J)	0.0019 (3)	0.0064 (3)	<0.01		0.0067 (J)
10/24/2016	0.0436	0.0032 (3)	0.0030 (3)	0.0012 (3)					0.0007 (3)
	0.021	0.0085 (J)	0.0022 (1)					0.0022 (1)	
10/25/2016	0.031	0.0065 (3)	0.0023 (J)	0.0010 (1)	0.000 (1)	0.0050 (1)		0.0022 (J)	0.0040 (1)
10/26/2016				0.0013 (J)	0.002 (J)	0.0052 (J)	-0.01		0.0042 (J)
10/27/2016							<0.01		
1/3/2017		0.0040 (1)			.0.04	0.0000 (1)		0.0010 (1)	
1/4/2017		0.0048 (J)	0.0000 (1)	0.0010 (1)	<0.01	0.0062 (J)		0.0016 (J)	
1/5/2017	0.0004		0.0038 (J)	0.0012 (J)			-0.01		0.0040 (1)
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)	

	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

	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	0.040	
7/8/2011		.0.04				<0.01	0.018	<0.01
9/25/2011	10.01	<0.01		10.01	-0.01			
1/17/2012	<0.01	<0.01	10.01	<0.01	<0.01	-0.01	-0.01	.0.04
1/18/2012		-0.01	<0.01			<0.01	<0.01	<0.01
4/4/2012	z0.01	<0.01		0.066 (a)	-0.01			
7/9/2012	<0.01	<0.01	<0.01	0.066 (o)	<0.01	<0.01	0.03	<0.01
7/10/2012		<0.01	<0.01			<0.01	0.02	<0.01
10/9/2012 1/17/2013	<0.01	<0.01			<0.01			
1/17/2013	~0.01	<0.01	<0.01	0.04 (o)	~0.01	0.005	0.015	<0.01
1, 10,2013		-0.01	-0.01	0.04 (0)		0.000	0.010	-0.01

	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		

	GWB-5R	GWA-8 (bg)	GWB-6R	GWC-15	GWC-2	GWC-20	GWC-21	GWC-22
1/11/2018								<0.01
7/9/2018		<0.01				<0.01		
7/10/2018	0.0018 (J)		0.0016 (J)	0.0086 (J)	<0.01		0.016	
7/11/2018								<0.01
1/16/2019	<0.01	<0.01	<0.01					
1/17/2019				0.0029 (J)			0.011	
1/18/2019								<0.01
1/21/2019					<0.01	0.0014 (J)		
3/25/2019		<0.01				<0.01		
3/26/2019	<0.01		0.05 (J)	0.0074 (J)			0.022	
3/27/2019								<0.01
7/30/2019					<0.01			
8/26/2019		<0.01						
8/27/2019			0.0033 (J)	0.0092 (J)	<0.01			<0.01
8/28/2019	0.0033 (J)					0.0014 (J)	0.019	
10/7/2019		<0.01						
10/8/2019				0.014			0.019	
10/9/2019	0.0073 (J)		<0.01		<0.01	<0.01		<0.01
4/6/2020		<0.01						
4/7/2020	<0.01		<0.01	0.0029 (J)			0.012	<0.01
4/8/2020					<0.01	0.0013 (J)		
8/17/2020		<0.01						
8/18/2020				0.0022 (J)	<0.01	<0.01	0.013	<0.01
8/19/2020	<0.01		<0.01					
9/28/2020		<0.01						
9/29/2020					<0.01			
9/30/2020	<0.01		0.0023 (J)	<0.01		<0.01	0.0061 (J)	<0.01
10/1/2020								

	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	
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

	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

	GWA-7 (bg)	GWC-12	GWC-13	GWC-1	GWC-14	GWC-15	GWC-16	GWC-17	GWA-8 (bg)
1/17/2019		<0.01				<0.01	0.0021 (J)		
1/18/2019									
1/21/2019									
3/25/2019	0.18								<0.01
3/26/2019			0.0029 (J)	0.0051 (J)	0.0063 (J)	0.0026 (J)	0.0038 (J)	0.0024 (J)	
3/27/2019		0.0049 (J)							
7/30/2019									
10/7/2019									<0.01
10/8/2019	0.11		<0.01		<0.01	<0.01	<0.01		
10/9/2019		0.0021 (J)		<0.01				<0.01	
4/6/2020	0.12								<0.01
4/7/2020		0.0024 (J)		0.0015 (J)	0.0026 (J)	<0.01	<0.01		
4/8/2020			<0.01					<0.01	
9/28/2020	0.1		<0.01	0.0042 (J)					<0.01
9/29/2020		0.0046 (J)			<0.01				
9/30/2020						0.0028 (J)	0.0028 (J)	<0.01	
10/1/2020									

	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		0.079	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		0.15	0.14 (o)	0.15	0.0071	<0.01			
6/6/2003		0.12	0.12 (o)	0.11	0.0098	<0.01			
12/12/2003		0.13	0.014		0.0074	<0.01			
5/26/2004		0.095	0.06 (o)	0.09	<0.01	<0.01			
12/7/2004		0.067	0.054	0.072	<0.01	<0.01			
6/21/2005		0.062	0.038	0.04	<0.01	<0.01			
12/12/2005		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

GWC-9	GWB-4R	GWB-5R	GWB-6R	GWC-11	GWC-2	GWC-21	GWC-22	GWC-20
		0.021		<0.01				
<0.01	0.05		<0.01		<0.01	<0.01	<0.01	<0.01
		0.008		<0.01	<0.01			
<0.01	0.067		<0.01			0.006	<0.01	<0.01
				0.0024 (J)				
0.0016 (J)	0.055	0.0052	0.0039 (J)		<0.01	0.0019 (J)		
							0.0053	0.0026 (J)
	0.066							0.0031 (J)
		0.0036 (J)		0.0023 (J)	<0.01			
<0.01			0.005			0.0037 (J)	0.0013 (J)	
	0.045	0.004 (J)		0.002 (J)	<0.01			
0.0029 (J)			0.0045 (J)			0.0028 (J)		
							0.0043 (J)	0.003 (J)
					<0.01	0.0039 (J)		0.0025 (J)
<0.01	0.049	0.0069	0.0044 (J)				<0.01	
				0.0025 (J)				
				0.0027 (J)				
		0.0046 (J)			<0.01			
<0.01			0.0038 (J)			0.0022 (J)		0.0024 (J)
	0.0388						0.0052 (J)	
								<0.01
		<0.01						
				<0.01		<0.01	<0.01	<0.01
			0.0077 (J)		<0.01			
<0.01	0.0341							
	0.0371				<0.01	0.003 (J)		0.0024 (J)
<0.01		0.0063 (J)	0.0069 (J)	0.0025 (J)			<0.01	
				0.0027 (J)			0.0016 (J)	0.003 (J)
0.0013 (J)	0.0399	0.0064 (J)	0.0098 (J)					
					<0.01	0.0019 (J)		
								0.0028 (J)
		0.0077 (1)	0.0086 (J)		-0.04	0.0046 (J)		0.0000 ( "
.0.01	0.005	0.00/7 (J)		0.0045.45	<0.01		0.0046 ( ))	0.0026 (J)
< 0.01	0.0327			0.0019 (J)			0.0012 (J)	<0.01
								CILILI
		0.016	0.0000 (1)		<0.01	0.0024 (1)		<b>~0.01</b>
	0.02	0.016	0.0098 (J)	0.0024 / 1)	<0.01	0.0031 (J)	0.0035 (1)	<b>\( 0.01 \)</b>
<0.01	0.02 0.0022 (J)	0.016 0.0033 (J)	0.0098 (J) 0.077	0.0021 (J)	<0.01	0.0031 (J)	0.0025 (J)	<b>30.01</b>
	<0.01 <0.01 0.0016 (J) <0.01 <0.01 <0.01	<0.01 0.05  <0.01 0.067  0.0016 (J) 0.055  0.066  <0.01 0.045  0.0029 (J)  <0.01 0.0388  <0.01 0.0381  <0.01 0.0371  <0.01	<ul> <li>&lt;0.01</li> <li>&lt;0.05</li> <li>&lt;0.008</li> <li>&lt;0.0016 (J)</li> <li>&lt;0.066</li> <li>&lt;0.0036 (J)</li> <li>&lt;0.01</li> <li>&lt;0.045</li> <li>&lt;0.004 (J)</li> <li>&lt;0.01</li> <li>&lt;0.049</li> <li>&lt;0.0069</li> <li>&lt;0.0046 (J)</li> <li>&lt;0.01</li> <li>&lt;0.0388</li> <li>&lt;0.01</li> <li>&lt;0.0341</li> <li>&lt;0.0371</li> <li>&lt;0.0063 (J)</li> </ul>	-0.01	0.021	0.021	-0.01	0.011   0.05

	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)							

	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	(0)		
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			0.01		0.01	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			0.0020		<0.01	0.0038	<0.01	
12/5/2008		0.014	0.0027	<0.01	<0.01				<0.01
3/25/2009		0.011	0.0027	0.0025	0.01	<0.01			0.01
7/7/2009	<0.01	0.052							<0.01
7/8/2009	0.01	0.002	0.0048	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
9/14/2009			0.0010	<0.01	0.01	<0.01	0.01	0.01	
12/20/2009	0.0031			<0.01	<0.01	<0.01			<0.01
12/21/2009	0.0001	0.046	0.0032	0.01	0.01	0.01	0.0032	<0.01	0.01
3/4/2010		0.0.0	0.0002	<0.01		<0.01	0.0002	0.01	
6/20/2010	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01
6/21/2010	0.01	0.045	0.0028	<0.01	0.01	0.01	0.01	0.01	0.01
9/14/2010		0.0 10	0.0020	<0.01		<0.01			
1/6/2011				0.01		0.01	0.004	<0.01	<0.01
1/7/2011	<0.01	0.024	0.003	<0.01	<0.01	<0.01	0.001	0.01	0.01
4/15/2011	10.01	0.024	0.000	<0.01	10.01	<0.01			
7/7/2011	0.0031			<0.01	<0.01	<0.01	0.0037	<0.01	0.0025
7/8/2011	0.0001	0.023	0.0034	10.01	10.01	-0.01	0.0007	-0.01	0.0020
9/25/2011		0.020	0.0004	0.0028		<0.01			
1/17/2012	0.004			0.0020	<0.01	<0.01	0.0031	0.0043	<0.01
1/18/2012		0.011	0.0049	0.0029		0.0.	0001	00.0	5.01
4/4/2012			2.00.0	<0.01		<0.01			
7/9/2012	0.0096			5.01	<0.01	<0.01	0.003	<0.01	<0.01
7/10/2012	5.0000	0.024	0.0039	<0.01	0.01	0.01	0.000	0.01	-0.01
10/9/2012		J.JE-1	5.5000	0.0027		<0.01			
1/17/2013				0.0027		0.01	<0.01	0.0025	<0.01
1/18/2013	0.051	0.011	0.0043	<0.01	<0.01	<0.01	-0.01	0.0020	·0.01
1, 10/2013	0.001	0.011	0.0070	-0.01	-0.01	-0.01			

	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

	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)							

	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

GWA-8 (bg)	GWC-9	GWB-5R	GWC-2	GWC-12	GWB-6R	GWC-20	GWC-22	GWC-21
0.0026								
		0.0032		0.0028				
	<0.01		<0.01		<0.01	<0.01	0.0025	<0.01
0.0046								
		0.0025	0.0025	0.0025				
	0.0025				0.0025	0.0025	0.0025	0.0025
0.0029								
				0.002 (J)				
0.002 (J)	0.0016 (J)	0.00076 (J)	0.00058 (J)		0.00093 (J)			0.00084 (J)
0.0004						<0.01	0.024	
0.0031						-0.01		
		0.0036	0.0024 (1)	0.0070		<0.01		
0.003	0.0024 (1)	0.0036	0.0024 (J)	0.0079	0.0022 (1)		0.0016 ( 1)	0.0019 / 1)
	0.0024 (J)				0.0023 (3)		0.0016 (3)	0.0018 (J)
0.0028								
		<0.01	<0.01	0.0026				
0.0018 ( 1)	0.0031	40.01	10.01	0.0020	<0.01			<0.01
0.0018 (3)	0.0031				<b>~0.01</b>	<0.01	0.014	<b>~0.01</b>
0.0018 (.1)						40.01	0.014	
0.0010 (0)			<0.01			<0.01		<0.01
0.0028	0.0059	<0.01	0.01	0.0025	0.0029	0.01	<0.01	0.01
0.0020	0.0000	0.0.		0.0020	0.0020		0.01	
<0.01								
		0.0015 (J)	0.0018 (J)	0.0021 (J)				
0.0018 (J)	0.0019 (J)	(1)	(-,	(3)	<0.01	<0.01		<0.01
							0.0129	
0.0024 (J)								
						<0.01		
0.0035 (J)		<0.01						
				0.0025 (J)		<0.01	0.006 (J)	<0.01
			<0.01		<0.01			
	0.0026 (J)							
0.0041 (J)								
			0.0015 (J)			<0.01		0.0015 (J)
				0.0026 (J)				
	0.0047 (J)	0.0023 (J)			0.0032 (J)		0.0031 (J)	
				0.0023 (J)				
0.0029 (J)						<0.01	0.0029 (J)	
	0.003 (J)	<0.01			0.002 (J)			
			0.0014 (J)					0.002 (J)
0.0026 (J)						<0.01		
0.0035 (J)					0.0036 (J)			0.0016 (J)
		0.0022 (J)	<0.01			0.0034 (J)		
	0.0046 (J)			0.0031 (J)			0.0106	
0.0022 (J)						<0.01		
		<0.01	<0.01		0.0055 (J)			<0.01
0.000= / "	0.0033 (J)			0.0036 (J)			0.0057 (J)	
0.0037 (J)		<0.01			<0.01			
	0.0026 <0.01 0.0046 0.0025 0.0029 0.002 (J) 0.0031 0.0038 0.0018 (J) 0.0018 (J) 0.0028 <0.01 0.0018 (J) 0.0024 (J) 0.0035 (J) 0.0041 (J)	0.0026 <0.01	0.0026 -<0.01	0.0026	0.0026	0.0026     0.0032   0.0028   0.0026   0.0026   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025   0.0025	0.0026	

	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

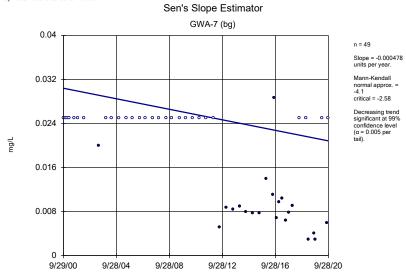
	Grumman Road Landfill	Client: Southern Compa	ny Data:								
Constituent	Well	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	Method
Arsenic (mg/L)	GWA-7 (bg)	-0.000478	-4.1	-2.58	Yes	49	57.14	n/a	n/a	0.01	NP
Arsenic (mg/L)	GWA-8 (bg)	0	-3.216	-2.58	Yes	70	91.43	n/a	n/a	0.01	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 Compa	ny Data:	Grumman R	oad	Printed 2	2/17/2021	I, 4:28 PM			
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	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
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
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-7 (bg)	0.001011	2.325	2.58	No	43	30.23	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-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
Zinc (mg/L)	GWC-9	-0.0002436	-3.281	-2.58	Yes	42	42.86	n/a	n/a	0.01	NP

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

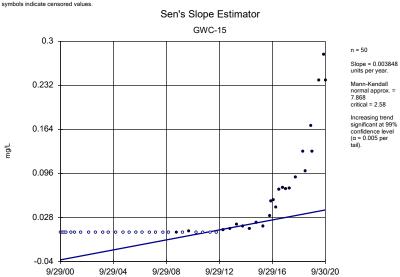
Hollow symbols indicate censored values.



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

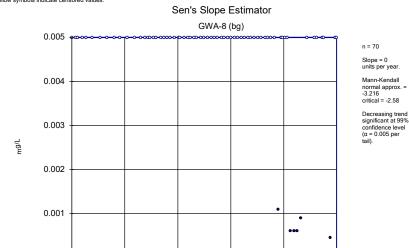
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.



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

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



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

9/28/12

9/28/16

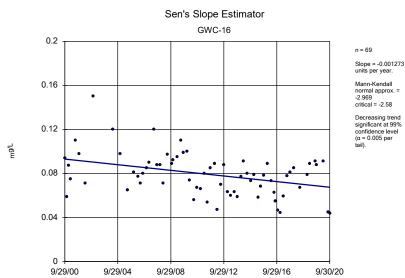
9/28/20

9/28/08

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

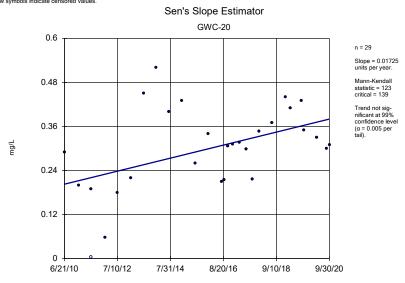
9/29/00

9/28/04



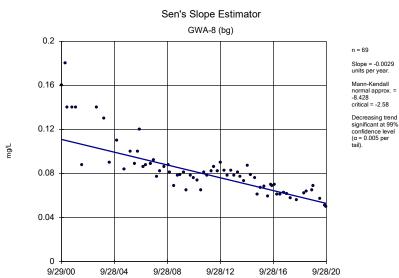
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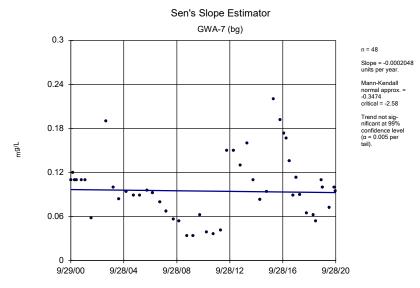


Constituent: Arsenic Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances Grumman Road Landfill Client: Southern Company Data: Grumman Road

#### Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

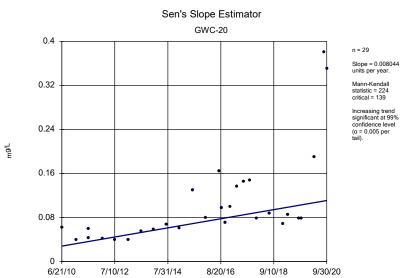


Constituent: Barium Analysis Run 2/17/2021 4:26 PM View: Trend Tests - State PL Exceedances Grumman Road Landfill Client: Southern Company Data: Grumman Road



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

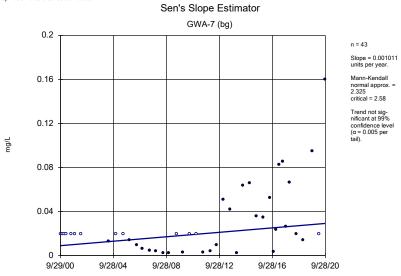
#### Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG



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

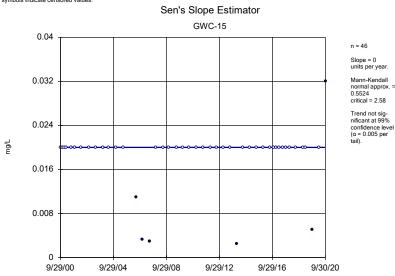
 ${\sf Sanitas^{\sf TM}}\ v. 9.6.27b\ {\sf Sanitas}\ {\sf software}\ {\sf utilized}\ {\sf by}\ {\sf Groundwater}\ {\sf Stats}\ {\sf Consulting}.\ {\sf UG}$ 

Hollow symbols indicate censored values.



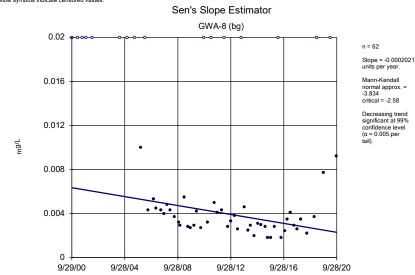
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



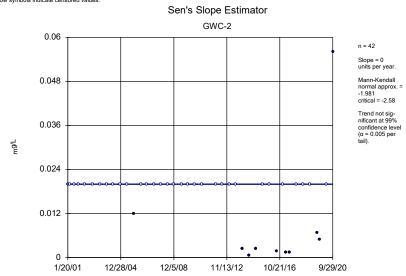
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



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

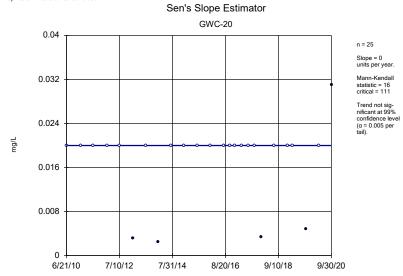
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



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

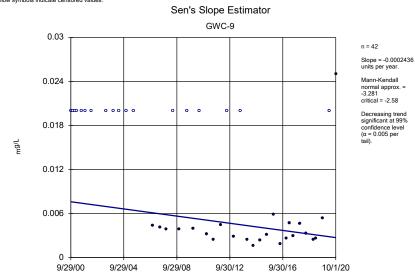
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.



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

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.



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

	Grum	man Road La	ndfill Client:	Southern Co	ompany	Da	ita: Grummai	n Road P	rinted 2/1	7/2021, 4:21 PI	М		
Constituent	Well	Upper Lir	n. Date	Observ.	Sig.	Bg	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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 Upper Lim. Date Std. Dev. Constituent Well %NDs ND Adj. Sig. Bg N Bg Mean **Transform** Alpha Method Boron (mg/L) GWC-1 21.8 9/28/2020 0.69 Nο 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 12 Nο 26 n/a n/a n n/a n/a 0.002308 NP Inter (normality) 1 of 2 Boron (mg/L) GWC-12 21.8 9/29/2020 4.7 Nο 26 n/a n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-13 Boron (mg/L) 21.8 9/28/2020 0.24 Nο 26 n/a n/a n 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 (ma/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 GWC-16 0.002308 Boron (mg/L) 21.8 9/30/2020 8.1 Nο 26 n/a n/a 0 n/a n/a NP Inter (normality) 1 of 2 GWC-17 21.8 9/30/2020 26 0 0.002308 Boron (mg/L) 0.86 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-2 26 0 0.002308 Boron (mg/L) 21.8 9/29/2020 0.024JNο n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-20 21.8 9/30/2020 26 0 0.002308 Boron (mg/L) 9.9 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-21 Boron (mg/L) 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 GWC-22 21.8 26 0 0.002308 Boron (ma/L) 9/30/2020 0.25 n/a NP Inter (normality) 1 of 2 No n/a n/a n/a GWC-9 0 Boron (mg/L) 21.8 10/1/2020 0.028J No 26 n/a n/a n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWB-4R 21.8 10/1/2020 26 0 0.002308 NP Inter (normality) 1 of 2 Boron (ma/L) 5.2 No n/a n/a n/a n/a GWB-5R Boron (mg/L) 26 0 0.002308 NP Inter (normality) 1 of 2 21.8 9/30/2020 4 No n/a n/a n/a n/a GWB-6R 21.8 9/30/2020 26 0 0.002308 4.2 No n/a NP Inter (normality) 1 of 2 Boron (mg/L) n/a n/a n/a GWC-1 9/28/2020 26 0 0.002308 Calcium (mg/L) 35.8 70.7 n/a NP Inter (normality) 1 of 2 Yes n/a n/a n/a GWC-11 35.8 9/29/2020 123 26 0.002308 NP Inter (normality) 1 of 2 Calcium (mg/L) Yes n/a n/a n/a n/a Calcium (mg/L) GWC-12 35.8 9/29/2020 42 26 n/a 0 n/a 0.002308 NP Inter (normality) 1 of 2 Yes n/a n/a Calcium (mg/L) GWC-13 35.8 9/28/2020 2.9 No 26 n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a n/a Calcium (mg/L) GWC-14 35.8 9/29/2020 30.8 No 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a Calcium (mg/L) GWC-15 35.8 9/30/2020 109 Yes n/a n/a 0.002308 NP Inter (normality) 1 of 2 n/a Calcium (mg/L) **GWC-16** 9/30/2020 177 Yes 26 n/a 0.002308 NP Inter (normality) 1 of 2 n/a GWC-17 Calcium (mg/L) 35.8 9/30/2020 53.5 26 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-2 Calcium (mg/L) 35.8 9/29/2020 0.18J No 26 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWC-20 9/30/2020 292 0.002308 Calcium (mg/L) 35.8 Yes 26 0 n/a NP Inter (normality) 1 of 2 0.002308 Calcium (mg/L) GWC-21 35.8 9/30/2020 98.4 26 0 NP Inter (normality) 1 of 2 Calcium (mg/L) GWC-22 35.8 9/30/2020 20.9 26 0 0.002308 No n/a n/a n/a NP Inter (normality) 1 of 2 Calcium (mg/L) GWC-9 10/1/2020 No 26 0 n/a 0.002308 35.8 5.5 n/a n/a NP Inter (normality) 1 of 2 Calcium (mg/L) GWB-4R 35.8 10/1/2020 48.4 Yes 26 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 n/a n/a Calcium (mg/L) GWB-5R 9/30/2020 70.4 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 35.8 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 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 Nο 26 n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-13 260 9/28/2020 43 No 26 n/a n/a n n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-14 26 0 0.002308 260 9/29/2020 10.6 No n/a n/a n/a n/a NP Inter (normality) 1 of 2 GWC-15 Chloride (mg/L) 260 9/30/2020 1.7 Nο 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 Nο 26 n/a 0 n/a n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) GWC-17 26 0 0.002308 NP Inter (normality) 1 of 2 260 9/30/2020 257 Nο n/a n/a n/a n/a GWC-2 Chloride (ma/L) 260 9/29/2020 26 0 0.002308 NP Inter (normality) 1 of 2 5.4 No n/a n/a n/a n/a GWC-20 Chloride (mg/L) 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 GWC-21 Chloride (mg/L) 9/30/2020 23.7 26 0 0.002308 260 n/a n/a NP Inter (normality) 1 of 2 No n/a n/a GWC-22 0 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) 9/30/2020 26 260 8.5 No n/a n/a n/a n/a GWC-9 0 Chloride (ma/L) 260 10/1/2020 16.8 No 26 n/a n/a n/a n/a 0.002308 NP Inter (normality) 1 of 2 GWB-4R 10/1/2020 15.7 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 Chloride (mg/L) 260 No n/a n/a n/a GWB-5R 260 9/30/2020 26 0.002308 Chloride (mg/L) 24.1 No n/a n/a NP Inter (normality) 1 of 2 n/a n/a Chloride (mg/L) GWB-6R 9/30/2020 53.9 26 0 n/a 0.002308 NP Inter (normality) 1 of 2 260 No n/a n/a n/a GWC-1 0.5492 9/28/2020 30 -2.25 0.7283 23.33 0.0004702 Param Inter 1 of 2 Fluoride (mg/L) 0.1ND No Kaplan-Meier ln(x) Fluoride (mg/L) GWC-11 0.5492 9/29/2020 0.1ND No 30 -2.25 0.7283 23.33 Kaplan-Meier 0.0004702 Param Inter 1 of 2 In(x)

## Federal Interwell Prediction Limits - All Results

	Grumr	nan Road Lar	ndfill Client:	Southern Co	mpany	Da	ta: Grumma	n Road Pi	rinted 2/1	17/2021, 4:21 PM	И		
Constituent	Well	Upper Lin	n. Date	Observ.	Sig.	Bg I	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	Method
Fluoride (mg/L)	GWC-12	0.5492	9/29/2020	0.16	No	30	-2.25	0.7283	23.33	Kaplan-Meier	In(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	In(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	In(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	In(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	In(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	In(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	In(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
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-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
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-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
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
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
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-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
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-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
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)	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
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
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

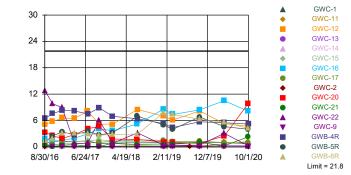
### Page 3

## Federal Interwell Prediction Limits - All Results

	Grumma	n Road Lan	dfill Client: S	Southern Cor	mpany	Da	ta: Grummar	Road Pr	inted 2/1	7/2021, 4:21 PM	1		
Constituent	Well	Upper Lim	. Date	Observ.	Sig.	Bg I	N Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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 = 0.007127. 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

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

Prediction Limit Within Limit Interwell Non-parametric GWC-1 1000 GWC-11 GWC-12 GWC-13 800 600 GWC-16 GWC-17 GWC-2 400 GWC-20 GWC-21 200 GWC-22 GWC-9 GWR-4R GWB-5R 8/30/16 6/24/17 4/19/18 2/11/19 12/7/19 10/1/20

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 = 0.007127. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

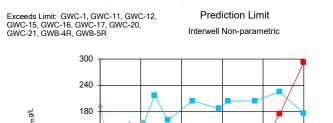
Limit = 260

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

120

8/30/16

6/24/17



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 = 0.0021027. Individual comparison alpha = 0.002308 (1 of 2). Comparing 16 points to limit.

4/19/18 2/11/19 12/7/19

GWC-1

GWC-11

GWC-12

GWC-13

GWC-16

GWC-17

GWC-2

GWC-20

GWC-21

GWC-22

GWC-9

GWB-4R

GWB-5R

GWB-6R

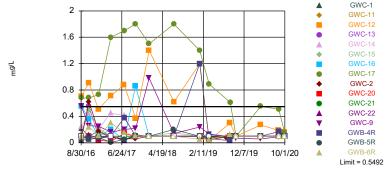
Limit = 35.8

10/1/20

Constituent: Calcium Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

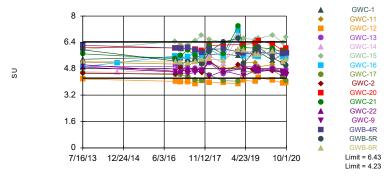
Within Limit Prediction Limit Interwell Parametric



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.

Exceeds Limits: GWC-12, GWC-15, GWC-

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 perconstituent alpha = 0.127. Individual comparison alpha = 0.004098 (1 of 2). Comparing 16 points to limit.

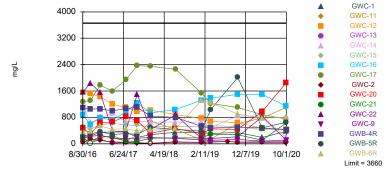
Constituent: pH Analysis Run 2/17/2021 4:18 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG Hollow symbols indicate censored values.

Within Limit

### Prediction Limit

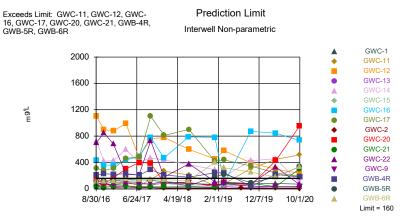
Interwell Non-parametric



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 = 0.002308 (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

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG



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 = 0.002308 (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

Constituent: Boron (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-1	GWB-5R	GWA-8 (bg)	GWC-2	GWC-13	GWC-11	GWC-22	GWC-12	
8/30/2016	1.41	0.875	1.09	0.117						
8/31/2016					0.0196 (J)	0.261	0.0688 (J)	12.8	5.1	
9/1/2016										
10/24/2016				0.126						
10/25/2016		1.22								
10/26/2016	1.83		2.5		0.05 (J)	0.211	0.083 (J)	9.81	5.74	
10/27/2016										
1/3/2017			3.39	0.124						
1/4/2017		1.3					0.0738	8.94	6.56	
1/5/2017	3.07				0.0162 (J)	0.179				
1/6/2017										
4/3/2017				0.105						
4/4/2017		1.19			0.019 (J)					
4/5/2017									6.49	
4/6/2017	3.19		2.76			0.112	0.0754	0.733		
7/10/2017									8.13	
7/11/2017				0.136			0.0614	0.852		
7/12/2017	3.06	1.37	3.55			0.0882				
7/13/2017					0.023 (J)					
10/2/2017				0.107						
10/3/2017	2.69	0.765	2.72		0.0266 (J)		0.0838			
10/4/2017						0.116		6.05	5.18	
1/9/2018	2.81			0.123						
1/10/2018		0.876	3.21		0.0203 (J)	0.101				
1/11/2018							0.169	0.838	5.16	
7/9/2018				0.11						
7/10/2018	2.9	0.94	7		0.026 (J)					
7/11/2018					. ,	0.098	0.3	3.2	8.5	
1/16/2019	7.7	0.91	5	0.13		0.11				
1/17/2019							0.065		7	
1/18/2019								0.37		
1/21/2019					0.018 (J)					
3/25/2019				0.098	0.0.0 (0)					
3/26/2019	7.4	0.77	4	0.000		0.35				
3/27/2019	7	<b></b> ,	•			0.00	0.089	0.37	6.1	
7/30/2019					0.02 (J)		0.000	0.07	0	
10/7/2019				0.12	0.02 (0)					
10/8/2019				0.12		0.18	0.22			
10/9/2019	6.3	0.93	6.8		0.024 (J)	0.18	0.22	0.39	8.2	
4/6/2020	0.0	0.55	0.0	0.14	0.024 (0)			0.00	0.2	
4/7/2020	5.6	1	4.6	0.17			0.67	3.1	5.3	
4/8/2020	3.0	'	4.0		0.031 (J)	0.28	0.07	J. I	J.J	
		0.69		0.15	0.031 (3)					
9/28/2020		0.09		0.13	0.02471	0.24	1.2		4.7	
9/29/2020 9/30/2020	4.2		4		0.024 (J)		1.2	0.25	4.7	
	4.2		4					0.25		
10/1/2020										

Constituent: Boron (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWA-7 (bg)	GWB-4R	GWC-16	GWC-17	GWC-21	GWC-14	GWC-20	GWC-15	GWC-9
8/30/2016									
8/31/2016									0.096 (J,o)
9/1/2016	11.6	6.48	1.82	0.408	0.62	0.071 (J)	3.34	9.01 (o)	
10/24/2016									
10/25/2016	21.4		1.26		0.0658 (J)	0.0819 (J)	2.54	1.66	
10/26/2016		7.57		0.5					
10/27/2016									0.0281 (J)
1/3/2017									
1/4/2017			1.46		0.36		1.91		
1/5/2017				0.676		0.0813		1.1	
1/6/2017	20.1	8.34							0.0189 (J)
4/3/2017								1.21	
4/4/2017		8.18			0.509	0.0723	2.77		
4/5/2017			2	0.69					
4/6/2017	21.8								0.0181 (J)
7/10/2017									
7/11/2017						0.0734	4.14	1.44	
7/12/2017		7.51	2.95						0.0211 (J)
7/13/2017	16.3			0.888	0.126				
10/2/2017						0.0748	4.65	1.59	
10/3/2017			4.15		0.1				
10/4/2017	21.5	8.88		1.02					0.0254 (J)
1/9/2018	13.9				0.783	0.0679		1.35	
1/10/2018			3.68				1.79		
1/11/2018		6.95		1.28					0.018 (J)
7/9/2018						0.061	1.7		
7/10/2018			5.2		0.5			1.2	
7/11/2018	11.7	6.4		1.6					0.02 (J)
1/16/2019	9.3	5.3		1.5		0.046			
1/17/2019			8.6		0.43			1.1	
1/18/2019									0.018 (J)
1/21/2019							1.1		
3/25/2019	8.5	4.4					1		
3/26/2019			7.4	1.2	0.61	0.037 (J)		0.95	
3/27/2019									0.016 (J)
7/30/2019									
10/7/2019									
10/8/2019	6.4		8.4		1	0.048		1.1	
10/9/2019		5.7		1.3			0.79		0.019 (J)
4/6/2020	6.1								
4/7/2020		5.5	10.5		0.24	0.061 (J)		0.96	
4/8/2020				0.99			2.5		0.023 (J)
9/28/2020	4.6								
9/29/2020						0.053			
9/30/2020			8.1	0.86	2.3		9.9	0.86	
10/1/2020		5.2							0.028 (J)

Constituent: Calcium (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-1	GWB-5R	GWA-8 (bg)	GWC-2	GWC-13	GWC-11	GWC-22	GWC-9
8/30/2016	4.68	29.4	14.3	23.8					
8/31/2016					0.371 (J)	2.77	18.8	127	6.9
9/1/2016									
10/24/2016				22.5					
10/25/2016		28.3							
10/26/2016	5.45		18.6		5.84	2.25	16.6	127	
10/27/2016									8.2
1/3/2017			18.1	22.1					
1/4/2017		33.4					17.6	113	
1/5/2017	5.35				0.379 (J)	2.27			
1/6/2017									7.97
4/3/2017				24.6 (J)					
4/4/2017		34.6		. ,	0.993				
4/5/2017									
4/6/2017	5.41		16.2			2.04	30.9	42.7	7.95
7/10/2017									
7/11/2017				23.5			17.7	46	
7/12/2017	4.81	38	18.1	20.0		2.25			8.37
7/13/2017	4.01	00	10.1		0.388 (J)	2.20			0.07
10/2/2017				22.7	0.566 (5)				
10/3/2017	5.17	25.5	15.2	22.7	0.251 (J)		39.8		
10/4/2017	3.17	23.3	13.2		0.231 (3)	2.19	33.6	115	8.57
	4 72			22.2		2.19		115	6.37
1/9/2018 1/10/2018	4.73	36.5	15.5	23.2	0.177 (1)	2.28			
		30.3	15.5		0.177 (J)	2.20	CE C	47.6	0.70
1/11/2018				24.6.7.10			65.6	47.6	9.78
7/9/2018	4.5	4E E	20.6	24.6 (J)	0.17 (1)				
7/10/2018	4.5	45.5	30.6		0.17 (J)	2.2	50	70.7	0.0
7/11/2018	10.1	10.5	00.0	07.7		2.3	53	73.7	9.2
1/16/2019	10.1	46.5	33.3	27.7		2.3	10.0 ( 1)		
1/17/2019							19.8 (J)	00.0	0.4
1/18/2019					0.40 ( ))			30.6	8.1
1/21/2019					0.19 (J)				
3/25/2019				31.7					
3/26/2019	9	46.3	36.1			2.4			
3/27/2019							25.1	28.8	7.7
7/30/2019					0.43				
10/7/2019				31.6					
10/8/2019						2.3	69.2		
10/9/2019	10.1	51.2	17.7		0.18			30.1	6
4/6/2020				35.8					
4/7/2020	7.8	31.1	34.1				84.7	65.7	
4/8/2020					0.24 (J)	2.5			5.3
9/28/2020		70.7		25.6		2.9			
9/29/2020					0.18 (J)		123		
9/30/2020	27.5		70.4					20.9	
10/1/2020									5.5

Constituent: Calcium (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

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Constituent: Chloride (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-1		GWA-8 (bg)	GWC-2	GWC-13	GWC-11	GWC-22	GWC-9
8/30/2016	60	5.5	31	15					
8/31/2016					7.8	4.3	3.5	320	17
9/1/2016									
10/24/2016				13					
10/25/2016		5.1		10					
	07	5.1	24		40	4.0	0.5	450	
10/26/2016	67		24		12	4.9	2.5	450	
10/27/2016									17
1/3/2017			29	13					
1/4/2017		6.9					3.8	330	
1/5/2017	70				7.4	4.1			
1/6/2017									16
4/3/2017				14					
4/4/2017		6.5			8.7				
		0.5			0.7				
4/5/2017									
4/6/2017	76		27			3.7	7.1	50	17
7/10/2017									
7/11/2017				13			3.1	70	
7/12/2017	64	6.5	31			2.6			18
7/13/2017					8.3				
10/2/2017				15					
10/3/2017	73	4.5	27		9		46		
10/4/2017					·	3		360	18
	61			10		3		300	10
1/9/2018	61	0.0		13	0.0	0.4			
1/10/2018		6.9	59		8.2	3.4			
1/11/2018							100	74	16
7/9/2018				15.4					
7/10/2018	60.2	6.2	172		7.3				
7/11/2018						3.2	53.7	164	16.2
1/16/2019	54.1	6.6	49.7	16		3.8			
1/17/2019							6.6		
1/18/2019								11	17.5
1/21/2019					6.9				
3/25/2019				17.7					
3/26/2019	51.8	7	47.9	17.7		2.2			
	31.0	,	47.9			3.2	11.0	44.5	10.0
3/27/2019							11.9	11.5	18.9
7/30/2019					7.1				
10/7/2019				18					
10/8/2019						4	89		
10/9/2019	49.7	7.2	239		7			25.3	19
4/6/2020				13.5					
4/7/2020	56.4	7.7	44.3				103	146	
4/8/2020					5.2	4.5			16.9
9/28/2020		13.8		13.7		4.3			
9/29/2020		. 2.0		. =	5.4		143		
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9/30/2020	53.9		24.1					8.5	40.0
10/1/2020									16.8

Constituent: Chloride (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-12	GWA-7 (bg)	GWC-16	GWC-15	GWC-20	GWC-21	GWC-17	GWB-4R	GWC-14
8/30/2016									
8/31/2016	210								
9/1/2016		190	43	10	16	5.9	610	160	60
10/24/2016									
10/25/2016		175 (D)	34	6.5	8.1	4.4			36
10/26/2016	200						570	110	
10/27/2016									
1/3/2017									
1/4/2017	160		29		13	7.7			
1/5/2017				10			710		37
1/6/2017		180						67	
4/3/2017				7.3					
4/4/2017					23	8		80	47
4/5/2017	140		36				860		
4/6/2017		200							
7/10/2017	88								
7/11/2017				5.7	31				34
7/12/2017			44					120	
7/13/2017		200				5.4	860		
10/2/2017				4.4	30				34
10/3/2017			58			4.4			
10/4/2017	100	260					1000	130	
1/9/2018		210		5.7		4.4			24
1/10/2018			36		9.7				
1/11/2018	78						940	60	
7/9/2018					10.8				25.9
7/10/2018			57	3.1		6.3			
7/11/2018	66.9	177					864	75.9	
1/16/2019		165					469	20.2	29.2
1/17/2019	52		48.9	3.2		5.4			
1/18/2019									
1/21/2019					5.1				
3/25/2019		147			9.4			19.7	
3/26/2019			5.1	3		11.9	439		21.1
3/27/2019	45.6								
7/30/2019									
10/7/2019									
10/8/2019		125	46.4	2.9		7.8			40.2
10/9/2019	44.1				5.4		330	32.1	
4/6/2020		30.2							
4/7/2020	32.5		49.3	3.4		4.7		14.5	41.6
4/8/2020					20.2		277		
9/28/2020		113							
9/29/2020	24.3								10.6
9/30/2020			39.6	1.7	34.9	23.7	257		
10/1/2020								15.7	

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	i				<0.1	<0.1	0.55	0.7	0.04 (J)
9/1/2016									
10/24/201	6		0.18 (J)						
10/25/201	6 <0.1								
10/26/201	6	0.24 (J)		0.05 (J)	<0.1	0.55		0.91	0.12 (J)
10/27/201	6						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			
1/11/2018	1				<0.1		0.98	1.4	<0.1
7/9/2018			0.04 (J)						
7/10/2018		<0.1		0.2 (J)					
7/11/2018					<0.1	<0.1	0.14 (J)	0.62	<0.1
1/16/2019		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		0.046 (J)		<0.1	.0.4	0.052 (J)	0.40 ( 1)	0.000 (1)	
3/27/2019					<0.1		0.13 (J)	0.036 (J)	<0.1
7/30/2019			0.10						
8/26/2019		0.12 (1)	0.13		-0.1	-0.1		0.2	0.1
8/27/2019 8/28/2019		0.13 (J)		0.097 (J)	<0.1	<0.1	0.088 (J)	0.3	0.1
10/7/2019			<0.1	0.097 (3)			0.088 (3)		
10/7/2019			<b>~</b> 0.1		<0.1	<0.1			
10/8/2019		<0.1		<0.1	<b>\0.1</b>	<0.1	0.068 (J)	<0.1	<0.1
4/6/2020	<b>~</b> 0.1	<b>~0.1</b>	0.089 (J)	<b>~0.1</b>			0.008 (3)	<b>~0.1</b>	<b>~0.1</b>
4/7/2020	<0.1	<0.1	0.069 (3)	<0.1	<0.1			0.27 (J)	<0.1
4/8/2020	<b>~</b> 0.1	<b>~</b> 0.1		<b>~</b> 0.1	<b>\0.1</b>	<0.1	0.058 (J)	0.27 (3)	<b>~</b> 0.1
8/17/2020	1		0.079 (J)			<0.1	0.038 (3)	0.19	
8/18/2020			0.079 (3)		<0.1	<b>~0.1</b>		0.19	<0.1
8/19/2020		<0.1		<0.1	50. I		0.092 (J)		50.1
9/28/2020		5U. I	<0.1	70. I		<0.1	0.032 (0)		
9/29/2020			-0.1		<0.1	-0.1		0.16	
9/30/2020		<0.1		<0.1				00	<0.1
10/1/2020		<b></b>					<0.1		<del>-</del>
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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					2111 (2)	(-)			(-)
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	0
4/6/2020		0.13 (J)							
4/7/2020		0.10 (0)			<0.1	<0.1	<0.1	<0.1	<0.1
4/8/2020	<0.1		<0.1	0.55	-0.1	-0.1	-0.1	-0.1	-0.1
8/17/2020	=::								
8/18/2020	<0.1		<0.1	0.51	<0.1	<0.1	<0.1		<0.1
8/19/2020	V.1	0.21	·	0.01				0.17	· · · ·
9/28/2020		0.21 0.069 (J)						0.17	
9/29/2020	<0.1	0.000 (0)							<0.1
9/30/2020	-0.1		<0.1	0.15	<0.1	<0.1	<0.1		·
10/1/2020			-0.1	0.10	-0.1	-0.1	-0.1	<0.1	
. 5/ 1/2020								V. 1	

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									0.22
7/11/2017	4.72	4.73			5.26	5.96			
7/11/2017	7.72	4.75	5.93		5.20	3.30	5.46		5.29
7/13/2017			0.50	5.6			0.40	4.11	0.20
10/2/2017	5.13			3.0		5.88		4.11	
10/3/2017	5.15			5.18	5.07	3.00	5.65		5.08
10/4/2017		4.74	5.77	0.10	0.07		0.00	4.09	0.00
1/9/2018	5.59	7.77	0.77	6.14				4.00	
1/10/2018	3.33			0.14		6.21	5.67		5.83
1/11/2018		5.22	5.98		5.18	0.21	3.07	4.4	3.03
7/9/2018	5.11	5.22	3.30		3.10	6.24		7.7	
7/10/2018	5.11			5.7		0.24	5.71		6.42
7/11/2018		4.68	6.01	5.7	4.82		3.71	4.07	0.42
1/16/2019	6.82	4.00	5.83		4.02		5.59	4.05	6.66
1/17/2019	0.02		3.03	7.39	4.91		0.00	4.00	0.00
1/18/2019		6.98 (o)		7.55	4.51				
1/21/2019		0.50 (0)				7.73 (o)			
3/25/2019			5.74			6.28			
3/26/2019	5.74		0.74	6.08		0.20	5.77	4.62	5.1
3/27/2019	0.74	4.77		0.00	5.18		0.77	4.02	0.1
7/30/2019		4.77			0.10				
8/26/2019									
8/27/2019	5.58	4.89	5.7		5.17		5.84		
8/28/2019	0.00		· · ·	6.05	0.17	6.34	0.01	4.62	5.95
10/7/2019				0.00		0.01			0.00
10/8/2019	5.68			6.09	4.93				
10/9/2019	0.00	4.68	5.79	0.00		6.5	5.82	4.66	6.11
4/6/2020		4.00	0.70			0.0	0.02	4.00	0.11
4/7/2020	6.2	4.8	5.74	6	5.05		5.3		5.45
4/8/2020	0.2	4.0	0.74	ŭ	0.00	6.31	0.0	4.71	0.40
8/17/2020						0.01		4.71	
8/18/2020	5.56	4.52		5.82	4.41	5.89		4.31	
8/19/2020	3.00		5.7	J.JL		5.50	5.73		5.14 (D)
9/28/2020			J.,				5.79		S (D)
9/29/2020	5.69				4.77		5.70		
9/30/2020	1.00	4.63		5.82		6.04		4.08	4.99
10/1/2020			5.75						
, <b></b>			<del>.</del>						

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	( 0)	( 0,
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		20	
1/5/2017	4.85	0.01	5.2	4.97	6.25	4.01			
1/6/2017	4.00		0.2	4.07	0.20		4.56		6.16
4/3/2017					6.25		4.00	4.29	0.10
4/4/2017	4.58				0.20			4.20	
4/5/2017	4.00	5.51		4.81		4			
4/6/2017		0.01	5.17	4.01		•	4.5		6.26
7/10/2017			5.17			3.89	4.5		0.20
7/11/2017					6.5	3.03		4.35	
		5.84	5.24	4.83	0.5		4.56	4.33	
7/12/2017	4.74	5.64	5.24	4.03			4.50		E 00
7/13/2017	4.74				6.92			4.22	5.99
10/2/2017	4.57	E E E	F 26		6.83			4.32	
10/3/2017	4.57	5.55	5.36	4 71		4.06	4.70		6.16
10/4/2017			F 4	4.71	6.57	4.06	4.72	4.44	6.16
1/9/2018	5.04	5.00	5.4	5.47	6.57			4.44	6.43
1/10/2018	5.31	5.99		5.17		2.06	4.24		
1/11/2018						3.96	4.34	4.4	
7/9/2018	4.50		F 04		C 40			4.4	
7/10/2018	4.58	5.5	5.31	4.40	6.42	2.05	4.69		C 1
7/11/2018			F 00	4.49		3.95	4.68	6 16 (a)	6.1
1/16/2019 1/17/2019		7.13	5.99	6.45 (o)	8.44 (o)	3.89		6.16 (o)	6.05
1/18/2019		7.13			0.44 (0)	3.03	6.97 (a)		
1/18/2019	5.05						6.87 (o)		
3/25/2019	3.03							4.4	6.06
3/26/2019		5.57	5.94	4.96	6.65			4.4	0.00
		5.57	5.94	4.90	0.03	4.11	4.38		
3/27/2019 7/30/2019	4.74					4.11	4.36		
8/26/2019	4.74							4.26	5.91
	4 77		E 67	4.0	6.57	4.00		4.26	5.91
8/27/2019 8/28/2019	4.77	E	5.67	4.9	6.57	4.02	4.69		
10/7/2019		5.57					4.68	4.24	
10/7/2019		E E 4		4.01	6.65			4.24	E 74
	4.70	5.54	5.66	4.81	6.65	4.05	4.00		5.74
10/9/2019	4.79		5.00			4.25	4.62	4.50	6.00
4/6/2020		5.04	F.00		C 00	4.4		4.52	6.02
4/7/2020	4.00	5.94	5.86	4.04	6.83	4.1	4.70		
4/8/2020	4.66			4.81		3.04	4.73	4 22	
8/17/2020	4.6	E E2		4.65	6.30	3.94		4.23	
8/18/2020	4.6	5.52	E 21		6.39		4 50		E 91 (D)
8/19/2020			5.21	1.76			4.58	4.41	5.81 (D)
9/28/2020	4.6			4.76		2.05		4.41	5.86
9/29/2020	4.6	E 47	E 20		6 71	3.95			
9/30/2020		5.47	5.39		6.71		4.42		
10/1/2020							4.42		

Constituent: Sulfate (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

No.	
8/31/2016	
9/1/2016	
10/24/2016	
10/25/2016   120	
10/26/2016   120	
10/27/2016	
1/3/2017       120       140         1/4/2017       130       140       65       680         1/5/2017       130       140       22       32       140       66         4/3/2017       110       29       47       4/4/2017       110       220       79         4/6/2017       150       140       40       49       110       220       79         7/10/2017       150       140       130       49       110       220       79         7/11/2017       140       100       140       40       16       49       110       20       75         7/11/2017       140       100       140       20       16       40       10       75         7/13/2017       140       100       140       20       140       40       73       78         10/4/2017       140       63       130       20       33       730       78         1/9/2018       140       9,5       22       20       40       10       10       10       10       9,5       22       20       10       10       10       10       10       10       9,5	
1/4/2017	
1/5/2017	
1/6/2017	
4/3/2017	
44/4/2017	
4/5/2017       150       140       49       110       220       79         7/10/2017       7/11/2017       130       49       210       75         7/11/2017       140       100       140       16       75       75         7/13/2017       10/2/2017       140       63       130       20       140       730       78         10/3/2017       140       63       130       20       140       730       78         1/9/2018       140       120       20       140       730       78         1/9/2018       140       9.5       22       730       78         1/11/2018       86       110       9.5       22       770       180       110         7/9/2018       10       123       730       78       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70       70	
46/2017	
7/10/2017 7/11/2017 140 100 140 140 16 7/13/2017 140 16 7/13/2017 150 10/2/2017 140 63 130 20 140 140 10/3/2017 140 63 130 20 140 140 10/4/2017 140 53 170 180 78 11/9/2018 140 150 170 170 170 170 170 170 170 170 170 17	
7/11/2017       140       100       140       16       75         7/13/2017       20       20       75         10/3/2017       140       63       130       20       140         10/4/2017       140       63       130       20       140         10/4/2017       33       730       78         1/9/2018       140       120       22       270       180       110         7/9/2018       1/11/2018       123       270       180       110	
7/12/2017       140       100       140       16       75         7/13/2017       20       20       150         10/3/2017       140       63       130       20       140         10/4/2017       33       730       78         1/9/2018       140       120       22       22         1/11/2018       86       110       9.5       22       270       180       110         7/9/2018       123       123       123       16       75       75	
7/13/2017 20 10/2/2017 140 63 130 20 140 10/4/2017 33 730 78 1/9/2018 140 120 1/10/2018 86 110 9.5 22 1/11/2018 20 20 20 20 20 20 20 20 20 20 20 20 20	
10/2/2017     140     63     130     20     140       10/4/2017     33     730     78       1/9/2018     140     120       1/10/2018     86     110     9.5     22       1/11/2018     270     180     110       7/9/2018     123	
10/3/2017     140     63     130     20     140       10/4/2017     33     730     78       1/9/2018     140     120       1/10/2018     86     110     9.5     22       1/11/2018     270     180     110       7/9/2018     123	
10/4/2017     33     730     78       1/9/2018     140     120       1/10/2018     86     110     9.5     22       1/11/2018     270     180     110       7/9/2018     123	
1/9/2018     140     120       1/10/2018     86     110     9.5     22       1/11/2018     270     180     110       7/9/2018     123	
1/9/2018     140     120       1/10/2018     86     110     9.5     22       1/11/2018     270     180     110       7/9/2018     123	
1/11/2018     270     180     110       7/9/2018     123	
7/9/2018 123	
7/10/2018 128 77.7 48.1 8.5	
7/11/2018 17.8 211 381 87.4	
1/16/2019 402 71.2 184 129 20.2	
1/17/2019 50.3	
1/18/2019 107 56.9	
1/21/2019 10.2	
3/25/2019 152	
3/26/2019 319 73.8 222 33.6	
3/27/2019 76.8 103 76.2	
7/30/2019 12.3	
10/7/2019 156	
10/8/2019 22 310	
10/9/2019 255 76.3 90.8 10.1 80.2 41.1	
4/6/2020 123	
4/7/2020 180 83 180 446 333	
4/8/2020 12.9 30.7 34.2	
9/28/2020 71.6 93.6 25.6	
9/29/2020 8.6 516	
9/30/2020 339 339 65.5	
10/1/2020 35	

Constituent: Sulfate (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-12	GWA-7 (bg)	GWC-16	GWC-15	GWC-20	GWC-21	GWC-17	GWB-4R	GWC-14
:	8/30/2016									
:	8/31/2016	1100								
!	9/1/2016		73	430	120	180	36	310	210	730
	10/24/2016									
	10/25/2016		26	360	100	79	16			420
	10/26/2016	900						280	230	
	10/27/2016									
	1/3/2017									
	1/4/2017	880		360		170	45			
	1/5/2017				140			310		430
	1/6/2017		23						220	
	4/3/2017				150					
	4/4/2017					300	46		230	600
	4/5/2017	990		440				460		
	4/6/2017		25							
	7/10/2017	480								
	7/11/2017				110	400				400
	7/12/2017			490					210	
	7/13/2017		65				33	490		
	10/2/2017				56	390				470
	10/3/2017			780			34			
	10/4/2017	760	13					1100	290	
	1/9/2018		45		84		29			440
	1/10/2018			470		99				
	1/11/2018	780						810	210	
	7/9/2018					99.2				369
	7/10/2018			787	43		33.2			
	7/11/2018	598	37.7					902	177	
	1/16/2019		24.5					422	244	291
	1/17/2019	454		780	45.2		24.1			
	1/18/2019									
	1/21/2019					35.5				
:	3/25/2019		14.7			95.6			245	
;	3/26/2019			87.9	54		83.9	439		192
:	3/27/2019	579								
	7/30/2019									
	10/7/2019									
	10/8/2019		32.8	872	45.8		85.6			428
	10/9/2019	392				58.5		346	38.5	
	4/6/2020		20.3							
	4/7/2020	297		844	26.9		33.2		221	456
	4/8/2020					428		239		
	9/28/2020		20							
	9/29/2020	237								93.5
	9/30/2020			736	18.5	956	306	193		
	10/1/2020								178	

Constituent: Total Dissolved Solids (mg/L) Analysis Run 2/17/2021 4:21 PM View: PL's Interwell Federal Grumman Road Landfill Client: Southern Company Data: Grumman Road

	GWB-6R	GWC-1	GWB-5R	GWA-8 (bg)	GWC-2	GWC-13	GWC-11	GWC-22	GWC-9
8/30/2016	365	225	224	234					
8/31/2016					39	77	119	1570	173
9/1/2016									
10/24/2016				216					
10/25/2016		230							
10/26/2016	373		297		135	<25	108	1840	
10/27/2016									221
1/3/2017			366	333					
1/4/2017		349					182	1560	
1/5/2017	543				99	146			
1/6/2017									259
4/3/2017				288					
4/4/2017		356			54				
4/5/2017						(1)			
4/6/2017	434		279			23 (J)	248	368	169
7/10/2017				100			00	000	
7/11/2017	454	057	000	188		00	88	383	100
7/12/2017	454	357	308		50	39			163
7/13/2017				210	50				
10/2/2017	200	100	200	210	10 / 1)		249		
10/3/2017	389	192	288		18 (J)	20	248	1500	160
10/4/2017	415			110		38		1500	168
1/9/2018 1/10/2018	415	277	493	118	<25	<25			
1/11/2018		211	493		~25	~23	681	438	190
7/9/2018				235			001	430	190
7/10/2018	453	349	1730 (o)	255	49				
7/11/2018	400	040	1700 (0)		40	63	440	876	165
1/16/2019	1320	341	382	219		44		0.0	
1/17/2019							118		
1/18/2019								154	118
1/21/2019					39				
3/25/2019				240					
3/26/2019	1250	317	1040			72			
3/27/2019							138	158	104
7/30/2019					70				
10/7/2019				275					
10/8/2019						51	613		
10/9/2019	903	338	2010		46			211	128
4/6/2020				214					
4/7/2020	775	195	483				780	819	
4/8/2020					38	65			80
9/28/2020		373		175		60			
9/29/2020					33		1100		
9/30/2020	816		652					113	
10/1/2020									111

Constituent: Total Dissolved Solids (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-12	GWA-7 (bg)	GWC-16	GWC-15	GWC-20	GWC-21	GWC-17	GWB-4R	GWC-14
8/30/2016									
8/31/2016	1560								
9/1/2016		3660	878	539	470	184	1270	1080	1170
10/24/2016									
10/25/2016		3560	585	449	289	<25			633
10/26/2016	1520						1320	1050	
10/27/2016									
1/3/2017									
1/4/2017	1430		783		639	242			
1/5/2017				565			1770		781
1/6/2017		3490						1060	
4/3/2017				632					
4/4/2017					660	187		994	916
4/5/2017	1200		722				1600		
4/6/2017		3170							
7/10/2017	1100								
7/11/2017				569	836				675
7/12/2017			962					1070	
7/13/2017		2280				86	1940		
10/2/2017				559	698				689
10/3/2017			1240			66			
10/4/2017	986	3350					2370	1100	
1/9/2018		2640		520		167			653
1/10/2018			935		322				
1/11/2018	1020						2350	838	
7/9/2018					461				659
7/10/2018			1040	524		180			
7/11/2018	888	2200					2260	799	
1/16/2019		2100					1540	530	656
1/17/2019	765		1320	518 (D)		178			
1/18/2019				,					
1/21/2019					307				
3/25/2019		2100			449			479	
3/26/2019			1380	541		292	1220		496
3/27/2019	673								
7/30/2019									
10/7/2019									
10/8/2019		1840	1500	526		278			841
10/9/2019	647				434		1100	502	
4/6/2020		1670							
4/7/2020	464		1500	428		106		482	843
4/8/2020	**				986		881	- <del>-</del>	- •
9/28/2020		1450			<del>-</del>				
9/29/2020	440								187
9/30/2020	. 10		1140	434	1860	634	752		.07
10/1/2020					.500		· <del></del>	424	
.5/ 1/2020									

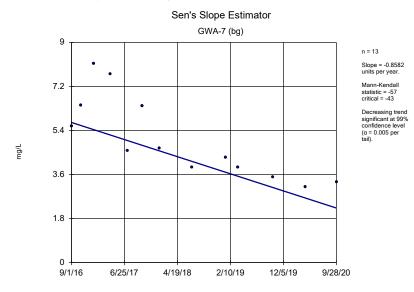
# FIGURE G.

## Federal Trend Test Summary - Significant Results

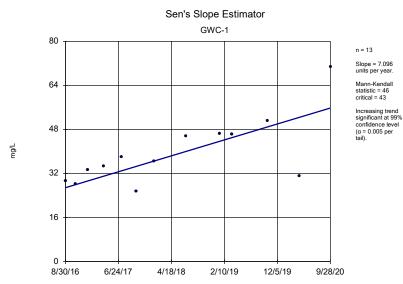
	Grumman Road Landfill	Client: Southern Compa	any Data:	Grumman R	oad l	Printed 2	/17/2021	, 4:25 PM			
Constituent	Well	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	Method
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	2.404	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-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

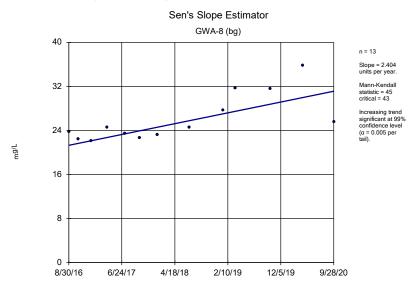
	Grumman Road Landfill	Client: Southern Company	y Data	Grumman R	oad F	Printed 2	/17/2021	, 4:25 PM			
Constituent	<u>Well</u>	Slope	Calc.	Critical	Sig.	<u>N</u>	%NDs	Normality	<u>Xform</u>	<u>Alpha</u>	Method
Calcium (mg/L)	GWA-7 (bg)	-0.8582	-57	-43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	GWA-8 (bg)	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



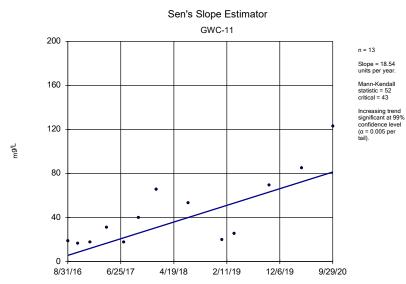
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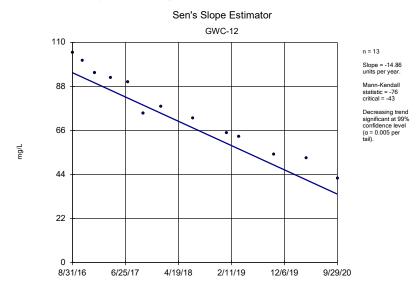
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Grumman Road Landfill Client: Southern Company Data: Grumman Road



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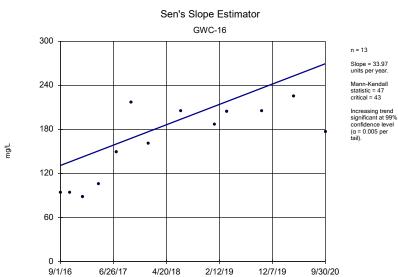


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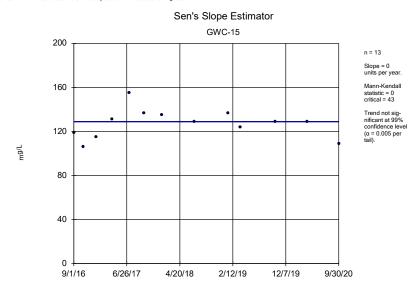


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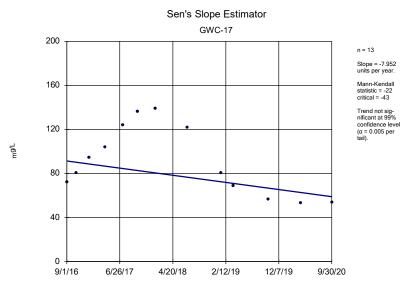




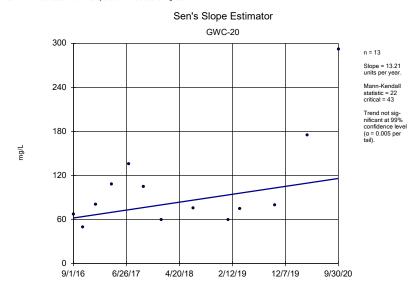
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Grumman Road Landfill Client: Southern Company Data: Grumman Road



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Grumman Road Landfill Client: Southern Company Data: Grumman Road

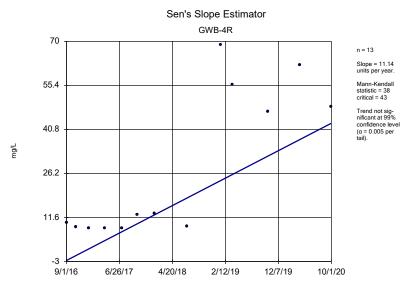


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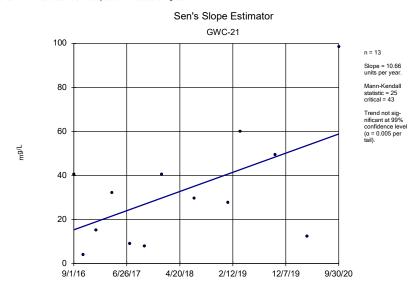


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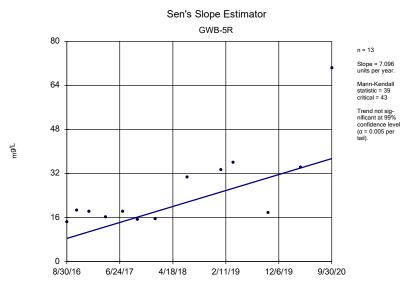




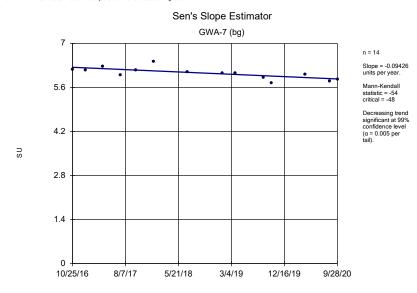
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Grumman Road Landfill Client: Southern Company Data: Grumman Road



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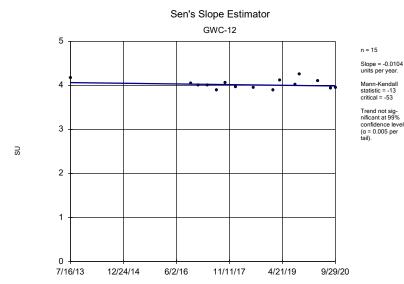


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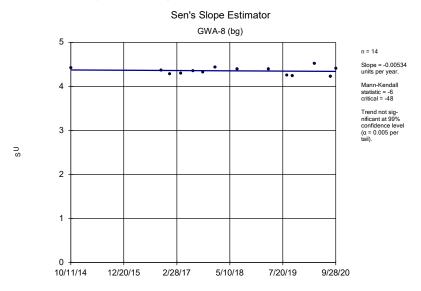


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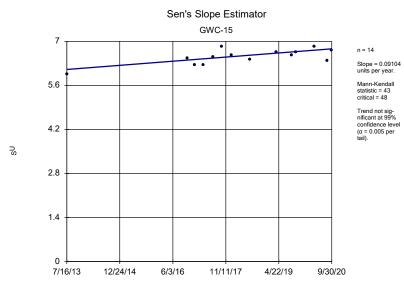




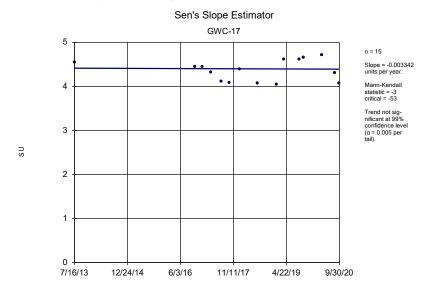
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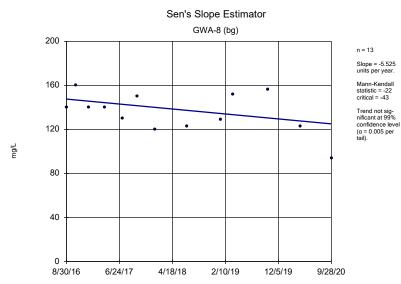


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Grumman Road Landfill Client: Southern Company Data: Grumman Road

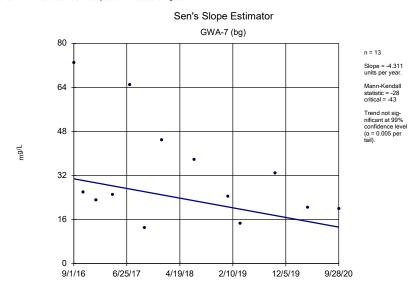


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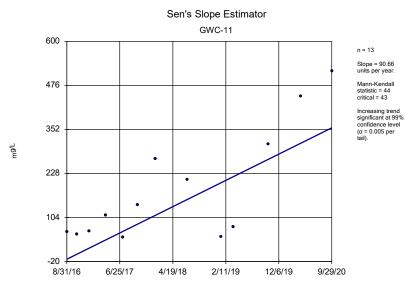




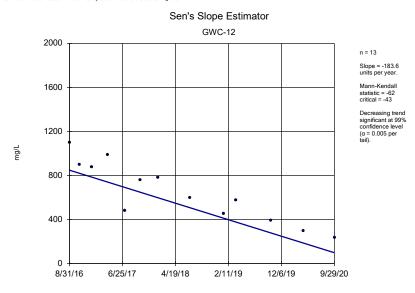
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

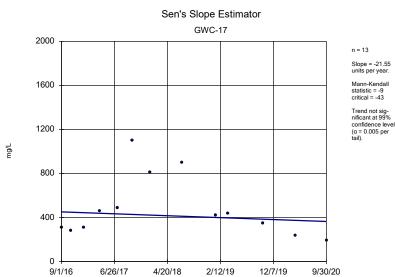


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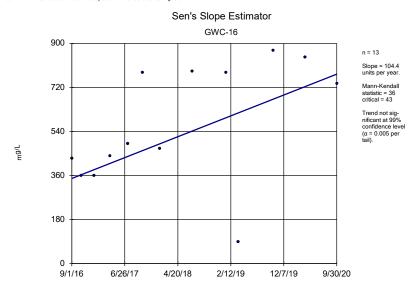


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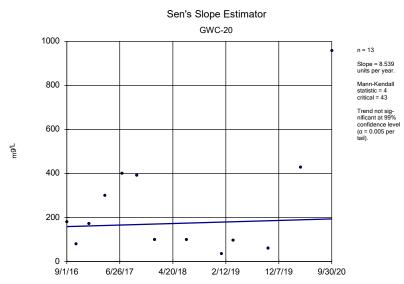




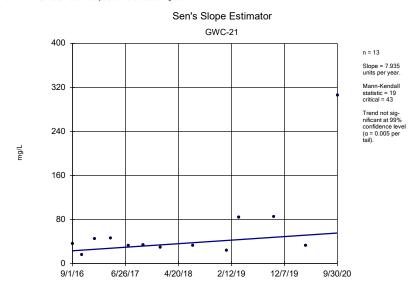
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Grumman Road Landfill Client: Southern Company Data: Grumman Road

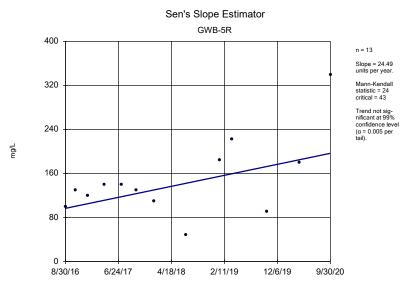


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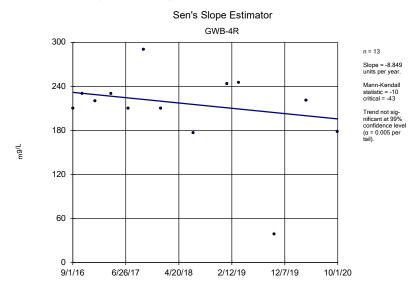


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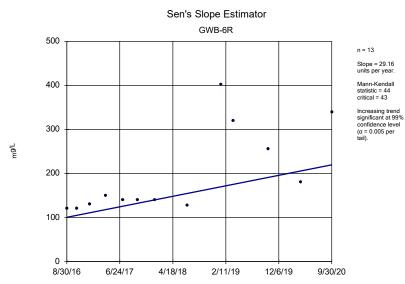




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Constituent: Sulfate Analysis Run 2/17/2021 4:24 PM View: Trend Tests - PL Exceedances Federal
Grumman Road Landfill Client: Southern Company Data: Grumman Road



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 Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:50 PM

	Gru	mman Road Lai	ndfill	Client: Southern	Company	Data	a: Grumman	Road Printed 2	1/2021, 1:50	PM	
Constituent	Well	Upper Lim.	Bg N	Bg Mean	Std. Dev.		%NDs	ND Adj.	Transform	<u>Alpha</u>	Method
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.

GRUMMAN ROA	D LANDFILL G\	NPS	
		Background	
Constituent Name	MCL	Limit	GWPS
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

 $[\]hbox{*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

	Grum	man Koad La	natili Client: Sol	itnern Compai	ny Data	i: Grumman i	Road Print	ea 2/1/.	2021, 1:55 PN	/I		
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%ND	s ND Adj.	Transform	<u>Alpha</u>	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

Printed 2/1/2021, 1:55 PM

Grumman Road Landfill

Client: Southern Company Data: Grumman Road Std. Dev. Constituent <u>Well</u> Sig. %NDs ND Adj. Transform <u>Alpha</u> Upper Lim. Lower Lim. Compliance <u>N</u> 0.003 0.0017 0.006 0.002571 0.0008176 76.47 None No NP (NDs) Antimony (mg/L) GWA-7 (bg) No 17 0.01 0.0008382 88.24 None Antimony (mg/L) GWC-1 0.003 0.00061 0.006 No 17 0.002704 No 0.01 NP (NDs) GWC-11 0.003 0.00051 0.001246 0.01 NP (normality) Antimony (ma/L) 0.006 No 0.001724 47.06 None No 17 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 0 100 None 0.01 NP (NDs) 0.003 No Antimony (mg/L) GWC-16 0.003 0.003 0.006 18 0 100 0.01 NP (NDs) No 0.003 None No GWC-2 0.0016 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 No 17 0.002818 0.0005175 88.24 None No Antimony (mg/L) GWC-20 0.003 0.0019 0.006 0.002935 0.0002668 94.12 None 0.01 NP (NDs) 0.00033 NP (NDs) Antimony (mg/L) GWC-21 0.003 0.006 Nο 0.002843 0.0006476 94.12 None No 0.01 Antimony (mg/L) GWC-22 0.003 0.0022 0.006 0.002573 0.0008769 0.01 NP (NDs) GWC-9 0.0016 0.0007121 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 Nο 17 0.002761 88.24 None No GWB-4R 0.0003 0.0006548 0.01 NP (NDs) Antimony (mg/L) 0.003 0.006 0.002841 94.12 None GWB-5R 0.00054 0.0008579 NP (NDs) 0.003 No 0.002696 88.24 None 0.01 Antimony (mg/L) 0.006 17 No Antimony (mg/L) GWB-6R 0.003 0.00059 0.006 0.002858 0.0005845 94.12 None No 0.01 NP (NDs) Arsenic (ma/L) GWA-7 (ba) 0.01003 0.004246 0.029 Nο 17 0.008241 0.006088 23.53 Kaplan-Meierx^(1/3) 0.01 Param Arsenic (mg/L) GWA-8 (bg) 0.005 0.0009 No 0.002086 No 0.01 NP (normality) GWC-1 0.0018 Arsenic (mg/L) 0.0058 0.029 No 16 0.0046 0.006187 n None No 0.01 NP (normality) GWC-12 0.005 0.0009 0.029 0.004253 0.001664 82.35 None 0.01 NP (NDs) Arsenic (mg/L) No 17 No Arsenic (ma/L) GWC-13 0.005 0.0006 0.029 No 17 0.004481 0.001465 88.24 None No 0.01 NP (NDs) Arsenic (ma/L) GWC-14 0.0026 0.0017 0.029 No 18 0.002363 0.001043 11 11 None No 0.01 NP (normality) Arsenic (mg/L) GWC-15 0.1476 0.05755 0.029 Yes 17 0.1099 0.07879 0 0.01 None Param. GWC-16 0.089 0.0466 0.01771 0 0.01 NP (normality) Arsenic (ma/L) 0.029 Yes 18 0.07044 None No GWC-17 0.005 0.0011 0.029 17 0.002589 0.001853 35.29 None 0.01 NP (normality) Arsenic (mg/L) No GWC-2 0.00094 0.004231 0.01 NP (NDs) Arsenic (mg/L) 0.005 0.029 No 17 0.001715 82.35 None No 0.06818 Arsenic (mg/L) GWC-20 0.3663 0.2809 0.029 Yes 0.3236 0 None No 0.01 Param. Arsenic (mg/L) GWC-21 0.00419 0.002641 0.029 Nο 0.004106 0.001342 35.29 Kaplan-MeierNo 0.01 Param 17 GWC-22 0.005 0.0006 0.029 17 0.002975 0.002038 47.06 None 0.01 NP (normality) Arsenic (mg/L) No 0.00084 GWC-9 0.005 0.004755 0.001009 0.01 NP (NDs) Arsenic (ma/L) 0.029 No 17 94.12 None No GWB-4R 0.003241 0.0018 0.029 0.00115 0.01 Arsenic (mg/L) 17 0.002521 11.76 None No Param GWB-5R 0.001 NP (normality) Arsenic (mg/L) 0.005 0.029 No 17 0.002406 0.001814 23.53 None No 0.01 Arsenic (ma/L) GWB-6R 0.00259 0.001237 0.029 0.002943 0.001663 Kaplan-Me 0.01 GWA-7 (ba) 0 147 0.08279 2 Nο 0.04934 Barium (mg/L) 16 0 1149 n None Nο 0.01 Param Barium (mg/L) GWA-8 (bg) 0.06557 0.05823 2 No 0.0619 0.006073 None No 0.01 Param GWC-1 0.05709 0.05031 2 Nο 0.0537 0.005409 0 0.01 Param. Barium (mg/L) 17 None No Barium (mg/L) GWC-11 0.116 0.06249 2 0.08923 0.04267 0 No 0.01 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 No 17 0.02271 0.003874 0 None Nο 0.01 Param Barium (mg/L) GWC-14 0.038 0.0248 2 No 18 0.03612 0.01865 0 None 0.01 NP (normality) GWC-15 0.03849 2 0.04312 0 Barium (mg/L) 0.04776 No 0.007403 0.01 Param None No Barium (mg/L) GWC-16 0.1226 0.05782 2 No 0.0999 0.0697 0 0.01 Param None In(x) Barium (mg/L) GWC-17 0.1149 0.04739 No 0.08628 0.05882 0 0.01 Param None sqrt(x) 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 No 0.1374 0.09319 0 0.01 NP (normality) No None Barium (mg/L) GWC-21 0.0927 0.04919 2 No 17 0.07652 0.04397 0 0.01 Param None In(x) GWC-22 2 Barium (mg/L) 0.09837 0.06303 No 0.0807 0.0282 0 0.01 Param. 17 No None GWC-9 0.2639 0.1907 2 0.05839 0 Barium (mg/L) No 0.2273 0.01 Barium (mg/L) GWB-4R 0.09313 0.07851 2 No 0.08629 0.01261 0 0.01 None In(x) Param. GWB-5R 0.1569 0.09433 2 No 0.1295 0.05651 0.01 Barium (mg/L) 0 None  $x^{(1/3)}$ Param Barium (mg/L) GWB-6R 0.107 0.013 2 Nο 17 0.07405 0.04251 0 None 0.01 NP (normality) No 0.0003 Beryllium (mg/L) GWA-7 (bg) 0.003 0.004 0.001288 53.85 None 0.01 NP (normality) 0.00024 0.00019 0.01 NP (normality) Beryllium (mg/L) GWA-8 (bg) 0.004 Nο 13 0.0004169 0.0007763 7.692 None No Beryllium (mg/L) GWC-12 0.0008417 0.0005038 0.004 No 13 0.00068 0.000238 sqrt(x) 0.01 Param. NP (NDs) Beryllium (mg/L) GWC-13 0.003 0.000058 0.004 No 13 0.002774 0.000816 92.31 None No 0.01 Beryllium (mg/L) GWC-14 0.003 0.00009 0.004 0.001279 76.92 None NP (NDs) GWC-16 0.003 0.000068 0.004 0.0009827 0.0014 0.01 NP (normality) Bervllium (ma/L) 30 77 None Nο

## Appendix II and IV Confidence Interval Summary Table - All Results - All Results - 2

,	тррсі	IGIX II		nan Road Lar			thern Compan			: Grumman F	Road Printe	,	2021, 1:55 PM	- / \li	10.	Juito
Constituent		Well	Ordinin	Upper Lim.	Lower Lim.	Jour	•	•		Mean_	Std. Dev.		ND Adj.	Transform	Δlnha	<u>Method</u>
Beryllium (mg/L)		GWC-17		0.002825	0.00159		0.004			0.002277	0.0009284		None		0.01	Param.
, , , ,		GWC-17		0.002823	0.000088		0.004		13	0.002277	0.0009284	64.29		ln(x)	0.01	NP (normality)
Beryllium (mg/L)		GWC-22		0.003	0.000086		0.004	No		0.001972	0.001433			No	0.01	NP (normality)
Beryllium (mg/L)		GWC-22							13	0.001449		46.15		No	0.01	, .,
Beryllium (mg/L)				0.0003	0.0002		0.004	No			0.00004856		None	No		NP (normality)
Beryllium (mg/L)		GWB-4R		0.003	0.0001		0.004	No		0.001685	0.001481	53.85		No	0.01	NP (normality)
Beryllium (mg/L)		GWB-5R		0.003	0.000076		0.004	No		0.0008324	0.001238	23.08		No	0.01	NP (normality)
Beryllium (mg/L)		GWB-6R		0.003	0.00005		0.004	No		0.002546		84.62		No No	0.01	NP (NDs)
Cadmium (mg/L)		GWA-7 (bg)		0.0025	0.0007		0.005	No		0.002177	0.0007981	84.62		No	0.01	NP (NDs)
Cadmium (mg/L)		GWC-1		0.0025	0.0001		0.005	No		0.002128	0.0009069	84.62		No	0.01	NP (NDs)
Cadmium (mg/L)		GWC-11		0.0007867	0.000195		0.005	No		0.0005485	0.0006203	7.692		x^(1/3)	0.01	Param.
Cadmium (mg/L)		GWC-14		0.0025	0.00012		0.005	No		0.001245	0.001209	46.15		No	0.01	NP (normality)
Cadmium (mg/L)		GWC-22		0.0025	0.0001		0.005		13	0.0007346	0.001013	23.08		No	0.01	NP (normality)
Cadmium (mg/L)		GWB-4R		0.0025	0.00009		0.005		13	0.001775	0.001132	69.23		No	0.01	NP (normality)
Chromium (mg/L)		GWA-7 (bg)		0.04075	0.0199		0.1		16	0.03145	0.01716	0	None	sqrt(x)	0.01	Param.
Chromium (mg/L)		GWA-8 (bg)		0.01	0.00071		0.1		18	0.006892	0.004525	66.67		No	0.01	NP (normality)
Chromium (mg/L)		GWC-1		0.0024	0.0016		0.1	No		0.002647	0.002187	5.882		No	0.01	NP (normality)
Chromium (mg/L)		GWC-11		0.01	0.0007		0.1	No	17	0.004628	0.004614	35.29		No	0.01	NP (normality)
Chromium (mg/L)		GWC-12		0.0028	0.00085		0.1	No	17	0.002761	0.003484	17.65		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-Meie	erln(x)	0.01	Param.
Chromium (mg/L)		GWB-6R		0.006321	0.001915		0.1	No	17	0.005429	0.005535	0	None	In(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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	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 + 2	. ,	GWC-15		1.87	1.103		33.8		13	1.486	0.5156	0	None	No	0.01	Param.
Combined Radium 226 + 2	. ,	GWC-16		4.17	1.72		33.8		13	2.244	0.923	0	None	No	0.01	NP (normality)
Combined Radium 226 + 2	. ,	GWC-17		4.199	2.777		33.8		13	3.488	0.956	0	None	No	0.01	Param.
Combined Radium 226 + 2	. ,	GWC-2		1.021	0.6234		33.8		13	0.8223	0.2675	0	None	No	0.01	Param.
Combined Radium 226 + 2		GWC-20		4.25	1.613		33.8		13		1.773	0	None	No	0.01	Param.
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## 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

	Grum	man Road La	ndfill Client: So	uthern Compa	ny Dat	a: Grumman	Road Print	ed 2/1/2	2021, 1:55 PM	М		
Constituent	<u>Well</u>	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%ND:	s ND Adj.	Transform	<u>Alpha</u>	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-Mei	erx^(1/3)	0.01	Param.
Fluoride (mg/L)	GWA-8 (bg)	0.162	0.07275	4	No 15	0.1347	0.08331	20	Kaplan-Mei	erx^(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		0.007488		None	No	0.01	NP (NDs)
Fluoride (mg/L)	GWC-22	0.12	0.06	4	No 15		0.02642	60	None	No	0.01	NP (normality)
Fluoride (mg/L)	GWC-9	0.289	0.1025	4	No 15		0.2393		None	ln(x)	0.01	Param.
Fluoride (mg/L)	GWB-4R	0.17	0.064	4	No 15		0.292		None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-5R	0.11	0.05	4	No 15		0.04317		None	No	0.01	NP (normality)
Fluoride (mg/L)	GWB-6R	0.1483	0.06391	4	No 15		0.06612	40	Kaplan-Mei		0.01	Param.
Lead (mg/L)	GWA-7 (bg)	0.008665	0.003602	0.013	No 15		0.003736	0	None	No	0.01	Param.
Lead (mg/L)	GWA-8 (bg)	0.005	0.0001	0.013	No 18		0.002369		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-1	0.005	0.0001	0.013	No 17		0.002303		None	No	0.01	NP (NDs)
Lead (mg/L)	GWC-11	0.003	0.00012	0.013	No 17		2 0.001578		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.0002	0.013	No 17		0.002298		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-12	0.005	0.000081	0.013	No 17		0.002298		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-13	0.005	0.00013	0.013	No 18		0.002103		None	No	0.01	NP (NDs)
	GWC-14	0.005	0.00031	0.013	No 17		0.002030		None		0.01	NP (normality)
Lead (mg/L)										No		NP (normality)
Lead (mg/L)	GWC-16	0.005	0.0001	0.013	No 18		0.002436 0.002432		None	No No	0.01	` ,,
Lead (mg/L)	GWC-17 GWC-2	0.005 0.005	0.0001 0.0002	0.013	No 17		0.002432		None	No No	0.01	NP (normality) NP (normality)
Lead (mg/L)				0.013								, .,
Lead (mg/L)	GWC-20	0.005	0.00018	0.013	No 17		0.002291		None	No No	0.01	NP (normality)
Lead (mg/L)	GWC-21	0.005	0.00009	0.013	No 17		0.002508		None	No	0.01	NP (normality)
Lead (mg/L)	GWC-22	0.001039	0.0003389	0.013	No 17		6 0.001238		None	ln(x)	0.01	Param.
Lead (mg/L)	GWC-9	0.005	0.000096	0.013	No 17		0.00248		None	No	0.01	NP (normality)
Lead (mg/L)	GWB-4R	0.005914	0.002171	0.013	No 16		0.002877	12.5	None	No No	0.01	Param.
Lead (mg/L)	GWB-5R	0.005	0.0002	0.013	No 17		0.002209		None	No No	0.01	NP (normality)
Lead (mg/L)	GWB-6R	0.005	0.00014	0.013	No 17		0.002376		None	No No	0.01	NP (normality)
Lithium (mg/L)	GWA-8 (bg)	0.03	0.001	0.03	No 13		0.01503		None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-12	0.03	0.00091	0.03	No 13		0.01505		None	No	0.01	NP (normality)
Lithium (mg/L)	GWC-17	0.007059	0.005156	0.03	No 13		0.00128	0	None	No	0.01	Param.
Lithium (mg/L)	GWC-9	0.002114	0.00182	0.03	No 12		0.0001875		None	No	0.01	Param.
Lithium (mg/L)	GWB-4R	0.014	0.0039	0.03	No 13		0.004467	0	None	No	0.01	NP (normality)
Lithium (mg/L)	GWB-5R	0.03	0.0027	0.03	No 13		0.01362		None	No	0.01	NP (normality)
Mercury (mg/L)	GWA-7 (bg)	0.0002	0.0001	0.002	No 11		0.0000537			No		NP (normality)
Mercury (mg/L)	GWC-1	0.0002	0.0002	0.002	No 11		5 0.0000482			No		NP (NDs)
Mercury (mg/L)	GWC-13	0.0002	0.0002	0.002	No 11		6 0.0000211			No		NP (NDs)
Mercury (mg/L)	GWC-9	0.0002	0.0002	0.002	No 11		4 0.0000452			No		NP (NDs)
Mercury (mg/L)	GWB-4R	0.0002	0.0002	0.002	No 11		3 0.0000455			No		NP (NDs)
Mercury (mg/L)	GWB-6R	0.0002	0.0002	0.002	No 11		7 0.0000473			No		NP (NDs)
Molybdenum (mg/L)	GWA-7 (bg)	0.01	0.0098	0.01	No 13		0.003261		None	No	0.01	NP (NDs)
Molybdenum (mg/L)	GWC-1	0.1716	0.07167	0.01	Yes 13	0.1216	0.06717	0	None	No	0.01	Param.

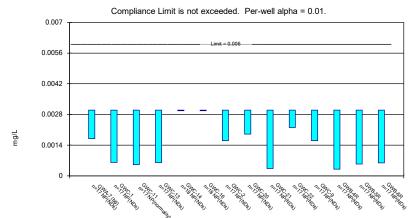
# Appendix II and IV Confidence Interval Summary Table - All Results Page 4 Grumman Road Landfill Client: Southern Company Data: Grumman Road Printed 2/1/2021, 1:55 PM

	Grum	man Road Lar	ndfill Client: Sou	ıthern Compar	ny	Data	: Grumman F	Road Printe	ed 2/1/2	021, 1:55 PM	1		
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig	<u>. N</u>	<u>Mean</u>	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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)
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-17	0.01	0.0024	0.01	No	13	0.007309	0.003627	61.54	None	No	0.01	NP (normality)
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)
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-Meie	rsqrt(x)	0.01	Param.
Selenium (mg/L)	GWC-12	0.01	0.0025	0.05	No	17	0.008612	0.003093	82.35	Kaplan-Meie	rNo	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-Meie	rNo	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-Meie	rNo	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		None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-17	0.01	0.0024	0.43	No	12	0.005817	0.003718		None	No	0.01	NP (normality)
Vanadium (mg/L)	GWC-2	0.01	0.0024	0.43	No	12	0.009367	0.002194		None	No	0.01	NP (NDs)
Vanadium (mg/L)	GWC-20	0.01	0.0024	0.43	No	14	0.005293	0.003647		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-Meie		0.01	Param.
Vanadium (mg/L)	GWC-22	0.01	0.0014	0.43			0.006158	0.004136	50	None	No	0.01	NP (normality)
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## Appendix II and IV Confidence Interval Summary Table - All Result§ $^{\text{\tiny Sage 5}}$

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	<u>Mean</u>	Std. Dev.	%NDs	ND Adj.	Transform	<u>Alpha</u>	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-Meie	rNo	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-Meie	rNo	0.01	Param.	

### Non-Parametric Confidence Interval

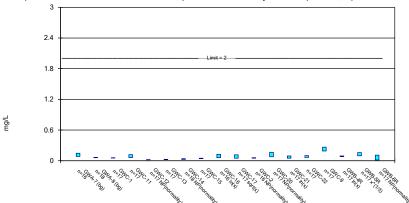


Constituent: Antimony Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Parametric and Non-Parametric (NP) Confidence Interval

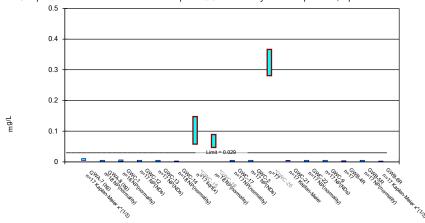
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: 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 exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

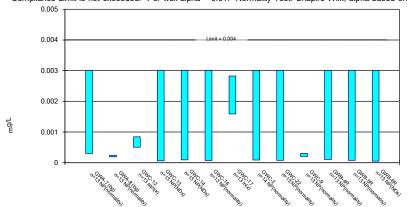


Constituent: Arsenic Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

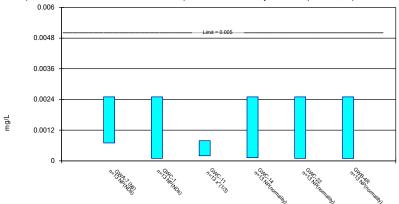
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

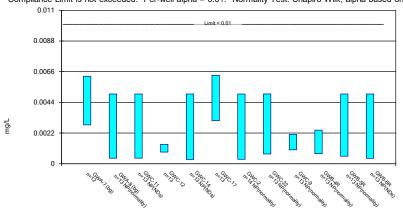


Constituent: Cadmium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

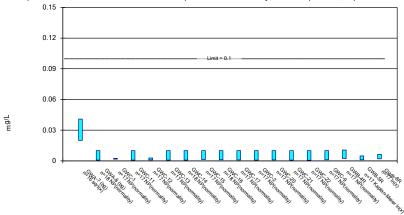
### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



### 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.

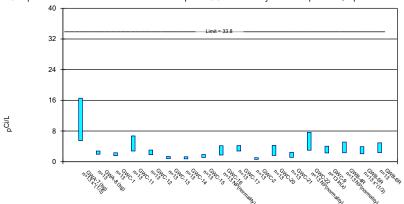


Constituent: Chromium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

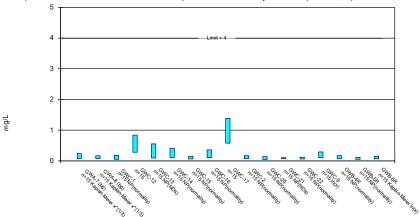
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

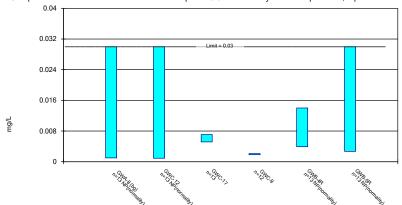


Constituent: Fluoride Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Parametric and Non-Parametric (NP) Confidence Interval

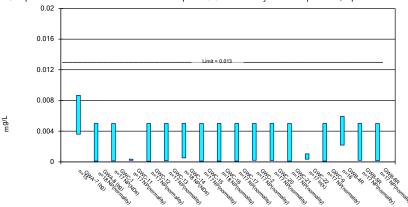
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Constituent: Lithium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Parametric and Non-Parametric (NP) Confidence Interval

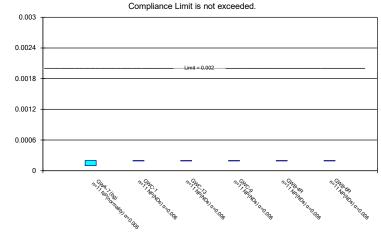
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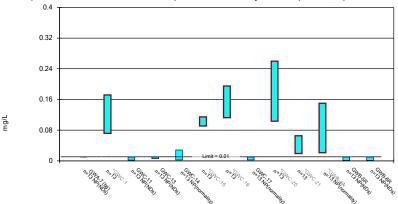
Constituent: Lead Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Non-Parametric Confidence Interval



Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

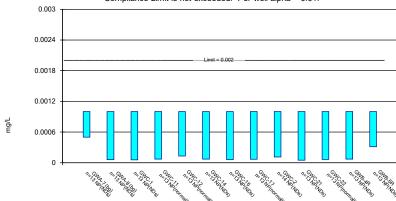


Constituent: Molybdenum Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

### Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Non-Parametric Confidence Interval

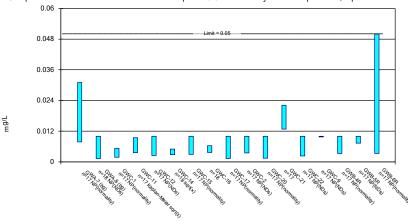
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 2/1/2021 1:53 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.

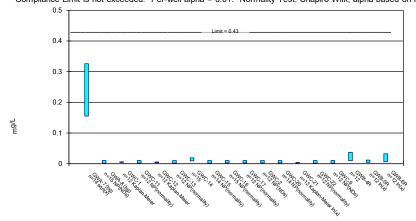


Constituent: Selenium Analysis Run 2/1/2021 1:52 PM View: Confidence Interval - State
Grumman Road Landfill Client: Southern Company Data: Grumman Road

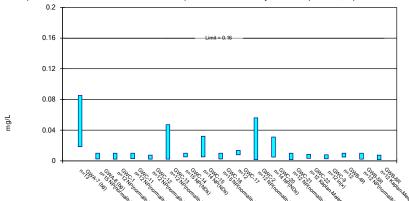
Sanitas™ v.9.6.27b Sanitas software utilized by Groundwater Stats Consulting. UG

### Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



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



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